U.S. Department
of Veterans Affairs

VETERANS HEALTH ADMINISTRATION

PASSPORT to WHOLE HEALTH

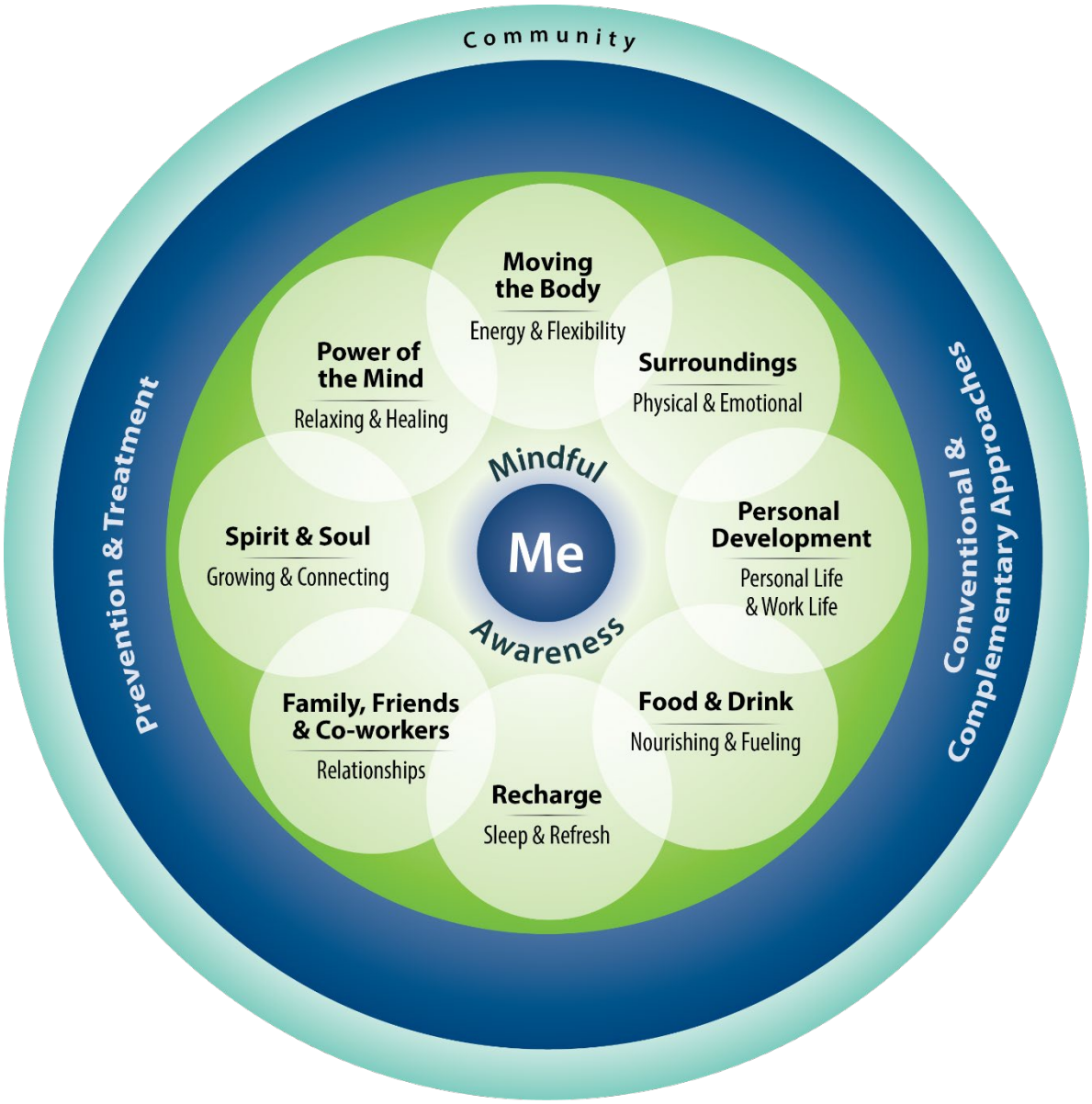
Prepared Under Contract to the VHA by Pacific Institute for Research & Evaluation with the University of Wisconsin - Madison.

October 1, 2019

IB 10-1127
P96890

U.S. Department of Veterans Affairs
Veterans Health Administration
Office of Patient Centered Care and Cultural Transformation

The Circle of Health



To learn more visit: https://www.va.gov/WHOLEHEALTH/

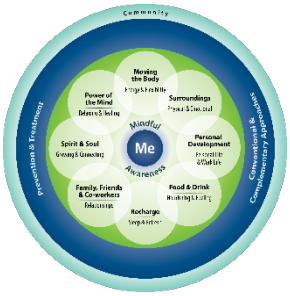
By J. Adam Rindfleisch, MPhil, MD
Medical Director, University of Wisconsin Integrative Health

Passport to Whole Health

Version 4, October 2019

PASSPORT TO WHOLE HEALTH
TABLE OF CONTENTS

Foreword



Ben Kligler, MD MPH, Acting Executive Director
Veterans Health Administration
Office of Patient Centered Care and Cultural Transformation
National Director, Integrative Health Coordinating Center

Thank you for your interest in Whole Health! We are glad you are a part of this movement—part of the village that it will take to change the VA health care system to one that truly supports health and well-being. Large system changes are seldom successful from the top down. Concerted effort at the national level must meet support from people like you—people who feel this in their depths, people who believe there can be a better way, people who are committed to leading the transformation of health care to higher levels of artful and wholeful healing. Thank you for your partnership.

Health care in America is expensive and underperforming. Despite spending exponentially more on health care than any other country in the world, Americans suffer from more chronic conditions and poorer health than most. Health care consumes 18% of our GDP and costs continue to rise. This is unsustainable, and our nation will lose its ability to compete in the global market as a result. Of these expenditures, it is estimated that chronic conditions, which are largely affected by people's choices and behaviors, consume more than 75% of health care costs. The current health care model does not work because we do not have a core competency in engaging the patient to optimize their health, self-care, and well-being.

Heart disease provides the perfect illustration of the problem. Heart disease remains the number one killer of men and women in our country (and worldwide). What do we do for heart disease? Well, in 2011, we did 600,000 angioplasties[1] (average cost nearly $30,000 each, $12 billion each year).[2] We also did 500,000 open-heart bypass surgeries[3] (average cost of $123,000 each, $6.5 billion each year).[4,5] Interestingly, angioplasties and stents do not prolong life or prevent heart attacks when done in stable patients,[6] which are the large majority of those procedures. How about bypass surgery? Surely with this invasive procedure, the outcomes must be stellar. No. Bypass surgery prolongs life at 10 years in less than 4% of surgical patients with triple vessel disease, and it does not prolong life in people with single or double vessel disease.[7] Now, juxtapose this with the fact that changing lifestyle could prevent at least 80% of all heart disease![8] But our system is not designed to address lifestyle and well-being—it is designed to intervene once the disease is established, often with unnecessary suffering, very poor outcomes, and mounting expense.

We have gotten it wrong. The job of medicine is not only to diagnose and treat disease. This paradigm alone does not work. The Institute for Healthcare Improvement is calling for a 'radical redesign' of health care in this country. They call for changing the balance of power, to coproduce health and well-being in partnership with patients, families, and communities. They call for customizing care to the individual's needs, values, and preferences, guided by an understanding of “what matters” to the person in addition to "what's the matter?" They call for promoting well-being to focus on outcomes that matter

most to people, appreciating that their health and happiness may not require health care. These are, indeed, radical changes. The question is, HOW DO WE REDESIGN THE SYSTEM TO DO THIS?

The answer? Whole Health. What is Whole Health? Whole Health is an approach to health care that empowers and equips people to take charge of their health and well-being and live their lives to the fullest. But this requires a radical redesign of what health care is, one in which clinical care is only one piece of the system, and not the centerpiece. And the time is now.

The redesign that supports Whole Health is a partnership across time, and consists of three core elements. The first element we are calling the Pathway, a process that helps empower people reflect on their life and their health. They explore their mission, aspiration, purpose (MAP). They learn the skill of mindful awareness, and how to pay attention and "listen" to their bodies, and their souls. They look at their self-care and their health care, and identify where they are and where they would like to be. They begin to create their Personal Health Plan (PHP). This can be done in groups led by peers, or online individually or in other groups. When each of us discovers what we live for—what we really want our health for—we are ready to learn new skills and approaches to improve our well-being.

The second element of this redesign is Well-Being Programs. Through well-being centers or programs, people learn new self care strategies and find ongoing support; sometimes this happens more formally in groups from trained peers or from health coaches, but sometimes it happens informally from fellow Veterans in a program or others they simply encounter along the way. They learn skills like mindfulness and other mind-body approaches; they learn nutritional approaches and new ways to shop and cook; they learn new ways to move their bodies that can also reduce stress and improve their sense of well-being, like yoga, tai chi, or qi gong. They can receive healing therapies such as acupuncture and massage. People who use these programs often have complex chronic conditions. Some are at the end of their lives, while others are strong and vital. And while people have diagnoses, it is not a medical, diagnosis-based approach.

The third element of this redesign is Whole Health Clinical Care. Treatment is provided in outpatient and inpatient settings attentive to healing environments, healing relationships, and integrative holistic approaches. Even this is redesigned in the Whole Health approach, so that the primary care and specialty clinicians are aligned, as they bring the best of clinical care to their patients. They work collaboratively with the well-being centers (VA or non-VA/community) and provide seamless medical care, all grounded in the Veteran's MAP.

VHA is implementing an approach to care, a Whole Health System, which is focused on empowering the person through the Pathway, equipping them through the well-being centers, and treating them with integrative clinical care. Together, guided by the individual's PHP, these elements create the Whole Health partnership—a radical redesign of health care.

We are making great progress in spreading Whole Health across the VA system. Here are just a few recent examples:

- The VHA strategic plan for 2018-2024 includes Whole Health for Veterans and their families as a key component.
- The new modernization effort brings Whole Health and Mental Health together as one of its ten priority areas, "Engaging Veterans in Lifelong Well-Being and Resilience."
- VA Secretary Wilkie and Executive-in-Charge Stone have identified Whole Health as a major unique element distinguishing the VA from the private sector.
- 37 new sites have been identified and funded as part of a new Breakthrough Learning Collaborative to deploy the Whole Health System in its entirety over the coming three years, in addition to the 18 flagship sites already underway.

The recognition that Whole Health is not just a new "program," but rather a fundamental transformation in how the VHA sees its role in helping Veterans and their families, is taking root across the system. Part of this Whole Health cultural transformation—beyond how we deliver health care—requires a fundamental change in how we, each and every employee, address our own well-being. Please know that exploring this new approach starts with you—with an opportunity to reflect on your own sense of mission and purpose, and all dimensions of your self-care. The employees ARE the culture. We invite every employee to engage in Whole Health, not only in how they treat Veterans and do their job, but also in their own daily experience and lives. Best wishes as you explore this exciting new approach!

References

[1] Chan PS, Patel MR, Klein LW, Krone RJ, Dehmer GJ, Kennedy K, et al. Appropriateness of percutaneous coronary intervention. *JAMA.* 2011;306(1): 53-61. doi:10.1001/jama.2011.916.

[2] Cost of an Angioplasty in selected countries as of 2018 (in U.S. dollars). Statista website. https://www.statista.com/statistics/189973/cost-of-an-angioplasty-in-various-countries/. Published 2018. Accessed August 3, 2019.

[3] Alexander JH, Smith PK. Coronary-artery bypass grafting. *N Engl J Med.* 2016;374(20):1954-64. doi: 10.1056/NEJMra1406944.

[4] Cost of a heart bypass in selected countries as of 2018 (in U.S. dollars). Statista website. https://www.statista.com/statistics/189966/cost-of-a-heart-bypass-in-various-countries/. Published 2018. Accessed August 3, 2019.

[5] Guduguntla V, Syrjamaki JD, Ellimoottil C, Miller DC, Prager RL, Norton EC, et al. Drivers of payment variation in 90-day coronary artery bypass grafting episodes. *JAMA Surg.* 2018;153(1):14-19. doi: 10.1001/jamasurg.2017.2881.

[6] Boden WE, O'Rourke RA, Teo KK, et al. Optimal medical therapy with or without PCI for stable coronary disease. *N Engl J Med.* 2007;356(15):1503-16. Epub 2007 Mar 26.

[7] Coronary Artery Bypass Graft Surgery (Heart Bypass) for Preventing Death over Ten Years. The NNT website. http://www.thennt.com/nnt/coronary-heart-bypass-surgery-for-prevention-of-death/. Published July 20, 2014. Accessed August 3, 2019.

[8] Morbidity and Mortality Weekly Report. Centers for Disease Control and Prevention website. https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6235a4.htm?s_cid=mm6235a4_w. Published September 6, 2013. Accessed August 3, 2019.

How to Use This Reference Manual

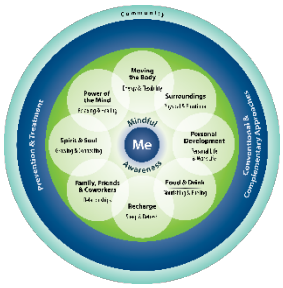
Courses related to Whole Health have been taught at VA facilities nationwide since 2013; 14,162 VA employees took onsite courses at 102 different medical centers, and another 10,422 completed online courses. *Passport to Whole Health* is distributed at most of these courses to accompany other course materials. It serves as a reference that participants can use to carry their work in Whole Health forward. It may also be used as a stand-alone resource for people who have not yet had the opportunity to take any courses. You are encouraged to explore the different concepts presented here, try out the various tools (as appropriate based on your scope of practice), and use these resources to enhance your patients' Whole Health... as well as your own.

Passport to Whole Health is organized into 4 sections according to the different areas of the Circle of Health, as represented in the figure on the first page of this manual after the front cover. It is designed to help you do the following:

1. Incorporate the Whole Health approach more fully into your practice.
2. Advance the **adoption of a Whole Health System** of care at your facility.
3. Improve your skills at providing **personalized, proactive, and patient-driven care**, a key strategic initiative for the Veterans Health Administration.
4. **Understand the Circle of Health** and how each of its components can influence health and well-being.
5. Feel more comfortable with **changing the conversations** you have with your patients, understanding even better what really motivates them when it comes to their health.
6. **Create Personal Health Plans (PHPs)** that are truly individualized and effective.
7. **Learn more about complementary and integrative health (CIH)** approaches and how they can be part of care, doing so in a way that is informed by the latest research regarding the benefits and the risks of these therapies.
8. Discover ways to **enhance resilience**, both in yourself and others.
9. **Learn new tools** to use in your practice. Watch for the wrench icon (🔧) as you work your way through this guide. It indicates a section that is a "Whole Health Tool." You can try the tools yourself and also use them with Veterans, as appropriate.

Passport to Whole Health includes 19 chapters. Each chapter ends with a "Resources" section that lists websites, books, and other sources of additional information that can take you even farther on your journey toward Whole Health care. Note that these resources are intended to push the envelope—even if you do not fully agree with the perspectives they offer, you should be aware of them so you can discuss them with your patients and colleagues. Best wishes!

Chapter 1. Whole Health: An Overview



Never doubt that a small group of thoughtful, committed, citizens can change the world. Indeed, it is the only thing that ever has.
—Margaret Mead

Health care systems are dynamic. New scientific discoveries, new illnesses, patient demands, and social change keep them constantly evolving. There is a national—and international—movement underway to evolve health care into something that is more personalized, proactive, and patient-driven, offered by clinicians who are energized and fulfilled by their work.

Thousands of health care professionals worldwide have set out on a journey of discovery, exploring new models and approaches that are inclusive, respectful of patients as individuals, and informed by the evidence. In the VA, the Whole Health approach is an answer to the call for ongoing improvement of the care offered to our nation's Veterans.[1] It is rapidly gaining momentum as VA clinicians and leaders from facilities nationwide explore the possibilities Whole Health offers. How can each clinician, staff member, leader, volunteer—all of us—contribute to a system that offers the best care possible?

A passport symbolizes the beginning of a journey. It enables a person to explore new territory. Like any passport, this *Passport to Whole Health* reference manual is designed to help you embark on new experiences, offering an opportunity for you to explore new ways of doing your work, caring for others, and even taking care of yourself. Where do you want your work in health care to take you? How do you help your patients get to where they want to be with their health, based on what matters most to them? How can you align how you practice with the reasons why you went into health care in the first place? This reference manual offers potential answers to those questions.

What Is Whole Health?

"Whole Health, also known as 'Personalized, Proactive, Patient-driven Care' is an approach to health care that empowers and equips people to take charge of their health and well-being and to live their lives to the fullest."[2]

Whole Health is built on the principles of Patient Centered Care, which has been defined as including "qualities of compassion, empathy, and responsiveness to the needs, values and expressed preferences of the individual patient."[3] Interpersonal interactions, healing relationships, and technically-skilled care are also key elements. Whole Health recognizes the importance of these elements and elaborates on them. At its core, Whole Health:

- **Centers around what matters most to each Veteran.** Whole Health is values-driven, and everything is built upon a person's mission, aspiration, or purpose in life.
- **Personalizes care.** Care is put into the context of each person's life, and his or her specific aspirations and goals are given central importance. Care accounts for

factors such as a person's medical conditions, genome, lifestyle, needs, and social circumstances.

- **Is proactive**, focusing not only on what is wrong, but also on prevention and self-care. The goal is a future of well-being, joy, and vitality that involves more than the management of problems once they arise.
- **Is patient-driven.** The patient is the leader of his or her care team. They are an active participant in personal health planning, guiding the care they receive. The best possible outcome is alignment of an individual's health care with their immediate and longer-term life goals. The patient is the source of control, and care is based on his or her needs and values.
- **Is built upon relationships** between patients and their care teams. Health care professionals, family members, peers, and other members of the patient's community and social network offer support at many levels.
- **Focuses on unlocking the body's innate ability to heal.** This is true no matter what a person's condition might be, and it goes beyond simply managing diseases and diagnoses.
- **Is holistic.** Whole Health is about the whole person; it is inclusive of every aspect of who a person is—body, mind, spirit, and relationships with others. Physical well-being is important, but it is just the tip of the iceberg.
- **Applies to clinicians as well.** Clinicians are encouraged to apply the Whole Health approach to their own lives. Their well-being matters in and of itself, and healthier clinicians who role model healthy behaviors have healthier and more satisfied patients. For more information, go to "Implementing Whole Health in Your Own Life: Clinician Self-Care."
- **Is evidence-informed**. Medical literature is respected and given full consideration, as are other sources of information and insights that are important to the patient.
- **Is inclusive** of an array of skills, tools, people, and programs. Whatever is safe, effective, and consistent with patient preferences can enhance Whole Health.

The shift toward Whole Health is a movement supported by national VA leadership. It is also a grassroots movement, advancing with one VA employee at a time, as individuals explore how the Whole Health approach fits into their work environment and their personal lives. Whole Health has evolved through the efforts of clinicians from a variety of backgrounds—dieticians, doctors, nurses, pharmacists, psychologists, MSAs, social workers, Whole Health Partners, chaplains, Whole Health Coaches, occupational therapists, physical therapists, recreational therapists, complementary health practitioners, and many others. Many of these dedicated individuals are connecting more with why they chose to go into a health care profession in the first place. How might Whole Health help you find even greater fulfillment in your work with Veterans?

What Whole Health Is Not

Over the years, as Whole Health has gained more footing within VA, some confusion has arisen about how Whole Health fits into larger framework of the VA health system. As you

explore how Whole Health might inform your work and self-care, keep the following in mind:

- Whole Health is not a separate program. Whole Health is an overarching approach to care. While sites may be hiring Whole Health team members or adding space for Whole Health-related offerings, Whole Health is not limited to just those people or just that space. The goal is to weave Whole Health into every aspect of Veteran care, building bridges and removing siloes that limit optimal team function.
- Whole Health includes, but is not limited to, offering complementary and integrative health (CIH) approaches to Veterans, especially now that multiple CIH approaches are covered in the VA as part of the benefits package, and with the VA Integrative Health Coordinating Center (IHCC) working within the Office of Patient Centered Care and Cultural Transformation (OPCC&CT). Whole Health is often equated to offering services like acupuncture or tai chi. That is part, but not all, of what Whole Health encompasses.
- Whole Health builds on the great work done as part of other VA efforts. Projects like those conducted through Health Promotion Disease Prevention, Nutrition and Food Services, VA Chaplaincy, and Mental Health Integration synergize beautifully with Whole Health. Whole Health and Employee Health are now closely connected too.
- Whole Health is not a "trend" or the "flavor of the day." Whole Health programming has been ongoing in VA since 2011, and it has rapidly expanded. From fiscal years 2013 to 2019, over 340 Whole Health education courses have been taught. Over 14,000 people have taken onsite courses, and over 10,000 have trained in online courses. 98 VA centers have hosted at least one course. Whole Health is featured prominently in the VA FY2018-2024 Strategic Plan; strategy 2.1.4 focuses on "Emphasizing Veterans and their families' Whole health and wellness."[4] Coding data indicates that Whole Health encounters increased from 342,000 in FY16 to 616,000 in FY18.

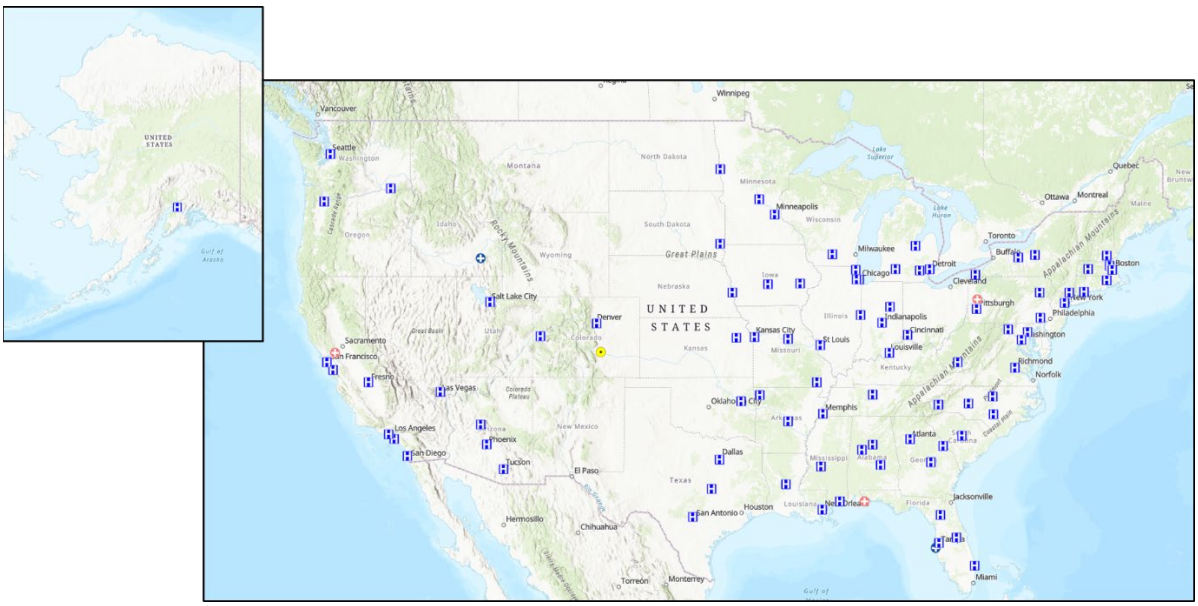


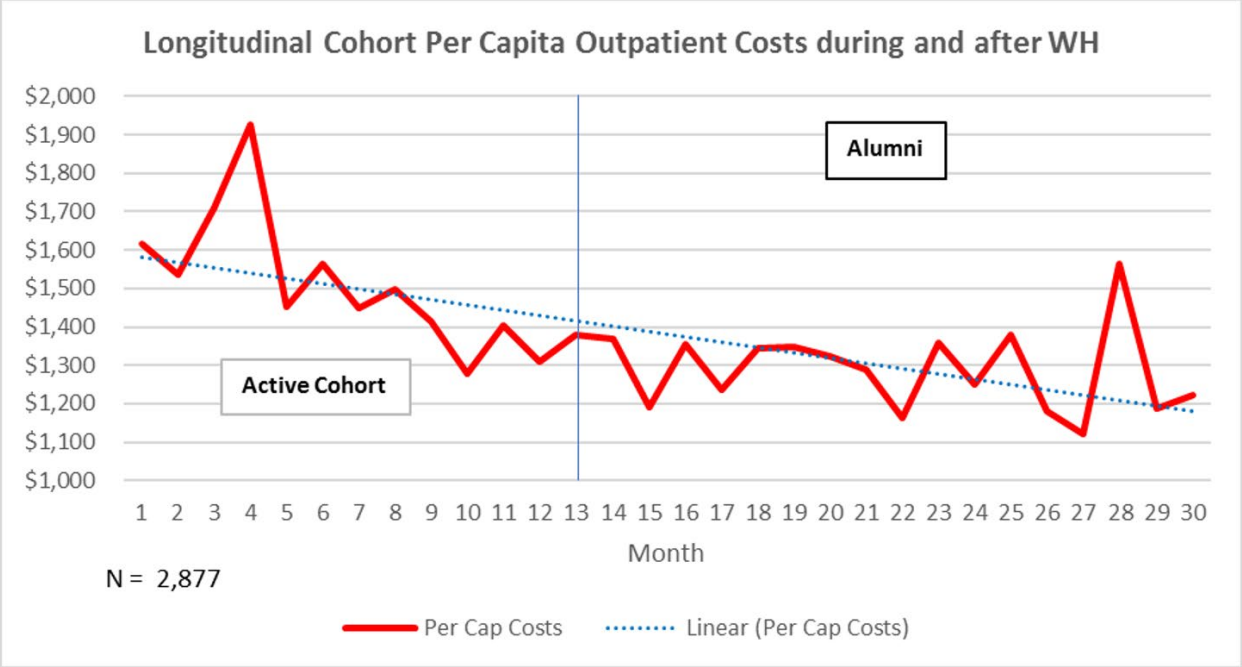
Figure 1-1. Whole Health Education, FY13 – FY19: 98 medical centers have hosted at least one course.

Why a Whole Health System?

We hear about it more and more all the time: Modern health care is faced with a number of challenges. Some of the most serious ones include:

- **Mortality rates**. Despite all that we spend on health care in the U.S., we do not do well compared to other countries when it comes to mortality rates and other health measures.[5]
- **Chronic disease**. Chronic diseases are on the rise. 45% of the U.S. population has at least one chronic illness,[6] and 7 out of every 10 deaths in our country are due to chronic disease.[7] However, the "find it-fix it" model of medicine does not work well with these disorders. If you are treating strep throat, you can diagnose it with a lab test and prescribe an antibiotic, and typically the problem is solved. In contrast, if you are working with someone with a complex combination of diabetes, obesity, high blood pressure, depression, and irritable bowel syndrome (IBS), it may not be in the patient's best interest to treat each condition in isolation, especially not with medications that interact with one another. Treating chronic issues requires more time, effort, and collaboration among health care team members.
- **Prevention is challenging**. Many of the chronic problems we see are preventable. The U.S. Centers for Disease Control estimate that 20-40% of the 900,000 deaths each year that were related to the top five causes of death were preventable.[8] 50% of adults are not meeting physical activity requirements, 90% of people over age two eat too much sodium, 15% of Americans smoke, and 1 in 3 Americans have cardiovascular disease, which is closely linked to unhealthy behaviors.[9] However, it is not easy to get people to change their behaviors. For example, it is estimated in some studies that as many as half of patients (or more) do not take their medications as prescribed.[10] For many chronic diseases, adherence to prescriptions drops even more, to the 20-30% range.[11]
- **Clinician burnout**. Burnout among health care professionals is occurring at an alarming rate. Over 40% of nurses,[12] 39% of social workers,[13] 60% of psychologists,12 and over 40% of physicians (may be as high as 48% or more, depending on specialty)[14] meet criteria for burnout. Burnout rates in the VA may be a bit lower than the national average, but in a 2018 survey of over 86,000 VA employees, fewer than half met the criteria for being fully "engaged."[15] The highest burnout rates were in administrative staff. Burnout is linked with depression, substance abuse, and lower-quality patient care.
- **Patients are voting with their feet**. Well over a third of American adults use CIH approaches, but over 40% of people who use them do not disclose this to their health care clinicians.[16] A study of 401 Veterans with chronic, non-cancer pain found that 82% were using CIH.[17] Mounting evidence supports some approaches as safe and effective ways to work with challenging health issues. (Chapters 14-18 feature more information on CIH.) More broadly, a 2019 survey of 1395 Veterans from the 18 Whole Health Flagships found that 97% of respondents were "Very Interested" or "Somewhat Interested" in Whole Health or already using it.

- **Costs of health care**. Data from 2019, shows the fiscal benefits for using Whole Health, as noted in Figure 1-2.



* Does not include Community Care

Figure 1-2. Outpatient costs during and after receiving Whole Health programming for pain care. Average cost per capita for the year after completing program dropped by $975.

But, imagine…
What would your practice be like if you could overcome some of these challenges? Answer the following questions:

- What if it were possible to offer better care, perhaps with fewer resources being spent on diagnostic testing, procedures, and medications? This is not to say those elements of modern medicine do not have a role, but what if it were possible to be more strategic about their use?
- What if your patients were more empowered, acting as co-creators of their own health plans?
- What if you could work more effectively with a larger, transdisciplinary team to support each patient's needs, and what if your patients took the lead in co-creating that team?
- What if you could, as you felt comfortable, help your patients use CIH effectively, or at least provide informed guidance to your patients about their use? And what if those services were actually offered to Veterans at your facility?
- What if you could feel more invigorated by your work, with greater resilience and a lower risk for burnout?

The Whole Health approach is not a cure-all for our health care system's many ills, but it represents a shift in perspective that has been well-received by thousands of clinicians nationwide, in VA facilities and beyond. It leaves room for innovative ideas and new perspectives on how to engage with patients. Whole Health is a way to work with chronic disease, and to develop a more comprehensive approach. When all is said and done, it can help us to surmount the challenges we currently face in health care.

As you explore Whole Health in your practice, the number of available tools and recommendations you can offer grows. More importantly, you are likely to find it enriches your practice and makes your work more enjoyable. It may also help you to make positive changes when it comes to your own health. No one pretends to have all the answers, but the Whole Health approach serves as a jumping-off place for searching for them.

The Circle of Health

The Circle of Health, featured below in Figure 1-3 and full size on the first page of this manual after the front cover, offers an overall perspective on the many important aspects of health and well-being. It draws in all the personal, professional, and community resources that can support each individual. Known more formally as the "Components of Proactive Health and Well-Being," the circle is a visual representation that can be used by clinicians and patients alike to conceptualize all that Whole Health encompasses. The Circle diagram enables a person to see, at a glance, what might inform a Veteran's PHP. It is something you can show a patient during a visit as a way to help them choose where they want to focus on in order to reach their goals.

As the "equation" across the bottom of Figure 1-3 shows, there are five key parts of the Circle of Health. These include:

1. **"Me" at the Center.** Whole Health accounts for each individual's story and uniqueness. Patients are invited to explore what really, really matters to them—their life aspirations, not just their symptoms. That exploration guides goal setting for their care. To make a change, people have to be aware of what they need. An important aspect of putting "Me" at the center of the Circle of Health is the development of a PHP for each patient. The PHP is co-created by the patient and the care team. Even people with the same list of health problems will have very different goals and ultimately, very different PHPs to help them reach their goals. Chapters 2 and 3 discuss how to write a PHP.

2. **Mindful Awareness**. Note how the "Me" circle is surrounded by "Mindful Awareness." Central to mindful awareness is the ability to be fully aware and present in a non-judgmental way. This means noticing symptoms, as well as noticing our behavior and thought patterns, and how they affect our health. Mindful Awareness is discussed in Chapter 4.

3. **Self-Care**. Whole Health emphasizes the power of each individual to shape his/her health. Each of us has the innate capacity to heal, if only we are empowered to do

so. Even people who cannot be cured, who cannot make their diseases go away, can experience a deeper sense of meaning, peace, joy, or comfort. Take a few minutes to look at the eight small circles within the larger one that immediately surrounds "Mindful Awareness." Every one of those eight aspects of self-care can be incorporated into a PHP, individually or in tandem with others. The elements of self-care are featured in Chapters 5-12. Note that "Working Your Body" has changed to "Moving the Body."

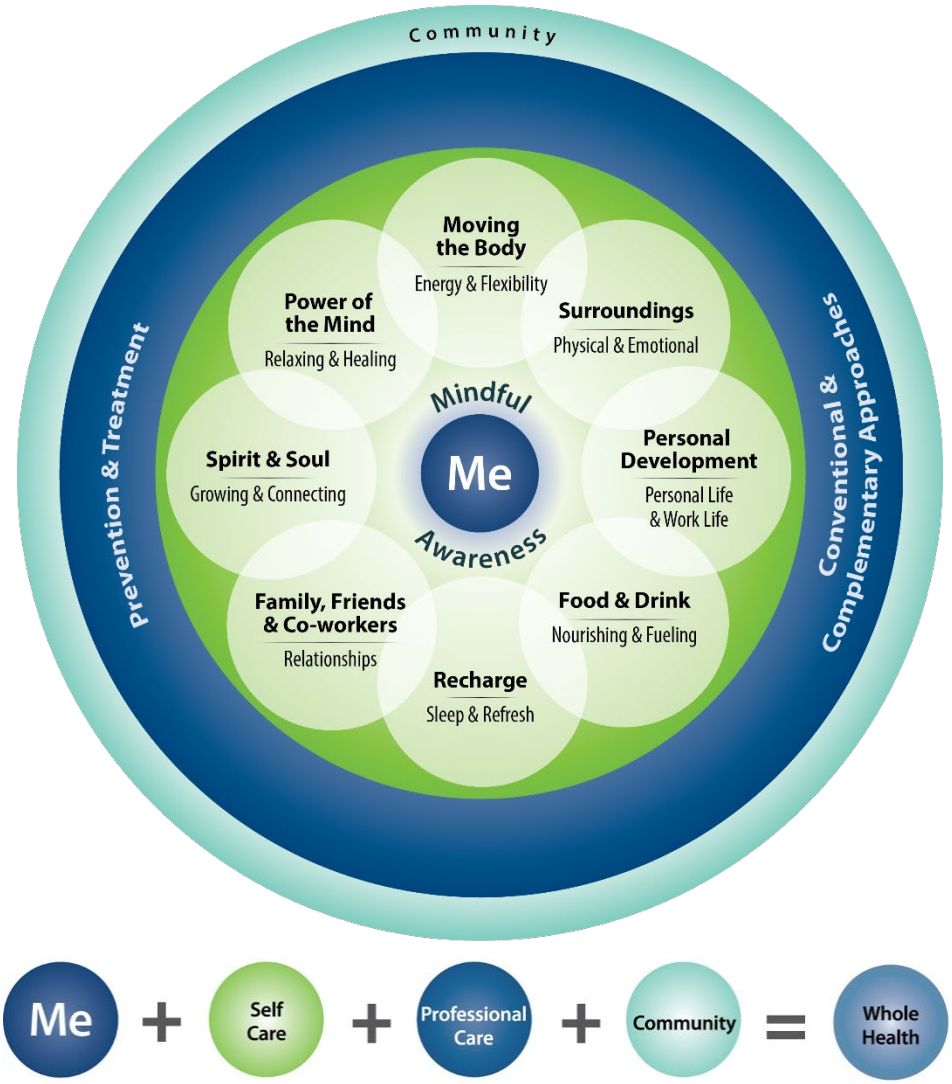


Figure 1-3. The Circle of Health

4. **Professional Care.** While self-care is fundamental, all of us also rely on the support of others, including our team of health care professionals. "Professional Care" is the focus of the next circle out from the "Self-Care" circle. Prevention and treatment are central to professional care and include both conventional medicine and CIH approaches. Chapters 14-18 focus on various aspects of professional care, with an emphasis on CIH, since that is typically what is least familiar to VA clinicians.

5. **Community.** Finally, encompassing all the other parts of the Circle of Health is the outer ring, "Community." Community includes where a person lives, works, and worships, but it extends beyond that. It includes all the people and groups a person connects with; it is everyone a Veteran relies on, as well as those who rely on him or her in return. Community also connects in with social determinants of health, such as education, socioeconomic status, and access to care. From public health to health policy to quality improvement initiatives, many different factors shape health beyond the personal level. Leaders in a facility create the space and opportunity for Whole Health to happen. Just as there is a "Whole Me" at the center of the circle, there is a "Whole We" that enfolds it. This "We" can extend beyond individuals to social services, support groups, neighborhoods, culture, religious groups, Veteran organizations, and local and national health care systems. Chapter 19 explores this fundamental aspect of health care.

All of these different components of the circle are aspects of Whole Health. **Focusing on any one of them can enhance Whole Health for both clinicians and the Veterans they serve.** The parts of the circle are interconnected; working on one area will often lead to growth in other areas of the circle as well.

Typically, when people review this information, they realize that they already bring some aspects of the Whole Health approach into their work. The question becomes, how can they incorporate the Whole Health approach even more fully? Are you using Personal Health Inventories (PHIs)? Mapping to the MAP (mission, aspiration, purpose)? Empowering Veteran self-care? Honoring your own self-care needs? Bringing forward your best therapeutic presence? Expanding your toolbox to include additional resources, tools, and well-being approaches? What else might you do to bring Whole Health into the picture? (Chapters 2 and 3 will describe these elements of Whole Health care in more detail.)

What Does Whole Health Look Like in Practice?

After hearing about Whole Health, clinicians inevitably want to know what a visit looks like in practical terms. How can it be implemented? There is no single way to practice Whole Health, but there are key elements that arise in all Whole Health practices. Consider some of the following examples of models being explored by various VA facilities:

- In some facilities, new enrollees into the VA health care system are invited right away to start on the Whole Health Pathway. They experience personal health planning, assemble their Whole Health team, and make detailed plans for follow up even as they are given support with their medical problems. Their experience may be supported by a Whole Health Coach or a Whole Health Partner, who can guide them through the process of exploring what really matters, setting goals, and beginning to create a PHP. This begins even before they seek clinical care.
- At several sites, people with difficult-to-treat chronic pain syndromes are referred to a Whole Health pain group, where they participate in shared medical appointments focused on various Whole Health topics. In addition, they have access

to a variety of different CIH services, and their PHPs incorporate self-management and other elements tailored to each individual's needs. The primary care team works with other team members to optimize Veteran self-care.

- In multiple VA sites, every member of a Patient Aligned Care Team (PACT) becomes involved in Whole Health care, most commonly when Veterans come in for physical examinations (wellness visits). PHIs are collected, shared goals and SMART goals are outlined, and a PHP is developed. The entire team participates, from the person who introduces the Veteran to the Whole Health model for the first time, to the LVN or LPN who rooms patients and asks what matters most to them, to the RN who calls to check in on their progress a few weeks after they are seen. Whole Health Coaches and Whole Health Partners—specially trained Veteran colleagues—are also team members in many facilities. (These roles are described in more detail later in this chapter.)
- Inpatient services, domiciliaries, and palliative care groups are helping Veterans in their care to create and implement PHPs as well.

A New Normal

Consider what would happen if a health care system offered the following, not as unique experiences, but rather as the standard of care. As a patient, you would experience the following:

- **You are seen as more than your list of health problems**. Their team knows your story and what matters most to you, and that information is well documented in the chart.
- **You are the captain of your own Whole Health care team**, which you helped to co-create. Your clinicians are like your first mate; they offer guidance, updates, and support as you steer the ship.
- **You are highly 'adherent'** to treatment recommendations, because you trust your team, and you helped to outline what the treatment will be.
- **The clinicians and staff who serve you are role models** for Whole Health themselves and are at low risk for burnout. There is less staff turnover and a higher likelihood you will have continuity with your team over the long term.
- **Your clinician is rewarded for offering Whole Health**, because care metrics have shifted to place higher value on aspects of care such as empathy, collaboration, and self-care. Funding mechanisms are in place to support all of this as well.
- You can take for granted that **your clinician can openly discuss a wider range of self-care topics** such as your spirituality, relationships, surroundings, and CIH experiences.
- **Your clinician documents all aspects** of your Whole Health care, including your PHI, in your medical record using the Personal Health Plan template. This information informs your entire team, and guides all your conversations about your care, ranging from a meeting with a pharmacist, to a follow-up call with a nurse, to a formal consultation with a specialist or a visit with a CIH practitioner. There is now a national CPRS PHP template you can use as well.

- **Your care takes place in an optimal healing environment**, where even the artwork on the walls, the music in the background, and the magazines in the waiting room are health-promoting.
- **Communication is consistently impeccable**, with all the members of your team offering you empathy and genuine compassion.

For more information, check out the following overviews, featured on the Whole Health Library website: "Whole Health in Your Practice, Part I," "Whole Health in Your Practice, Part II," and "Whole Health in Your Practice, Part III." Part I focuses on personal health planning, Part II on clinician therapeutic presence, and Part III on weaving CIH into your practice.

People resonate with the Whole Health approach. Patients and clinicians from all over the country have reported back favorably about using Whole Health. On average, visits are a few minutes longer for clinicians who are first learning, but with practice, clinicians become more efficient, often even more efficient than they were before. Patients tend to need fewer visits too, as indicated by Figure 1-2, above. Much to the delight of their care teams, patients have proven to be quite appreciative of the process. More formal research about Whole Health's effects on various outcomes measures is underway, with promising findings thus far. At the beginning of a Whole Health visit, it is not uncommon for a patient to smile, surprised, and declare, "Wow, I have never been asked that at a medical visit before!"

What Does a Whole Health System Look Like?

Weaving Whole Health into the VHA health care system is more than just an idea to consider. In fact, as momentum builds, the aspects of Whole Health care described in this chapter are becoming a reality at sites across the country.[18] During fiscal years 2016-2018, the OPCC&CT provided funding to 31 Whole Health Design Sites to develop various aspects of the Whole Health System model of care. Fiscal year 2018 also marked the launch of the full model in conjunction with the Comprehensive Addiction and Recovery Act (CARA) legislation, through the selection of 18 Flagship Facilities, one within each of VHA's Veterans Integrated Service Networks (VISNs). These Flagship Facilities participated in the first Whole Health Learning Collaborative, a successful 18-month process through which sites received a comprehensive Implementation Guide, education and training, resources and tools, and onsite support.

A second Whole Health Collaborative commenced in June 2019 as part of the next wave of Whole Health expansion across the enterprise. Each VISN selected two additional sites to participate in this next phase of the rollout, for a total of 36 new sites.

Figure 1-4 maps out the locations of the Design and Flagship sites. Note that some Flagships were previously Design Sites. Thirty-seven new Whole Health Learning Collaborative sites have recently been selected. The intent is that, eventually, *all* VA facilities will adopt a Whole Health System model.

To make transformational change, such as the national implementation of the Whole Health System, the 'future state' or what that change will look like should be clear; especially in relationship to the Veteran experience. The journey towards Whole Health transformation is more than changing workflows or completing activities. It is about changing behaviors to impact our system's values and outcomes. The Whole Health System Designation Framework, which describes this transformational journey, outlines milestone accomplishments sites can achieve towards Whole Health transformation as they progress through four phases of implementation: **Preparation, Foundational, Developmental, and Full**. The framework describes key accomplishments across each phase and is organized around seven domains of focus: **Governance, Operations, Pathway, Well-Being, Clinical Care, Employee Whole Health, and Community Partnerships.** It also recognizes that how these accomplishments are achieved may vary from site to site, and that sites will work through Whole Health implementation at different paces. Key accomplishments are provided as outcome-type milestones with the intent to provide sites with the latitude and flexibility in how they choose to operationalize processes and practices along the Whole Health journey. The Designation Framework was released in March 2019 along with VISN and site-level Whole Health System Self-Assessment Tools and posted on the OPCC&CT SharePoint Site.

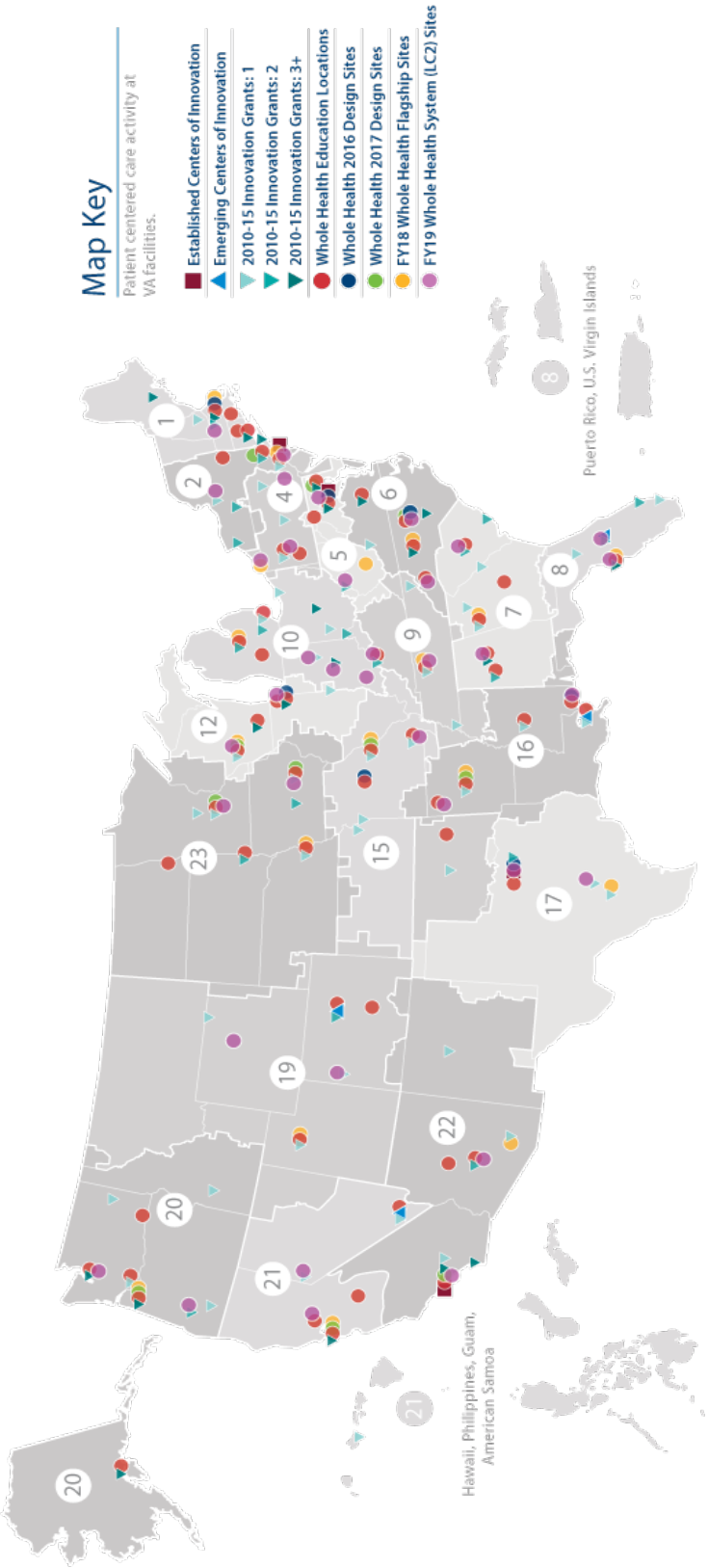


Figure 1-4. Innovation Grant Sites, FY16 and 17 Design Sites, FY18 Flagship Sites, and FY19 Whole Health System Sites.

There are three key aspects of the Whole Health System, as shown in Figure 1-5, below.

Figure 1-5. Key Elements of the Whole Health System

1. The Pathway: Empowering Veterans. Whole Health Partners, a new position in VA for non-clinical Veteran staff, can form a vital connection with fellow Veterans when they enroll and throughout their experience in VA. They facilitate other Veterans' exploration of their mission, aspiration, and purpose and help them create an overarching PHP. Pathway programming can be offered in the VA or the community and can be inclusive of family and caregivers. To support this element of the Whole Health System, VA has created other staff roles as well. Non-clinical Veteran staff can also be trained to facilitate Whole Health courses for Veterans, including the "Taking Charge of My Life and Health" course. Whole Health Coaches also have specific position descriptions in VA, and many sites are now incorporating them into Whole Health care teams. Note that Coaches and Partners also play a key role within Whole Health Well-Being programs. Table 1-1 summarizes these roles, as well as their required training and the tasks they perform.

2. Well-Being Programs: Equipping Veterans. Veterans are equipped with the skills training and tools they need, including self-care practices, skill building, and CIH approaches. Thanks to collaborations between the VA's IHCC and a number of other VA program offices, Veterans will have increased access to a variety of services. These will include CIH approaches, such as acupuncture, meditation training, and therapeutic massage. Yoga and tai chi classes will also be available. Veterans can be seen individually in support of their PHPs, but most services will be focused on cultivating self-care skills

through ongoing classes and support. Sites may offer a series of classes that focus on a different aspect of self-care each time; the OPCC&CT has created skill-building courses for each of the eight areas to support such efforts. (These are featured in the Resources section at the end of this chapter.) Well-being programs will be closely connected to Whole Health Clinical Care and Whole Health Pathway programming.

Table 1-1. Whole Health Pathway Roles

Role	Provided By	Training Required	Primary Tasks
Whole Health Partner (WHP)	VA employees (ideally Veterans) who meet qualifications of WHP position description	• TCMLH 3-day Facilitator Training and/or WHC training • 2-day WHP training course after completing TCMLH Facilitator course and or WHC course	• Recruit Veterans to WH • Familiarize them with WH resources • Provide Veterans ongoing support • Engage Veterans briefly one-on-one with their PHP and help them get requested support services • If trained, offer Intro to WH and TCMLH courses • Conduct outreach to VSOs and other local Veteran services
Whole Health Coach (WHC)	VA employees who meet qualifications of WHC position description	VA WHC Training (currently two 3-day trainings with practice in between)	• Support Veterans as they mobilize internal strengths and external resources to create strategies for making sustainable and healthy lifestyle changes • Offer individual or group coaching, in person, telephonically, or via TeleWholeHealth. Sessions usually ongoing for several weeks to several months, depending on arrangement between Veteran and Coach • If they are Veterans and have the training, can facilitate Intro to WH and TCMLH groups
Facilitator, Intro to Whole Health	• Non-clinical Veteran Staff • WH Partners • Peer Support Specialists • Registered Veteran Volunteers	2-hour *virtual* train-the-trainer session for OPCC&CT	• Facilitate Intro to WH • Engage participants • Introduce WH Concepts • Provide a WH experience • Encourage participation in TCMLH and other local programming

Role	Provided By	Training Required	Primary Tasks
Facilitator, TCMLH	• Non-clinical Veteran Staff • WH Partners • Peer Support Specialists • Registered Veteran Volunteers	3-day *in-person* train-the-trainer session from OPCC&CT	• Facilitate TCMLH groups • Engage participants • Introduce WH Concepts • Provide a WH experience

WH = Whole Health; OPCC&CT = Office of Patient Centered Care & Cultural Transformation; TCMLH= Taking Charge of My Life and Health

Veterans may choose to work with Whole Health Coaches individually or as part of a group, if coaches are available at their site. The intent of coaching is to empower Veterans to identify and achieve their health and wellness goals. Veterans are encouraged to use their insight, mobilize internal strengths, optimally use external resources, and develop self-management strategies that support them with healthy lifestyle changes.[19] Qualitative data indicates that Whole Health Coaching training leads to positive changes at an individual and organizational level.[20] Health coaching has been found to improve chronic disease management,[21,22,23] and it is linked to improvements in quality of life, mood, and perceived stress.[24,25]

3. Whole Health Clinical Care: Treating Veterans. In a Whole Health System, the Whole Health approach to care is offered in both outpatient and inpatient settings. Clinicians are familiar with the Whole Health model and how to draw from all elements of the Circle of Health as they support Veterans with developing and following through with their PHPs. In a Whole Health System, VA clinicians support Veterans as they strategize about their self-care and provide them with the knowledge and skills they need to attain their health goals. Clinicians make use of whatever resources are most likely to be effective for an individual Veteran, whether it is counseling about self-care, coordinating CIH approaches, making referrals, doing procedures, or prescribing medications. The transdisciplinary nature of Whole Health requires that clinicians be in close contact with Whole Health Partners, Whole Health Coaches, integrative clinicians and, essentially, any and all of the members of a Veteran's care team. Documentation in the Electronic Medical Record (EMR) will support this transdisciplinary approach.

In a Whole Health System, VA clinicians are able to offer Whole Health to Veterans with full support from the entire VA chain of command. They are supported in their own self-care efforts as well, with the recognition that their well-being is also highly valued in and of itself, with the added benefit that healthy clinicians are able to provide better care as well. To learn more, and gain a sense of what a Whole Health System might be like for a patient, go to "Implementing a Whole Health System: Patient and Team Perspectives" on the Whole Health Library website. Chapter 2 goes into more detail about the respective roles of Whole Health Partners, Coaches, and Facilitators for different courses.

Whole Health Tool: Elements of Patient Centered Whole Health Care

How are you doing with the key elements of Whole Health in your work? The following list of 21 questions was designed to help clinicians and other Whole Health team members evaluate what they are doing well in terms of offering Whole Health and identify what they might try to improve upon. Many of the people who complete this questionnaire find they are already promoting Whole Health in a number of ways. As you continue to explore new ways to bring Whole Health into a practice, you can repeat this assessment and see how your answers change.

Every VA employee can be involved in this process to some degree. The questions apply to any kind of clinician—physicians, dieticians, nurse practitioners, physician assistants, nurses, pharmacists, social workers, chaplains, behavioral health professionals, etc. Most of the questions also apply to Whole Health Coaches and Whole Health Partners as well. If you are not a health care provider/clinician, you could answer these questions from the perspective of one of the health care clinicians who takes care of you. How are they doing?

The elements featured below are by no means a comprehensive list, but they can get you started with reflecting about your work with Veterans.

Place a number from 1 to 5 in the space in front of each question, according to the following scale:

1. Never Happens
2. Occasionally happens—a few times a month
3. Often happens—a few times a week
4. Frequently happens—a few times a day
5. Always happens—part of every patient encounter

_____ 1. During an interaction, I look at the Veteran more than I do at a computer or other screen.

_____ 2. Beyond symptom-related questions, I ask about what matters most to them.

_____ 3. I maintain equanimity while working with Veterans and colleagues. Feelings of frustration, impatience, or disappointment do not negatively affect my ability to support them.

_____ 4. I work collaboratively with Veterans and their family/friends to set goals.

_____ 5. I encourage people to be active leaders of their care teams, and I explore with them who they want on their team, including health professionals, as well family members, friends, members of the greater community, or practitioners of complementary and integrative health (CIH) approaches.

_____ 6. I empower Veterans to take care of themselves.

_____ 7. I know each Veteran's (or colleague's) story; in addition to medical issues, I know about their relationships, interests and hobbies, and/or major life events.

_____ 8. When appropriate, I focus on prevention of future health challenges.

_____ 9. I model healthy behaviors and/or mention them when I am interacting with Veterans and colleagues, as appropriate.

_____ 10. I am willing to answer/find out answers to questions about self-care and treatment approaches that are unfamiliar to me.

_____ 11. The place where I interact with Veterans is a healing environment (e.g., artwork, elements from nature, low noise/music, pleasant smells, good lighting, and comfortable temperatures).

_____ 12. I avoid being distracted during interactions with Veterans by unrelated thoughts or concerns. That is, I bring mindful awareness into my practice.

_____ 13. People who interact with me can tell I enjoy seeing them and enjoy my work.

_____ 14. I feel compassion for Veterans.

_____ 15. I check to be sure my patients understand care instructions/suggestions.

_____ 16. I am not rushed during visits with Veterans.

_____ 17. I ensure patients have appropriate follow up after each visit.

_____ 18. I communicate effectively with the rest of a person's care team.

_____ 19. I demonstrate cultural humility. That is, I respect how culture may or may not influence my interactions with Veterans and their care choices. I recognize that social determinants of health have a significant impact on a person's ability to optimize self-care.

_____ 20. I work with my team to minimize distractions during interactions, such as interruptions by staff related to other Veterans.

_____ 21. As appropriate for my role, I document elements of Whole Health, such as what my patients' value, their self-care practices, and their Personal Health Plans (PHPs) in my visit notes.

Take a moment to review your answers. Which areas are your strong suits? Where would you like to make improvements? If you were to answer from the perspective of your own primary care provider, how would they do? You can choose any one of these areas and changes you would like to make. What support do you need from colleagues? From leadership? An important contributor to clinician burnout is not having control over one's practice environment. How much control do you have over the different aspects of your practice listed above? What can be improved?

Time to Start Your Journey!

This chapter of the *Passport to Whole Health* manual has given you a sense of what Whole Health is and how it might look in practice. You have had a chance to think about where you are in terms of your own practice and where you would like to be. Consider your passport stamped. Where do you go from here? That's entirely up to you! Read on for more ideas.

General Whole Health Resources

Websites

VA Whole Health Website

- This site can be found at https://www.va.gov/WHOLEHEALTH/
- This page offers a number of resources for a foundational understanding of Whole Health and various "Get Started" options. The dropdown menu in the upper left corner provides links to more in-depth materials for both clinicians and Veterans. On the Whole Health—Circle of Health multimedia resources index page, you can "walk around" the Circle of Health accessing videos, handouts, online tools, and other materials on the eight components of self-care. https://www.va.gov/WHOLEHEALTH/circle-of-health/index.asp
- Components of Health and Well-Being Video Series, "An Overview of the Patient Centered Approach" can be found at https://www.youtube.com/watch?v=3Nf4yYoqNe0&feature=youtu.be
- The "Whole Health: A Shift Towards Health" is a nice introductory video, and a good one to show colleagues to introduce the concept to them. The link is http://link.brightcove.com/services/player/bcpid4521574267001?bckey=AQ~~,AAACmABW4_k~,u3UC4vmaozkRbnTOHzovpplgn0QYiIND&bctid=5166690410001
- Check out the Evidence-Based Research page as well. It is under the "Clinicians" tab. All of the evidence maps mentioned in this reference manual are available here. https://www.va.gov/WHOLEHEALTH/professional-resources/clinician-tools/Evidence-Based-Research.asp
- Whole Health Veteran Handouts are also located on this site. These have been reviewed by a national group of Veterans, as well as by VA clinicians. https://www.va.gov/WHOLEHEALTH/veteran-handouts/index.asp
- There are also a number of Whole Health Community of Practice calls people can join after taking the various live Whole Health courses. These are listed on the SharePoint Education Hub https://dvagov.sharepoint.com/sites/VHAOPCC/Education/SitePages/COPs.aspx
- The Integrative Health Coordinating Center (IHCC) will be discussed more in Chapter 14. Their SharePoint link is https://dvagov.sharepoint.com/sites/VHAOPCC/sitePages/IHCC-home.aspx

Whole Health Library Website

The link to the overall index is https://wholehealth.wisc.edu
The Whole Health Library website features an array of Whole Health materials written for clinicians and Veterans, all of which have been peer-reviewed. You can use the search bar on the right or choose one of the tabs. Tabs include:

- The "Home" tab provides a general definition of Whole Health and features introductory videos.
- The "About" tab provides a more in-depth definition of Whole Health, how it began, and who is involved.
- Under the "Get Started" tab, you will find documents like the PHI, PHP, and the *Passport to Whole Health*.
- The "Implementation" tab has five overviews that present evidence-based approaches to implementing Whole Health in your personal and professional lives. Related Whole Health tools and additional resources are also available.
- The "Self-Care" tab has overviews that incorporate the latest research findings related to the eight areas of self-care and mindful awareness. Whole Health tools that can be used at point-of-care as well as resources are available for each overview.
- The "Professional-Care" tab has overviews that focus on applying CIH approaches and the latest research to treatment plans for specific conditions, such as men's health, endocrine health, and cancer care. Related Whole Health tools that provide practical information for use at point-of-care and resources are available for each overview.
- Under the "VA Courses" tab, you will find manuals, PowerPoints, and additional materials for various Whole Health course offerings.
- Veteran Handouts contains 56 different peer-reviewed and Veteran-reviewed documents you can print for your Veterans. All relate to areas of the Circle of Health.

All of the materials can be read online or downloaded. In addition to materials related to the specific parts of the Circle of Health, there is an entire series devoted to pain and another focused on mental health. There are also materials that cover a range of body systems, including endocrine, cardiovascular, men's health, women's health, and the immune system.

Materials in the Whole Health Library website related to this specific chapter include:

- "Implementing Whole Health in Your Own Life: Clinician Self-Care" overview https://wholehealth.wisc.edu/overviews/clinician-self-care/
- "Implementing Whole Health in Your Practice, Part I: What a Whole Health Visit Looks Like" overview https://wholehealth.wisc.edu/overviews/part-i-what-whole-health-visit-looks-like/
- "Implementing Whole Health in Your Practice, Part II: The Power of Your Therapeutic Presence" overview https://wholehealth.wisc.edu/overviews/part-ii-power-therapeutic-presence/

- "Implementing Whole Health in Your Practice, Part III: Complementary and Integrative Health for Veterans" overview https://wholehealth.wisc.edu/overviews/part-iii-complementary-integrative-health/
- "Implementing a Whole Health System: Patient and Team Perspectives" overview https://wholehealth.wisc.edu/overviews/implementing-a-whole-health-system/
- There are eight skill-building courses for Veterans, one for each area of self-care in the Circle of Health. To access them, go to the Whole Health Library website and then select "Whole Health for Skill Building" under "Non-Clinical Offerings" in the "Courses" tab.

OPCC&CT SharePoint Site

- The OPCC&CT SharePoint can be found at https://dvagov.sharepoint.com/sites/VHAOPCC/Pages/Default.aspx
- Multiple additional links and printable resources can be accessed through the SharePoint Education Hub site as well. https://dvagov.sharepoint.com/sites/VHAOPCC/Education/SitePages/Home.aspx?AjaxDelta=1&isStartPlt1=1565725923678

Books

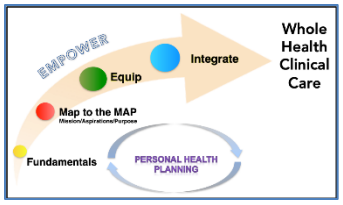
- *Integrative Medicine*, 4th edition, edited by David Rakel (2017). This book goes into detail about an array of topics that are covered in this reference manual. It is available in full text form through the VA national library.

References

[1] Krejci LP, Carter K, Gaudet T. Whole health: the vision and implementation of personalized, proactive, patient-driven health care for veterans. *Med Care.* 2014;52(12 Suppl 5):S5-8. doi: 10.1097/MLR.0000000000000226.
[2] Whole Health: it's all about you. U.S. Department of Veteran Affairs: Whole Health for Life website. https://www.va.gov/patientcenteredcare/features/Whole_Health_Its_All_About_You.asp. Published October 19, 2017. Accessed July 30, 2019.
[3] Institute of Medicine. *Crossing the Quality Chasm: A New Health System for the 21st Century*. Washington, DC: National Academies Press; 2001.
[4] Department of Veterans Affairs. FY 2018-2024 Strategic Plan. Department of Veterans Affairs website. https://www.va.gov/oei/docs/VA2018-2024strategicPlan.pdf. May 31, 2019.
[5] National Research Council, Crimmins EM, Preston SH, Cohen B., eds. *Panel on understanding divergent trends in longevity in high income countries*. Washington, DC: National Academies Press; 2010.
[6] Wu S, Green A. *Projection of chronic illness prevalence and cost inflation*. RAND Corporation; Santa Monica, CA; 2000.
[7] Chronic Disease Prevention and Health Promotion. Center for Disease Control and Prevention website. https://www.cdc.gov/chronicdisease/index.htm. Published 2017. Updated September 13, 2017. Accessed July 30, 2019.
[8] Up to 40 percent of annual deaths from each of five leading US causes are preventable. Center for Disease Control Prevention website. https://www.cdc.gov/media/releases/2014/p0501-preventable-deaths.html. Updated May 1, 2014. Accessed July 30, 2019.
[9] Chronic Disease Overview. Center for Disease Control and Prevention website. https://www.cdc.gov/chronicdisease/index.htm. Published 2017. Updated June 28, 2017. Accessed July 30, 2019.
[10] Osterberg L, Blaschke T. Adherence to medication. *N Engl J Med*. 2005;353(5):487-497.

[11] Brown MT, Bussell J, Dutta S, Davis K, Strong S, Mathew S. Medicatoin adherence: truth and consequences. *Am J Med Sci*. 2016;251(4):387-99.
[12] Irving JA, Dobkin PL, Park J. Cultivating mindfulness in health care professionals: a review of empirical studies of mindfulness-based stress reduction (MBSR). *Complement Ther Clin Pract*. 2009;15(2):61-66. doi: 10.1016/j.ctcp.2009.01.002. Epub 2009 Feb 28.
[13] Siebert DC. Personal and occupational factors in burnout among practicing social workers: implications for researchers, practitioners, and managers. *J Social Service Res*. 2006;32(2):25-44.
[14] 2018 Physician Wellness Survey. Medscape website. https://www.medscape.com/slideshow/2018-lifestyle-burnout-depression-6009235. Accessed August 23, 2018.
[15] Schult TM, Mohr DC, Osatuke K. Examining burnout profiles in relation to health and well-being in the Veterans Health Administration employee population. *Stress Health*. 2018;34:490–499.
[16] Jou J, Johnson PJ. Nondisclosure of complementary and alternative medicine use to primary care physicians: findings from the 2012 national health interview survey. *JAMA Intern Med*. 2016;176(4):545-6.
[17] Denneson LM, Corson K, Dobscha SK. Complementary and alternative medicine use among veterans with chronic noncancer pain. *J Rehabil Dev.* 2011;48(9):1119-1128.
[18] Gaudet T, Kligler B. Whole health in the whole system of the veterans administration: how will we know we have reached this future state? *J Altern Complement Med*. 2019;25(S1):S7-S11.
[19] Collins DA, Shamblem SR, Atwood KA, et al. Evaluations of a health coaching course for providers and staff in Veterans Health Affairs medical facilities. *J Prim Care Community Health.* 2015;6(4):250-5. doi: 10.1177/2150131915591154. Epub 2015 Jun 18.
[20] Collins DA, Thompson K, Atwood KA, Abadi MH, Rychener DL, Simmons LA. Integration of health coaching concepts and skills into clinical practice among VHA providers: a qualitative study. *Glob Adv Health Med*. 2018;7:2164957x18757463.
[21] Kivela K, Elo S, Kyngas H, Kaariainen M. The effects of health coaching on adult patients with chronic diseases: a systematic review. *Patient Educ Couns*. 2014;97(2):147-157.
[22] Sullivan VH, Hays MM, Alexander S. Health coaching for patients with Type 2 Diabetes Mellitus to decrease 30-day hospital readmissions. *Prof Case Manag*. 2019;24(2):76-82.
[23] Sforzo GA, Kaye MP, Todorova I, et al. Compendium of the health and wellness coaching literature. *Am J Lifestyle Med.* 2017;12(6):436-447. doi: 10.1177/1559827617708562. ecollection 2018 Nov-Dec.
[24] Clark MM, Bradley KL, Jenkins SM, et al. The effectiveness of wellness coaching for improving quality of life. *Mayo Clin Proc*. 2014;89(11):1537-1544.
[25] Wolever RQ, Simmons LA, Sforzo GA, et al. A systemic review of the literature on health and wellness coaching: defining a key behavioral intervention in healthcare. *Glob Adv Health Med.* 2013;2(4):38-57. doi: 10.7453/gahmj.2013.042.

Chapter 2. Whole Health Clinical Care, Part I: Empowerment, Fundamentals, and Mapping to the MAP



It is much more important to know what sort of patient has a disease than what sort of a disease a patient has.
—William Osler

Most people resonate with the underlying philosophy and principles that define Whole Health, and then they want to know how to move Whole Health from knowledge to practice. Important questions arise:

- This all sounds great in theory, but how do I make this real?
- What does this look like in my specific practice, for my specific role?
- How does this fit in with what I/we are already doing?
- I have a lot of commitments and responsibilities, and access is always a priority at my site. Is it realistic to think I can do Whole Health as well?
- How do I apply this to my own self-care?

The Whole Health Clinical Care Journey

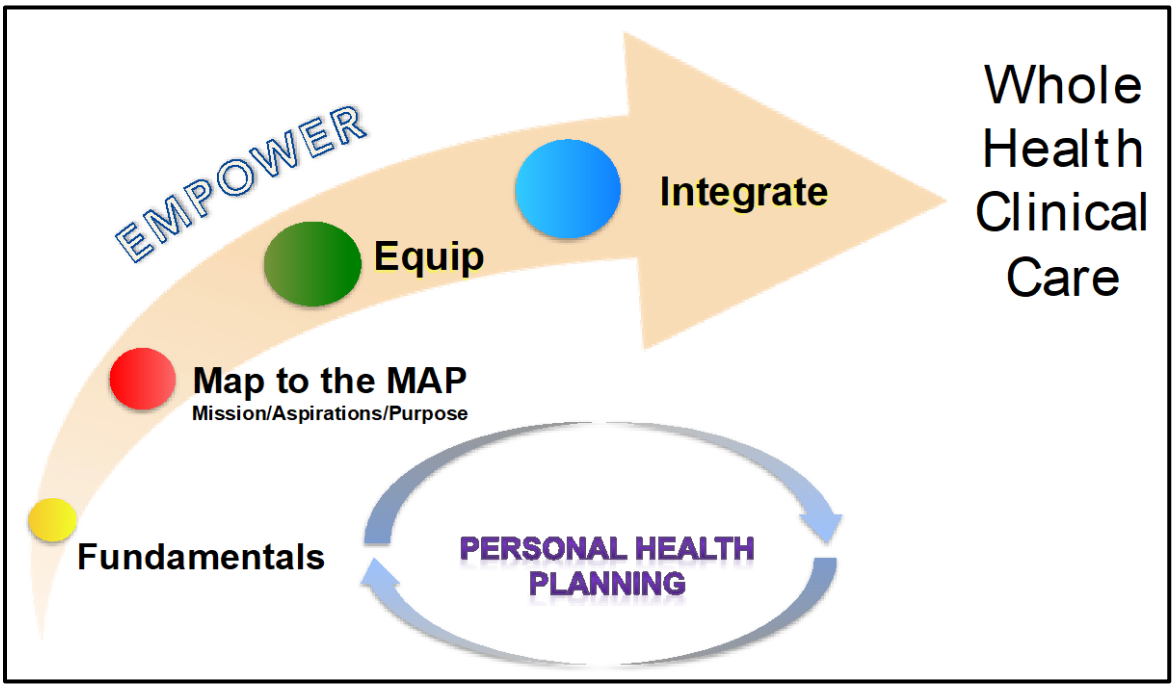


Figure 2-1. The Whole Health Clinical Care Journey

Figure 2-1 illustrates the Whole Health Clinical Care Journey. It captures the various elements that allow people to apply and implement Whole Health into a reality. The Journey to Whole Health Clinical Care is cyclical; different elements will come into play at different times as a Veteran moves through the Whole Health System. Moving from left to

right on the graphic, but noting they can occur in any order, the journey includes several important elements:

- **Empower**. As noted in Chapter 1, Whole Health is patient-driven. Empowered patients take the initiative with their care, are captains of their care teams, and perpetuate healthy routines in their daily lives. Empowered clinicians and teams have the capacity and support needed to care for patients in the meaningful, connected way they would like. Whole Health requires an active approach to care; support from professionals is important, and maintaining healthy patterns and a steady move toward one's goals is ultimately up to each individual.
- **Fundamentals.** It is vital for you to be able to define Whole Health so you can describe it to Veterans and colleagues (Chapter 1 covers this in detail.). Practicing Whole Health is made possible through effective communication, strong therapeutic relationships, and a commitment to care of the whole person—physical, mental, emotional, spiritual, and social. Experiences with other programs and resources relevant to Whole Health—e.g. MOVE! Weight Management Program Home, Healthy Living Messages-VHA National Center for Health Promotion and Disease Prevention, TEACH-VHA National Center for Health Promotion and Disease Prevention, Motivational Interviewing, Goals of Care Conversation Training, Psychosocial Rehabilitation and Recovery-Mental Health, VA Voices, and RELATIONS are of great value.
- **Map to the MAP.** "MAP" stands for "mission, aspiration, purpose." An essential piece of Whole Health is to build care on a person's deepest values. Asking why someone wants his or her health in the first place clarifies goals of care, and it leads to a higher level of engagement and follow through. **This is the game changer.** Here, individuals and teams discover what matters most to the people in their care (their MAP). They connect their work to the MAP by establishing shared goals in partnership with each Veteran, and they document how the Personal Health Plan (PHP) supports the Veteran's MAP. Clinical team members are empowered to connect to their own MAP and experience Whole Health.
- **Equip.** As Veterans pursue shared goals, they need education, resources, skill-building, and support. Clinicians and teams also must be equipped appropriately to provide excellent Whole Health care. As someone who will be assisting others, they need to know both what resources and personnel are available to support Whole Health, and also how Veterans can access them. They also need to have resources available to them for their own self-care.
- **Integrate.** Effective Whole Health care requires seamlessly integrating all these different elements. How can we optimize each Veteran's experience as he/she seeks Whole Health care? The ultimate goal is to offer cutting-edge care that empowers and equips Veterans to live their lives to the fullest, in support of their MAP, on an ongoing basis. Measurement strategies are put into place to assess impact of all of these elements, and the logistics of the system (e.g. documentation, billing, coding, resource allocation, etc.) support this too.

The Whole Health Clinical Care Journey reflects the process of personal health planning; it supports Veterans as they develop their PHPs. The PHP is the documented compilation of

the above information, and it is Veteran owned. The PHP may be brief, or expanded, depending on Veterans' preferences and the degree to which they are involved in the Whole Health System.

PHPs are individualized plans that are built around MAP and focus on meaningful and attainable goals. PHPs include MAP, self-care goals and activities, clinical and complementary care goals, and evolve over time. In the Whole Health Systems model (Figure 1-5) the personal health planning process is central to providing Whole Health care, and is a team-based process.

No matter what kind of work you do with Veterans, these aspects of Whole Health care will have some relevance to your work. You may work with all of the different elements of the Whole Health Clinical Care Journey, or you may use just a few. Remember, you don't have to draw in all of them at once. Even asking a Veteran or colleague how it is going as they work toward a Whole Health goal is offering Whole Health care at a fundamental level.

One care team member can do a great deal to advance Whole Health, and ideally, their impact can be magnified through the combined efforts of an effective, transdisciplinary team. Whole Health care is not about just one clinician or staff member taking on all the work. It is not the responsibility of any one department either; primary care is essential to moving Whole Health forward, and so is specialty care. Outpatient care and inpatient care work in synergy; there are no siloes. The PHP travels with each Veteran; everyone who takes care of a given Veteran will ideally supporting them around their MAP in some way, even if it by simply asking them how they are doing working toward their goals. Busy clinicians find it much easier to imagine working with the Whole Health approach when it is built upon a team-based efforts. Continually ask yourself how you can best support Whole Health in your specific role. Honor scope of practice, and think outside the box too. Ask for support. Remember (as discussed in Chapter 1) the potential of Whole Health Coaching and Whole Health Partners when it comes to optimizing care.

Sometimes, people ask which Veterans are best-suited to receive Whole Health care. The answer? All of them, if they are willing. Of course, there are various factors you must take into consideration. If someone has an urgent or emergent problem, addressing that of course must take precedence, but that is a difference in focus and can be done within a Whole Health framework. Some of the most motivated and effective Whole Health clinical champions are Emergency Department personnel. Specific circumstances, such as if a Veteran is dealing with serious mental illness, homelessness, and/or palliative care needs all shape how care will look, but they need not preclude using the Whole Health approach, as appropriate. Everyone can potentially benefit from mapping to the MAP and other aspects of Whole Health care. You may not ask about MAP at every visit, but you still may connect with it indirectly. Your therapeutic presence, including how you communicate and relate with each Veteran, supports his or her Whole Health experience. Trust your instincts about when and how to introduce the Whole Health approach to someone.

The rest of this chapter focuses on the first three of the elements of the Journey to Whole Health Clinical Care: Empower, Fundamentals, and Mapping to the MAP. The concept of

Shared Goals is also introduced. Chapter 3 goes into more detail about Equipping, Personal Health Planning, and Integration.

Empower

Empowering Veterans is central to Whole Health care. When patients are empowered, they are more satisfied with their care, more adherent to the care plan, and have better overall outcomes.[1] What exactly is empowerment? Empowerment has been defined in a number of ways, all of which tie in well with various aspects of the Whole Health approach:

- Being ill, and particularly having one or more chronic disease, can potentially make people feel powerless in every aspect of their lives.[2] Empowerment is about regaining some control. Choosing one's goals and being able to decide on how they want to reach them can bring a sense of greater power over one's health.
- Along similar lines, empowerment is also about self-determination.[3] How can people take the initiative to advance their health, despite the challenges they face? Self-determination may involve having choice and influence over which treatments or testing one receives,[4] and it may involve exercising one's choices in other ways, such as deciding to work on a specific aspect of self-care or choosing to try a particular complementary approach.
- Acquiring knowledge, or mastery, related to one's health brings power as well.[5]
- Empowerment can also come through having support from care professionals (e.g. with shared decision-making, featured in Figure 2-2) and peers.[5] Some researchers note that empowerment is closely linked to patient centered care, noting that patients can empower themselves without additional help,[6] though support from others may improve the likelihood of their feeling more empowered.
- Empowerment also involves finding meaning in one's health challenges. Religion and spirituality can play an important part in this.[5] In this regard, empowerment can be closely linked to Mapping to the Map.
- Empowering someone is, in and of itself, a way to enhance health.[7] That is, being empowered increases your chances of being healthy.

Empowerment occurs across the Whole Health System. For example, from the moment they enter VA, or when those who are already enrolled to receive VA care first hear about Whole Health, Veterans are supported by Whole Health Partners (the Whole Health Pathway, as shown in Figure 1-5). These Veterans, who are employed by the VA, are trained to do the following:

- Recruit Veterans to Whole Health
- Familiarize them with resources
- Introduce them to peer groups and other programs
- Work one-on-one regarding personal health planning
- Help them obtain support services
- Provide ongoing support over time

Whole Health Coaches are also trained to empower Veterans. They have additional training with facilitating conversations about MAP and helping Veterans set goals that matter to them. Coaches help Veterans notice and overcome barriers to achieving those goals, and they support them along the way, guiding them to appropriate resources and clinical care team members.

The training requirements and roles of Whole Health Partners, Coaches, and other non-clinical team members is described in Chapter 1 (Table 1-1). Ideally, all three components of the Whole Health System—the Whole Health Pathway, Well-Being Programs, and Clinical Care—work seamlessly together in a way that optimizes Veterans' ability (to draw on the title of one of the Whole Health courses) to "take charge of my life and health."

Fundamentals

Since its inception in 2011, Whole Health has been built around grassroots efforts, informed by nationally-supported educational programing. Different individuals, teams, and facilities have been encouraged to experiment with how Whole Health can best suit their specific needs. While innovation and creativity at the national, VISN, and local levels are strongly encouraged, individual efforts are the key to program success.

Some important examples of Whole Health fundamentals include:

- **Whole-Person Care.** The Whole Health approach recognizes that all aspects of a person's life should be taken into consideration, including from what is going on at a molecular level (nutrition, medications), to how they are doing mentally/emotionally, to behaviors (physical activity, preventive care), to the bigger picture (surroundings, connections, spirituality, and relationships. Physical health is absolutely important, and it is only one aspect of health. The different aspects of our health are interconnected, so favorably influencing one may have a ripple effect, benefitting others aspects too. Adopting a Whole Health approach requires that you become comfortable with changing (expanding) the conversation to include a wider array of topics.

- **The Circle of Health.** The Circle of Health, described in Chapter 1, captures what Whole Health encompasses in the form of a graphic. An entire Whole Health encounter can be built around simply showing someone the circle and asking what areas they want to work on. The Whole Health Library website features Overviews and tools related to each of area of the Circle, and multiple Whole Health Veteran Handouts are also organized around the Circle's various components.

- **Clinician Self-Care**. The importance of care of the caregiver in Whole Health cannot be overemphasized. It is as important for you to apply the Whole Health approach to your own life as it is for use it with Veterans whom you serve. You get to be the "Me" at the center of the Circle of Health, too. What is your MAP? How do you support it through your self-care? Check out "Implementing Whole Health in Your Own Life: Clinician Self-Care" to explore this important topic in more detail.

- **Therapeutic Presence.** One of the most powerful aspects of a Whole Health approach goes with you everywhere: your therapeutic presence. Who you are and the example you set can have a powerful influence on the health of those around you. Aspects of therapeutic presence that have good-quality research supporting their patient-care benefits include the following:
    - Empathy, kindness, and compassion
    - Effective communication; what you learned in Motivational Interviewing, TEACH training or taking the RELATIONS course fits in beautifully here
    - Working with expectations
    - Focusing on strengths
    - Fostering engagement
    - Offering a safe space to explore, honoring differences in perspectives
    - Focusing on what really matters (MAP)
    - Practicing what you preach; that is, trying the various suggestions yourself that you recommend to others

  For a detailed review on the power of therapeutic presence, refer to "Implementing Whole Health in Your Practice, Part II: The Power of Your Therapeutic Presence."

- **Honoring What Is Already Done Well.** As noted in Chapter 1, many programs in the VA already support or draw in elements from Whole Health. Of course, clinicians are not being asked to stop using their clinical skills. On the contrary, Whole Health is about ways to make them even more successful at using those skills (while building others, as appropriate).

Whole Health Tool: Introducing Whole Health—Your Elevator Speech

Imagine you are on an elevator, and a colleague steps in who is unfamiliar with Whole Health and asks you to tell him/her about it. Or, imagine you are talking to a Veteran you have not met before—perhaps at reception or information desk—and you want to give them a brief introduction to Whole Health care. If you have just 30 seconds to share before the elevator ride is over, or before you need to talk to the next patient in line, what would you say?

It helps to think this through in advance, and the following exercise can help. Take a few minutes to consider the following:

1. How do you personally define Whole Health?
2. How would you describe the Journey to Whole Health Clinical Care to someone who has never heard of it before?

You might want to include some of the following snippets in your Whole Health care Elevator Speech. State them in your own words.

Whole Health...

- Is a different way to approach health care
- Is being adopted by many sites throughout the VA
- Aligns with VA strategic plan and the goals of patient centered care
- Is about personalized, proactive, patient-driven care
- Looks at the whole person
- Respects each person's individual uniqueness
- Encourages people to focus on MAP by asking, "Why do I want my health?," "What really matters to me?," "What brings me joy?"
- Incorporates mindful awareness
- Places importance on prevention and the work of the National Center for Prevention (NCP)
- Honors the value of conventional care, especially for acute health concerns
- Places a high priority on self-care and what people can do to take care of themselves
- Is strength-based, acknowledging what people are already doing well
- Brings in complementary and integrative health (CIH) approaches, as appropriate
- Can involve creating Personal Health Plans (PHPs) for patients
- Is a team-based approach, with the patient being the captain of the team
- Focuses on improving clinician well-being as well

If you would like, jot down a draft of your Elevator Speech in the space below. This can be written in detail, or it may just be a few bullet points to jog your memory. After you practice it a few times, experiment with trying it out with a friend, a colleague, or some of the Veterans with whom you work. Ask for constructive feedback. If you work with a team, encourage everyone on your team to try this exercise. Determine where and when

you will share this summary with patients. You may wish to display posters or cards with the Circle of Health on them to facilitate discussion.

My Whole Health Elevator Speech:

The following are a few examples of Elevator Speeches. Note what you like and do not like about each, to guide you as you create your own.

> Whole Health is a model of care that is getting increased attention in the VA. It focuses on you—your values, your goals, and why it is important to you to be healthy. Care is tailored to you as a unique person, it focuses on preventing problems (not just solving them when they come up), and having you be the main person guiding your care, instead of just having everyone tell you what to do. It focuses on self-care, and you can choose to explore different areas around that. It also involves helping you build the team you need to reach your goals, and that team includes not only you and your clinicians, but also might include your loved ones, fellow Veterans who want to help, Whole Health Coaches, or clinicians of complimentary and integrative health (CIH) approaches, like acupuncture or meditation training.

> Whole Health focuses on what matters to you, instead of what is the matter with you. It is holistic—every aspect of who you are is important. We want you to have the skills, tools, and team you need so that you can achieve your goals and be in your best possible health. This builds on the great care you have already had in the VA up to this point.

In reality, your Elevator Speech will prove to be more of a discussion starter than simply a speech per se. The intent is that it will spark an ongoing dialog, to pique other people's interest in Whole Health.

Mapping to the MAP

Whole Health begins with a focus on the individual. Care is personalized; it is not enough to practice "cookbook" medicine, where the same thing is always done for any given health concern. Even if two people have the same diagnoses on their problem lists, they are going to need and respond differently to different therapeutic interventions. Even identical twins will differ in terms of what health problems they have and their explanations for why they have those problems. Perhaps most importantly, any given pair of people will have different answers when it comes to what they value most and how they want to bring it more fully into their lives.

Mapping to the MAP is about bringing each individual's values to the forefront of their care and connecting clinical work directly to what matters most to the Veteran. It has been referred to as the "game changer" when it comes to Whole Health care. It honors individual uniqueness and sets the stage for effective personal health planning. It changes the conversations you have with Veterans and leaves room for more creativity and engagement on their part. People appreciate going over these topics, often commenting (pleasantly surprised) that they have never had someone in health care ask them about such things before. Answering MAP-related questions engages people more fully in their care and increases the odds they will set meaningful, achievable goals. Conversely, it can sometimes be difficult for people to identify their MAP. It may be a new concept for many people, and they may benefit from additional opportunities to self-explore or reflect (e.g. Pathway programs). While not common, this process can sometimes also uncover or highlight challenges relating to depression or suicide risk, indicating the need for additional action.

Care focused on a person's core values deepens therapeutic relationships,[8] increases patient (and clinician) engagement,[1] improves outcomes,[9] and is more likely to lead to successful changes in behavior.[10]

We know that meaning and purpose have a significant impact on health too.

- People with a strong sense of purpose live longer.[11] They are more likely to use preventive health care services,[12] but require other health care services significantly less than people with a low sense of purpose in life.[13]
- A review of 63 studies, including over 73,500 people, found that meaning in life was connected with better ratings of numerous different aspects of physical health.[14]
- Purpose in life correlates with lower incidence of sleep disorders,[15] stroke risk,[16] and reduction of risk of myocardial disease.[17]
- Purpose in life is correlated with better scores for memory, executive function, and overall cognition.[18] It is also linked to a decreased risk of Alzheimer's disease and mild cognitive impairment in older people.[19]
- Meaning in life is crucial to coping and psychological well-being.[20]

The following Whole Health tool offers some guidelines for elucidating what matters most to a Veteran, colleague, or loved one.

Whole Health Tool: Mission, Aspiration, Purpose (MAP)

One important method for gathering information is to ask questions that go right to the heart of what is most important to the person. These questions delve into the core values that are most likely to motivate someone to follow through with their goals.

Examples of "The Big Questions:"

What REALLY matters to you in your life?
What do you want your health for?
What is your mission in life?
What is your calling?
What goals are most important to you, and how can being in good health help you to achieve them?
What brings you a sense of joy and happiness?
What is your vision of your best possible health?

Try these questions out. Start by answering them for yourself. People's answers often prove to be quite remarkable. The following are the most common ways people will respond.

- They list specific people in their lives or important relationships. Reviews of literature find that relationships, and particularly family relationships, are the most important source of meaning to people from all cultures and age groups[21].
- They mention a specific experience, be it travel, a hobby, or a daily activity.
- They talk about overall quality of life and health span (how long you live in a healthy state).
- They are hesitant, or they freeze. If this is the case, give them time to consider their answers and check back in with them later. Alternatively, if they are willing, you can have them complete an exercise to identify their values, which might help. Some exercises to explore values are offered in Chapter 7, "Personal Development."

Some people prefer to use the term "meaning" instead of "mission" as part of MAP. Frame these questions using the wording that is most appropriate for each individual.

Once a person's MAP has been outlined, the focus becomes setting shared goals that are connected to it.

Shared Goals

Shared goals arise at the point where an individual's goals intersect with the goals of one or more members of their care team, as illustrated in Figure 2-2. These can include broad "Life and Health Goals" and/or more specific "Clinical Goals."

Figure 2-2. Shared Goals: Where Veteran and Team Goals Intersect

For example, a Veteran may decide that his or her MAP is to be able to "be around for my family for another 20 years, because they are what is most important to me." A health care team member's overall goal may be to prevent a heart attack, because the Veteran is at high-risk for one. These goals overlap. As the patient and care team create a PHP together, they can being setting goals that are more Specific, Measurable, Action-Oriented, Realistic, and Timed (i.e. "SMART" goals, discussed more in Chapter 3) that feel attainable to the Veteran and are likely to help reduce cardiac risk. Examples include limiting red meat to a certain number of servings per week (Food and Drink), daily 20-minute walks (Moving the Body), or beginning to meditate for 10 minutes five times a week (Power of the Mind).

Consider the following in terms of your work with Veterans:

1. Do you typically set goals with them?
2. If you do, how does it happen? Who comes up with the goals—you or the Veteran?
3. How well do your patients do with meeting their goals? How can you increase their chances for success?

Goal setting is an important organizing principle in personal health planning, because it is closely linked to adherence.[22] We know that in a typical practice, as many as 50% of medications are taken incorrectly.[23] How can we improve those odds? The key is patient engagement, which has been referred to as the "blockbuster drug," because it can improve outcomes for nearly any problem. A review of 722 articles found that there are four key elements to engaging patients.[24] The four are:

1. Personalization—get to know the individual, and tailor the care to them (sound familiar?)
2. Access—educate them about options, provide information, guide and support them, and address practical (contextual) issues such as transportation and visit availability
3. Commitment—tie it in to values, to what really matters
4. Therapeutic alliance—have a great relationship with them, through compassion, good communication, and excellent therapeutic presence

Here are few tips when it comes to shared goals:

- Always make sure a goal connects back to a person's MAP, and that the connection is clear for them, even if a goal is quite detailed.
- As a health care team member, you should both share your perspectives and honor those of the person you are supporting. Be sure to communicate with them about why you have the goals you do.
- Documentation should make it clear to all team members what someone's MAP is and how their goals help them move toward it.
- Even if patients tend to be passive ("*You are the expert, just tell me what to do*") encourage them to reflect on and share their MAP.
- The additional time this takes up front is an investment, because you are more likely to get their buy in when it comes to following through with the plan you create together.

Conclusion

This chapter introduced the Journey to Whole Health Clinical Care and went into more detail about several of the important elements: how to Empower people when it comes to their health care, Whole Health Fundamentals, and Mapping to the MAP. Keep each of these areas in mind as you explore ways to bring Whole Health into your work. The next chapter will focus on the other three elements— Equipping, Personal Health Planning, and Integration.

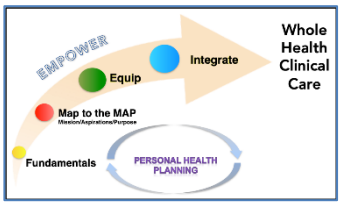
Resources

Resources for this chapter are featured with the resources for the other elements of the Journey to Whole Health Clinical Care, at the end of Chapter 3.

References

[1] Anderson RM, Funnell MM. Patient empowerment: myths and misconceptions. *Patient Educ Couns.* 2010;79(3):277-282.
[2] Aujoulat I, d'Hoore W, Deccache A. Patient empowerment in theory and practice: polysemy or cacophony? *Patient Educ Couns.* 2007;66(1):13-20.
[3] McAllister M, Dunn G, Payne K, Davies L, Todd C. Patient empowerment: the need to consider it as a measurable patient-reported outcome for chronic conditions. *BMC Heal Serv Res.* 2012;12:157.
[4] Anderson RM, Funnell MM. Patient empowerment: myths and misconceptions. *Patient Educ Couns.* 2010;79(3):277-82.
[5] Jorgensen CR, Thomsen TG, Ross L, et al. What facilitates "patient empowerment" in cancer patients during follow-up: a qualitative systematic review of the literature. *Qual Health Res.* 2018;28(2):292-304.
[6] Holmstrom I, Roing M. The relation between patient-centeredness and patient empowerment: a discussion on concepts. *Patient Educ Couns.* 2010;79(2):167-172.
[7] Jones PS, Meleis AI. Health is empowerment. *ANS Adv Nurs Sci.* 1993;15(3):1-14.
[8] Keating NL, Green DC, Kao AC, Gazmararian JA, WU VY, Cleary PD. How are patients' specific ambulatory care experiences related to trust, satisfaction, and considering changing physicians? *J Gen Intern Med.* 2002;17(1):29-39.
[9] Meterko M, Wright S, Lin H, Lowy E, Cleary PD. Mortality among patients with acute myocardial infarction: the influences of patient-centered care and evidence-based medicine. *Health Serv Res.* 2010;45(5 Pt 1):1188-204. doi: 10.1111/j.1475-6773.2010.01138.x.
[10] Náfrádi L, Nakamoto K, Schulz PJ. Is patient empowerment the key to promote adherence? A systematic review of the relationship between self-efficacy, health locus of control and mediation adherence. *PLoS One.* 2017;12(10):e0186458. doi: 10.1371/journal.pone.0186458. eCollection 2017.
[11] Hill PL, Turiano NA. Purpose in life as a predictor of mortality across adulthood. *Psychol Sci.* 2014;25(7):1482-1486.
[12] Kim ES, Strecher VJ, Ryff CD. Purpose in life and use of preventive health care services. *Proc Natl Acad Sci U S A.* 2014;111(46):16331-16336.
[13] Musich S, Wang SS, Kraemer S, Hawkins K, Wicker E. Purpose in life and positive health outcomes among older adults. *Popul health manag.* 2017;21(2):139-147.
[14] Czekierda K, Banik A, Park CL, Luszczynska A. Meaning in life and physical health: systematic review and meta-analysis. *Health Psychol Rev.* 2017;11(4):387-418.
[15] Kim ES, Hershner SD, Strecher VJ. Purpose in life and incidence of sleep disturbances. *J Behav Med.* 2015;38(3):590-597.
[16] Kim ES, Sun JK, Park N, Peterson C. Purpose in life and reduced incidence of stroke in older adults: 'The Health and Retirement Study'. *J Psychosom Res.* 2013;74(5):427-432.
[17] Kim ES, Sun JK, Park N, Kubzansky LD, Peterson C. Purpose in life and reduced risk of myocardial infarction among older U.S. adults with coronary heart disease: a two-year follow-up. *J Behav Med.* 2013;36(2):124-133.
[18] Lewis NA, Turiano NA, Payne BR, Hill PL. Purpose in life and cognitive functioning in adulthood. *Neuropsychol Dev Cogn B Aging Neuropsychol Cogn.* 2017;24(6):662-671
[19] Boyle PA, Buchman AS, Barnes LL, Bennett DA. Effect of a purpose in life on risk of incident Alzheimer disease and mild cognitive impairment in community-dwelling older persons. *Arch Gen Psychiatry.* 2010;67(3):304-310.
[20] Krok D. The role of meaning in life within the relations of religious coping and psychological well-being. *J Relig Health.* 2015;54(6):2292-2308.
[21] Glaw X, Kable A, Hazelton M, Inder K. Meaning in life and meaning of life in mental health care: an integrative literature review. *Issues Ment Health Nurs.* 2017;38(3):243-252.
[22] Epton T, Currie S, Armitage CJ. Unique effects of setting goals on behavior change: systematic review and meta-analysis. *J Consult Clin Psychol.* 2017;85(12):1182-1198. doi: 10.1037/ccp0000260.
[23] Osterberg L, Blaschke T. Adherence to medication. *N Engl J Med*. 2005;353(5):487-497.
[24] Higgins T, Larson E, Schnall R. Unraveling the meaning of patient engagement: a concept analysis. *Patient Educ Couns.* 2017;100(1):30-36.

Chapter 3. Whole Health Clinical Care, Part II: Equipping, Personal Health Planning, and Integration



The real voyage of discovery consists not in seeking new landscapes, but in having new eyes.

—Marcel Proust

Chapter 2 introduces the Journey to Whole Health Clinical Care and then focuses in on Empowerment, Fundamentals, and Mapping to the MAP. It closes with a discussion about Shared Goals. This chapter focuses on how to Equip Veterans, incorporate Personal Health Planning, and Integrate all of these different elements in a way that flows well and supports creation of an overall Whole Health System. The role of SMART goals is also discussed.

Equip

In order to reach their goals and move forward with their mission, aspiration, purpose (MAP), Veterans—and care team members, whose self-care and well-being are also fundamentally important—must be equipped with the education, resources, skill-building, and support they need. To optimize care, team members need to be able to know *what* is available to equip Veterans and themselves, and they need to know *who* is available as well. There is a matchmaking element to Whole Health care.

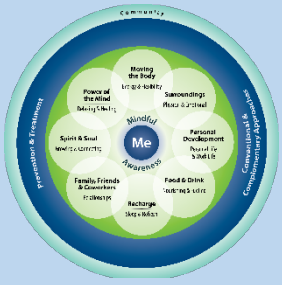
As you consider how best to Equip Veterans for Whole Health, keep the following in mind:

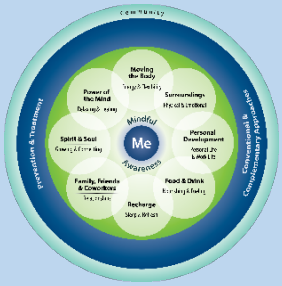
- The Office of Patient Centered Care and Cultural Transformation (OPCC&CT) has created a number of educational resources, ranging from live courses taught at sites all around the country, to virtual offerings, such as online instruction. Multiple educational offerings for clinicians and non-clinicians are featured in the Whole Health tool, "A List of Whole Health Education Offerings" in the next section. The first two course listings are for half-day courses that can be taught at any site, with continuing education units offered. They have train-the-trainer curricula as well, so you or others at your site can teach others how to teach about Whole Health.
- Many sites have developed a list of local and facility-specific Whole Health resources. If your site has one already, keep adding to it. If you do not have one, create one.
- The Resources sections after the chapters in this reference guide were created to help you fill your Whole Health toolbox with ways to equip Veterans.
- Equipping is an important focus of Well-Being Programs, which are one of the three parts of the Whole Health System (Figure 1-5). Suggestions for how to support Veterans through complementary and integrative health (CIH) approaches are offered in Chapters 14-18.
- Depending on Veterans' needs, equipping also includes offering them the best that current clinical services have to offer.

- Ask for support from your Field Implementation Team Consultant (FIT-C). There is one assigned to each site, and they are experts in tailoring Whole Health resources to a site's specific needs. You can find out who is assigned to your site on the FIT SharePoint Page.
- One of the best approaches to learning about all these resources is to try them out for yourself, with your own self-care.

Whole Health Tool: A List of Whole Health Education Offerings

Offerings for All Employees		
Whole Health for Employees (WH102/102F)	Enables VA employees to experience WH themselves in order to help foster a culture in VA where WH is the model of care for Veterans. Employees learn the importance of mindfulness, self-care, resilience, complementary and integrative health, and the power of community through highly experiential activities. This course is now available as an initial 4-hour introduction to Whole Health; Whole Health 101 (8 hours) may continue being offered by sites that have already been using it. **Train-the-Trainer curriculum is available for this course.**	• All employees who have not previously attended a WH course • Half-day, in-person curriculum • 4 CEUs • 102F is designated for Flagship sites
Clinical Offerings *(Primary focus: training clinicians in how to incorporate WH into their clinical practice.)*		
Implementing Whole Health in Clinical Care (WH202)	Offers an intensive, highly practical experience for busy VA clinicians and clinical teams that focuses on skills and tools to make clinical practice more effective, efficient, and satisfying. Provides clinicians and teams with a quick-start guide for helping patients optimize their own health and well-being. This course is ideal for clinicians unable to attend Whole Health in Your Practice and/or who want additional focus on local implementation. **Train-the-Trainer curriculum is available for this course.**	• All clinicians • Half-day, in-person curriculum • 4 CEUs • Prerequisite: Any 100-series or other clinical offering listed on this page • Requirement: Local WH Education Champion or clinical champion to partner with FIT as course faculty
Whole Health in Your Practice	Advances skills in the delivery of personalized, proactive, patient-driven care, extending beyond disease-based care to focus on health creation. Provides up-to-date evidence-based information and case studies and Complementary and Integrative Health approaches to treating common conditions. This course is largely experiential, with a focus on Personal Health Planning and how to implement and sustain WH in practical and meaningful ways. Emphasis on clinician self-care and burnout prevention.	• All clinicians • 3-day, in-person curriculum • 20.5 CEUs
Whole Health for Pain and Suffering	Education and skills-based practice on WH approaches to pain and suffering using complementary and integrative therapies. Provides evidence-informed, safe, and effective non-pharmaceutical approaches to pain care. Shows how mind-body approaches and self-management can support coping and well-being for Veterans with pain. Emphasis on clinician self-care and burnout prevention.	• Providers, clinicians, and others working with Veterans experiencing pain • 2-day, in-person curriculum • Optional 4-hour Battlefield Acupuncture training on day 3 • 14 CEUs (plus 4 CEUs for BFA)
Eating for Whole Health	Introduces clinicians to the WH approach as it relates to a fundamental aspect of self-care: nutrition. This advanced, stand-alone course is informed by the latest research, and areas of focus include optimizing nutrition for specific disease states, preventing chronic diseases, collaborating effectively with dietitians and other care team members, and sharing nutrition success stories.	• Clinicians incorporating nutrition recommendations into Veterans' Personal Health Plans • 2-day, in-person curriculum • 14 CEUs
Whole Health for Mental Health	Explores a system of care where mental health is seamlessly incorporated as a core aspect of whole-person care. Explores how mental health can seamlessly be incorporated as a core aspect of whole-person care. This course draws on positive psychology, the recovery model, psychotherapeutic approaches, and the best that conventional care and CIH have to offer. This course is being piloted in FY19.	• Clinicians supporting Veterans' mental health, such as primary care providers and mental health professionals • 2-day, in-person curriculum • 14.5 CEUs

Non-Clinical Offerings *(Primary focus: training non-clinicians in their role as WH Coach, Facilitator, Partner, or Mentor.)*		
Whole Health Coaching	This highly experiential and practical course provides instruction and mentoring on effective communication and coaching skills. In VA's Whole Health Coaching model, the coach partners with a Veteran to proactively take action toward behavior change that aligns with the Veteran's goals and values, and is present- and future-oriented. Graduates are eligible to become National Board-Certified Health and Wellness Coaches.	• Full- or part-time WH Coaches, volunteers, other non-clinical and clinical staff who incorporate WH Coaching into their interactions with Veterans • 6-day, in -person curriculum (two 3-day parts, 1 month apart) 38 CEUs
Whole Health Facilitated Groups	This train-the-facilitator course teaches Veteran peer facilitators how to lead *Taking Charge of My Life and Health* to empower Veteran participants to become more proactive in their own health. Focus is on effective group facilitation skills through practice with feedback. Facilitators learn to assist Veterans in exploring their life mission, aspirations, and purpose; learning the practice of mindfulness; and goal setting, skill-building, and self-management of their health with the support of their peers. **Train-the-Trainer curriculum is in pilot stage for this course.**	• Veteran volunteers, Peer Support Specialists, WH Partners, WH Coaches • 3-day, in-person curriculum
Whole Health Partner Skills Training	WH Partners receive training in how to recruit and engage Veterans in the WH System. Partners learn how to guide Veterans through various offerings within the WH Pathway, as well as resources available in Wellness and Complementary and Integrative Health circles. Partners become well-versed in the Circle of Health, Four-Stage WH Process for navigating change, and the Personal Health Inventory.	• WH Partners and WH Program Managers, Veteran volunteers, peers • 2-day, in-person curriculum • Prerequisite: WH Coaching or WH Facilitated Groups
Whole Health Mentor Course (Pilot)	Learn to support, enhance, and ensure the fidelity of the services provided by the Whole Health Pathway including Whole Health Coaches, Whole Health Facilitators, and Whole Health Partners. Mentor participants will learn how to provide ongoing skill training and mentoring to staff through effective feedback techniques, continuing education, and skillful coordination with supervisors and clinical staff. This course is being piloted in FY19.	• For professionals who will provide ongoing mentorship and training for WH Partners, WH Coaches, or facilitators at their facility • 2.5-day, in-person curriculum • Prerequisite: WH Coaching, WH Facilitated Groups, and/or WH Partner
Virtual Offerings		
Whole Health Library	Go-to site for all things WH. Essential tips on how to get started with WH, overviews on all aspects of WH that synthesize the latest research, and practical tools to use at the point of care with Veterans. Includes links to resources for both self-care and professional care.	Available at https://wholehealth.wisc.edu/
Whole Health TMS/TRAIN Courses	Accredited learning modules including Clinician Self-Care, Introduction to Complementary and Integrative Approaches, Mindful Awareness, Eating for Whole Health: Functional Approaches to Food and Drink, and the Whole Health for Pain and Suffering video series. Non-accredited modules include Whole Health Foundation: A Personal Experience and Facilitation Tips and Techniques.	• Links available on the Whole Health Education SharePoint for WH TMS/TRAIN, Passport to WH, and COPs 

Passport to Whole Health Reference Manual	Comprehensive, 330-page reference manual on WH, the WH System, Personal Health Planning, mindful awareness, the areas of self-care, complementary and integrative health, and whole systems of medicine, etc. Complete with up-to-date hyperlinks of evidence and other resources.	• Links available on the Whole Health Education SharePoint for WH TMS/TRAIN, Passport to WH, and COPs
Communities of Practice	The following monthly calls are offered to continue skill-building, knowledge, and implementation strategies: WH Clinical COP, WH Coaching COP, and WH Facilitated Groups COP.	

Where to Start? (*Your site's Field Implementation Team Consultant can help you develop an education strategy that best supports WH transformation, and can also provide additional WH education resources and support.)*

Clinicians	Non-Clinicians
• Attend 102 and 202 at facility to dive into Whole Health, OR • Attend a two-or three-day clinical course (either as a traveler, or if home facility is hosting). • All clinical offerings provide different points of entry depending on the interest of the clinician and the Whole Health implementation strategy at their facility. • *Note: 102 and 202 are NOT prerequisites for other clinical courses. Clinicians who have attended a two- or three-day clinical course may find 100-series courses duplicative. There is some overlap of materials among all clinical courses.*	• Employees should select the course that corresponds with their role at the facility (such as WH Coach or WH Partner, facilitator of Taking Charge of My Life and Health, and/or mentor to Coaches/Partners/facilitators). • *Note: If employees are serving in multiple roles, they may attend multiple non-clinical courses. There is some overlap of materials among all non-clinical courses.*

Virtual offerings are a great resource for clinicians and non-clinicians unable to attend a face-to-face course, or as a supplement to in-person offerings. Find face-to-face course sign-up and more information on the **Whole Health Education SharePoint**

A few additional options to consider include:

- Field Implementation Team (FIT) site visits. As noted above, each VA facility has a FIT-C, who is an expert in all things Whole Health. A group of them is available to visit sites, when appropriate, and offer specific guidance related to Whole Health implementation. To explore this option, contact https://dvagov.sharepoint.com/sites/VHAOPCC/SitePages/FIT-programs.aspx
- Skill-Building Courses for Veterans. These 60-80 minute courses, which focus on each of the eight areas of self-care, are available at the Whole Health Skilling Building section of the Whole Health Library website. Materials for each course include slides, participant handouts, and a faculty guide.

TeleWholeHealth

TeleWholeHealth is an important mechanism for equipping Veterans with Whole Health resources, tools, and experiences. It is built upon VA's Telehealth offerings and allows Veterans who may not otherwise have access to Whole Health resources to experience them virtually. Offerings may be focused on disease/symptom management and/or wellness. Offering CIH approaches via TeleWholeHealth allows them to be shared at other VA medical centers, Community Based Outpatient Clinics, and non-VA locations, which markedly improves access to them.

Key TeleWholeHealth links include:

- TeleWholeHealth Resource Hub
- VA Video Connect
- VA Video Connect for Providers

Examples of what can be offered through TeleWholeHealth include TeleYoga, TeleMeditation, Tele Tai Chi (and qi gong), TeleWholeHealth Coaching, Intro to Whole Health TeleHealth classes, and TeleWholeHealth Facilitated groups, such as Taking Charge of My Life and Health.

If you wish to implement TeleWholeHealth, there is a local implementation process you can follow:

1. Meet with the Facility Telehealth Coordinator (FTC)
2. Determine what Telehealth modality is appropriate for the service you wish to offer
3. If you will be using Clinical Video Telehealth, a Telehealth Service Agreement will need to be created, detailing what services are to be provided
4. Establish clinic locations and utilize appropriate Whole Health and Telehealth stop codes and CHAR 4 codes
5. Implement a pathway for service, e.g. consults, scheduling, etc.

See the Resources section at the end of this chapter for a list of national TeleWholeHealth resources.

Personal Health Planning

Personal health planning is the process through which Veterans identify their MAP and outline their health and self-care goals (linked to their MAP). It also includes the activities and resources to help them pursue those goals. It begins the moment a Veteran first learns about Whole Health and continues throughout their Whole Health Clinical Care experience (Figure 2-1). The Personal Health Plan (PHP) is a summary of this information.

In the clinical setting, the personal health planning process is guided by Whole Health assessments, which may be informed by tools such as the Personal Health Inventory (PHI). The PHP evolves as Veterans choose which areas of the Circle of Health they would like to focus on and set goals (e.g. shared goals and SMART goals) related to what matters most to them. Ideally, every Veteran is able to articulate their PHP AND every member of the team

is willing and able to check in about how it is going with moving toward MAP and achieving goals. The best-case scenario would be that the Veteran's PHP is accessible to everyone on the health care team, no matter what their particular role might be. Ideally, everyone on the team is aware of what a Veteran is working on and offering encouragement, and documentation reflects this.

The personal health planning process is unique for each person, focusing on each individual's values, health conditions, needs, and circumstances. It is built upon compassion, empathy, respect, excellent communication, cultural humility, and a genuine desire on the part of caregivers to support the health and well-being of Veterans. Ideally, these caregivers are applying Whole Health in their own lives as well.

Personal health planning is "where the rubber meets the road" in Whole Health care. In short, it involves gathering information, setting goals together with each Veteran, assembling the key elements of a plan, and then exploring how the Veteran can learn necessary skills to empower themselves to do self-care. It is also important to co-create a Whole Health team with Veterans, make appropriate referrals, and plan follow up.

Whole Health assessment. Health assessments come in many shapes and sizes. Asking the MAP questions may be all there is time for in some visits. Forms filled out by the patient while checking in to a clinic can be helpful. Of course, gathering an updated patient history can also provide valuable information. So is a physical examination. One emphasis of the Whole Health approach is to bring additional focus to aspects of self-care, with an emphasis not only on the areas a person wants to work on, but also on what is going well. My HealtheVet and the National Center for Health Promotion and Disease Prevention offer a number of assessment materials that shift focus in this way.

Often, a Whole Health assessment will, as time and other factors allow, involve completing a PHI. PHIs come in many forms, and the PHI, featured on the next page, is one most commonly being used. The PHI starts with overall ratings of physical well-being, mental/emotional well-being, and quality of life (the "Vitality Signs"). Next, it moves through a series of questions related to MAP and the various self-care components of the Circle of Health. People rate where they are and where they would like to be when it comes to different aspects of care. The PHI concludes by asking what Whole Health (and achieving their MAP) would look like for a person and the next steps they want to take to get closer to that state. The team can review the PHI in advance and be better-equipped to have a patient-centered discussion. Answers can be entered into the medical record so that everyone on the team will be able to access them.

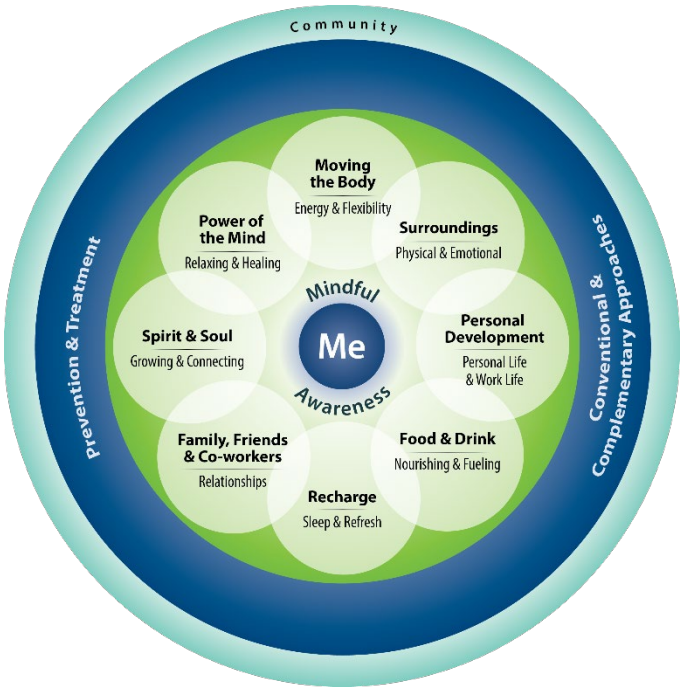
In addition to the PHI, other PHIs are in use at different VA facilities. The PHI Booklet is a rich, very descriptive form that goes over the Whole Health process in layman's terms. Another example of one is Whole Health Review of Systems Form, created by VA Boston Healthcare. The Resources Section at the end of this chapter has information and links to the various PHIs. Note: most sites using PHIs have reported they have better success if they do not mail PHIs out to Veterans, but rather ask them to fill them out just prior to seeing a clinician or team.

U.S. Department of Veterans Affairs
Veterans Health Administration
Office of Patient Centered Care and Cultural Transformation

Personal Health Inventory

Use this circle to help you think about your whole health.

- All areas are important and connected.
- The body and mind have strong healing abilities.
- Improving one area can help other areas.
- The inner ring represents your mission, aspirations, or purpose. Your care focuses on you as a unique person.
- Mindful awareness is being tuned in and present.
- Your self-care and everyday choices make up the green circle.
- The next ring is professional care (tests, medications, supplements, surgeries, examinations, treatments, and counseling). This section includes complementary approaches like acupuncture and yoga.
- The outer ring includes the people and groups who make up your community



Rate where you feel you are on the scales below from 1-5, with 1 being miserable and 5 being great.

Physical Well-Being				
1 **Miserable**	**2**	**3**	**4**	**5** **Great**
Mental/Emotional Well-Being				
1 **Miserable**	**2**	**3**	**4**	**5** **Great**
Life: How is it to live your day-to-day life				
1 **Miserable**	**2**	**3**	**4**	**5** **Great**

What is your mission, aspiration, or purpose? What do you live for? What matters most to you?
Write a few words to capture your thoughts:

_____

_____

_____

_____

_____

YOUR MISSION FOR LIFE

Where You Are and Where You Would Like to Be

For each area below, consider "Where you are" and "Where you want to be." Write in a number between 1 (low) and 5 (high) that best represents where you are and where you want to be. You do not need to be a "5" in any of the areas now, nor even wish to be a "5" in the future.

Area of Self-Care	Where I am Now (1-5)	Where I Want to Be (1-5)
Moving the Body: Our physical, mental, and emotional health are impacted by the amount and kind of movement we do. Moving the body can take many forms such as dancing, walking, gardening, yoga, and exercise.		
Recharge: Our bodies and minds must rest and recharge in order to optimize our health. Getting a good night's rest as well as recharging our mental and physical energy throughout the day are vital to well-being. Taking short breaks or doing something you enjoy or feels good for moments throughout the day are examples of ways to refresh.		
Food and Drink: What we eat and drink can have a huge effect on how we experience life, both physically and mentally. Energy, mood, weight, how long we live, and overall health are all impacted by what and how we choose to eat and drink.		
Personal Development: Our health is impacted by how we choose to spend our time. Aligning our work and personal activities with what really matters to us, or what brings us joy, can have a big effect on our health and outlook on life.		
Family, Friends, and Co-Workers: Our relationships, including those with pets, have as significant an effect on our physical and emotional health as any other factor associated with well-being. Spending more time in relationships that 'fuel' us and less in relationships that 'drain' us is one potential option. Improving our relationship skills or creating new relationships through community activities are other options to consider.		
Spirit and Soul: Connecting with something greater than ourselves may provide a sense of meaning and purpose, peace, or comfort. Connecting and aligning spiritually is very individual and may take the form of religious affiliation, connection to nature, or engaging in things like music or art.		
Surroundings: Our surroundings, both at work and where we live, indoors and out, can affect our health and outlook on life. Changes within our control such as organizing, decluttering, adding a plant or artwork can improve mood and health.		
Power of the Mind: Our thoughts are powerful and can affect our physical, mental, and emotional health. Changing our mindset can aid in healing and coping. Breathing techniques, guided imagery, Tai Chi, yoga, or gratitude can buffer the impact of stress and other emotions		
Professional Care: "Prevention and Clinical Care" Staying up to date on prevention and understanding your health concerns, care options, treatment plan, and their role in your health		

Reflections

Now that you have thought about what matters to you in all of these areas, what is your vision of your best possible self? What would your life look like? What kind of activities would you be doing?

_____

_____

Are there any areas you would like to work on? Where might you start?

_____

_____

After completing the Personal Health Inventory, talk to a friend, a family member, your health coach, a peer, or someone on your healthcare team about areas you would like to explore further.

To become more familiar with the PHI, fill it out for yourself. This can serve as a helpful "mindful awareness moment" when you pause to reflect for a moment on your own Whole Health care.

Some PHI Pointers. As you review a PHI, consider the following:

- Answers for the first few questions, the **Vitality Signs**, can give an initial sense of whether or not a person is at risk for suicide.
- The question after the vitality signs covers some initial information to help you **learn about their MAP**.
- The next section, on the second page, allows a person to share their perception of **where they are and where they would like to be** when it comes to the various aspects of Whole Health. This opens the door for Motivational Interviewing. The numbers can give you a sense of what to prioritize as you talk with them, but they may not reflect which areas they ultimately choose as a focus. People do not always choose the item they rated lowest. The numbers are simply a conversation starter.
- Remember to **focus on positives too; honor strengths**. Note areas where a person is already doing well, based on their self-rating. That area of their life might support them as they work on other areas where they gave themselves lower ratings.
- **How will you administer the PHI?** Will people fill it out in the waiting area, or while they are visiting with one of your team members?
- **How often should you have a person complete the PHI** again to keep it current? Some facilities suggest that a Veteran complete a new PHI yearly.
- **PHIs save time.** After looking over the information, you can rapidly move to asking more in-depth questions, because many of the questions you would have initially asked have already been answered in their written responses. This allows the conversation to become focused more rapidly.
- **PHIs get you started with creating the PHP and setting goals.** Patients are asked where they would like to start, and what specifically they can do to get underway. When in doubt about what to discuss, start by exploring their answers to those final PHI questions.
- It can help to **develop your own style,** or pattern, with reviewing PHIs. For the PHI, here is an example of 3 steps you can follow.
    1. Glance at the vitality signs, noting whether mental health or physical health seems to be a higher priority. How do they feel in general about the life they live? If these are rated particularly low, ask them about it right away. Assess suicide risk.
    2. Move on to the numbers relating to "Where you are and where you want to be." While it is important not to become overly focused on the numbers and lose track of the rest of the information on the PHI, it can help to see where there are the biggest gaps between a person's "Present" and "Desired" states. The areas with the biggest differences might be the best ones to ask about first. (Or perhaps it works best to mention the higher ratings first and go from there—you decide.)
    3. Always review the initial "What really matters to me" question on the first page and the "Reflections" section at the end. Answers to these questions provide an excellent starting point for co-creating the PHP with them. Again, having these questions answered in advance can help Veterans focus, and can save you time.

Creating a Personal Health Plan: Tips on How to Empower and Equip

Creating a PHP is a little like matchmaking. In order to do it, you need to know patients well—including, of course, why their health is important them. You also need to know your site well. What VA and community resources can you share, and who can you recommend they see for additional support? What will follow up look like? If you are going to recommend a less conventional therapy, what do you know about its safety and efficacy?

Here are 12 tips to consider when you are figuring out how to create a PHP to equip a Veteran:

1. **Whole Health care is a team effort**. During Whole Health courses, when clinicians are first learning about how to do Whole Health visits, they often become quite concerned about having the time to incorporate this model with everything else they must do when they are seeing a Veteran. Each individual can have a huge impact on a given Veteran's Whole Health care, regardless of how many others around them are actively using a Whole Health approach. Ideally though, especially in a Whole Health System, everyone on the care team must take ownership of advancing the PHP. The PHP is not something simply discussed in a visit with a primary care provider, or during a conversation with a hospital discharge planner. Entire Patient Aligned Care Teams (PACTs), inpatient care teams, and others must share responsibility for Whole Health care; in other words, care must be transdisciplinary. Everyone who contributes to the care of Veterans should become comfortable discussing MAP, whether they are a mental health professional, a Whole Health Coach, a dietitian, a pharmacist, a chaplain, a nurse, a Whole Health Partner, a physician, or any other team member.

2. **PHPs come in all shapes and sizes**. Sometimes, simply listening and offering compassion is sufficient to promote Whole Health. Sometimes a plan may be just one SMART goal. Other plans may be more detailed and cover multiple aspects of the Circle of Health. Be careful not to overwhelm Veterans with too many suggestions at once. Ask them how much they can handle, and make good use of follow-ups with various team members so that the plan can keep evolving.

3. **Your first order of business is to synthesize all the information at your disposal**. This includes what you can learn from the medical record, the physical exam (if that is in your wheelhouse), diagnostic testing, as well as their body language and what family members or friends tell you. It also draws in the information from the PHI, if they have completed one. What do your instincts tell you about the Veteran and what will serve him or her the best?

4. **The Veteran, as much as possible, should be a co-author of the plan**. It should NEVER feel as though you are writing the plan by yourself. Have the entire team contribute, if possible. You do not have to go it alone. The Veteran should be the lead author.

5. **Follow up is ALWAYS part of the plan**. The patient should always leave the room with a clear sense of next steps as far as follow up visits, procedures, etc.

6. **Be aware of contextual errors**.[1] That is, don't forget about a patient's social context and how it could affect their care. As clinicians, we are trained to follow guidelines and use decision aids, but you have to make sure the PHP takes into account the specifics of a person's life. Can they afford the medications being prescribed or the dietary supplements being recommended? Do they have responsibilities to others that make it so they cannot be in a hospital or nursing home? Do they have transportation to the consultant you want them to see? Are they comfortable trying a new CIH approach? Be mindful of cultural issues as well, remembering that just because a person belongs to a particular culture does not mean you automatically know who they are or what they believe. In the spirit of cultural humility, ask them how their culture influences their care preferences regarding their health care.[2]

7. It can help to **follow a PHP template**. There is now a national template available in the VA electronic medical record (CPRS). Refer to the CPRS Personal Health Plan Template Educational Overview for more information.

8. **Have tools and educational materials on hand** to help with education and skill-building. This saves time, and it helps patients understand the elements of the PHP more fully. For example, it may be helpful to have printed copies of the Veteran Whole Health handouts.

9. Similarly, **become familiar with various resources you can recommend** in a health plan. These might include classes available through your site's Well-Being Program, mindfulness training, Shared Medical Appointment opportunities, local CIH practitioners, mental health offerings, Whole Health Coaches and Whole Health Partners who can be helpful, recreational therapy options, building vocational skills, or any of a number of other approaches specific to your local VA facility or community.

10. ALWAYS take some time, even if it is brief, to **focus on the positives**. Note what they are doing right. Help them identify their assets. Weave their strengths into the plan too.

11. One of the best ways to learn how to equip a Veteran for Whole Health is to **try this for yourself**. Research indicates you will be rated as much more believable if you model healthy behaviors and, as appropriate, briefly share you own health experiences with patients.[3]

12. **Compare notes with your colleagues**. What are their Veterans' health plans like? What are some of their favorite resources for various parts of the Circle of Health? What techniques work best for them during a visit? How do they stay on time on a busy day? Ask people from your team, your site, and beyond.

Concerns About Time

Clinicians often raise concerns about having enough time to use the Whole Health approach. However, most people who have adopted it report at least one of the following:

- **It saves time, after you have practiced it**. Initially, individual clinicians who started incorporating elements of Whole Health Clinical Care report spending an extra several minutes per visit when they incorporated Whole Health into the mix. Over time, the process becomes more efficient. For each patient, it is mainly an investment up front. Once you know a person fairly well, future conversations are actually easier, because their PHI has already been reviewed and they have already outlined their MAP. You do not have to have them start the process from scratch every time you see them. Remember that not all aspects of Whole Health have to be addressed at every visit, and in general, MAP and shared goals may not change for some time.

- **It is more rewarding**, so it is worth the time investment.

- **You can tailor how much time you spend** based on the specific situation. An inpatient stay is a great opportunity to focus on Whole Health in great detail. In contrast, during a busy clinic day, you may only have a minute or two, but you can still ask about someone's priorities, garner a piece of their story, suggest a referral or patient handout, or create one simple SMART goal they can focus on. And it is important to remember that your presence, in and of itself, can promote Whole Health. This is true because of who you are and how you relate to other people (your therapeutic presence), not just because of the plans you create.

Goal Setting Revisited: Shared Goals and SMART Goals

Chapter 2 discussed the link between Mapping to the MAP and setting shared goals. As Veterans elaborate on their MAP and what will help them to achieve it, their goals will likely become more specific.

Shared goals, as described in Chapter 2, come first. Care professionals are sought out by patients because of their expertise; patients expect them to offer guidance and insight. Shared goals arise as clinicians and Veterans share their ideas and intentions with one another. Care team members may make statements such as:

- "You want to do [insert a goal here]. I want to support you with that."

- "So our goal is [insert goal here]. Let's talk about how to do that together."

- *More specifically:* I know you are concerned about lowering your dose of pain medications, and I also know you want to be able to keep doing what you enjoy, like walking outside with your wife and dog. I want you to be able to do that to. Let's talk about how we might do that together."

- *Also more specific:* My goal is to see your cholesterol lab values improve, and your goal is to be able to march with your marching band in the Veteran's Day parade. What's great is that we have the common goal of protecting your heart and boosting your activity level. Let's come up with a plan where you can work on one specific thing that will help both of our goals be achieved."

When planning how to achieve shared goals, SMART goals can be important. Some clinicians find that setting one SMART goal during a visit suits their patients well, while others will set more than one if time allows (though it is important not to overwhelm people by setting too many). As noted above, you can equip people for Whole Health in multiple ways and SMART goals can be one important option to consider.

"SMART" stands for:
Specific
Measurable
Action-Oriented
Realistic
Timed

Building a clear "I will…" statement using these criteria for a SMART goal can increase the odds a goal will be successfully reached. Consider the difference between these two statements:

- Less SMART: "I will lose weight."
- SMART: "I will eat at least two servings of vegetables each day, including a side salad with lunch and a vegetable with dinner. I will start this next Monday, and I will do it for a month before I check back in with my primary care team."

The second goal offers specific details around how diet will change with diet changes that can be measured. It describes specific actions that realistically can be done. Timing, including both start times and when to check back with the care team, is clear.

There are two "rulers" that can be helpful with goal setting. The first is the importance ruler, illustrated in Figure 3-1. Follow-through is only going to happen when people truly feel that doing something matters a lot to them. Encouraging people to talk about change, as is encouraged in Motivational Interviewing and TEACH trainings (mentioned as Whole Health Fundamentals in Chapter 2), can be incredibly empowering.

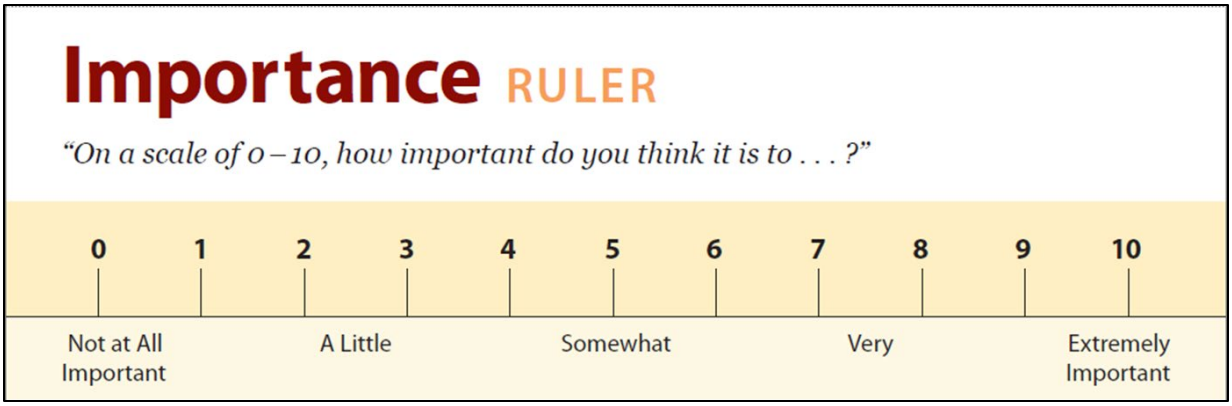


Figure 3-1. The Importance Ruler. Adapted from: Rollnick, Miller, Butler, *Motivational Interviewing in Health Care*, Guilford, 2008.

The second ruler to use, as appropriate, is the Confidence Ruler, illustrated in Figure 3-2. Part of being empowered as a patient is having confidence in your ability to reach your goals.

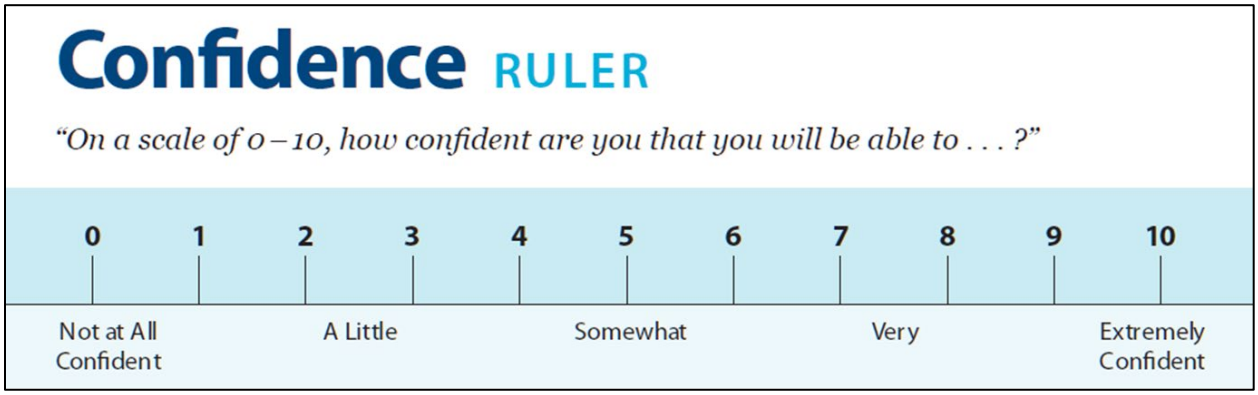


Figure 3-2. The Confidence Ruler. Adapted from: Rollnick, Miller, Butler, *Motivational Interviewing in Health Care*, Guilford, 2008.

Every time you set a goal, pause to consider how you would assess its importance and your confidence you can reach it.

The following tool can be used to create a SMART goal with a Veteran. Consider writing some for yourself as practice...and follow through with them!

Whole Health Tool: SMART Goal Setting

Begin by focusing on a goal that is important to you. This goal should tie in to what really matters. Once you have a goal in mind, apply the principles of SMART goals to it, as described in the table.

General Tips

- It is better to break a more lofty goal down into smaller goals, in order to be sure you will succeed.
- The more detail the better. "I will exercise more" is very vague. "Starting on Monday, July 1, I will walk in the mall for 20 minutes on Monday, Wednesday, and Friday" is more detailed and incorporates all of the SMART elements.
- Make sure both the clinician and the patient agree (at least to some degree) about the goal (SMART goals should also, ideally, be shared goals).
- Be sure to double check that you covered all the parts of a SMART goal.

SMART Goal Element	Questions to Consider	Your Notes
Specific	• Be very clear and detailed about what you want to do and why. • What is required? What are the challenges? • What are your assets and resources?	
Measurable	• How much time will you spend? • How often (daily, weekly, monthly)? • How will you know you are making progress? • How will you know you have reached your goal?	
Action-Oriented	• What actions are needed to achieve the goal? • Describe the ones you will be taking.	
Realistic	• Is this goal worth it? On a scale of 1-10, how important is it to you? • Is the goal lined up with your values? • Is the timing right? • Do you have what you need to reach the goal? • Is it really doable? On a scale of 1-10, how confident are you that you can achieve it?	
Timed	• How long do you need? • Are there any deadlines you have to meet? • When will you start?	

Write your goal below:

I will…

This exercise was adapted from: Rollnick, Miller, Butler, *Motivational Interviewing in Health Care*, New York: Guilford Press, 2008.

Integrate

With so many potential aspects of Whole Health care—the Fundamentals, Mapping to the MAP, Empowering and Equipping, setting goals, and creating PHPs—it is possible to lose track of the big picture. Of all the elements of Whole Health care, Integration is imperative; Whole Health care should include a wide array of options, but it should never seem piecemeal. In fact, it is critical to incorporate this important aspect of the Whole Health Journey right from the beginning, to ensure Whole Health can be sustainable and successful. There are many ways integration occurs in Whole Health, including the following:

- **Integration of the all the elements in the Whole Health Clinical Care Journey**. Every member of the team, including the patient, is aware of Whole Health fundamentals, as described in Chapter 2. They know what Whole Health is about and can describe it to others. Beyond that, they are understand the importance of talking about MAP. They know their own MAP and can have discussions about others' MAPs as well. As MAP is elucidated, shared goals can be set, and the process of personal health planning can be underway. People are equipped through education, resources, skill-building, and support, not to mention routine follow up. These steps are revisited over the course of a person's life.
- **Integration of team members.** As was noted earlier, Whole Health is a team effort. It is ultimately the responsibility of each individual Veteran to be the captain of their own team, no one health care professional can be solely responsible for providing Whole Health care. Seamless integration, with excellent communication, collegiality, and mutual respect, is essential. Increasing numbers of site leaders are now supporting Whole Health implementation. Five key elements are essential for optimal team function[4]:

    1. Shared goals everyone can articulate
    2. Clear roles; everyone knows their function and responsibilities, and everyone feels accountable
    3. Mutual trust, with safety to admit errors, ask questions, and try new things
    4. Effective communication
    5. Measurable processes and outcomes, with frequent feedback

- **Integration of a variety of perspectives on how to approach care.** This is the essence of "Integrative Medicine." CIH, mind-body approaches, preventive strategies, medications, surgical procedures and any number of other options can be appropriate components of Whole Health care. This happens in a way that respects research findings and safety. There is also a respectful integration of previous projects and programs use within a facility or in VA in general.

- **Integration of all the elements of a Whole Health System.** Chapter 1 describes the three essential elements of a Whole Health System—the Whole Health Pathway, Well-Being Programs, and Whole Health Clinical Care. Veterans can move easily from one area to another. For example, a Veteran may discuss MAP with a Whole

Health Coach. They may then take a Taking Charge of My Life and Health course taught by a Whole Health Partner and use what they learn to set shared (and SMART) goals. Those goals might include something like a meditation class offered at their site's Well-Being Program, as well as a specific area they want to discuss with their clinical care team, such as optimizing nutrition or doing all they can to prevent heart disease. There should be good communication between the Coach, the Partner, the meditation teacher, the primary care team, and everyone else on the team, including the Veteran.

- **Integration of what is needed for logistical success.** The VA, like all health care institutions, is bureaucratic. To succeed, all the different parts of the system need to work together. For example:

    - Billing and coding have been updated to allow for CIH and other well-being offerings in VA.
    - TeleWholeHealth experiences are offered with increasing frequency.
    - There is now a Personal Health Plan Template in CPRS (refer to the CPRS Personal Health Plan Template Educational Overview). Templates can be a powerful tool for integrating all the different elements of Whole Health care.
    - The Whole Health App will soon be available in early FY20, and it will ultimately make it possible for Veterans to take their PHI, list of goals, and self-care calendar with them wherever they go.
    - Metrics are used, in a supportive and helpful way, to ensure that Whole Health is truly taking shape throughout facilities.
    - Whole Health is successfully interwoven with Employee Health (which is true nationally, now that they both fall under the OPCC&CT).
    - Whole Health materials can be obtained through the purchasing department.
    - Whole Health team members can be hired easily.
    - The entire leadership structure of a site is supportive of Whole Health.

Whole Health Tool: Personal Health Plan (PHP)

This template was created to help Veterans and their care teams consider the full array of areas that can potentially contribute to Whole Health care. It is not necessary to cover every topic featured here; consider it a list of options.

Personal Health Plan for: _____

Date: _____

Mission, Aspiration, Purpose (MAP):
What really matters to me…

My Long-Term Goals:

Strengths (what's going right already)/Challenges:

MY PLAN FOR SKILL BUILDING AND SUPPORT
(Based on the Circle of Health)

Mindful Awareness:

Areas of Self-Care:
(You don't necessarily need something for every category.)

- Moving the Body
- Surroundings
- Personal Development
- Food and Drink
- Recharge
- Family, Friends, and Co-Workers
- Spirit and Soul
- Power of the Mind

PROFESSIONAL CARE: CONVENTIONAL AND COMPLEMENTARY

- Prevention/Screening

- Treatment (e.g. conventional and complementary approaches, active medications, and supplements)

- Referrals, Consults and Future Appointments

- Shared Goals

Community & Resources:
(groups, classes and organizations that can support me)

My Support Team:
(people who can support me)

Next Steps (Follow Up):

Please Note: This plan is for my personal use and does not comprise my complete medical or pharmacological data, nor does it replace my medical record.

Whole Health Tool: How Do You Integrate This Into Your Work?

Take a moment to envision how, based on all you have been learning, you want your Whole Health practice to look. Consider each of the questions below, and jot down answers as you wish. If you do not have a "practice," list qualities of where you would like to receive your own health care.

How can you support Whole Health in your particular role on the team?

Who is on your Whole Health dream team? Complementary Health providers? Community providers? Whole Health Coaches? Whole Health Partners?

Do you have any ways of doing assessment prior to Whole Health visits, using tools like the Personal Health Inventory? When are they completed?

What Whole Health resources will you use?

How do you weave personal health planning into your typical care plans (e.g. into the visit summary)? AVS? Will you use a template? Will you create SMART goals?

What do you need to offer effective follow up? (Examples: specific resources, a directory of people you can refer to, fellow team members who will call and check in on their progress)

How will you document your Whole Health care visits?

What resources or support do you need to succeed?

Conclusion

This chapter focused on Equipping Veterans, Personal Health Planning, and how to Integrate all the different aspects of Whole Health Clinical Care. In Whole Health Clinical Care, Veterans are encouraged to take gradual steps as they move toward their MAP, and care team members can support them every step of the way. Make use of all the tools at your disposal—courses for VA staff and Veterans, TeleWholeHealth, PHIs, SMART goals, and PHP templates. Most importantly, be resourceful; tailor the plan to each individual's needs. And be sure to integrate this into your own life too. You, as a caregiver, should also feel empowered and equipped, both to support Veterans and to take care of yourself.

One way to continue building your skills is to read on. The remainder of this reference manual focuses on the various components of the Circle of Health.

Resources for Writing Plans, Skill Building, and Support

Websites

VA Whole Health Website

- Personal Health Inventory Booklet. The most detailed version of the PHI. https://www.va.gov/wholehealth/docs/10-773_PHI_July2019_508.pdf
- Online version of online version of the PHI (brief version) of the PHI. https://www.va.gov/wholehealth/docs/10-930_PHI-Short_July2019_508.pdf
- Podcast on mindfulness and using the PHI, by Tracy Gaudet. Scroll to the bottom of the page https://www.va.gov/WHOLEHEALTH/phi.asp
- "The Power of You" is a video focused on how each clinician can bring Whole Health into a visit through his/her therapeutic presence. http://link.brightcove.com/services/player/bcpid4521574267001?bckey=AQ~~,AAACmABW4_k~,u3UC4vmaozkRbnTOHzovpplgn0QYiIND&bctid=4527187306001
- "Whole Health: Personal Health Planning" http://link.brightcove.com/services/player/bcpid4521574267001?bckey=AQ~~,AAACmABW4_k~,u3UC4vmaozkRbnTOHzovpplgn0QYiIND&bctid=4527056491001. Introduces the basics of creating a PHP.
- Whole Health Veteran Handouts https://www.va.gov/WHOLEHEALTH/veteran-handouts/index.asp

Whole Health Library Website

- "Implementing Whole Health in Your Practice, Part I: What a Whole Health Visit Looks Like" overview https://wholehealth.wisc.edu/overviews/part-i-what-whole-health-visit-looks-like/
- "Implementing Whole Health in Your Practice, Part II: The Power of Your Therapeutic Presence" overview https://wholehealth.wisc.edu/overviews/part-ii-power-therapeutic-presence/
    - Note that all of the overviews contain patient narratives and they conclude with sample health plans that may help you with ideas on what you can suggest/discuss in various situations.

- "Reviewing Bob's Personal Health Inventory Booklet," "Bob's PHI (brief version)," and "Bob's PHI Booklet" (includes a nice example of how a completed PHI might look)
    - https://wholehealth.wisc.edu/tools/reviewing-bobs-personal-health-inventory-booklet/
    - https://wholehealth.wiscweb.wisc.edu/wp-content/uploads/sites/414/2019/06/M2-T-Bobs-Brief-PHI-2019.pdf
    - https://wholehealth.wisc.edu/wp-content/uploads/sites/414/2019/08/Bobs-Personal-Health-Inventory-Booklet.pdf
- "Personal Health Inventory" (brief version) https://wholehealth.wisc.edu/wp-content/uploads/sites/414/2018/09/Personal-Health-Inventory-Brief.pdf
- "Personal Health Inventory Booklet" https://wholehealth.wisc.edu/wp-content/uploads/sites/414/2018/09/MyStory-Personal-Health-Inventory.pdf
- "Personal Health Plan Template" https://wholehealth.wisc.edu/wp-content/uploads/sites/414/2018/08/Brief-Personal-Health-Plan-Template.pdf
- "Questions You Can Ask During a Whole Health Visit" https://wholehealth.wisc.edu/tools/questions-whole-health-visit/
- "The Circle of Health: A Brief Self-Assessment" https://wholehealth.wisc.edu/tools/the-circle-of-health-a-brief-self-assessment/
- "Whole Health and the Life of a Clinician" https://wholehealth.wisc.edu/tools/whole-health-and-the-life-of-a-clinician/
- "Narrative Medicine." Puts the importance of story, and of really knowing someone, into context. https://wholehealth.wisc.edu/tools/narrative-medicine
- Boston "Whole Health Review of Systems" forms. There is a brief, 2-page https://wholehealth.wisc.edu/wp-content/uploads/sites/414/2018/09/Boston-Personal-Health-Inventory.pdf
  or a longer 6-page form https://wholehealth.wisc.edu/wp-content/uploads/sites/414/2018/09/Boston-Review-of-Systems.pdf
- "VHA Whole Health: Personal Health Planning Staff Guide" https://wholehealth.wisc.edu/wp-content/uploads/sites/414/2018/09/VA-Whole-Health-Personalized-Health-Planning-Staff-Guide.pdf
- *ABC Guide to the Circle of Health*. Introductory material to give a patient at an initial Whole Health visit. https://wholehealth.wisc.edu/wp-content/uploads/sites/414/2018/09/ABC-Guide-to-the-Circle.pdf

Other Websites

- MyHealth*e*Vet. https://www.myhealth.va.gov/mhv-portal-web/anonymous.portal?_nfpb=true&_nfto=false&_pageLabel=mhvHome. Has

excellent resources anyone (Veterans and clinicians) can use to take stock of their health in many areas. Try calculating out your "Health Age."

- National Center for Health Promotion and Disease Prevention. https://www.prevention.va.gov. Also has resources that can assist with taking stock and doing Whole Health assessment.
- A video about the My Life, My Story Program, where Veterans' narratives are gathered. https://www.youtube.com/watch?v=fpzgVlExS20&feature=youtu.be
- TeleWholeHealth (TWH) Resources
    - TWH Resource Center. You can find multiple resources to support TWH implementation, including a Telehealth Operation Manual, the TWH Supplement, and the Telehealth Training Calendar. http://vaww.telehealth.va.gov/pgm/twhlt/
    - TMS TWH Training for Providers and Whole Health Staff. http://go.va.gov/auuc

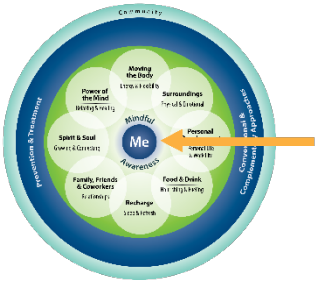
Books

- *Listening for What Matters: Avoiding Contextual Errors in Health Care*, Saul Weiner (2016)
- *Narrative Medicine: Honoring the Stories of Illness*, Rita Charon (2008)
- *Spontaneous Healing: How to Discover and Embrace Your Body's Natural Ability to Heal Itself*, Andrew Weil (2000)
- *The 12 Stages of Healing*, Donald Epstein (1994)

References

[1] Weiner SJ, Schwartz, A. Contextual errors in medical decision making: overlooked and understudied. *Acad Med.* 2016;91(5):657-62.
[2] Foronda C, Baptiste DL, Reinholdt MM, Ousman K. Cultural humility: a concept analysis. *J Transcult Nurs.* 2016;27(3):210-217.
[3] Frank E, Rothenberg R, Lewis C, Brooke F, Belodoff B. Correlates of physicians' prevention-related practices findings from the women physicians' health study. *Arch Fam Med.* 2000;9:359-367.
[4] Smith, C. D., C. Balatbat, S. Corbridge, A. L. Dopp, J. Fried, R. Harter, S. Landefeld, C. Martin, F. Opelka, L. Sandy, L. Sato, and C. Sinsky. 2018. Implementing optimal team-based care to reduce clinician burnout. *NAM Perspectives.* Discussion Paper, National Academy of Medicine, Washington, DC. https://nam.edu/implementing-optimal-team-based-care-to-reduce-clinician-burnout. doi: 10.31478/201809c

Chapter 4. Mindful Awareness



In the end, just three things matter:
How well we have lived
How well we have loved
How well we have learned to let go

—Jack Kornfield

What Is Mindful Awareness?

Mindful awareness is central to Whole Health, but the term is not familiar to some people. To understand mindful awareness, it can help to think about what it is like NOT to have it. We have all experienced examples of being on autopilot, not really noticing what is going on around us. After a long day, you arrive home with very little memory of the trip home. You go for a walk with your child, and you do not notice anything about the scenery, because your mind is cluttered with worries about the past and the future. You open a bag of chips or a box of cookies, and before you know it, the package is empty, and you hardly noticed, let along enjoyed, a single bite.

Figure 4-1. Two different ways for the mind to be. Photo credit: ForbesOste via Flickr.com

Mindful awareness is the opposite of this. It is the antidote to tuning out or going on auto pilot. Mindful awareness is about noticing what is happening when it happens. It is about being aware of the sights and sounds on the drive home, being completely present when you are walking with your child, and tasting every bite of a snack (which might even allow you to feel full sooner, so you eat less). Put another way:

> Mindfulness is paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally.[1]

Some people add "...and with compassion" to that definition. Practices to cultivate mindfulness are not new; a variety of world spiritual and philosophical traditions address

mindfulness and have encouraged people to cultivate it for hundreds if not thousands of years.

One of the striking things about the Circle of Health is that the "Mindful Awareness" ring immediately surrounds the "Me" at the center of the circle, as noted in Figure 4-2. Just as it is central to the Circle of Health, mindful awareness is central to the entire Whole Health approach. It can inform how we relate to others and how we choose to practice self-care. It is at the root of feeling compassion, and it informs our state of being when we are "in the zone" (in a flow state) with a given activity.[2]

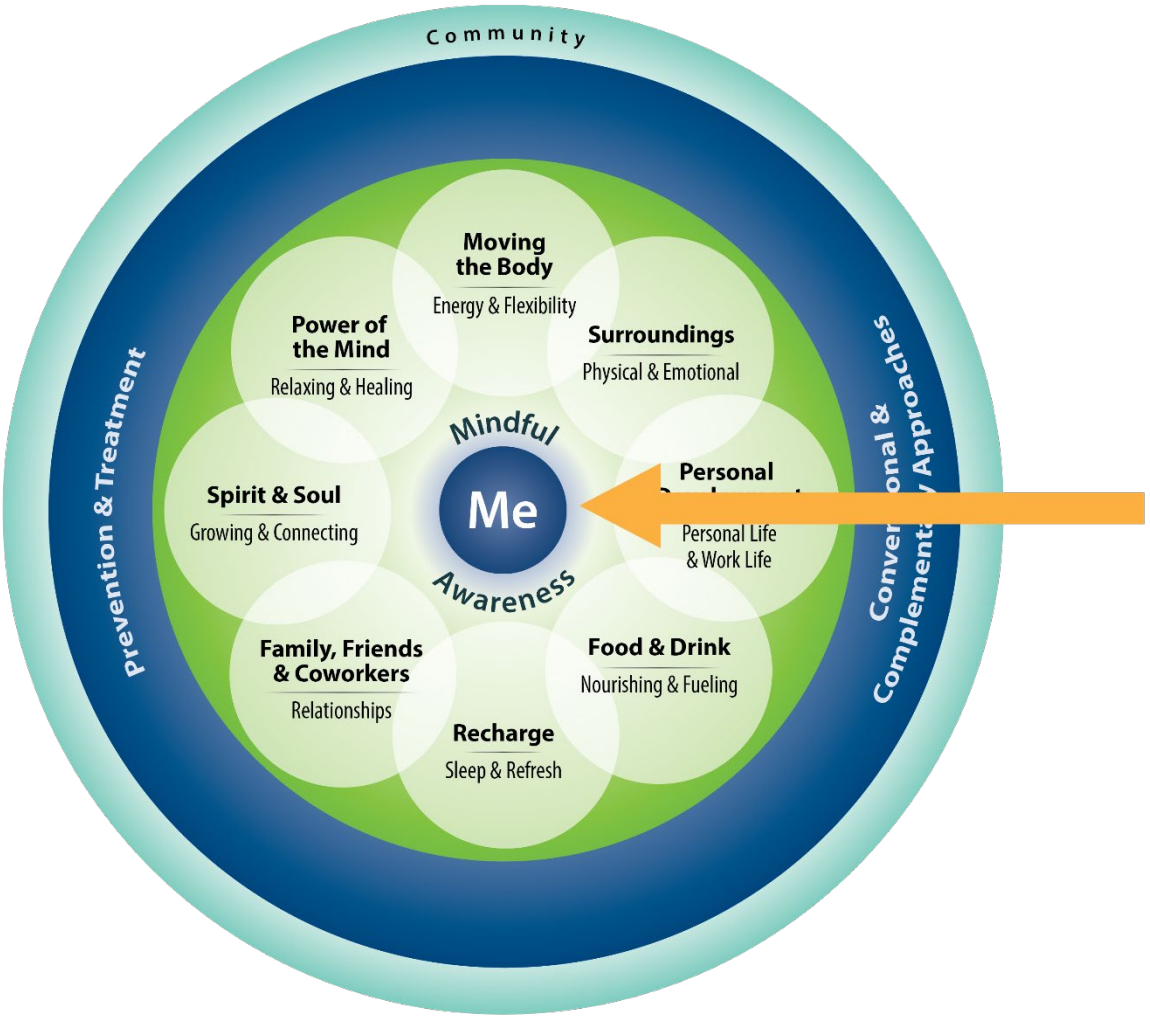


Figure 4-2. Mindful Awareness and the Circle of Health

In terms of health, you can imagine how mindful awareness can be important. It influences how we tune into our physical, mental, and emotional states, and it helps us to do so sooner, so that we can prevent a problem from progressing. As the saying by Henry Maudsley goes, "The sorrow that hath no vent in tears, may make other organs weep." Mindfulness is about noticing something is out of balance before it starts causing major physical symptoms.

Mindful Awareness, Mindfulness, and Meditation

Sometimes the terms *mindful awareness*, *mindfulness*, and *meditation* can be confusing. How do they differ? For the purpose of Whole Health and personal health planning, we use the term *mindful awareness* interchangeably with formal and informal mindfulness practice. *Formal mindfulness* is the meditation practice of sitting in stillness, usually with the eyes closed, while noticing the sensations of the breath in the body (as one of the many examples of a formal mindfulness practice). An *informal mindfulness* practice typically means doing something you are already doing, like washing dishes or petting the cat, with your full attention to the unfolding of experience. *Mindfulness* means paying attention to the present moment with the qualities of non-judgment, kindness, and curiosity. We make a distinction between mindfulness, a way of being, and mindfulness-based interventions, such as Mindfulness Based Stress Reduction (MBSR).

For Whole Health, we use the term *mindful awareness* to describe both the formal and informal practices of mindfulness, including becoming aware of bodily sensations, our clinging or aversion to these sensations, and how we work directly with mental phenomena and live our lives. At the heart of mindfulness is the idea that we suffer because we do not see the world clearly. The radical promise of mindfulness is clarity, ease and happiness. Mindfulness-based interventions, like MBSR or the introductory mindfulness classes available at many VA locations, teach Veterans to develop this mindful way of being.

Meditation is an umbrella term that includes mindfulness formal practice as well as other approaches, such as Transcendental Meditation, Christian contemplative prayer, and others. Broadly, the term *meditation* refers to a family of self-regulation practices that focus on training attention and awareness in order to bring mental processes under greater voluntary control. This fosters general mental well-being and the development of specific capacities such as calm, clarity, and concentration.

When Have You Been Most Mindful?

Pause for a moment, and ask yourself the following:

- What circumstances allow you to be at a state of heightened awareness?
- When are you most present?
- When are you most peaceful or calm?
- What makes you optimally focused?
- When are you at your most centered?

These questions are frequently posed during Whole Health courses. Some answers from participants have included the following:

- When I am playing with my kids
- When I am “in the zone” playing a sport
- When I am in the operating room
- When I pray or read scripture
- When I am lost in a good book or movie

- When I am gardening
- When I watch my dog
- When I play my musical instrument

What about the activities you listed causes them to have such a positive effect on you? How can you bring those states of mind with you into other situations? When exploring mindful awareness for yourself and with Veterans, those questions can prove helpful.

Mindful Awareness Research

It is important to emphasize that mindful awareness is an opportunity to be in the wholeness of life, including suffering, joy, peace, unrest, creativity, fullness, emptiness—all of it. **Mindful awareness is not merely a technique for coping with a specific problem.** Nevertheless, there is an increasingly impressive body of research favoring the use of mindful awareness practices. Western science is now actively studying these techniques (many of them thousands of years old) and their health benefits.

The following list summarizes some of the latest research findings, including those detailed in the "Mindful Awareness" overview on Whole Health Library website.[3] Different studies may have focused on different techniques, but in all of them, mindful awareness was the goal. Note that there have been some recent reviews calling for research in this area to be more rigorous; a number of mindful awareness-related studies have had methodological challenges.[4]

General Research Findings

- Lowers distress in non-clinical populations.
- Has a moderate effect size when it comes to general benefits for primary care patients with an array of different concerns.[5]
- Reduces psychological symptoms in people with cancer, hypertension, rheumatoid arthritis, psoriasis, tinnitus, multiple sclerosis, depressive disorders, and anxiety disorders.
- Workplace mindfulness training interventions have a number of general benefits, (reduced anxiety and distress, increased well-being) though more research is needed to clarify the effect on burnout levels.[6]
- Seems to increase prosocial behavior (increases the likelihood that a person will help/support others).[7,8]
- Reduces loneliness and increases social contact.[9]

Physiologic Effects of Mindful Awareness

- Alters brain activity. Long-term meditators have gamma wave oscillations not seen in others. Even people who have just begun meditating in the past 2 months show functional MRI changes.
- Leads to longer-lived relaxation states. Reduces markers of stress, including cortisol, C-reactive protein, tumor necrosis factor-alpha, blood pressure, and heart rate.[10]

- Activates the left anterior cerebral cortex and other areas of the brain which are linked to positive mood. Increases activation in brain attention centers.[11]
- Increases gray matter volume in multiple parts of the brain.[12]
- Favorably influences T-lymphocyte counts in people with HIV and cancer.
- Lengthens telomeres. The longer these structures at the end of a chromosome are, the lower a person's risk of chronic illness and mortality. Studies have linked compassion meditation to favorable effects on telomere length. Even just 11 hours of meditation training makes a measurable difference.[13]
- Lowers blood pressure in people with hypertension.[14]

Immune System Effects

- Enhances immune response to influenza vaccine.
- Stabilizes CD4 counts in people with HIV infection.
- Enhances natural killer cell function and alters interleukin levels.

Psychiatric Disorders

- In general, mindful awareness seems to decrease the severity of depression and anxiety, though studies with active control groups (groups that do something else besides mindfulness) are less convincing. Mindfulness Based Cognitive Therapy (MBCT) seems to be quite helpful.
- MBCT is as effective as medications for depression relapse prevention.
- MBCT has potential benefit for bipolar disorder as well, but more studies are needed.[15]
- A 2017 meta-analysis found medium effect size for mindfulness in reducing PTSD symptoms. Benefits correlated to the amount of time spent training.[16] Also mitigates the effects of combat stress.[17]
- Assists with the treatment of alcohol and substance misuse, especially when combined with treatment as usual.
- Can reduce consumption of a number of substances of abuse[18] and decrease cravings for them.[19]
- Has large effects in reducing ADHD core symptoms.[20]

Pain

- Decreases chronic pain intensity, related disability, and medication use. Improves sleep for people with chronic pain.
- According to a 2017 meta-analysis, leads to a small decrease in pain, as well as less depression and improved quality of life (though more studies needed).[21]
- Leads to improvements in many fibromyalgia symptoms.

Other Findings

- Reduces irritable bowel syndrome (IBS) symptoms.
- Reduces clinician burnout.
- Improves quality of care in clinician practitioners.
- Enhances altruism and allows cultivation of compassion over time.[22]
- Has many benefits as an adjunctive therapy for people with breast cancer.[23]

- May be useful in preventing distracted driving.[24]
- Has the potential to reduce distress in people with chronic dermatologic problems.[25]
- Has initial support (low-quality evidence, per Cochrane) for supporting caregivers of people with dementia.[26]
- Helps with weight loss in overweight and obese individuals.[27]
- A 2019 review of 26 studies of mindfulness training for health care providers found moderate evidence that it improved patient safety, led to better treatment outcomes, and enhanced level of patient-centered care.[28] Another review found it also benefitted anxiety, depression, stress, well-being, and to some degree, burnout.[29] Another review specific to nurses found it favorably affected these factors for them as well, along with workplace stress and empathy levels.[30]

Evidence Map of Mindfulness

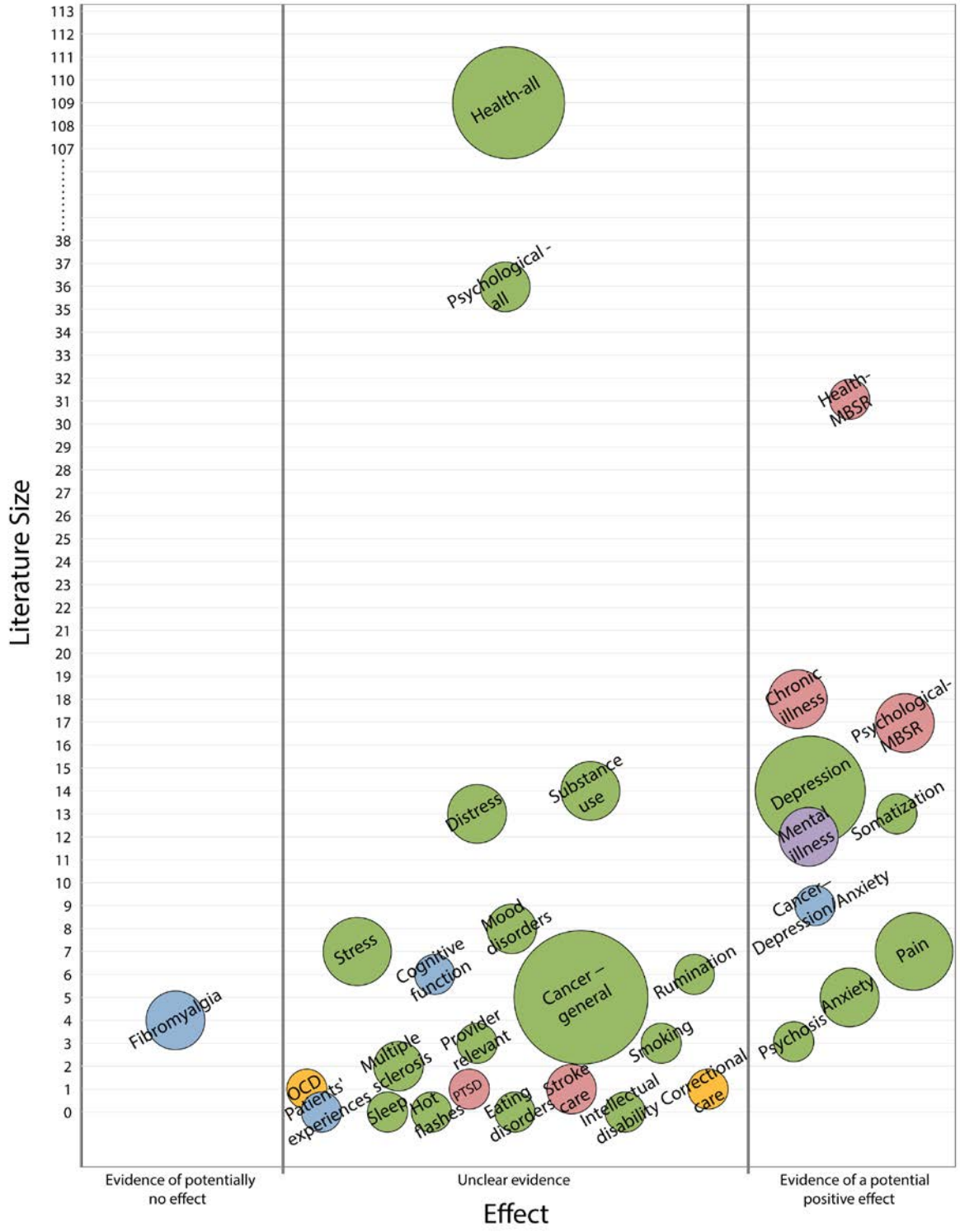


Figure 4-3. Evidence Map of Mindfulness Research[31] (refer to description on next page)

A 2014 review by VA Health Services Research and Development (HSR&D) summarized the literature with the evidence map featured in Figure 4-3, on the previous page.[31]

The bubble plot summarizes systematic reviews of mindful awareness interventions published through February 2014. Each circle on the plot represents a clinical condition. The vertical axis represents the size of the literature. If a circle is toward the top, it means more research is available. The horizontal axis represents how effective the intervention seems to be. The farther to the right a circle is, the more the research indicates a benefit for that condition. Colors represent different types of interventions. Green circles indicate that a variety of interventions were used, pink are MBSR, purple are Mindfulness-Based Cognitive Therapy (MBCT), and blue are the combination of MBSR + MBCT.

Note that the strongest indications of benefits have been noted for people with mental health disorders.

Cultivating Mindful Awareness: Practice Tips

The following tips can be helpful if you are introducing the concept of mindful awareness to someone who is new to it:[3]

- It is essential to focus on the **present moment**. Do not get caught up in the past (e.g., regrets or what could have been) or the future (e.g., anxiety, or what could happen down the road).
- Note the word "practice" is often used; people practice mindfulness, and p**ractice is needed** to enhance mindful awareness. How much routing practice is needed each day or week is not entirely clear, but a few minutes daily on most days of the week is a good starting place. In a typical MBSR course, learners are encouraged to practice 45 minutes a day.
- People who practice mindful awareness note improved **quality of life.** They find it becomes easier to work with challenging emotions and thought patterns.
- Cultivating mindful awareness can help you **understand/see more clearly.**
- Mindful awareness helps you to be more skillful with **how you think and react.**
- Many techniques involve **cultivating compassion** and improving how you relate to the world around you, including your interactions with other people.
- There is **no one "right" practice**, though some devotees may say otherwise. The key is tailoring the practice to the individual. There are many options. Some people prefer movement, while others prefer sitting. Some use a variety of techniques, while others use just one.
- Mindful awareness has a number of health benefits (refer above) but it is **best not to think of it as an intervention or therapy for a specific condition**, so much as an overall approach that can be beneficial to health in a variety of ways. It is an opportunity to be in the wholeness of life.
- Mindful awareness practices have arisen in diverse religions and spiritual communities throughout human history. Most people find that paying attention to the present moment and observing self are **compatible with their religious**

beliefs. The MBSR course, for example, was specifically created to be neutral in this regard.
- Mindful awareness practice is not easy. It involves a certain amount of **discipline and hard work.**
- With time, mindful awareness practice evolves into a **way of being.**
- Safety. Mindful awareness is **not for everyone**. It should be used cautiously and be guided by a skilled professional for people with severe mental illness, such as psychosis or PTSD. That said, mindful awareness is **quite safe.**

Metacognition

Metacognition is, put simply, the mind being aware of how it works. For example, consider states of mind you can attain while watching a movie. If cognition—or your usual thinking patterns—are the equivalent of being lost in the movie, to the point where you feel like it is your reality, then *meta*cognition is akin to moving out of that state, into an awareness that you are in the theater, sitting in your seat, caught up in a movie that does not represent your reality. After you experience such moments of broader awareness, you then have the opportunity to choose whether or not to escape back into the movie. The key is that you now consciously have chosen to do so.

Take a moment to explore this more **right now**.

- What is going on around you as you read this material?
- What other thoughts have been intruding?
- How is your body feeling?
- What is going on with you emotionally?
- What is the temperature of the room?
- What ambient sounds and smells surround you?
- How long has it been since you have taken a break, stood up from a seated position, or rested your eyes?

Mindful awareness is, in part, about becoming more aware of your mind's patterns. As you come to recognize those patterns, it can be extremely empowering, for then you can consciously choose to make changes.

SOLAR and TIES—Two Mnemonics

These two helpful mnemonics can be applied with any mindful awareness practice. Consider working with them a few times a day. This practice involves taking pauses throughout your day to consciously notice what is going on around you—and inside you—in the present moment. SOLAR is an acronym for

- **S**top. Pause what you are doing for a moment.
- **O**bserve. Notice what is happening. Tune into your thinking, emotions, and surroundings.
- **L**et it Be. Mindfulness is not about striving. You do not have to do something about what you notice. Just notice.

- **A**nd **R**eturn. Go back to what you are doing, hopefully a bit more in the present moment.

TIES is short for the 4 types of experiences that will come up as you practice mindful awareness. These are:

- **T**houghts
- **I**mages
- **E**motions
- **S**ensations

It can be helpful to identify these as they arise when you are doing the SOLAR practice. The more you can catch moments of not being mindfully aware, the more readily your brain will be able to return to that state. Some people find it helpful to think of the TIES items as being equivalent to secretions. Just as our bodies make mucus or saliva, they generate thoughts, images, etc. We can choose simply to observe that happening.

Many clinicians find using the SOLAR/TIES approach helpful as they move from one patient encounter to another. Simply pause for a moment of mindful awareness before you cross a threshold into a clinic or hospital room. This can help you go into the room without carrying anything in from your last encounter or conversation.

Whole Health Tool: SOLAR/TIES Meditation [9]

Stop

- Find a quiet space where you won't be interrupted.
- Set an alarm or timer for 5 minutes (or more). Then forget about time altogether and let the time do the work.
- Sit comfortably, with a straight and relaxed spine, in an alert position. Eyes can be open or closed. Hands can be placed in any position you prefer.
- You can set an intention for this practice, if you would like. Examples: "May I gently keep myself in the present moment." "May I enjoy the benefits of stillness."

Observe

- Focus on body sensations. Note your posture and how your feet feel on the floor. Feel your body in contact with your seat.
- Allow breath to enter your nose at a natural rate and depth. Just let your body breathe, and note how that feels.
- Moment by moment, take a pause, note your breath, and simply observe whatever arises. If you are having any TIES experiences—thoughts, images, emotions, sensations—simply note them, then return to focusing on your body or your breath.

Let It Be

- For now, just let things be as they are. There is no need to react or change anything. Just witness, whether things are pleasant, neutral, or unpleasant.
- There is no need to strive or judge yourself or the practice. Just notice. Be kind to yourself.

And Return

- If you get caught up in a thought, image, emotion, or sensation, just come back to your breath, to your awareness of your body in the present moment. Return again and again, without judgment, and with kindness to yourself.
- When you are signaled that time is up, take a moment while you are still in stillness to note how you feel. What was this exercise like for you?

This is a useful exercise to try with patients, including those who are relatively new to mindful awareness practices. You can use it in any number of situations throughout the day.

Mindful Awareness Techniques: Mindfulness Meditation

As noted above, there are many methods or situations where you can be mindfully aware. One of the most common methods for achieving mindful awareness practice is through some form of meditation. As mentioned earlier, this is not the only goal of meditation practices, but there are many examples of practices where it is given high priority. Examples include the following:

1. **Seated meditation**. If you are trying the exercises as you read this material, you have already done a few of these. This is the image most people have when they think of meditation—sitting on a pillow, legs crossed, holding very still. This is one form of meditation, but by no means is it the only one.

2. **Body scan meditation**. You bring your awareness to various parts of your body. There are many variations as far as how many body parts you focus on and the order in which you focus on them.

3. **Movement meditation**. Many people prefer to stay active because they feel physical activity helps them quiet their minds. Movement meditation can be as simple as walking very slowly while paying close attention to each step, or it can be more elaborate, such as performing tai chi.

4. **Chant and vocalization**. There has been a significant amount of research in the VA supporting mantram meditation, for which the practitioner repeats a word or phrase while focusing on it deeply. Centering prayer, which is a meditation approach that arose within the Catholic tradition, also relies on focusing on a specific word.

5. **Heart-centered meditations**. There are many forms of heart-centered meditations. Examples include compassion meditation, loving-kindness practice, and gratitude practice. Tonglen, a Tibetan meditation, is another.

6. **Eating meditation**. Many people have tried eating meditations before (e.g. slowly eating a raisin). There are multiple mindful awareness exercises that are based on doing a familiar activity in a deliberate and aware fashion, such as drinking tea, eating one bite of food, or using a stethoscope. An eating meditation is featured in Chapter 8.

Two mindful awareness exercises, focused on seated meditation and breath awareness, and a body scan, are featured next. A Compassion Meditation is included at the end of Chapter 10, "Family, Friends, & Co-Workers." Links to other mindful awareness exercises are listed in the Resources section at the end of this chapter. As with any journey of self-discovery, approach mindful awareness with Veterans (and in your own life) with a spirit of curiosity, with the same attitude you might have when you have just traveled to an unfamiliar travel destination. This approach is often referred to as "beginner's mind."

Whole Health Tool: Seated Meditation

Most people, when they think about meditation, tend to envision a seated practice. While this is only one of many ways to cultivate mindful awareness, it is a great place to start. Follow these simple steps:

- Find a **comfortable place** where you won't be interrupted.
- Decide **how much time** you will spend sitting. Start with just a few minutes. Gradually build up over time. 20 minutes is a good initial goal. You may notice benefits/positive changes even after just a few days or weeks.
- Choose a **time of day** when you will be less likely to fall asleep while practicing. Many people prefer mornings or evenings (or both) but do what works for you.
- You **can sit in various ways**. Some people sit on the floor, or on a pillow (like a *zafu* pillow). Others prefer a chair or a meditation bench. Sit comfortably, and use pillows or cushions as needed.
- Soften your **gaze** (i.e. focus your eyes a few feet in front of you) or close your eyes.
- **Choose something to focus on**. It may be your breath (as discussed in the Breath Awareness exercise, below), a candle, or even a particular word you repeat.
- **Be patient**. If you find your mind wandering, gently bring it back and return your focus. Don't be hard on yourself. Remember, this is about being present non-judgmentally. It is common for this to be challenging at first. Do not let that convince you that you are somehow "a bad meditator;" rather, think of this as an opportunity to gain a new skill.
- When your timer goes off, give yourself a moment to **slowly shift out of the meditation.**
- Remember, this is a practice. **It will get easier with time.**

Whole Health Tool: Breath Awareness Exercise [31]

Sit comfortably with your feet planted firmly on the floor. Lengthen your body through your back, neck, and the top of your head. Now, for the next 2 minutes (you can set a timer), turn all of your awareness to your breathing. Without changing the rate or quality of your breathing, simply note the sensation of inhalation, the sensation of exhalation, and the pauses between the two.

Now reflect:

- How easy was it to focus your attention on your breathing for 2 straight minutes?
- What distracting thoughts arose?
- What judgments or evaluations pulled your awareness away from your breathing?

Take 2 additional minutes to repeat the exercise above. This time, when your thoughts wander away from the breath, gently return your attention to your breathing. Judgments may arise—"I can't concentrate," or "this is boring." When this happens, simply notice that this is a thought, and bring your attention back to your breathing. When your mind wanders, be gentle with yourself. Notice if you scold yourself for deviating from the breath. Accept the passing distraction, and focus your attention back on the breath.

Now reflect again:

- How did it feel taking 2 minutes just to focus on the breath?
- How easy or difficult was it to maintain your attention on the breath?
- What distracting thoughts and judgments arose?
- How easy or difficult was it to gently bring your awareness back to your breathing?
- How do you feel at the end of this exercise?

If you found it challenging to maintain present-moment awareness of the breath during the last exercise, take heart; the body is a constant ally in remaining grounded in the here and now. Your body feeds you constant updates about your experience of the present moment. Observe your breathing. Note the feeling of your feet on the floor. What signals are arising from your body? Hunger? Thirst? Fatigue? Discomfort? The need to go to the bathroom? What are you seeing, hearing, smelling, tasting, touching? In bringing the awareness to these ongoing status indicators, we are able to maintain presence in the current moment.

Whole Health Tool: Body Scan

This exercise invites you to sequentially tune in to the experience of various parts of the body. The goal is to bring full awareness to the status of the body, *not* to change the status of the body. You may benefit from practicing in relative peace and quiet with your eyes closed in the beginning, but ultimately this practice will be useful to you no matter your surroundings or circumstance. This exercise can take 5 minutes or more than an hour, depending on how you choose to practice and your familiarity with the technique.

1. Find a comfortable position. The first few times you do this practice, try lying on your back with your eyes closed.

2. Take 5 slow, deep breaths. Feel the rise of the abdomen as you breathe in, and the fall of the abdomen as you breathe out. Imagine you draw the breath in through the soles of the feet, and release the breath out through the top of the head. Continue to breathe slowly and deeply throughout the exercise.

3. Note the sensations in your body as a whole. What information is your body giving you? What does your body ask you to recognize?

4. Now begin the sequential survey of each body area.

    - Begin with the toes of the left foot. Note the sensations they are sending you. Do you feel cool air, a soft blanket, a scratchy sock, or a confining shoe? Perhaps you don't feel anything. This is okay; simply spend a few moments in the experience of not feeling anything. Once you have fully experienced the status of your left toes, take a deep breath, and let go of the left toes. Let the sensation from this body area fade away.
    - Next move to the sole of the left foot. Note the sensations it is sending you. Note the lack of sensation if that is the case. Once you have fully experienced the status of the sole of the left foot, take a deep breath, and let go of the sole of the foot. Let the sensation from this body area fade away.
    - Continue the somatic evaluation of each body area with your full concentration. From the sole of the left foot, transition to:
        - Top of the left foot
        - Ankle
        - Shin
        - Calf
        - Knee
        - Thigh
        - Hip
        - Pelvis
        - Right lower extremity (in the same manner as the left)
        - Return to the pelvis
        - Abdomen
        - Lower, middle, and upper back

    - Chest
    - Left fingers
    - Left hand, wrist, forearm, upper arm, shoulder
    - Right upper extremity (in the same manner as the left)
    - Neck
    - Face
    - Scalp
    - Crown of the head
  - Once you finish with an area, take a deep breath and let that area go. If your concentration lapses, take a deep breath and pick up where you left off.

5. Close the practice by returning to the breath. Take 5 deep breaths, noting the rise and fall of the abdomen. Imagine inhaling through the soles of the feet, and exhaling through the top of the head.

You can shift the timing of the meditation by focusing on more or fewer sections or parts of the body during the scan.

For a voice-guided body scan practice, visit the University of Wisconsin Department of Family Medicine and Community Health Mindfulness Meditation Podcast Series.

Mindful Awareness in the VA

Mindful awareness training is becoming increasingly common in the VA. In fact, as noted in Chapter 14, some of the ways to cultivate mindful awareness, such as meditation training and tai chi, are now being covered in VA facilities nationwide. VA sites are still trying to figure out the logistics of this. One possibility is to use Telehealth to bring training to more remote areas. A 2017 review of 16 studies concluded that Web-Based Mindfulness Interventions may be helpful in alleviating physical symptom burdens, even when training is asynchronous (not taught live), as in a web-based course.[32]

Medical research is only beginning to scratch the surface regarding the power mindful awareness has to favorably improve health and wellbeing. When you are doing personal health planning, be "mindful" of this as something you can bring in to the Personal Health Plan (PHP).

Mindful Awareness Resources

Websites

VA Whole Health Website

- Mindfulness videos from the VHA Mindfulness Toolkit created by the Greater Los Angeles VA. Available under the "Video Resources" tab at https://www.va.gov/WHOLEHEALTH/circle-of-health/mindful-awareness.asp
  Featured videos include the following:
  - What is Mindfulness?
  - Why Mindfulness for the VA?
  - Four Ways to Cultivate Mindfulness
  - Beginning a Mindfulness Practice
  - Mindfulness and Compassion
- Mindfulness audiofiles. Click on "Guided Meditation and Audio Files" at https://www.va.gov/WHOLEHEALTH/circle-of-health/mindful-awareness.asp
  Featured podcasts include the following:
  - Guided Meditation Podcast: Paced Breathing (8 minutes)
  - Guided Meditation Podcast: Mental Muscle Relaxation (5 minutes)
  - Guided Meditation Podcast: Mini Mental Vacation (7 ½ minutes)
  - Introduction to Meditation (5 minutes)
  - Grounding Meditation (5 minutes)
  - Mindfulness of Breathing Meditation (10 minutes)
  - Mindfulness of Sounds Meditation (10 minutes)
  - Compassionate Breathing Meditation (10 minutes)
  - Loving Kindness Meditation (10 minutes)
  - Body Scan Meditation (15 minutes)
  - Body Scan with Loving Kindness Phrases (15 minutes)
- Whole Health Veteran Handouts.
  https://www.va.gov/WHOLEHEALTH/veteran-handouts/index.asp
  - An Introduction to Mindful Awareness
  - Mindful Awareness Practice in Daily Living

  - Precautions with Using Mindful Awareness Practices
- Mindfulness facilitator training programs. Contact Greg Serpa at Greater LA VA Medical Center, John.serpa@VA.gov

Whole Health Library Website

- "Mindful Awareness" overview. Excellent review of latest research. https://wholehealth.wisc.edu/overviews/mindful-awareness
- "Bringing Mindful Awareness into Clinical Work" https://wholehealth.wisc.edu/tools/bringing-mindful-awareness-clinical-work
- "Mindful Awareness Practice in Daily Living" https://wholehealth.wisc.edu/tools/mindful-awareness-practice-daily-living
- "Practicing Mindful Awareness with Patients: 3-Minute Pauses" https://wholehealth.wisc.edu/tools/practicing-mindful-awareness-patient
- "Going Nowhere: Keys to Present Moment Awareness" https://wholehealth.wisc.edu/tools/going-nowhere-keys-present-moment-awareness
- "Mindfulness Meditation for Chronic Low Back Pain" https://wholehealth.wisc.edu/tools/mindfulness-meditation-for-chronic-low-back-pain/

Other Websites

- Star Well Kit. http://www.warrelatedillness.va.gov/education/STAR/ Resources from the War-Related Injury and Illness Study Center. Mindful awareness materials include the following:
  - Introduction, Part 3
  - Ben King—Deep Breathing (where a Veteran describes his experience)
  - Patrick Crehan—Mindfulness Meditation (where another Veteran describes his experience)
- Evidence Map of Mindfulness. https://www.hsrd.research.va.gov/publications/esp/cam_mindfulness.cfm Nice summation of the literature up through early 2015 by VA Health Services Research & Development (HSR&D).
- University of Wisconsin Department of Family Medicine and Community Health Mindfulness in Medicine digital resources.
  - Main site is www.fammed.wisc.edu/mindfulness/
  - Resources are at https://www.fammed.wisc.edu/mindfulness/resources/
- Center for Investigating Healthy Minds, mindfulness research leader. http://www.investigatinghealthyminds.org/
- Dartmouth College Student Wellness Center. Offers a variety of short guided meditation exercises, as well as others for relaxation and guided imagery. https://www.dartmouth.edu/~healthed/relax/downloads.html
- Stop, Breathe, and Think. Free site with a variety of guided meditations and a smartphone app. http://stopbreathethink.org
- UCLA Mindful Awareness Research Center. Has several short meditations, including several in Spanish. http://marc.ucla.edu/body.cfm?id=22

- University of California San Diego Center for Mindfulness. Some somewhat longer guided meditations. https://mbpti.org/
- Foundation for Active Compassion. https://foundationforactivecompassion.org/media/category/listen/
- Free Mindfulness. A site where several instructors have donated recordings. http://www.freemindfulness.org/download
- A huge selection of exercises from Dharma.org. http://www.dharma.org/resources/audio/
- The UCSD Center for Mindfulness. https://medschool.ucsd.edu/som/fmph/research/mindfulness/programs/mindfulness-programs/MBSR-programs/Pages/audio.aspx
- Videos at University of Massachusetts Center for Mindfulness. https://community.cfmhome.org/c/video-room
- The Center for Contemplative Mind in Society. http://www.contemplativemind.org/practices/recordings
- Mindfulness Based Cognitive Therapy information. https://www.goodtherapy.org/learn-about-therapy/types/mindfulness-based-cognitive-therapy
- Mindfulness Based Relapse Prevention, from the Addictive Behaviors Research Center at University of Washington. http://www.mindfulrp.com/. Has several recorded exercises at the bottom of the webpage.

Books

- *A Clinician's Guide to Teaching Mindfulness: The Comprehensive Session-by-Session Program for Mental Health Professionals and Health Care Providers*, Greg Serpa (2015)
- *Altered Traits: Science Reveals How Meditation Changes Your Mind, Brain, and Body*, Daniel Goleman (2017)
- *Beginning Mindfulness: Learning the Way of Awareness*, Andrew Weiss (2004)
- *Calming Your Anxious Mind: How Mindfulness and Compassion Can Free You from Anxiety, Fear, and Panic*, Jeffery Brantley (2007)
- *Coming to Our Senses: Healing Ourselves and the World Through Mindfulness*, Jon Kabat-Zinn (2006)
- *Full Catastrophe Living: Using the Wisdom of Your Body and Mind to Face Stress, Pain, and Illness*, Jon Kabat-Zinn (2005)
- *Happiness: Essential Mindfulness Practices*, Thich Nhat Hahn (2005)
- *Leave Your Mind Behind: The Everyday Practice of Finding Stillness Amid Rushing Thoughts*, Matthew McKay (2007)
- *Mindful Movements: Ten Exercises for Well-Being*. Thich Nhat Hanh (2008)
- *Mindfulness in Plain English*, Bhante Henepola Gunaratana (2002)
- *The Mindful Way Through Anxiety: Break Free from Chronic Worry and Reclaim Your Life*, Susan Orsillo (2011)
- *The Mindful Way Through Depression: Freeing Yourself from Chronic Unhappiness*, Mark Williams (2007)

- *The Miracle of Mindfulness: An Introduction to the Practice of Meditation*, Thich Nhat Hahn (1999)
- *The Power of Now*, Eckhart Tolle (2004)
- *Trauma-Sensitive Mindfulness: Practices for Safe and Transformative Healing*, by David A. Treleaven (2018)
- *Zen Mind, Beginner's Mind*, Shunryu Suzuki (2011)
- Also refer to the meditation resources at the end of Chapter 12, "Power of the Mind"

Other Resources

- CDs
    - Body Scan: Managing Pain, Illness and Stress with Guided Mindfulness Meditation, 2nd edition, Vidyamala Burch (2008)
    - Guided Mindfulness Meditation (3-part series), Jon Kabat-Zinn, (2004)
    - Mindfulness Meditation for Pain Relief: Guided Practices for Reclaiming Your Body and Your Life, Jon Kabat-Zinn (2010)
    - Living Without Stress or Fear: Essential Teachings on the True Source of Happiness, Thich Nhat Hahn (2009)
    - Road Sage: Mindfulness Techniques for Drivers, Sylvia Boorstein (2006) Audiobook CD

Special thanks to Adrienne Hampton, MD, who wrote the original Whole Health Library materials on Mindful Awareness that provided inspiration for much of the content of this chapter. She created the "Body Scan" tool for this chapter, as well as the "Mindful Movement" tool featured in Chapter 5. Also, thanks to Greg Serpa, PhD, who completed the section defining mindful awareness, mindfulness, and meditation.

References

[1] Kabat-Zinn J. *Wherever you go, there you are: mindfulness meditation in everyday life.* New York: Hyperion; 1994.
[2] Csikszentmihalyi, M. *Flow: The Psychology of Optimal Experience*. New York: Harper and Row;1990.
[3] Hampton A. Mindful Awareness. Whole Health Library website. https://wholehealth.wisc.edu/overviews/mindful-awareness. 2018. Accessed July 17, 2019.
[4] Goldberg SB, Tucker RP, Greene PA, Simpson TL, Kearney DJ, Davidson RJ. Is mindfulness research methodology improving over time? A systematic review. *PLoS One.* 2017;12(10):e0187298. doi: 10.1371/journal.pone.0187298. eCollection 2017.
[5] Demarzo MM, Montero-Marin J, Cuijpers P, et al. The efficacy of mindfulness-based interventions in primary care: a meta-analytic review. *Ann Fam Med*. 2015;13(6):573-582.
[6] Bartlett L, Martin A, Neil AL, et al. A systematic review and meta-analysis of workplace mindfulness training randomized controlled trials. *J Occup Health Psychol*. 2019;24(1):108-126.
[7] Donald JN, Sahdra BK, Van Zanden B, et al. Does your mindfulness benefit others? A systematic review and meta-analysis of the link between mindfulness and prosocial behaviour. *Br J Psychol*. 2019;110(1):101-125.
[8] Luberto CM, Shinday N, Song R, et al. A systematic review and meta-analysis of the effects of meditation on empathy, compassion, and prosocial behaviors. *Mindfulness (N Y)*. 2018;9(3):708-724.
[9] Lindsay EK, Young S, Brown KW, Smyth JM, Creswell JD. Mindfulness training reduces loneliness and increases social contact in a randomized controlled trial. *Proc Natl Acad Sci U S A*. 2019;116(9):3488-3493.
[10] Pascoe MC, Thompson DR, Jenkins ZM, Ski CF. Mindfulness mediates the physiological markers of stress: systematic review and meta-analysis. *J Psychiatr Res.* 2017;95:156-178. doi:10.1016/j.jpsychires.2017.08.004. [Epub ahead of print].

[11] Manuello J, Vercelli U, Nani A, Costa T, Cauda F. Mindfulness meditation and consciousness: an integrative neuroscientific perspective. *Conscious Cogn.* 2016;40:67-78. doi 10.1016/j.concog.2015.12.005. Epub 2016 Jan 2.
[12] Last N, Tufts E, Auger LE. The effects of meditation on grey matter atrophy and neurodegeneration: a systematic review. *J Alzheimers Dis*. 2017;56(1):275-286.
[13] Schutte NS, Malouff JM. A meta-analytic review of the effects of mindfulness meditation on telomerase activity. *Psychoneuroendocrinology.* 2014;42:45-48. doi: 10.1016/j.psyneuen.2013.12.017. Epub 2014 Jan.
[14] Solano Lopez AL. Effectiveness of the Mindfulness-Based Stress Reduction Program on blood pressure: a systematic review of literature. *Worldviews Evid Based Nurs*. 2018;15(5):344-352.
[15] Lovas DA, Schuman-Olivier Z. Mindfulness-based cognitive therapy for bipolar disorder: a systematic review. *J Affect Disord.* 2018;240:247-261.
[16] Hopwood TL, Schutte NS. A meta-analytic investigation of the impact of mindfulness-based interventions on post traumatic stress. *Clin Psychol Rev.* 2017;57:12-20. doi: 10.1016/j.cpr.2017.08.002. [Epub ahead of print].
[17] Nassif TH, Start AR, Toblin RL, Adler AB. Self-reported mindfulness and soldier health following a combat deployment. *Psychol Trauma.* 2019;11(4):466-474.
[18] Chiesa A, Serretti A. Are mindfulness-based interventions effective for substance use disorders? A systematic review of the evidence. *Subst Use Misuse.* 2014;49(5):492-512.
[19] Li W, Howard MO, Garland EL, McGovern P, Lazar M. Mindfulness treatment for substance misuse: a systematic review and meta-analysis. *J Subst Abuse Treat.* 2017;75:62-96.
[20] Xue J, Zhang Y, Huang Y. A meta-analytic investigation of the impact of mindfulness-based interventions on ADHD symptoms. *Medicine.* 2019;98(23):e15957.
[21] Hilton L, Hempel S, Ewing BA, et al. Mindfulness meditation for chronic pain: systematic review and meta-analysis. *Ann Behav Med.* 2017;51(2):199-213.
[22] Weng HY, Fox AS, Shackman AJ, et al. Compassion training alters altruism and neural responses to suffering. *Psychol Sci.* 2013;24(7):1171-1180. doi: 10.1177/0956797612469537. Epub 2013 May 21.
[23] Zhang Q, Zhao H, Zheng Y. Effectiveness of mindfulness-based stress reduction (MBSR) on symptom variables and health-related quality of life in breast cancer patients-a systematic review and meta-analysis. *Support Care Cancer*. 2019;27(3):771-781.
[24] Koppel S, Bugeja L, Hua P, et al. Do mindfulness interventions improve road safety? A systematic review. *Accid Anal Prev.* 2019;123:88-98.
[25] Montgomery K, Thompson AR. The potential role of mindfulness in psychosocial support for dermatology patients. *Clin Dermatol.* 2018;36(6):743-747.
[26] Liu Z, Sun YY, Zhong BL. Mindfulness-based stress reduction for family carers of people with dementia. *Cochrane Database Syst Rev.* 2018;8:Cd012791.
[27] Carriere K, Khoury B, Gunak MM, Knauper B. Mindfulness-based interventions for weight loss: a systematic review and meta-analysis. *Obes Rev.* 2018;19(2):164-177.
[28] Braun SE, Kinser PA, Rybarczyk B. Can mindfulness in health care professionals improve patient care? An integrative review and proposed model. *Transl Behav Med.* 2019;9(2):187-201.
[29] McConville J, McAleer R, Hahne A. Mindfulness training for health profession students-the effect of mindfulness training on psychological well-being, learning and clinical performance of health professional students: a systematic review of randomized and non-randomized controlled trials. *Explore (NY).* 2017;13(1):26-45.
[30] van der Riet P, Levett-Jones T, Aquino-Russell C. The effectiveness of mindfulness meditation for nurses and nursing students: an integrated literature review. *Nurse Educ Today.* 2018;65:201-211.
[31] Hempel S, Taylor SL, Marshall NJ, et al. Evidence Map of Mindfulness. VA Evidence Based Synthesis Program Reports. Project #05-226. http://www.hsrd.research.va.gov/publications/esp/cam_mindfulness-REPORT.pdf. 2014. Accessed July 17, 2019.
[32] Toivonen KI, Zernicke K, Carlson LE. Web-based mindfulness interventions for people with physical health conditions: systematic review. *J Med Internet Res.* 2017;19(8):e303. doi 10.2196/jmir.7487.

Chapter 5. Moving the Body: Energy & Flexibility

Lack of activity destroys the good condition of every human being while movement and methodical physical exercise saves and preserves it.

—Attributed to Plato

This chapter is the first of a series of chapters focusing on the "Areas of Proactive Self-Care." These are the eight smaller circles that make up the Self-Care Circle, which is (not by accident) the largest circle within the Circle of Health. The eight self-care chapters of this reference guide, Chapters 5-12, summarize research findings related to how each area of self-care contributes to well-being. These chapters provide general tips as well as specific "Whole Health Tools" designed to support Veterans and their care teams as they incorporate these important areas into Personal Health Plans (PHPs).

In 2018, the VA Office of Patient Centered Care and Cultural Transformation (OPCC&CT) created skill-building courses for Veterans, one for each of the eight areas of self-care. The skill-building courses are designed to get Veterans thinking about options and to encourage them to zero in on specific options, or "subtopics" to incorporate into their PHPs. Figure 5-1 lists the Moving the Body subtopics. Note that there is a "Make One Small Change" circle that leaves room for creativity and flexibility, if Veterans do not see an option that interests them. There is also a subtopic circle focused on asking for professional support (i.e. "Work with an Expert"). The Resources section of Chapter 1 describes how to access the skill-building course materials.

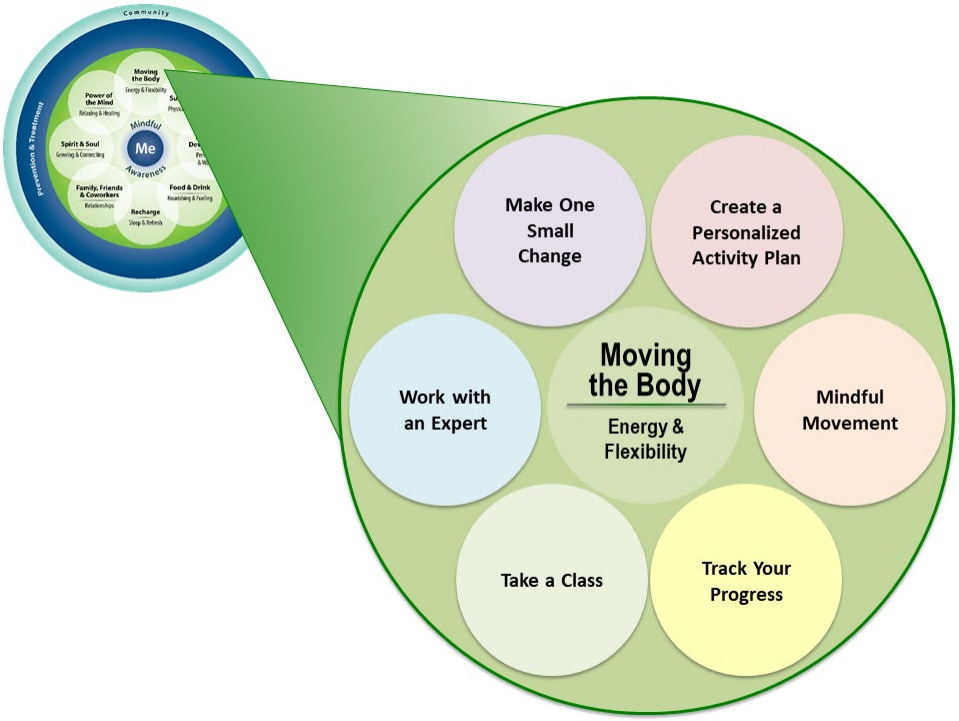


Figure 5-1. Subtopics within the Moving the Body Circle of Self-Care

Personal activity plans and mindful movement, two subtopics specific to Moving the Body, are discussed later in this chapter as Whole Health tools. It is helpful for people to track their progress with apps or monitoring devices, which are now widely available. Yoga and tai chi/qi gong are now covered services by the VA (this is covered in more detail in Chapter 14), classes which offer training in these mindful movement approaches will be increasingly available for many Veterans. In addition, make good use of the experts at your site, including physical, occupational, and recreational therapists.

Benefits of Movement and Activity

Physical activity levels continue to decline worldwide. Physical inactivity contributes to at least 6-10% of the chronic national disease burden and premature mortality.[1] Moving the Body is one of the most common areas of self-care people choose to focus on in their PHPs, and for good reason: physical activity has a profound impact on health. The Exercise is Medicine website, developed by the American College of Sports Medicine, asks a simple question[2]:

> What if there was one prescription that could prevent and treat dozens of diseases, such as diabetes, hypertension, and obesity? Would you prescribe it for your patients? Certainly.

Physical activity is that prescription, and there are few health conditions it does not have the potential to improve. To cite some important examples, the vast body of research in this area has shown the following[3,4,5]:

- It lowers all-cause mortality and increases life span.
- It improves quality of life.
- It slows the negative effects of aging (even when initiated late in life).
- It reduces fatigue and helps regulate sleep.
- It promotes brain cell growth and enhances mental function, attention, memory, and processing speed. It improves executive function and academic performance.
- It reduces dementia risk.
- It improves mental health, including decreasing anxiety and depression. It also helps with ADHD.
- It reduces pain, including chronic pain, low back pain, osteoarthritis pain, and musculoskeletal pain. It also improves global well-being and quality of life in fibromyalgia.
- Level of physical activity correlates with better postoperative outcomes.[6]
- It helps prevent or treat many other chronic health problems, including:
    - Cardiovascular disease and other circulatory disorders, like claudication
    - Cancer (e.g. colon, breast, and renal)
    - Type 1 and type 2 diabetes
    - Hypertension
    - Obesity
    - Osteoporosis
    - Stroke prevention and recovery

  - Multiple sclerosis
  - COPD and obstructive sleep apnea
  - Pulmonary hypertension
  - Heart failure
  - Renal failure (especially regarding blood pressure)
  - Psoriasis
  - Erectile dysfunction
- It can help people with spinal cord injury, when tailored appropriately.
- It favorably alters gene expression and helps maintain telomeres.[7]
- It changes the gut microbiome in a positive way.
- It improves overall performance, range of motion, and muscular strength and endurance, as everyone knows.

Studies are discussed in more detail in the "Moving the Body" overview.

Some General Physical Activity-Related Tips

When you are thinking of incorporating Moving the Body into the PHP (and it is one of the most commonly discussed aspects of the Circle of Health), keep the following in mind[3]:

- **Focus on activity over "exercise."** Remember that Moving the Body involves more than just "exercise." Exercise refers to structured and repeated activity with a specific intent. Some people prefer exercise, but many prefer to incorporate Moving the Body with less regimented activities, like walking in a park, gardening, or playing with a pet or child.
- **Go beyond activity at work.** Some people argue they get their exercise through their work. Most recommendations suggest that what really matters is "leisure time" physical activity, i.e. the activity that happens outside of working hours. Of course, using the stairs at work or walking at lunch or any number of extra activities during the work day can be counted.
- **Consider sports.** A 2016 analysis of data for over 80,000 people found that all-cause mortality decreased markedly for people who participated in various sports. Hazard ratios were 0.85 for cycling, 0.72 for swimming, 0.53 for racquet sports, and 0.73 for aerobics.[8]
- **Counsel about the risks of being sedentary, too.** Just as exercise is beneficial in many ways, the opposite is also true; being inactive is an independent risk for health problems. Many recent studies have shown that time spent being inactive is a health risk itself, even if a person exercises regularly.[9] In fact, if a person exercises but otherwise sits most of the time, their likelihood of mortality is about 20% higher than if they are active about half the time during the day.
- Remember that, **while movement is important, there is more to it.** It is good to think about other aspects of Moving the Body when you make recommendations. Many PHPs will incorporate not only aerobic activity, but also strength training and flexibility. Balance, dexterity, range of motion, and ability to perform daily tasks should also be considered.

- **Respect disabilities.** For some Veterans, Moving the Body may mean more effectively using prosthetics or wheelchairs, management of contractures, or the care of a paralyzed limb.
- **Every bit counts.** In most of the research, any activity is better than none. Even a few minutes a day can have benefits.[10]
- **Use local talent.** That is, make good use of physical and occupational therapists. In the VA, recreational therapists can also be valuable members of the Whole Health team.
- **Encourage self monitoring.** Tracking progress using activity monitors, phone apps, wearables, and other devices is known to have health benefits, e.g. for cardiovascular disease.[11] See the resource list at the end of this chapter for examples.
- **Emphasize safety.** Activity tends to be quite safe if tailored to the individual, but there are some risks to certain patient populations.[12] One study noted 1/100,000 marathoners are at risk for sudden cardiac deaths.[13] It is also important to watch for the female athlete triad of disordered eating, amenorrhea, and osteoporosis.[14] Note that 6-30% of military trainees have been noted to be injured monthly with training.[15] In general, probably 1% of people who do moderate or intense exercise are injured each month.[16] The key is to tailor the routine and to have people remain mindfully aware of what their body is telling them when they are active.
- **Focus on more than the health benefits.** A 2019 review of 39 papers indicated that older adults are more likely to exercise if they are reminded to consider "the wider set of goals and aspirations which are of greater personal importance" to them.[17]

Questions to Ask About Moving the Body

The first step when it comes to incorporating areas of self-care is to ask the most helpful questions you can. Consider some of the following:

- What kind of relationship do you have with your body?
- What activities do you enjoy?
- How have your activities benefited you?
- Does the word "exercise" make you cringe or feel guilty?
- Is exercising something you enjoy?
- How active have you been in the past 30 days?
- Are you doing any strengthening activities?
- What do you do to maintain or improve your flexibility?
- Have you ever used a pedometer or other technology (phone applications, etc.) to support your physical activities?
- How is your balance?

To determine where someone would like to go with Moving the Body, there are some mindful awareness practices that can help. Chapter 4 includes a "Body Scan" Whole Health tool that offers guidance to sequentially bring awareness to different parts of the body. You can also try a Mindful Movement exercise, as outlined on the next page.

Whole Health Tool: Mindful Movement

This practice asks you to bring awareness to places in the body where we tend to carry stress, observing how it feels to invite these areas to soften. It offers a chance to explore what goes on with your body.

1. Find a comfortable seated position.

2. Take 5 slow deep breaths. Feel the rise of the abdomen as you inhale, and the fall of the abdomen as you exhale.

3. Relax and release the jaw.

    - Bring awareness to the left aspect of the jaw. Is this area tense, relaxed, or neutral?
    - You may notice that the upper and lower teeth on the left are clenched together. Separating them brings awareness and relaxation to the jaw.
    - Note the status of the right jaw, and separate the teeth to facilitate relaxation.
    - Take a slow, deep breath, and observe how it feels to have the back teeth separated, and the jaw relaxed.

4. Relax and release the neck.

    - Bring awareness to your neck, noting whether the neck feels tense, relaxed, or neutral.
    - Hold your neck in a neutral position, looking straight ahead, with the back of the neck lengthened, and the chin slightly tucked.
    - Turn your head to look over your right shoulder. Take one deep breath before returning to neutral.
    - Repeat, looking to the left.
    - Raise your chin so that intersection of the wall with the ceiling comes into view. Take 1 deep breath before returning to neutral.
    - Lower the chin as far toward the chest as possible without straining. Take 1 deep breath before returning to neutral.
    - Bring the right ear down toward the right shoulder, leaving the shoulder relaxed. Take 1 deep breath before returning to neutral.
    - Repeat on the left side.
    - Take a slow, deep breath, and observe how it feels to have the neck relaxed.

5. Relax and release the shoulders.

    - Bring awareness to the shoulders, noting whether the shoulders feel tense, relaxed, or neutral.
    - Raise the shoulders toward the ears. Inhale deeply, and allow the shoulders to relax down with the exhalation.
    - Roll the shoulders forward 3 times.

- Roll the shoulders backward 3 times
- Allow the shoulders to come to rest in a relaxed, neutral position.
- Take a slow, deep breath, and observe how it feels to have the shoulders relaxed.

6. Take 5 slow, deep breaths. Feel the rise of the abdomen as you inhale, and the fall of the abdomen as you exhale.

7. Maintain your awareness of the jaw, the neck, and the shoulders throughout your daily activities, and repeat this exercise whenever you feel tension building in these areas. This will help keep you tuned in to your moment-to-moment somatic experience, as well as encourage relaxation.

You can also take this exercise to the next level. Take an activity you do frequently, like walking, and do it very slowly. Focus on one area of your body, like your feet, for a period of time. Then shift your awareness to other places—calves, knees, thighs, hamstrings, and so on.

Whole Health Tool: Writing an Activity Prescription

What Is It?

An activity prescription is a variation on an exercise prescription. The overall concept is the same, with the acknowledgement that the term 'activity' is less daunting than 'exercise' for some people. A variety of team members can assist with writing them. Keep safety in mind (as discussed below), and honor scope of practice.

This tool is about as individualized as they come, because it is really a framework for tailoring a plan for Moving the Body to a given individual. When a clinician writes out a prescription (remember when they actually did it with pen and paper?) there is a power to that ceremony. Writing an exercise prescription can take advantage of that same power.

How It Works

The clinician uses a template outlining key aspects of activity. The more specific, the better. The goals are:

1. Come up with a specific activity that they are likely to enjoy.
2. Help them have a clear sense of why the activity is important to them.
3. Be clear about the specifics. Think of the power of SMART goals, as discussed in Chapter 3. "I will walk outside more" is not sufficient. Rather, it is best if it is more like this: "I will walk outside with my partner for 30 minutes in the evenings, every Monday, Wednesday, Friday, and Sunday, until I check back in with my doctor in 3 months."
4. In the spirit of motivational interviewing, always check back with them regarding how they rate their plan on both the "Importance" and "Confidence" rulers (introduced in Chapter 3) and explore how both ratings can be increased, if necessary.

How to Use It

Create a form or template similar to the one on the next page. Ask about all the items in the FITT acronym. FITT stands for[18]

- **F**requency—how many times a week (or day)
- **I**ntensity—low, moderate, or intense. A good rule of thumb is if you are doing the activity, and you can talk but not sing, it is moderate exercise. Heart rate will go up, and a person will break a sweat. If they are interested in more vigorous activity, remember the general rule of trying to keep maximum heart rate at around 85% of the number a person gets when they subtract their age from 220. For example, for a 60-year old man, 220-60=160, and 85% of 160 is a target maximal heart rate of 136. Only focus on heart rate if they are not taking medications that slow their rate, like beta blockers.
- **T**ype of activity—walking, swimming, yoga, etc.
- **T**ime—how many minutes each activity session will be. Remember that, while there is some variation, many guidelines continue to recommend a total of 150 minutes per week.[19] Tailor it to each person. For instance, if someone has fibromyalgia or

severe fatigue, they can still benefit from even a few minutes of exercise each day.[20] Some recommendations for osteoarthritis suggest starting out at 20 minute intervals at first.[21]

If a patient is in a place where they are comfortable with taking it a step farther, you may also add in other elements of activity to consider. You could do additional recommendations (or even write new activity prescriptions) for an aerobic activity and resistance training or flexibility. You might specifically frame the prescription in terms of balance or improving function with a specific task. It is good to write the prescription out on a prescription pad:

Activity Prescription for _____ Date: _____

Activity:

How many days a week I will do it:

If they choose to do strength training, they might consider doing 8-10 different exercises, with 8-12 repetitions each. Weights are moved slowly and steadily. If the last repetition is no longer difficult, it is time to increase the weight. Most people alternate resistance training with aerobic exercise. Start gently, and be sure to use good technique.

If a person does flexibility training, they should remember to avoid bouncing; muscles should be lengthened slowly and gradually. Stretching can accompany any activity, both before and after. Remind people not to hold their breath when they stretch. Stretching can be a great mindful awareness activity. (Refer to the discussion of Progressive Muscle Relaxation in Chapter 12.)

When to Use It

This is a recommendation that truly can be part of nearly everyone's Personal Health Plan (PHP). Be mindful of risk. Veterans, in particular, tend to be "people of action" and helping them tune in to this aspect of their health can lead to positive outcomes for any number of conditions.

What to Watch Out for (Harms)[22]

- **Keep safety in mind**. Ensure patients are cleared by their primary care provider before they start a new activity program, as appropriate. Always consider whether they need to be evaluated in terms of heart disease risk.
- Remind them to tune into their bodies and **start any new activity gently**.
- **Be attuned to fall risk**, and be sure they have any assistive devices (canes, braces, walkers) they might need.

- **Tuning into the body more can be difficult at first if people have a lot of pain or tend to "check out"** of their bodies because of a history of trauma. In such cases, it may be helpful to enlist the assistance of a mental health professional.

Tips from Your Whole Health Colleagues

- Bring in all your **motivational interviewing** skills. Be collaborative, respectful, and open-minded.
- It can be helpful to **talk about warming up and cooling down** (5-10 minutes before and after sessions).
- Consider providing them with a handout that illustrates how to **stretch**. Refer to the Whole Health tool, "Improving Flexibility."
- Encourage **balance** as a guiding principle.
- When you focus on physical activity, take time, if appropriate, to talk with Veterans about both **self-image** and their perceptions of what their body is capable of.
- Bring in **mindful self-awareness**. What do they feel or think when the word "exercise" is brought up? Physical activity can be a way of understanding the body better. Yoga, tai chi, and other exercises can help a person develop greater insight into their mind-body connection. If people are resistant to activity, it may help to begin an activity session with a mindful awareness exercise that brings awareness to the body, such as a body scan or walking meditation.
- Whole Health **Coaches** and Whole Health **Partners** can be very helpful as someone tries to incorporate a new routine.
- It can be helpful to make use of **personal trainers**, if that is an option.
- Take advantage of free **smartphone apps**, such as "The 7 Minute Workout" or the "30 Day Squat Challenge." There are apps tailored to different types of activity, like cycling, running, and weight training.
- There are many variants of activity and exercise **prescription templates** out there. Find one that suits your practice, or develop a template of your own.
- People are more likely to stick with a program if it **integrates** well into their daily lives.
- Taking exercise **classes** can be a great way to enhance a person's connections with others.
- Model and **disclose your own healthy behaviors**, as you deem appropriate.
- Encourage them to make activity **enjoyable**. Fun is an important element.

Many clinicians are not as familiar with yoga, tai chi, and qi gong as they are with other forms of exercise. The rest of this chapter will focus on these approaches to working your body. Note that "Moving the Body" also features Pilates, walking, and running as other interventions to consider.

For additional information, refer to the Whole Health tool, "Prescribing Movement."

Whole Health Tool: Incorporating Yoga [23]

What Is Yoga?

Some people will remember a time before yoga studios could be found on almost every street corner in the United States, but yoga has been around for millennia. It is an ancient system of contemplative practice that originated in India over 5,000 years ago. Most people associate yoga with hatha yoga and other body-oriented practices (like Bikram, Vinyasa Flow, and Iyengar yoga). These forms of yoga incorporate various asanas, or physical postures. There are many other types of yoga as well, including jnana (knowledge), karma (action), and bhakti (devotion). One of the main purposes of yoga as originally practiced was to foster greater mindful awareness, to help people achieve states of "higher consciousness."[24] In fact, it is often referred to as a "science of mind." The word yoga originates from the Sanskrit *yug* which means union; it was intended to effectively connect mind and body.

As of 2015, 9.5% of U.S. adults (21 million) had practiced yoga, up from 6.1% in 2007.[25] According to the 2012 National Health Interview Survey,[26] 94% of those who practice yoga reported doing it for wellness reasons. 85% reported reduced stress, 55% reported improved sleep, 25% cut back or quit smoking, and 12% cut back or quit drinking alcohol.

How Yoga Works

There are many theories about why yoga is beneficial. Of course, it is a form of physical activity, and many of its benefits probably occur through the same means as they do for other forms of physical activity; some studies find comparable benefits for yoga compared to other forms of physical activity.[27] In addition, yoga has some novel effects. It increases mindfulness traits[28] and decreases stress levels (especially, according to current studies, in the workplace).[29] It shifts brain waves to more relaxed, focused patterns[30] and favorably shifts neurotransmitter balance.[31] It also reduces levels of the stress hormone, cortisol[32] and acts on the medial pain perception system of the brain to produce analgesia.[33]

How to Use Yoga

For beginners, it is perhaps best to do yoga in a classroom environment, or to have some personalized training with a certified trainer. It can help to start with assistive devices like blocks.

Who Can Use Yoga

Honoring a person's physical (and mental) health limitations, yoga can be used by most people. There are entire yoga courses designed for people with wheelchairs.

When to Use Yoga

It is not easy to summarize findings from yoga studies, because they focus on different forms of yoga and a variety of different asansas (postures). Some styles will integrate breathing and meditation, and is then difficult to determine the relative effects of the different elements. Teachers may have different styles. Some will individualize yoga routines, while others will teach large classes that follow a specific set of asanas that everyone moves through together.

While more research is needed, yoga has been found to have a wide array of benefits, including the following, as summarized by Shah[3] and Field[34]:

Overall Well-Being

- Reduces levels of inflammatory biomarkers in multiple different chronic diseases[35]
- Improves spinal mobility, flexibility, and muscle endurance
- Benefits functional status and fall prevention, including for those with a history of traumatic brain injury, stroke, Parkinson's, Alzheimer's dementia, or multiple sclerosis[36]
- Improves emotional well-being, quality of life, and cognitive function

Physical Diagnoses Where Yoga Research Has Found Benefit

- Cardiovascular disease,[37] including improvement of cholesterol panels
- Type 2 diabetes.[38] Helps to lower body mass index (BMI) and emotional eating
- Hypertension[39]
- Nonspecific low back pain. A 2017 Cochrane review noted low to moderate evidence of small to moderate improvements.[40]
- Neck pain[41] (intensity, function, range of motion, quality of life, mood)
- Headaches
- Arthritis in general and osteoarthritis of the knee
- Sleep
- Menopausal symptoms[42]
- Sexual function
- COPD[43] and asthma
- Adjunctive care for breast cancer
- Neurological problems like multiple sclerosis, epilepsy, Parkinson's disease, Alzheimer's disease, and neuropathy[44]
- Cancer-related toxicities (fatigue, cognitive impairment, distress, sleep problems)[45]

Mental Health Benefits of Yoga

We know that physical activity in its many forms is beneficial to mental health. Research indicates that yoga has these benefits, and perhaps others that are linked to something beside the exercise benefit.

- Yoga showed promise for improving positive mental health indicators in most of the 14 studies covered by a 2018 systematic review.[24] Indicators included life satisfaction, mindfulness (self-awareness), affect, self-compassion, forgiveness, gratitude, goal setting, optimism, sand resilience, among others.
- A 2017 review found potential benefit for yoga for short-term depressive symptoms, but evidence for anxiety and PTSD is inconclusive.[46]
- A 2013 review also found benefit for mood disorders.[47]
- A 2013 review concluded only a weak recommendation could be made for yoga as an adjunctive therapy for PTSD.[48]
- Yoga improves quality of life in people with schizophrenia, possibly through boosting oxytocin levels.[49]

Yoga interventions are typically found to be equal to or superior to other forms of exercise in studies that make comparisons,[50,51] and there may be ways that yoga is superior to usual exercise for particular aspects of health.[50,52] Preliminary data demonstrates that yoga practice is associated with increased mindfulness-related traits[53] and decreased stress levels.[28]

In addition to participating in classes where everyone is doing the same asanas (poses), a person may also work with a yoga therapist for a personalized approach. Yoga therapy, also known as therapeutic yoga, is focused specifically on healing. It first arose within Ayurveda, the traditional medicine of India. Most yoga research does not differentiate between therapeutic yoga and other forms, but it is gaining in popularity. According to data from CHAR4 coding, at least 83 VA sites (59%) are being reimbursed for offering yoga.

What to Watch Out for (Harms)

Generally, adverse events due to yoga were found to have a 12-month prevalence of 4.6% and a lifetime prevalence of 21%, but serious events are rare (<2% of injuries).[54] Headstands, shoulder stands, and the lotus position (crossing the legs with both feet resting on top of the thighs) seem to be the most problematic when not done properly. Hot yoga classes, which involve vigorous movement in hot, humid rooms, are linked to more adverse events. The same protocols should be followed with yoga as for engaging in any new form of physical activity; if there are other health issues that may pose risks, a clinician should sign off prior to someone's starting yoga.

Tips from Your Whole Health Colleagues

- **Try yoga for yourself** before you make recommendations that others use it.
- **Ask around your community** to learn which yoga teachers are most highly recommended.
- **Seek out teachers certified with the Yoga Alliance**. They will have Registered Yoga Teacher (RYT) as a title after their name.
- It is not advised to learn yoga through books or audiovisual media. **An in-person teacher is preferable.**
- **Consider yoga therapy** for sicker or more debilitated patients. Many of the best therapists have a background in health care.
- While it may be classed as a way to "Move the Body," **yoga also aligns with other parts of the Circle of Health**. It cultivates mindful awareness, invokes the power of the mind, can become a spiritual practice, and, because it is often taught in a classroom venue, it can foster social connections. If one broadens yoga practice to include other areas beyond the yoga poses, they will be encouraged to eat a healthy diet and approach overall personal development in new ways as well.
- The VA and other groups are actively exploring delivering yoga instruction via **TeleWholeHealth,**[55] which will likely make it more accessible in the future to people who are homebound or living in rural area.
- For more information, refer to the Whole Health tool, "Yoga: Looking Beyond 'the Mat'."

Whole Health Tool: Incorporating Tai Chi and Qi Gong

What Are Tai Chi and Qi Gong?

Tai chi, also known as t'ai chi ch'uan, is an ancient Chinese martial art, recognized widely in modern times by its slow graceful gestures and flowing movements. Tai chi is a form or expression of qi gong, and some even argue that research about the two should not be treated separately, but rather as a unified whole. Key features of tai chi include mindfulness, use of imagery (tai chi moves are based on using images as learning strategy), structural alignment, flexibility, relaxation, rhythmic breathing, social support, and integration of body, mind, and spirit.[56]

Qi gong is a broader term. It is often applied to practices of movement that have many similarities to tai chi, but it traditionally encompasses more than that. Qi gong translates to "cultivation of vital energy." Working with that energy (qi or chi) can take many forms, including movements and other activities intended to improve chi flow. External qi gong involves a practitioner directing the flow of chi; it is perhaps better classed as an energy medicine therapy rather than as a movement-based one.

How Tai Chi and Qi Gong Work

Tai chi and qi gong are said to work through a number of mechanisms.[57] As with any types of movement, they can improve strength, range of motion, and overall physical function. Benefits for fall prevention are likely due to improvements in strength and balance. They also boost immunity[58] and reduce chronic inflammation.[59] Both can also be considered forms of movement meditation; as such, they likely have benefit in terms of mindful awareness and the mind-body connection. Proponents of energy medicine also suggest that they enhance subtle energy (qi) movement, which can positively influence health in many ways. Tai chi is also known to have beneficial effects on brain function in neuroimaging studies.[60]

How to Use Them

Tai chi and qi gong are often taught in a classroom format. As is the case for yoga, it is best for beginners to start in a class format to ensure safety and good technique. People can learn a variety of forms. They should start with the basics and then advance over time.

Who Can Use Tai Chi and Qi Gong

2.5 million people practice tai chi in the US, and 500,000 more do qi gong.[25] It is particularly popular within elderly populations. If fall risk and range of motion are respected, tai chi can be tailored to almost anyone; wheelchair tai chi is popular at several VA facilities.[61]

When to Use Them

There are a number of studies of the health benefits of tai chi and qi gong.[3,59,62,63] Remember, as is the case with many complementary approaches, these therapies are intended to benefit overall quality of life, not necessarily as a cure for any one problem or illness.

- Tai chi increases overall well-being and improves sleep.[59]

- For tai chi, some of the strongest evidence relates to the elderly, particularly for fall prevention (it reduces falls by 43-50%).[64,65] It also helps to reduce fear of falling. It also benefits balance in people who have had strokes.[66]
- Tai chi benefits mobility and balance in people with Parkinson's disease. Tai chi improves osteoarthritis (OA) pain and is recommended by the American College of Rheumatology for OA of the hip, hand and knee.[67] Data is limited regarding tai chi for rheumatoid arthritis.[68]
- Tai chi supports cardiac rehabilitation after myocardial infarction.[69,70] There is a small to medium treatment effect for improvements in BMI.[71]
- Tai chi improves cognitive function.[72]
- Tai chi promotes general mental well-being.[73] It reduces the prevalence and severity of depression.[73]
- Tai chi lowers heart rate, blood pressure, and cholesterol levels.
- Preliminary research shows promise for preventing and treating osteoporosis.[74]
- It can also improve glucose management and hemoglobin A1C in type 2 diabetes.[75,76]
- A recent review found tai chi shows promise for reducing fatigue.[77]
- More research is needed regarding tai chi and its effects on chronic pain.[78]
- A 2018 study found that tai chi is equivalent to pulmonary rehabilitation when it comes to outcomes for patients with COPD.[79]
- Data is less clear regarding tai chi for fibromyalgia, chronic heart failure, and hypertension.
- Qi gong has not been studied as extensively, but it shows promise for helping people with cancer with managing their symptoms and improving physical ability, functional ability, depression, anxiety, and balance.[80] More study is needed.

Figure 5-2, on the next page, features the Evidence Map of Tai Chi, based on a 2014 compilation of systematic review data by VA Health Services Research and Development (HSR&D). Each circle represents a different condition. The farther right a circle is, the greater the effect of the therapy. The higher up on the Y-axis, the larger the literature size. It includes additional health conditions not mentioned the list in this section.

What to Watch Out for (Harms)

Tai chi and qi gong both seem to be quite safe, when used under the guidance of a skilled teacher. Both have enough of an aerobic component to merit the same cautions that would apply to other aerobic activities, though they can be tailored for different people's needs.[3]

Tips on Tai Chi and Qi Gong from Your Colleagues

- Many VA facilities have classes available. If they do not, **look around for classes and teachers in your community**. Some health clubs have classes, as do many university settings. You can find an instructor on the American Tai Chi and Qigong Association website, featured in the Resources section at the end of the chapter.
- **Try taking classes yourself**, so that you can speak more knowledgably to others.
- While there is less research on **other martial arts**, it is reasonable to assume that they can have similar benefits to tai chi.

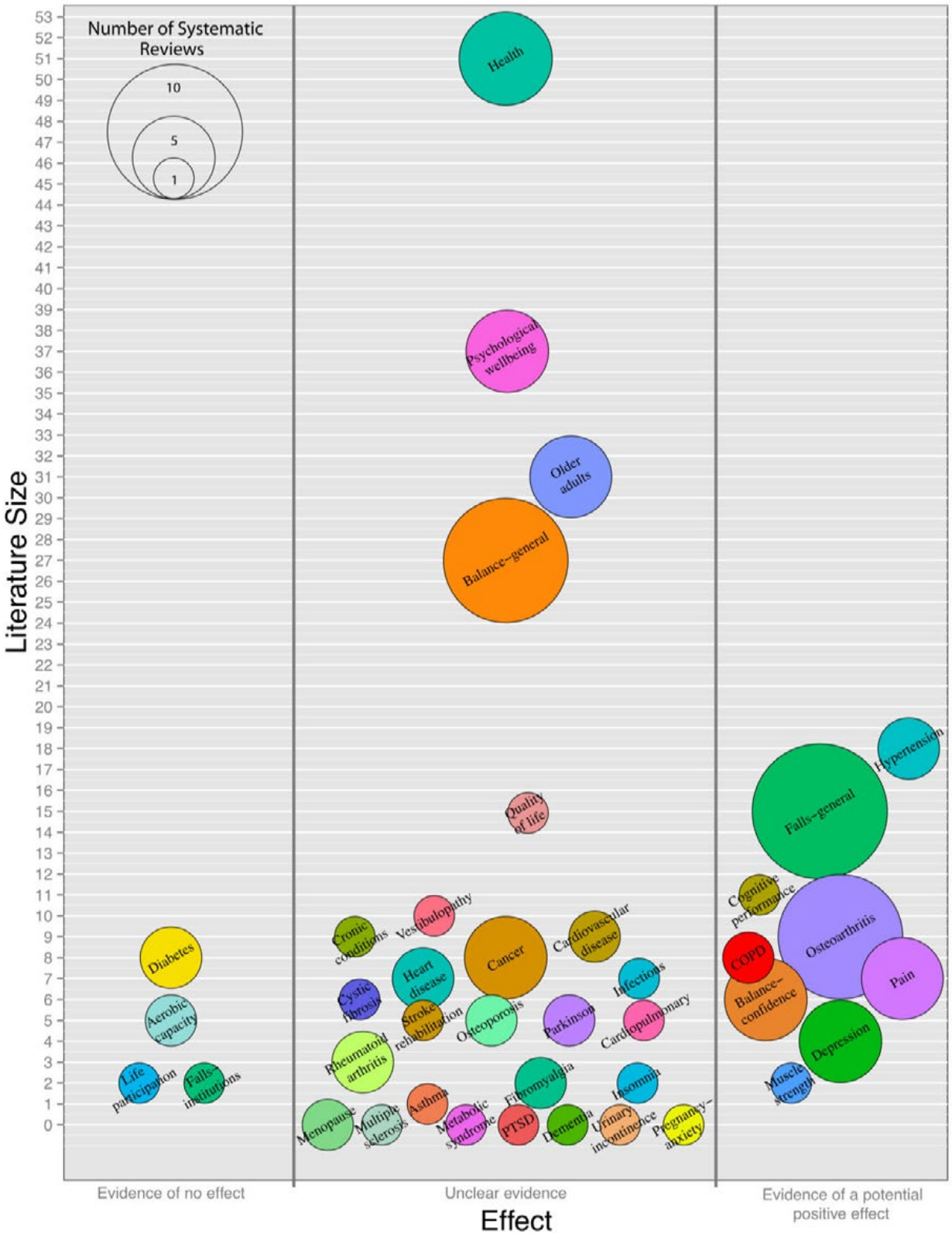


Figure 5-2. Evidence Map of Tai Chi.[63]

Moving the Body Resources

Websites

VA Whole Health Website

- Components of Health and Well-Being Video Series, "A Patient Centered Approach To: Working Your Body." https://www.youtube.com/watch?v=j4zdzDAorbA&feature=youtu.be
- Whole Health Veteran Handouts. https://www.va.gov/WHOLEHEALTH/veteran-handouts/index.asp
    - An Introduction to Working the Body
    - Get Moving: Adding Physical Activity into Your Routine
    - An Introduction to Yoga for Whole Health
    - Introduction to Tai Chi and Qi Gong for Whole Health
- National CIH Subject Matter Experts, as of FY2020
    - Tai Chi/Qi Gong: Kavitha Reddy or Alison Whitehead. Kavitha.Reddy@va.gov; Alison.Whitehead@va.gov
    - Yoga: Alison Whitehead. Alison.Whitehead@va.gov

Whole Health Library Website

- "Moving the Body" overview https://wholehealth.wisc.edu/overviews/moving-the-body/
- "Prescribing Movement" https://wholehealth.wisc.edu/tools/prescribing-movement
- "Yoga: Looking Beyond the Mat" https://wholehealth.wisc.edu/tools/yoga-looking-beyond-the-mat
- "Improving Flexibility" https://wholehealth.wisc.edu/tools/improving-flexibility
- Whole Health for Skill Building: Moving the Body https://wholehealth.wisc.edu/courses/whole-health-skill-building/
    - Faculty Guide
    - Veteran Handout
    - PowerPoints
    - Mindful Awareness Script: A Mindful Awareness Body Scan

Other Websites

- Department of Health and Human Services Physical Activity Guidelines. www.health.gov/PAGuidelines/. Listed by age group.
- Make Your Body Work. Links to 50 free online workouts that do not require a lot of supplies and can be done at home or while traveling. https://makeyourbodywork.com/how-to-exercise-at-home/
- Mayo's illustrated guide to basic stretches. http://www.mayoclinic.org/healthy-living/fitness/multimedia/stretching/sls-20076840?s=1
- MOVE! Weight Management Program. https://www.move.va.gov/MOVE/index.asp Excellent resources. Be sure to look over the comprehensive list of handouts they provide at http://www.move.va.gov/handouts.asp

- StarWell Kit. http://www.warrelatedillness.va.gov/education/STAR/. Resources from the War-Related Injury and Illness Study Center. Moving the Body materials include people describing their experiences or leading exercises in qigong, chair yoga, and breathing.
- President's Council on Fitness, Sports, and Nutrition. Check out the Resource Center. https://www.hhs.gov/fitness/index.html
- Centers For Disease Control Physical Activities Guidelines. http://www.cdc.gov/physicalactivity/everyone/guidelines/index.html
- American Council on Exercise informational materials. http://www.acefitness.org/acefit/fitness-programs-article/2523/ACEFit-workout-advice-and-exercise-tips/.
- US Department of Health and Human Services, Physical Activity Guidelines for Americans. www.health.gov/paguidelines
- Yoga websites
    - Arthur's Amazing Transformation. https://www.youtube.com/watch?v=qX9FSZJu448. Watch how one Veteran reversed his obesity and pain through yoga.
    - Mindful Yoga Center with resources available to Veterans. https://www.mindfulyogatherapy.org/about
    - Integrative Restoration Institute. Yoga-based practices supporting active-duty military and Veterans. http://www.irest.us/projects/veterans
    - International Association of Yoga Therapists. http://www.iayt.org.
    - Kula for Karma Yoga for Veterans Video Series. Yoga for PTSD. http://www.kulaforkarma.org/veterans-video-series/
    - Veterans Yoga Project. https://www.veteransyogaproject.org. Check out the Practice Library tab at the bottom.
    - Warriors at Ease. http://warriorsatease.com. Focuses on bringing yoga and meditation to military communities around the world.
    - Yoga journal Veterans articles. https://www.yogajournal.com/poses/yoga-for/yoga-for-veterans
    - Yoga for Vets. http://www.yogaforvets.org. Nonprofit focused on bringing yoga to Veterans
    - Yoga Warriors International. https://www.yogawarriors.com. Veterans can search for a class or learn to be a teacher.
- Tai chi and qi gong information
    - 7 Minute Chi. Download an app that demonstrates various tai chi exercises. http://www.7minutechi.com
    - Tai Chi Fundamentals course materials (course offered in Madison and Milwaukee) https://taichihealth.com/?page_id=1033
    - Mayo Clinic introduction to tai chi. www.mayoclinic.org/tai-chi/ART-20045184
    - Supreme Chi Living is an online journal and community run by American Tai Chi and Qigong Association http://www.americantaichi.net/
    - Tai Chi Fundamentals Standing. Available on YouTube. https://www.youtube.com/watch?v=oCnCSOWgIUU

    - Tai Chi Fundamentals: Adaptive with Walking/Walker Aid. YouTube video. https://www.youtube.com/watch?v=UCTjyqX_vZ0
    - Tai Chi with Tricia Yu. Available if you search on YouTube. Begins with https://www.youtube.com/watch?v=dSsqgdRsf5U
- Pilates Method Alliance. www.pilatesmethodalliance.org/. Great resource for Pilates, another movement-based approach not covered in detail in this guide.

Books

- *Fitness and Health,* 6th ed., Brian Sharkey (2006)
- *Full-Body Flexibility: The 3-Step Method for Flexibility, Mobility, and Strength*, Jay Blahnik (2010)
- *Healing Moves: How to Cure, Relieve, and Prevent Common Ailments with Exercise*, Carol Krucoff (2009)
- *Strong Women Stay Young*, Miriam Nelson (2005)
- *The Complete Guide to Walking for Health, Weight Loss, and Fitness*, Mark Fenton (2008)
- Yoga
    - *2,100 Asanas: The Complete Yoga Poses*, Daniel Lacerda (2015)
    - *Yoga for Arthritis: The Complete Guide*, Loren Fishman (2008)
    - *Yoga for Back Pain*, Loren Fishman (2012)
    - *Yoga for Osteoporosis: The Complete Guide*, Loren Fishman (2011)
- Tai chi and qi gong
    - *Harvard Medical School Guide to Tai Chi*, Peter Wayne (2013)
    - *Qi Gong for Beginners*, Stanley Wilson (2007)
    - *The Tai Chi Workbook*, Paul Crompton (1987)
    - *The Way of Qigong: The Art and Science of Chinese Energy Healing*, Ken Cohen (1999)

Apps and Monitoring Software

The following are examples of free phone apps (but may offer 'in-app purchases' for people to buy more content):

- Cyclemeter
- Daily Yoga
- Jefit
- MyFitnessPal
- SparkPeople
- Strava
- Strong Workout Tracker
- Workit
- Workout: Gym Tracker

Special thanks to Surya Pierce, MD, who wrote the original Whole Health Library materials on Moving the Body that inspired content for much of this chapter, and to Sagar Shah, MD, who updated those materials in 2018.

References

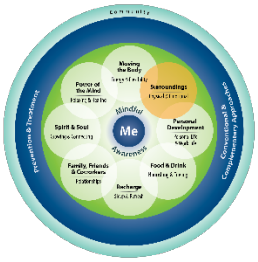
[1] Ozemek C, Lavie CJ, Rognmo O. Global physical activity levels - Need for intervention. *Prog Cardiovasc Dis.* 2019;62(2):102-107.
[2] Sallis, RE. Exercise is Medicine website. http://exerciseismedicine.org/physicians.htm. Accessed July 17, 2019.
[3] Shah, S. Moving the Body. Whole Health Library website. https://wholehealth.wisc.edu/overviews/moving-the-body/. 2018. Accessed July 17, 2019.
[4] Warburton DER, Bredin SSD. Health benfits of physical activity: a systematic review of current systematic reviews. *Curr Opinion Cardiol.* 2017;32(5):541-556. doi: 10.1097/HCO.0000000000000437.
[5] Physical activity and health. Center for Disease Control and Prevention website. https://www.cdc.gov/physicalactivity/basics/pa-health/index.htm. Published February 13, 2018. Accessed July 17, 2019.
[6] Steffens D, Beckenkamp PR, Young J, Solomon M, da Silva TM, Hancock MJ. Is preoperative physical activity level of patients undergoing cancer surgery associated with postoperative outcomes? A systematic review and meta-analysis. *Eur J Surg Oncol.* 2019;45(4):510-518.
[7] Balan E, Decottignies A, Deldicque L. Physical activity and nutrition: two promising strategies for telomere maintenance? *Nutrients*. 2018;10(12).
[8] Oja P, Kelly P, Pedisic Z, et al. Associations of specific types of sports and exercise with all-cause and cardiovascular-disease mortality: a cohort study of 80 306 British adults. *Br J Sports Med.* 2017;51(10):812-817. doi: 10.1136/bjsports-2016-096822. Epub 2016 Nov 28.
[9] Katzmarzyk PT. Physical activity, sedentary behavior, and health: paradigm paralysis or paradigm shift? *Diabetes.* 2010;59:2717-25.
[10] Hupin D, Roche F, Gremeaux V, et al. Even a low-dose of moderate-to-vigorous physical activity reduces mortality by 22% in adults aged ≥60 years: a systematic review and meta-analysis. *Br J Sports Med*. 2015;49(19):1262-7. doi: 10.1136/bjsports-2014-094306. Epub 2015 Aug 3.
[11] Kanejima Y, Kitamura M, Izawa KP. Self-monitoring to increase physical activity in patients with cardiovascular disease: a systematic review and meta-analysis. *Aging Clin Exp Res.* 2019;31(2):163-173.
[12] Michaelides AP, Soulis D, Antoniades C, et al. Exercise duration as a determinant of vascular function and antioxidant balance in patients with coronary artery disease. *Heart*. 2011;97(10):832-837. doi: 10.1136/hrt.2010.209080. Epub 2011 Feb 25.
[13] O'Keefe JH, Patil HR, Lavie CJ, Magalski A, Vogel RA, McCullough PA. Potential adverse cardiovascular effects from excessive endurance exercise. *Mayo Clin Proc*. 2012;87(6):587-595. doi: 10.1016/j.mayocp.2012.04.005.
[14] Hobart JA, Smucker DR. The female athlete triad. *Am Fam Physician*. 2000;61(11):3357-3364, 3367.
[15] Kaufman KR, Brodine S, Shaffer R. Military training-related injuries: surveillance, research, and prevention. *Am J Prev Med*. 2000;18(3 Suppl):54-63.
[16] Powell KE, Heath GW, Kresnow MJ, Sacks JJ, Branche CM. Injury rates from walking, gardening, weightlifting, outdoor bicycling, and aerobics. *Med Sci Sports Exerc*. 1998;30(8):1246-1249.
[17] Morgan GS, Willmott M, Ben-Shlomo Y, Haase AM, Campbell RM. A life fulfilled: positively influencing physical activity in older adults - a systematic review and meta-ethnography. *BMC Public Health.* 2019;19(1):362.
[18] Hewitt MJ, Writing an exercise prescription. In: Rakel D, ed. *Integrative Medicine*, 4th ed. Philadelphia: Saunders, 2017:887-894.
[19] Office of Disease Prevention and Health Promotion. Physical Activity Guidelines. https://health.gov/paguidelines/. Accessed July 17, 2019.
[20] Nelson NL. Muscle strengthening activities and fibromyalgia: a review of pain and strength outcomes. *J Bodyw Mov Ther*. 2015;19(2):370-6. doi: 10.1016/j.jbmt.2014.08.007. Epub 2014 Aug 19.
[21] Bennell KL, Dobson F, Hinman R. Exercise in osteoarthritis: moving from prescription to adherence. *Best Pract Res Clin Rheumatol*. 2014;28(1):93-117. doi: 10.1016/j.berh.2014.01.009.
[22] Wang L, Ai D, Zhang N. Exercise dosing and prescription-playing it safe: Dangers and prescription. *Adv Exp Med Biol.* 2017;1000:357-387. doi: 10.1007/978-981-10-4304-8_19.
[23] Shah, S. Yoga—Looking Beyond 'the Mat'. Whole Health Library website. https://wholehealth.wisc.edu/tool/yoga-looking-beyond-the-mat. 2018. Accessed July 17, 2019.

[24] Domingues RB. Modern postural yoga as a mental health promoting tool: a systematic review. *Complement Ther Clin Pract.* 2018;31:248-255.
[25] Clarke TC, Black LI, Stussman BJ, Barnes PM, Nahin RL. Trends in the use of complementary health approaches among adults: United States, 2002-2012. *Natl Health Stat Report.* 2015(79):1-16.
[26] Stussman BJ, Black LI, Barnes PM, Clarke TC, Nahin RL. Wellness-related use of common complementary health approaches among adults: United States, 2012. *Natl Health Stat Report.* 2015(85):1-12.
[27] Hendriks T, de Jongm J, Cramer H. The effects of yoga on positive mental health among healthy adults: a systematic review and meta-analysis. *J Altern Complement Med.* 2017;23(7):505-517.
[28] Brisbon NM, Lowery GA. Mindfulness and levels of stress: a comparison of beginner and advanced Hatha Yoga practitioners. *J Relig Health*. 2011;50(4):931-941. doi: 10.1007/s10943-009-9305-3.
[29] Hartfiel N, Havenhand J, Khalsa SB, Clarke G, Krayer A. The effectiveness of yoga for the improvement of well-being and resilience to stress in the workplace. *Scand J Work Environ Health*. 2011;37(1):70-76. Epub 2010 Apr 6.
[30] Desai R, Tailor A, Bhatt T. Effects of yoga on brain waves and structural activation: a review. *Complement Ther Clin Pract.* 2015;21(2):112-118.
[31] Mehta UM, Gangadhar BN. Yoga: Balancing the excitation-inhibition equilibrium in psychiatric disorders. *Prog Brain Res.* 2019;244:387-413.
[32] Kamei T, Toriumi Y, Kimura H, Ohno S, Kumano H, Kimura K. Decrease in serum cortisol during yoga exercise is correlated with alpha wave activation. *Percept Mot Skills*. 2000;90(3 Pt 1):1027-1032.
[33] Jurisic P, Salm DC, Vieira C, Cidral-Filho FJ, Mazzardo-Martins L, Martins DF. Pain-related encephalic regions influenced by yoga meditation: an integrative review. *Complement Ther Clin Pract.* 2018;31:320-324.
[34] Field T. Yoga research review. *Complement Ther Clin Pract.* 2016;24:145-61. doi: 10.1016/j.ctcp.2016.06.005. Epub 2016 Jun 16
[35] Djalilova DM, Schulz PS, Berger AM, Case AJ, Kupzyk KA, Ross AC. Impact of yoga on inflammatory biomarkers: a systematic review. *Biol Res Nurs.* 2019;21(2):198-209.
[36] Green E, Huynh A, Broussard L, et al. Systematic review of yoga and balance: effect on adults with neuromuscular impairment. *Am J Occup Ther.* 2019;73(1):7301205150p7301205151-7301205150p7301205111.
[37] Kuehn BM, Emerging data support benefits of yoga for patients with heart disease. *Circulation.* 2017;135:398–399
[38] Jayawardena R, Ranasinghe P, Chathuranga T, Atapattu PM, Misra A. The benefits of yoga practice compared to physical exercise in the management of type 2 Diabetes Mellitus: a systematic review and meta-analysis. *Diabetes Metab Syndr.* 2018;12(5):795-805.
[39] Park SH, Han KS. Blood pressure response to meditation and yoga: a systematic review and meta-analysis. *J Altern Complement Med.* 2017;23(9):685-695.
[40] Wieland LS, Skoetz N, Pilkington K, Vempati R, D'Adamo CR, Berman BM. Yoga treatment for chronic non-specific low back pain. *Cochrane Database Syst Rev.* 2017;1:CD010671. doi: 10.1002/14651858.CD010671.pub2.
[41] Li Y, Li S, Jiang J, Yuan S. Effects of yoga on patients with chronic nonspecific neck pain: a PRISMA systematic review and meta-analysis. *Medicine (Baltimore).* 2019;98(8):e14649. doi:10.1097/MD.0000000000014649
[42] Cramer H, Peng W, Lauche R. Yoga for menopausal symptoms-A systematic review and meta-analysis. *Maturitas.* 2018;109:13-25.
[43] Li, C., Liu, Y., Ji, Y., Xie, L., & Hou, Z. Efficacy of yoga training in chronic obstructive pulmonary disease patients: a systematic review and meta-analysis. *Complement Ther Clin Pract*. 2018;30:33-37. doi: 10.1016/j.ctcp.2017.11.006. Epub 2017 Nov 11.
[44] Mooventhan A, Nivethitha L. Evidence based effects of yoga in neurological disorders. *J Clin Neurosci.* 2017;43:61-67.
[45] Lin PJ, Peppone LJ, Janelsins MC, et al. Yoga for the management of cancer treatment-related toxicities. *Curr Oncol Rep.* 2018;20(1):5. Published 2018 Feb 1. doi:10.1007/s11912-018-0657-2
[46] Duan-Porter W, Coeytaux RR, McDuffie JR, et al. Evidence map of yoga for depression, anxiety, and posttraumatic stress disorder. *J Phys Act Health.* 2016;13(3):281-288.
[47] Cramer H, Anheyer D, Lauche R, Dobos G. A systematic review of yoga for major depressive disorder. *J Affect Disord.* 2017;213:70-77. doi: 10.1016/j.jad.2017.02.006. Epub 2017 Feb 7.

[48] Cramer H, Anheyer D, Saha FJ, Dobos G. Yoga for posttraumatic stress disorder – a systematic review and meta-analysis. *BMC psychiatry.* 2018;18(1):72.
[49] Mehta UM, Keshavan MS, Gangadhar BN. Bridging the schism of schizophrenia through yoga-Review of putative mechanisms. *Int Rev Psychiatry.* 2016;28(3):254-264.
[50] Ross A, Thomas S. The health benefits of yoga and exercise: a review of comparison studies. *J Altern Complement Med.* 2010;16(1):3-12. doi: 10.1089/acm.2009.0044.
[51] Govindaraj R, Karmani S, Varambally S, Gangadhar BN. Yoga and physical exercise – a review and comparison. *Int Rev Psychiatry.* 2016;28(3):242-253.
[52] Patal NK, Newstead AH, Ferrer RL. The effects of yoga on physical functioning and health related quality of life in older adults: a systematic review and meta-analysis. *J Altern Complement Med.* 2012;18(10):902-917. doi: 10.1089/acm.2011.0473.
[53] Shelov DV, Suchday S, Friedberg JP. A pilot study measuring the impact of yoga on the trait of mindfulness. *Behav Cogn Psychother.* 2009;37(5):595-8. doi: 10.1017/S1352465809990361. Epub 2009 Sep 15.
[54] Cramer H, Ostermann T, Dobos G. Injuries and other adverse events associated with yoga practice: a systematic review of epidemiological studies. *J Sci Med Sport.* 2018;21(2):147-154. doi: 10.1016/j.jsams.2017.08.026. Epub 2017 Sep 20.
[55] Mathersul DC, Mahoney LA, Bayley PJ. Tele-yoga for chronic pain: current status and future directions. *Glob Adv Health Med.* 2018 2;7:2164956118766011. doi: 10.1177/2164956118766011. eCollection 2018.
[56] Wayne P.M. (2013) *The Harvard Medical School Guide to Tai Chi: 12 Weeks to a Healthy Body, Strong Heart, and Sharp Mind.* Boston, MA: Shambhala Publications, Inc.
[57] Jahnke CR, Larkey L, Rogers C, Etnier J, Lin F. A comprehensive review of health benefits of qigong and tai chi. *Am J Health Promot*. 2010;24(6)e1-e25. doi: 10.4278/ajhp.081013-LIT-248.
[58] Ho RT, Wang CW, Ng SM, et al. The effect of t'ai chi exercise on immunity and infections: a systematic review of controlled trials. *J Altern Complement Med.* 2013;19(5):389-396.
[59] Huston P, McFarlane B. Health benefits of tai chi: what is the evidence? *Can Fam Physician.* 2016;62(11):881-890.
[60] Yu AP, Tam BT, Lai CW, et al. Revealing the neural mechanisms underlying the beneficial effects of Tai Chi: a neuroimaging perspective. *Am J Chin Med.* 2018;46(2):231-259. doi: 10.1142/S0192415X18500131.
[61] Disabled Sports USA, Tai Chi. https://www.disabledsportsusa.org/sport/tai-chi/. Accessed July 17, 2019.
[62] Lee MS, Ernst E. Systematic reviews of t'ai chi: an overview. *Br J Sports Med*. 2012;46(10):713-718. doi: 10.1136/bjsm.2010.080622.
[63] Hempel S, Taylor SL, Solloway M, et al. Evidence map of tai chi. VA evidence-based synthesis program reports. Project #ESP 05-226. http://www.hsrd.research.va.gov/publications/esp/taichi-REPORT.pdf. 2014. Accessed July 17, 2019.
[64] Lomas-Vega R, Obrero-Gairan E, Molina-Ortega FJ, Del-Pino-Casado R. Tai Chi for risk of falls. A meta-analysis. *J Am Geriatr Soc.* 2017;65(9):2037-2043. doi: 10.1111/jgs.15008. Epub 2017 Jul 24.
[65] Hallisy KM. Tai chi beyond balance and fall prevention: health benefits and its potential role in combatting social isolation in the aging population. *Curr Geriatr Rep.* 2018;7(1): 37-48. doi: 10.1007/s13670-018-0233-5.
[66] Wu S., Chen J., Wang S., Jiang M., Wang X., Wen Y. Effect of tai chi exercise on balance function of stroke patients: a meta-analysis. *Med Sci Monit Basic Res*. 2018;24:210–215. doi:10.12659/MSMBR.911951
[67] Hochberg MC, Altman RD, April KT, et al. American College of Rheumatology 2012 recommendations for the use of nonpharmacologic and pharmacologic therapies in osteoarthritis of the hand, hip, and knee. *Arthritis Care Res (Hoboken).* 2012;64(4):465-474.
[68] Akyuz G, Kenis-Coskun O. The efficacy of tai chi and yoga in rheumatoid arthritis and spondyloarthropathies: a narrative biomedical review. *Rheumatol Int.* 2018;38(3):321-330.
[69] Ng SM, Wang CW, Ho RT, et al. Tai chi exercise for patients with heart disease: a systematic review of controlled clinical trials. *Altern Ther Health Med.* 2012;18(3):16-22.
[70] Song Q, Xu R, Shen G, Zhang Q, Ma M, Zhao X, et al. Influence of tai chi exercise cycle on the senile respiratory and cardiovascular circulatory function*. Int J Clin Exp Med.* 2014;7(3):770-4.
[71] Larkey LK, James D., Belyea MJ, Jeong M, Smith LL. Body composition outcomes of tai chi and qigong practice: a systematic review and meta-analysis of randomized controlled trials. *Int J Behav Med.* 2018;25(5):487-501. doi: 10.1007/s12529-018-9725-0.
[72] Kelly ME, Loughrey D, Lawlor BA, Robertson IH, Walsh C, Brennan S. The impact of exercise on the cognitive functioning of healthy older adults: a systematic review and meta-analysis. *Ageing Res Rev* 2014;16:12-31. Epub 2014 May 23.

[73] Liu X, Clark J, Siskind D, et al. A systematic review and meta-analysis of the effects of Qigong and Tai Chi for depressive symptoms. *Complement Ther Med.* 2015;23(4):516-34. doi: 10.1016/j.ctim.2015.05.001. Epub 2015 May 27.
[74] Zou L, Wang C, Chen K, et al. The effect of Taichi practice on attenuating bone mineral density loss: a systemic review and meta-analysis of randomized controlled trials. *Int J Environ Res Public Health.* 2017;14(9). pii: E1000. doi: 10.3390/ijerph14091000.
[75] Chao M, Wang C, Dong X, Ding M. The effects of Tai Chi on Type 2 Diabetes Mellitus: a meta-analysis. *J Diabetes Res.* 2018;2018:7350567. doi: 10.1155/2018/7350567. eCollection 2018.
[76] Xia T-W, Yang Y, Li W-H, Tang Z-H, Li Z-R, Qiao L-J. Different training durations and styles of tai chi for glucose control in patients with type 2 diabetes: a systematic review and meta-analysis of controlled trials. *BMC Complement Altern Med.* 2019;19(1):63.
[77] Xiang Y, Lu L, Chen X, Wen Z. Does Tai Chi relieve fatigue? A systematic review and meta-analysis of randomized controlled trials. *PLoS One.* 2017;12(4):e0174872. doi: 10.1371/journal.pone.0174872. eCollection 2017.
[78] Hall A, Copsey B, Richmond H, et al. Effectiveness of tai chi for chronic musculoskeletal pain conditions: Updated systematic review and meta-analysis. *Phys Ther.* 2017;97(2):227-238. doi: 10.2522/ptj.20160246.
[79] Polkey MI, Qiu ZH, Zhou L, et al. Tai Chi and pulmonary rehabilitation compared for treatment-naïve patients with COPD: a randomized controlled trial. *Chest.* 2018;153(5):1116-1124. doi: 10.1016/j.chest.2018.01.053. Epub 2018 Apr 3.
[80] Chang PS, Knobf T, Oh B, Funk M. Physical and psychological health outcomes of Qigong exercise in older adults: a systematic review and meta-analysis. *Am J Chin Med.* 2019;47(2):301-322.

Chapter 6. Surroundings: Physical & Emotional



The mountains are calling and I must go.
—John Muir

The Importance of Healthy Surroundings

We do not live in a vacuum; health is not just what is going on inside us. Our surroundings have a significant impact on who we are and how we feel. We know this instinctively, and increasing numbers of studies are giving us a better understanding of how our surroundings affect our health.

Epigenetics is the study of how the environment interacts with our genetic information to influence which genes are expressed and how.[1] In identical twins who have the same genome, one twin may show a certain trait or have a particular problem, while the other does not. Why? Their environment. One twin may have had more sun exposure, or more exposure to tobacco smoke. One twin may have been more active, or less stressed, or exposed to different toxins at work or at home. The possibilities for how differences in environment might have affected them are practically endless. The findings of epigenetics studies can be cause for optimism.[2] If our surroundings can cause changes in our gene expression, that means we can take steps to favorably influence the process. How might we do that?

The skill-building courses for Veterans, introduced in the previous chapter, were designed to help learners zero in on specific "subtopics," which could be incorporated into Personal Health Plans (PHPs). Figure 6-1 shows the subtopic circles for Surroundings. All of these topics are discussed in this chapter. Note that there is a "Make One Small Change" circle to remind Veterans that even small changes matter. It also allows them to come up with their own ideas if they do not find something they want to work with in the other circles.

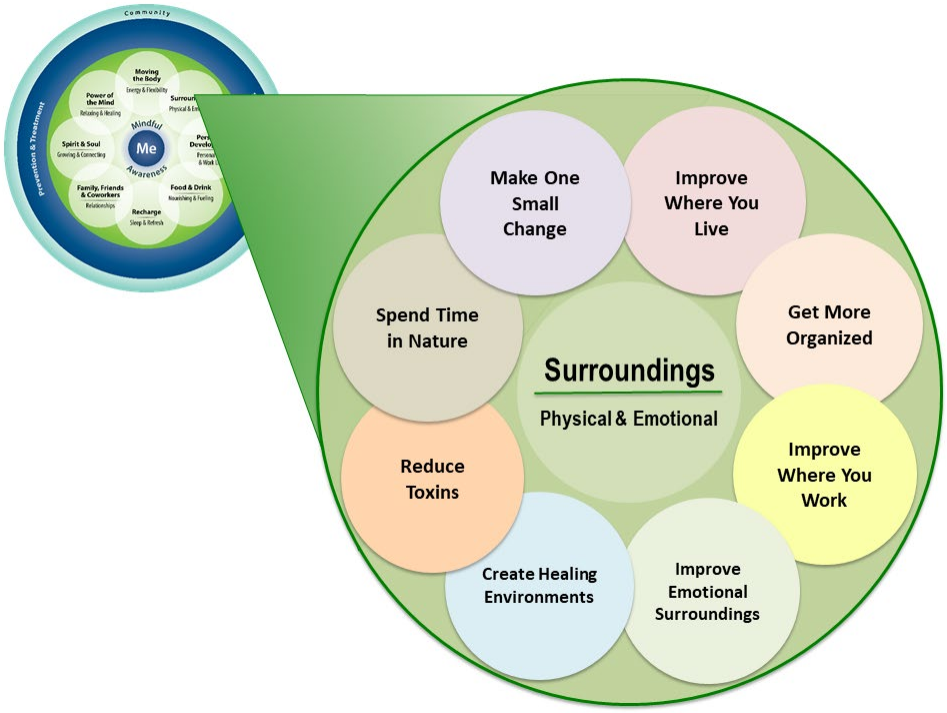


Figure 6-1. Subtopics within the Surroundings Circle of Self-Care

Questions to Ask About Surroundings

The following questions represent a place to start when you are talking to people about their surroundings. For more detailed tools for assessing a person's surroundings using questionnaires or surveys, refer to the Resources at the end of this chapter.

- Where do you live?
- What is your living situation (house, apartment, homeless, etc.)?
- Is your living situation stable?
- Do you have utilities in your living space (heat, electricity, air conditioning)?
- Do you feel safe there? If not, what is unsafe?
- Who lives with you?
- Do you have any pets?
- If you could change some things in your surroundings, what would they be?
- Do you live where you want to live?
- Is your community or neighborhood safe?
- Do you live near any green spaces, like parks?
- How often do you spend time in nature?
- Where would you live if you could choose to live anywhere?
- Are you dealing with any pests, like bedbugs, roaches, or mice?
- Do you have clean water?
- Are you exposed to air pollution?
- Do you ever feel like your health is better when you are away from home for a while?

- Does anything happen at work that harms your health?
- Have you had any injuries at work?
- Are you exposed to things like lead, radon, cigarette smoke, or asbestos?

Eight Aspects of Surroundings

The next sections cover seven aspects of surroundings—home, work, neighborhood, emotional surroundings, time in nature, and healing environments—in greater detail. To learn even more, refer to the "Surroundings" overview.

1. Home

There is a reason why many clinicians consider home visits invaluable. According to the National Center for Healthy Housing, a healthy home is all of the following[3]:

- **Dry**. Keeping the home dry prevents problems with mites, roaches, molds, and rodents.
- **Clean**. This also decreases pests and risk of infection. Clutter can be a cause of health issues (e.g. increased fall risk) and also a sign of them (e.g. hoarding behavior can indicate mental health problems). 5% of people meet the criteria for hoarding; their living spaces are cramped, unsanitary, and potentially dangerous. In half of hoarders' homes, they do not use their sink, tub, stove, or shower because those items are full of accumulated objects.[4] Hoarding often begins when a person has a traumatic experience in their teen years, and 75% of the time it is linked with other mental health issues, including obsessive compulsive disorder.[4] Squalor, in contrast to hoarding, involves accumulation of refuse (garbage) in the home. People who live in squalor tend to be elderly and carry diagnoses of dementia, alcoholism, or schizophrenia.[5]
- **Pest-free**. Bedbugs, poisonous spiders, roaches, rats, and mice can all cause health problems. Pesticide residues can pose risk, so dealing with pests must be done properly.
- **Safe**. This includes reducing fall risk, as well as preventing fires and poisoning. It can also tie in to violence in the home. It is important to ask about the presence of weapons in the home, since this can be associated with increased suicide and homicide risk.
- **Contaminant-free**. Radon, asbestos, lead, tobacco smoke, and carbon monoxide can all be problematic. Remove shoes when coming into the home to reduce toxins that are brought in from outdoors. Use nontoxic cleaning products.
- **Ventilated**. This helps with lung health and air quality.
- **Maintained.** This ties in with all the above. A better-maintained home is a healthier home in terms of pests and safety, not to mention aesthetic appeal. This also influences health, as discussed below.

Homelessness

When considering home environment, always ask about homelessness. The lifetime prevalence of homelessness in the U.S. is thought to be between 5 and 14%,5 and as of

2017, Veterans comprise 11% of the homeless population, with about 40,000 Veterans homeless on any given night. Male Veterans are 30% more likely to be homeless than men who are not Veterans.[6] On a positive note, the VA has reduced the number of homeless Veterans by nearly 50% since 2010, and between 2017 and 2018, there was a 5.4% decrease in the number of homeless Veterans in the U.S.[6,7] Not surprisingly, homelessness is associated with unmet health needs, higher emergency department use, and poorer quality of life. Veterans and their support team can call 1-800-VET-HELP to reach the National Coalition for Homeless Veterans.

2. Work

Important elements of work environment include ergonomics, safety at work, and the overall "feel" of the workplace. Stress related to commuting may also be a factor to consider, along with how much a person is working. A significant portion of people's lives is spent at work; the average American has an 8.8 hour workday.[8] The amount of control a person has at work and whether work demands are high or low both affect risk of death. A 2016 study of nearly 2,400 workers found that those in low-control, high-demand jobs had a 15.4% increase in odds of mortality, compared to people with low-control, low-demand jobs. Interestingly, people with high control, high-demand jobs had a 34% decrease in mortality risk compared to those with high-control jobs with low demand.[9] There is also a correlation between coronary heart disease risk and having a high-effort, low-reward job. Meaningful work correlates with reduced depression (though relationship with anxiety and stress was less clear).[10] Lower levels of job stress correlate with lower rates of insomnia.[11]

When exploring surroundings at work, begin by asking about whether or not a person has a job.[12] Honor that it may be formal, or they may work all day as a caregiver to a family member, etc. Unemployment increases mortality risk by 63% and contributes significantly to chronic illness.[13] Encourage Veterans to make use of vocational rehabilitation services when they are available. Be sure to consider ergonomics as well. [14] Links to websites with information on how to harmonize workers with their jobs are listed in the Resources section at the end of this chapter.

3. Neighborhood

One's general living circumstances also influence health. Some examples include the following:

- Risk of crime and violence in one's building or neighborhood is an important consideration. A 2017 review found that exposure to community violence has an effect on at least some areas of physical health.[15]
- People from rural areas may face challenges with access to various care services.
- Living next to green spaces, such as parks is important, as described in the "Time in Nature" section later in this chapter.

4. Emotional Surroundings

Emotional surroundings can include anything that influences emotional well-being, including emotional abuse and exposure to domestic violence. Always consider the possibility of domestic violence and elder abuse. Over 35% of women and 29% of men have experienced rape, physical violence, or stalking by an intimate partner at some point in their lives.[16] 7-12% of female Veterans have experienced intimate partner violence,16 and domestic violence perpetration rates are much higher for active service military personnel and Veterans with PTSD and depression.[17] One study of 407 post-9/11 Veterans found that 2/3 of both men and women in the sample had experienced intimate partner violence in the past 6 months, primarily in the form of psychological aggression.[18] In addition to physical injury, mental health sequelae are likely to occur, including depression, anxiety, PTSD, psychosis, self-harm, psychosomatic conditions, and decreased ability to trust others.[19] Veterans in your care could be victims, or they may be perpetrators of this violence. Information related to military sexual trauma is included in the Resources section at the end of this chapter.

An important aspect of working with emotional surroundings is simply recognizing one's emotional state on a regular basis; mindful awareness of emotions is important. More optimistic, altruistic, and generally happy people are less likely to be affected by challenging external circumstances; their health is likely to be better in general, and they are much more resilient.[20,21,22]

Some ways to enhance positive emotional surroundings include:

- **Incorporate more humor**. Laughter leads to increases in heart and breathing rates and oxygen consumption, reduced muscle tension, decreased cortisol, and improved immune function.[23,24] Refer to the "The Healing Benefits of Humor and Laughter" Whole Health tool.
- **Spend time with animals**. Consider getting a pet. There is good data supporting animal-assisted therapies.[25] Check out the "Animal-Assisted Therapies" Whole Health tool.
- **Be cautious about the influences of information overload**, especially from negative media sources. In the media, the estimated ratio of negative to positive content has been estimated to be roughly 17:1.[26] Consider a media fast, as described in the "A Media/Information Fast" Whole Health tool.
- **Consider mind-body practices** to foster relaxation, compassion, and/or happiness. Examples are featured in Chapter 12. A gratitude practice can also prove beneficial, as discussed in Chapter 7.

Highly Sensitive People

It is also helpful to assess a patient's level of sensitivity. In the psychology literature, there is discussion of the "highly sensitive personality." Psychologist Elaine Aron described what it means to be a "highly sensitive person" (HSP) in her 1996 book of that title.[27] Highly sensitive people (HSPs) exhibit the following qualities:

- Are easily overwhelmed by intense sensory experiences
- Have trouble with being rushed or needing to make deadlines
- Work to avoid upsetting or overwhelming situations
- Tend to have a heightened aesthetic sense
- Like to withdraw after intense times, such as a busy day at work
- Tend to avoid violence, including in movies and TV
- May be particularly attuned as far as their intuition

When working with HSPs, or if you are one yourself, it can be helpful as a clinician to keep the following in mind:

- They are highly attuned to whether or not clinicians are hurried or stressed, and they may limit what they share during a visit based on their sense of how rushed you are.
- Many respond to very low doses of medications—both in terms of therapeutic benefits and adverse effects.
- It may help to encourage them to show up 10-15 minutes before they are supposed to see their clinician, if they have a tendency to be late.
- They may be affected strongly by the lighting in offices and examination rooms.
- They often do well with visualization exercises and guided imagery. It can be helpful to have them envision themselves in a protective "bubble" or "shield" that helps them filter out some of the stimuli that overwhelm them.
- HSPs often benefit from encouragement to honor their introverted natures and take a set amount of time as "alone time" each day.

5. Climate and Ecology

Health issues related to climate and ecology might include whether there is sufficient sunlight to make vitamin D, risk of exposure to excess heat or cold, and the presence of allergy triggers and toxins. Consider exposure to cigarette smoke (including second hand). Air pollution (especially for people with breathing problems), food toxins, sanitation, and water pollution may all be relevant. A person can learn about their tap water (refer to the Resources list at the end of this chapter) or have well water sampled. Some people are more prone to seasonal affective disorder, too.

Global climate change poses a significant potential health risk as well.[28,29] Taking action to ensure a healthy global environment is also contributing to Whole Health on a very large scale.

We are exposed to thousands of toxins. A 2011 systematic review concluded that 4.9 million deaths (8.4% of the deaths worldwide) and 86 million "disability adjusted life years" were due to environmental exposures.[30] It can help to focus on reducing total chemical burden, by reducing just one or a few exposures at time; trying to reduce too many things at once can be overwhelming. Encourage people to minimize exposure to smoke, car exhaust, and farm chemicals. Avoid toxins like the bisphenol A (BPA) in beverage containers, and consider using more "green" cleaning products. Do as much as

possible to ensure food is safe as well. The resources at the end of the chapter offer additional details.

Be sure to ask Veterans specific questions related to the following:

- Exposure to Agent Orange or other chemical weapons
- Presence of shrapnel in the body
- Past encounters with radiation
- Risks related to biological weapons

6. Detoxification [31]

Detoxification, or "detox," refers to a large variety of methods that are used with the intent of removing toxins from the body. These methods are frequently brought up by patients. Detox has been defined by complementary therapies researcher Edzard Ernst as follows:[32]

> In alternative medicine, 'detox' … describes the use of alternative therapies for eliminating 'toxins' (the term usually employed by proponents of alternative medicine) from the body of a healthy individual who is allegedly being poisoned by the by-products of her own metabolism, by environmental toxins or (most importantly) by her own over-indulgence and unhealthy lifestyle (e.g. alcohol, cigarettes and food).

Many of these approaches are not new; Ayurvedic medicine has been using Panchakarma, an array of detoxification techniques (sweating, oil massage, purgatives, enemas, bloodletting, nasal irrigation, and fasting), for thousands of years. 92% of naturopaths in the U.S. use some form of detoxification in their practices.[33] There are numerous books available in the popular press that focus on detox methods.[33]

Popular Detoxification Methods

There are a number of detox methods available. Research supporting their use is limited.

- **Detox supplements.** These include a number of different herbal remedies and other compounds, including burdock, chlorella (green algae), cilantro, clay, dandelion root, glutathione, milk thistle, N-acetyl cysteine (NAC), and spirulina. They are generally viewed as safe, but data supporting their use is limited, with the exception of perhaps milk thistle for some liver concerns and NAC, which is used in conventional medicine for acetaminophen overdose.[34,35]
- **Chelation therapy**. Chelation involves the binding of a particular chemical compound to an ion (e.g. iron, mercury, or lead) to negate its toxic effects. Succimer and Dimaval, used in EDs to treat heavy metal poisonings, are examples. Ethylenediamine tetraacetic acid (EDTA) is a chelating agent that is FDA-approved for use with lead, mercury, arsenic, bismuth, copper, and nickel toxicity. Chelation therapy is thought to work in part by chelating calcium out of calcium deposits in blood vessels. Intravenous EDTA chelation is not formally approved for use in the treatment of vascular disease, Alzheimer's, or autism, but some practitioners use it as a "complementary" therapy for these conditions.[36] Prior to 2013, systematic

reviews of EDTA chelation did not find overall benefit.[37] However, in 2013, EDTA chelation therapy received renewed attention when the Trial to Assess Chelation Therapy (TACT) concluded that EDTA modestly reduced risk of adverse cardiovascular outcomes in patients with a history of myocardial infarction (HR 0.82, 95% CI 0.69-0.99). The TACT 2 trial is now underway.[38]

- **Colonics**. A colonic is, in essence, a therapeutic enema. Water and other substances, ranging from fiber and herbal remedies to probiotics or coffee, are instilled into the colon. Proponents of the practice suggest that it helps to decrease inflammation, thereby making the intestines less permeable to larger, potentially more allergenic molecules.[39] Recent reviews have failed to find substantive research supporting the use of this practice, though groups like the International Association of Colonic Hydrotherapists still advocate its use.[40] Side effects include nausea, diarrhea, bloating and cramping; rarely people can experience bowel perforation, infection, and electrolyte changes.[41]
- **Sauna therapy.** Sauna therapy has been used for centuries, especially in Scandinavia. Thermal stress can increase heart rate, enhancing cardiac output and decreasing peripheral vascular resistance.[42] Circulation to muscles, kidneys, and other organs increases. Effects on metabolic rate and oxygen consumption are comparable to moderate exercise. Norepinephrine output increases, but cortisol does not, unless cold-water immersion occurs after the sauna. Beta-endorphins likely provide pain-reducing and pleasurable effects. Saunas also lead to muscle relaxation and aldosterone secretion. A 2015 review noted that sauna bathing was linked to a reduced risk of sudden cardiac death, fatal coronary heart disease, and all-cause mortality.[43] Other studies have shown additional benefits, including improved respiration in pulmonary disease, improved blood pressures, reduction in depressive symptoms, reduced dementia risk, and improvements in some chronic pain measures.[42,43]
- **Detox diets** purport to flush out the body and support toxin-removal efforts of the liver, kidneys, and lymphatics. Many of these diets feature some sort of fast or require people to limit the range of what they eat and drink. For instance, people might only be allowed to have water, organic fruit/vegetable juice, and soups. Or they may only consume a lemonade-like drink, a laxative tea, and electrolytes. Often the diet's creator will sell products used for the diet. There is little evidence to support the use of these diets.

Use and Safety

It is challenging to know whether or not to use various detoxification methods. People will use them if they believe their dental amalgams are contributing to health issues, or if they feel they have "disseminated fungal overgrowth." These diagnoses are controversial and not widely accepted in the medical community. People may also try them for skin problems, chemical intolerances, allergies, cognitive impairment, and many other indications. There are differences in opinion among different types of clinicians about which techniques to use. As is appropriate to your scope of practice, become familiar with the research so you can offer guidance. You will have to decide how to balance between research findings, costs, and safety. (Other suggestions are featured in the "Tips from Your Whole Health Colleagues" section, below.)

- **Detox supplements** seem safe overall, but are of unclear efficacy.
- **Chelation**, noting the risks, should only be done under close supervision by someone who is well-trained.
- **Colonic** therapists are often members of the International Association of Colonic Hydrotherapists. Evidence of benefit is limited. People will often receive these on a regular basis.
- **Sauna therapy**. This can be used as tolerated, provided it is safe. Many people will sauna for 15-60 minutes, but there are many different recommendations around 'dose.' Start out at a lower amount of time and gradually increase.
- **Detox diets** tend to last for 7-10 days, though some may last for longer. Many of the more popular ones require purchasing a specific book or dietary supplements. Be cautious about how sales pitches and anecdotes can overshadow actual scientific knowledge. To avoid food toxins, it is useful to at least steer clear of the "Dirty Dozen" foods identified by the Environmental Working Group as being high in pesticides even after washing (as compared to the "Clean 15," which are relatively safe)[44]:

The Dirty Dozen (Most pesticide residues)	The Clean 15 Least pesticide residues)
1. Strawberries	1. Avocados
2. Spinach	2. Sweet corn
3. Kale	3. Pineapples
4. Nectarines	4. Frozen sweet peas
5. Apples	5. Onions
6. Grapes	6. Papayas
7. Peaches	7. Eggplants
8. Cherries	8. Asparagus
9. Pears	9. Kiwis
10. Tomatoes	10. Cabbages
11. Celery	11. Cauliflower
12. Potatoes	12. Cantaloupe
	13. Broccoli
	14. Mushrooms
	15. Honeydew melon

Safety of Detox Approaches

Ideally, patients will update their health care teams about any approaches they use. Detox programs should be used with particular caution by people who are critically ill, have nutritional disorders such as iron deficiency anemia, or have endocrine disorders such as diabetes or thyroid disease.

- Supplements for detox seem to be safe overall, but again, data is somewhat limited. Remember that oral glutathione is not processed into a usable form in the gut, so it is not a reasonable choice.

- Chelation therapy is known to have some complications, including injection site irritation and nausea/vomiting, hypotension, cardiac arrhythmias, hypocalcemia, renal failure, and (very rarely) death.[41]
- Colonics rarely have adverse effects. These include nausea, diarrhea, bloating, and cramping.[41] More serious risks include bowel perforation, infection, and electrolyte changes. There are case reports of significant adverse effects, such as arrhythmias, from coffee enemas.[41]
- Sauna therapy is safe, so long as people are able to withstand the associated increases in metabolic rate, which are comparable to moderate exercise. Fainting due to low blood pressure or dehydration is possible. It is perhaps safest to sauna with others.

Tips from Your Whole Health Colleagues

- If someone is asking about detoxification, weigh what you know about efficacy against safety data. The better you know the person, the better you can advise him or her.
- Remember there is a strong financial gain for many of those who advocate detoxification techniques. In particular, many focus their marketing on people with cancer. Note that the research for many techniques is sparse.
- A very limited number of Integrative Health clinics offer chelation or colonic therapies. Know who offers these therapies in your area.
- **Some reasonable suggestions.** The following are some simple approaches to detoxification that you might suggest:
    1. **Drink fluids**. Unless contraindicated for medical reasons, a standard detox practice that makes sense is to have people push fluids. 8-10 glasses of water a day is a reasonable goal for most people.
    2. **Focus on a healthy diet**. It is safe to eat a predominantly fruit and vegetable diet for several days. Always pay attention to overall nutritional needs.
    3. **Hydrotherapy** is another safe and easy approach to follow. Hot and cold showers and baths can be helpful.
    4. **Exercise**. In addition to its many other health benefits, exercise is an excellent sudorific; i.e. it promotes detoxification via sweating. Glutathione, a compound involved in many of the body's detoxification chemical pathways, increases in muscle cells during exercise.
    5. **Slow down and relax**. Take breaks. Enjoy yourself along the way.
    6. **Sleep enough**. Remember that one role of sleep is to allow the brain to remove toxins and waste products.
    7. **Keep in mind that a detox might also involve removing oneself from toxic emotional environments, or from information overload**. Focus on positive emotions. Gratitude, optimism, and resilience can serve as a sort of "emotional detox." Links to information on how to do a media fast are listed in the Resources section at the end of this chapter.
    8. **Spend time in nature**. Fresh air and natural beauty have few contraindications.

7. Time in Nature

There is good support in the medical literature for spending time in parks, gardens, and other areas of natural beauty. Here are some examples of some relevant studies:

- Data from the U.S. Nurses' Health Study found those with the highest quintile of "cumulative average greenness" near their home had a 12% lower rate of all-cause nonaccidental mortality than nurses in the lowest quintile.[45] A review of 12 studies that involved millions of people around the world found a correlation with "higher residential greenness" and mortality from cardiovascular disease.[46]
- A study of over 345,000 people found that prevalence of 15 out of 24 different "diseases clusters" was lower if they lived within a 1 kilometer of a green space.[47] Depression and anxiety were affected more favorably than other disorders. Neck and back complaints, asthma, migraines and vertigo, diabetes, and medically unexplained physical symptoms also improved. The benefit was strongest for people with low socioeconomic status and children.
- Urban green spaces have favorable impacts on physical activity, mental health and well-being, and social contact, in addition to all the ecological benefits they confer.[48] A 2019 study indicated that older adults who live closer to natural environments have better physical functioning as they age.[49]
- Time in outdoor environments reduces stress, according to a 2018 review that looked at heart rate changes, blood pressure changes, and self-report measures.[50]
- A 2016 review concluded that, while studies were limited, there was a suggestion of an association between exposure to nature and healthier childhood cognitive development and adult cognitive function.[51] People with dementia who are in care facilities seem to have less agitation if they spend time in a garden.[52]
- Green exercise, which is activity in a natural setting, increases self-esteem and mood, particularly for people with mental illness. Any sort of green environment has benefit, but the presence of water ("blue space") leads to even greater effects.[53] In a review of 13 trials, 9 of them showed that green exercise had more benefits than indoor exercise when it came to increasing energy and revitalization and decreasing depression, tension, confusion, and anger.[54]
- Ecotherapy, which involves interacting with nature to enhance healing and growth, is gaining popularity. It has been found to improve recovery times, reduce distress, benefit PTSD, reduce substance abuse, and enhance well-being,[55] among many other benefits. "Forest bathing" and wilderness therapy are some popular examples of ecotherapies.

8. Healing Environments

Various groups have worked to identify all the elements that can make a specific space as healing as possible.[56] Consider your local health care facility. Are clinics and hospitals healthy places to be? Are noise levels, art, colors, and smells conducive to health? Are these facilities doing all they can to reduce negative impacts on the environment?[57] Environmental design involves shifting the attributes of a space so that it is as likely as

possible to promote healing. It can inform the design of health care facilities, and it can also guide how we furnish or decorate our homes or workspaces.

Whole Health Tool: Healing Spaces and Environmental Design[46,56]

What Is It?

Our sensory environment has a significant impact on health. Light levels affect mood and sleep quality.[58] Loud noises can influence blood pressure and heart rate for hours after a person hears them. Music can have a variety of effects.[59] It can calm people down or arouse them, and it influences dopamine release in the central nervous system. Choosing the right color can change the feel of a space; cool tones slow the autonomic nervous system, while warm tones activate it.[60] Art—particularly art that features the natural world (versus abstract art)—improves patient outcomes.[61] Environmental design draws from evidence-based findings regarding what aspects of a health care environment can enhance health, above and beyond what is "done to" patients during clinician encounters, tests, and procedures. Important elements include smell, art, color, light, sound, music, nature, and temperature.

How It Works

Our senses connect the outer world with our central nervous systems, and different sensations can be arousing or calming. Intentionally choosing how to design a room, office, or clinic based on what we know about environmental design can lead to healthier emotional states, better sleep, less stress, and greater comfort.

How to Use It

If given a bit of encouragement, people often will share a number of great ideas about how to improve their sensory surroundings at home and work. Strategies to incorporate into a Personal Health Plan (PHP) may include one or more of the following:

- Buying light-opaque curtains or a sleep mask
- Wearing earplugs to bed
- Painting a room or adding more art to the walls
- Buying an electric heater or fan to adjust temperature (or provide some white noise)
- Purchasing a plant or enjoying time outside in nature
- Opening windows
- Having smokers cut back and/or smoke outdoors
- Cleaning with more natural household products that are free of fragrances
- Using specific aromatherapies

Places to find more detailed suggestions are listed in the Resources section at the end of this chapter.

When to Use It

These elements should be considered in all spaces—one's home, at work, and in health care settings.

What to Watch Out for (Harms)

These approaches tend to be quite safe.

Tips from Your Whole Health Colleagues

- In order to modify your surroundings to be optimally healing, you first need to take note of them. It can be helpful to move through the different parts of your clinic or hospital (or home or office) as though you are a patient, taking all of your senses into account. How does each area feel to you?
- Some general principles of environmental design include[62]:
    - **Give people choices**. Let them control the temperature or the radio station or the TV station. Let staff give input into artwork, furniture, and the overall environment.
    - **Enhance human connection**, while respecting privacy. Make waiting areas and other commons areas welcoming, while ensuring that staff knock on doors before entering.
    - **Keep sensory inputs healthy**. Keep noise down (carpet, soundproofing walls, and keeping noise down in nearby rooms can help), and use cleaners and hand gels that do not smell overly "chemical."
    - **Ensure people can find their way around** easily. Maps and signs are part of a healing environment.
    - **Bring in art**. Art exposure can reduce pain, improve clinical and behavioral outcomes, and boost staff morale. Art can be a helpful diversion—videos, fireplaces, and aquariums can also be useful.
    - **Pay attention to color** as well. Remember that people in hospital beds and in examination rooms may spend time staring at the ceiling. Paint should not be overly reflective. People prefer soft tints of reds, blues, and greens with coral, colonial green, peach, rose, and pale gold being good options. Cooler colors are better for chronic patients and those who are likely to be under stress in places like a procedure waiting room.
    - **Make sure light exposure is good**. Photon levels influence mood and wakefulness. People in hospitals and nursing homes have better sleep at night with good daytime light exposure. People who receive more sunlight need less pain medication and feel less stress.
    - **Sound also matters**. Being startled by a noise can lead to changes in blood pressure and heart rate that last for hours. Noise can increase perceived pain and pain medication use. It may even lengthen hospital stay. Less noise correlates with less staff burnout. Varied and relaxing music can settle down heart and respiratory rates. Varying audio input seems to have more restful effects than total quiet.
    - **Enhance connection with nature**. People recover better from stress when exposed to natural settings, and views outside can be helpful. Windows are preferable in hospital rooms. Incorporate plants and provide fresh air.
    - Some clinicians appreciate **bringing in principles of feng shui**, which can be used to guide the design of a healing space.

Surroundings Resources

Websites

VA Whole Health Website

- Components of Health and Well-Being Video Series, "A Patient Centered Approach To: Surroundings" found at https://www.youtube.com/watch?v=Ge3tx1klZrc&feature=youtu.be
- Whole Health Veteran Handouts. https://www.va.gov/WHOLEHEALTH/veteran-handouts/index.asp
    - An Introduction to Surroundings for Whole Health
    - Assessing Your Surroundings
    - Too Much Bad News: How to Do an Information Fast
    - Toxins and Your Health
    - Workaholism
    - Improve Your Health by Removing Toxins From Your Body
    - Ergonomics: Positioning Your Body for Whole Health

Whole Health Library Website

- "Surroundings" overview https://wholehealth.wisc.edu/overviews/surroundings/
- "The Healing Benefits of Humor and Laughter" https://www.wholehealth.wisc.edu/tool/healing-benefits-humor-laughter
- "Animal-Assisted Therapies" https://www.wholehealth.wisc.edu/tool/animal-assisted-therapies
- "A Media/Information Fast" https://wholehealth.wisc.edu/tools/media-information-fast
- "Improving Work Surroundings Through Ergonomics" https://wholehealth.wisc.edu/tools/improving-work-surroundings-through-ergonomics
- "Workaholism" https://wholehealth.wisc.edu/tools/workaholism
- "Informing Healing Spaces Through Environmental Design: Thirteen Tips" https://wholehealth.wisc.edu/tools/healing-spaces-environmental-design
- "Food Safety" https://wholehealth.wisc.edu/tools/food-safety
- Whole Health for Skill Building: Surroundings https://wholehealth.wisc.edu/courses/whole-health-skill-building/
    - Faculty Guide
    - Veteran Handout
    - Veteran Tool: "Thinking About Your Surroundings"
    - PowerPoints
    - Mindful Awareness Script: Mindful Awareness in Your "Special Place"

Other Websites

- Environmental Working Group. www.ewg.org. Has guides that focus on everything from pesticides in foods to green household cleaners and cosmetics
- Greenguard. www.greenguard.org. Source for guidance regarding healthy building materials and products.
- Homelessness Resources for Veterans. http://www.va.gov/homeless
- National Coalition for Homeless Veterans Helpline. http://www.NCHV.org (1-800-VET-HELP)
- International OCD Foundation Hoarding Fact Sheet. https://iocdf.org/wp-content/uploads/2014/10/Hoarding-Fact-Sheet.pdf
- VA Office of PTSD, Military Sexual Trauma Information. https://www.ptsd.va.gov/understand/types/index.asp
- Light therapy handout from University of Wisconsin Integrative Medicine Department of Family Medicine and Community Health. https://www.fammed.wisc.edu/files/webfm-uploads/documents/outreach/im/handout_light_therapy.pdf
- National Association of Professional Organizers. www.napo.net
- National Center for Prevention. http://www.prevention.va.gov/Healthy_Living/ has a number of resources for safety as part of the Healthy Living Messages.
- National Library of Medicine database on specific toxins. http://www.nlm.nih.gov/medlineplus/environmentalhealth.html. Includes a well-done introduction to environmental health and links to key resources. Refer to the "Related Topics" list on the right side of the screen. Topics include air pollution, drinking water, molds, noise, and water pollution.
    - Other web resources are listed at the end of the "Surroundings" overview featured in the Whole Health Library website section above.
- Tox Town, National Library of Medicine. http://toxtown.nlm.nih.gov. This site has user-friendly images that not only show the user potential sources of toxin exposure but also link to reliable government sources of additional information.
- Detoxification diet information from the Academy of Nutrition and Dietetics. http://www.eatright.org/resource/health/weight-loss/fad-diets/whats-the-deal-with-detox-diets
- US Occupational Safety and Health Administration Safety and Health Topics. www.osha.gov/SLTC/index.html. Covers an array of different environmental toxins
- VA Public Health web page. http://www.publichealth.va.gov. Multiple resources, including a section, "Military Exposures."

Books

- *Clutter's Last Stand*, Don Aslett (2005)
- *Fast Media, Media Fast: How To Clear Your Mind and Invigorate Your Life*, Thomas Cooper (2011)
- *Healing Spaces: The Science of Place and Well-Being*, Esther Sternberg (2010)
- *Home Enlightenment: Create a Nurturing, Healthy, and Toxin-Free Home*, Annie Bond (2008)
- *Home Safe Home: Creating a Healthy Home Environment*, Debra Dadd (2005)

- *Integrative Environmental Medicine*, Aly Cohen (2017)
- *Last Child in the Woods: Saving Our Children from Nature Deficit Disorder*, Richard Louv (2008)
- *Super Natural Home: Improve Your Health, Home, and Planet—One Room at a Time*, Beth Greer (2009)
- *The Not So Big Life: Making Room for What Really Matters*, Sara Susanka (2007)

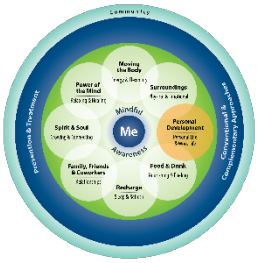
References

[1] Salguero M. Environment and Gene Expression. In: Rakel D, ed. *Integrative Medicine*. 2nd ed. Philadelphia, PA: Elsevier; 2007:23-30.
[2] Tiffon C. The impact of nutrition and environmental epigenetics on human health and disease. *Int J Mol Sci.* 2018;19(11).
[3] National Center for Healthy Housing, Principles of Healthy Homes. http://www.nchh.org/WhatWeDo/HealthyHomesPrinciples.aspx. Accessed July 17, 2019.
[4] Chater C, Shaw J, McKay SM. Hoarding in the home: a toolkit for the home healthcare provider. *Home Healthc Nurse*. 2013;31(3):144-154. doi: 10.1097/NHH.0b013e3182838847.
[5] Snowdon J, Shah A, Halliday G. Severe domestic squalor: a review. *Int Psychogeriatr*. 2007;19(1):37-51. Epub 2006 Sep 14.
[6] Homeless veterans. U.S. Department of Veterans Affairs website. https://www.va.gov/HOMELESS/pit_count.asp. Accessed July 17, 2019.
[7] Dragano N, Siegrist J, Nyberg ST, et al. Effort-reward imbalance at work and incident coronary heart disease: a multicohort study of 90,164 individuals. *Epidemiology.* 2017;28(4):619-626.
[8] United States Department of Labor, Statistics BoL. Charts from the American Time Use Survey. http://www.bls.gov/tus/charts/. Accessed July 17, 2019.
[9] Gonzalez-Mulé E, Cockburn B. Worked to death: The relationships of job demands and job control with mortality. *Pers Psychol*. 2017;70(1):73-112. doi:10.1111/peps.12206.
[10] Allan BA, Dexter C, Kinsey R, Parker S. Meaningful work and mental health: job satisfaction as a moderator. *J Ment Health.* 2018;27(1):38-44.
[11] Yang B, Wang Y, Cui F, et al. Association between insomnia and job stress: a meta-analysis. *Sleep Breath.* 2018;22(4):1221-1231.
[12] Roelfs DJ, Shor E, Davidson KW, Schwartz JE. Losing life and livelihood: a systematic review and meta-analysis of unemployment and all-cause mortality. *Soc Sci Med*. 2011;72(6):840-854. doi: 10.1016/j.socscimed.2011.01.005. Epub 2011 Jan 27.
[13] Herbig B, Dragano N, Angerer P. Health in the long-term unemployed. *Dtsch Arztebl Int*. 2013;110(23-24):413-419. doi: 10.3238/arztebl.2013.0413. Epub 2013 Jun 10.
[14] Rindfleisch A. Improving work surroundings through ergonomics. Whole Health Library website. https://wholehealth.wisc.edu/tools/improving-work-surroundings-through-ergonomics. 2018. Accessed July 17, 2019.
[15] Wright AW, Austin M, Booth C, Kliewer W. Systematic review: exposure to community violence and physical health outcomes in youth. *J Pediatr Psychol.* 2017;42(4):364-378.
[16] VA Evidence-Based Synthesis Report. Intimate partner violence: prevalence among U.S. military veterans and active duty service members and a review of intervention approaches. US Department of Veteran Affairs website. https://www.hsrd.research.va.gov/publications/esp/partner_violence.cfm. Accessed July 17, 2019.
[17] Sherman MD, Sautter F, Jackson MH, Lyons JA, Han X. Domestic violence in veterans with posttraumatic stress disorder who seek couples therapy. *J Marital Fam Ther*. 2006;32(4):479-90.
[18] Iverson KM, Vogt D, Maskin RM, Smith BN. Intimate partner violence victimization and associated implications for health and functioning among male and female post-9/11 veterans. *Med Care.* 2017;55 Suppl 9 Suppl 2:S78-s84.
[19] Stewart DE, Vigod SN. Update on mental health aspects of intimate partner violence. *Med Clin North Am.* 2019;103(4):735-749.
[20] Rasmussen HN, Scheier MF, Greenhouse JB. Optimism and physical health: a meta-analytic review. *Ann Behav Med*. 2009;37(3):239-256. doi: 10.1007/s12160-009-9111-x. Epub 2009 Aug 27.

[21] Post SG. Altruism, happiness, and health: it's good to be good. *Int J Behav Med*. 2005;12(2):66-77.
[22] Steinert Y. On prescribing happiness. *Fam Med*. 2005;37(9):663-664.
[23] Bennett MP, Lengacher C. Humor and laughter may influence health: III. Laughter and health outcomes. *Evid Based Complement Alternat Med*. 2008;5(1):37-40. doi: 10.1093/ecam/nem041.
[24] Bennett MP, Lengacher C. Humor and laughter may influence health IV. Humor and immune function. *Evid Based Complement Alternat Med*. 2009;6(2):159-164. doi: 10.1093/ecam/nem149. Epub 2007 Dec 5.
[25] Barker SB, Wolen AR. The benefits of human-companion animal interaction: a review. *J Vet Med Educ*. 2008;35(4):487-495. doi: 10.3138/jvme.35.4.487.
[26] Estroff Marano, H. Why We love bad news. Psychology Today website. https://www.psychologytoday.com/us/articles/200305/why-we-love-bad-news Accessed July 30, 2019.
[27] Aaron EN. *The Highly Sensitive Person: How to Thrive When the World Overwhelms You*. London: Element; 1996.
[28] Crews DE, Kawa NC, Cohen JH, Ulmer GL, Edes AN. Climate change, uncertainty and allostatic load. *Ann Hum Biol.* 2019;46(1):3-16.
[29] Watts N, Amann M, Arnell N, et al. The 2018 report of the Lancet Countdown on health and climate change: shaping the health of nations for centuries to come. *Lancet.* 2018;392(10163):2479-2514.
[30] Prüss-Ustün A, Vickers C, Haefliger P, Bertollini R. Knowns and unknowns on burden of disease due to chemicals: a systematic review. *Environ Health*. 2011;10:9. doi: 10.1186/1476-069X-10-9.
[31] Fortney L. Podein R, Hernke M. Detoxification. In: Rakel D, ed. *Integrative Medicine*, 4th ed. Philadelphia: Saunders, 2017:996-1003.
[32] Ernst E. Alternative detox. *Br Med Bull*. 2012;101:33-38. doi: 10.1093/bmb/lds002. Epub 2012 Jan 31.
[33] Allen J, Montalto M, Lovejoy J, Weber W. Detoxification in naturopathic medicine: a survey. *J Altern Complement Med*. 2011;17(12):1175-1180. doi: 10.1089/acm.2010.0572. Epub 2011 Nov 21.
[34] Detoxification. Natural Medicines Comprehensive Database website. https://naturalmedicines.therapeuticresearch.com/databases/health-wellness/professional.aspx?productid=1179. Accessed July 17, 2019.
[35] Natural Standard: The Authority on Integrative Medicine. https://naturalmedicines-therapeuticresearch-com. Accessed June 11, 2014.
[36] Questions and answers on unapproved chelation products. U.S. Food & Drug Administration website. https://www.fda.gov/drugs/resourcesforyou/consumers/buyingusingmedicinesafely/medicationhealthfraud/ucm229313.htm. Published February 2, 2016. Accessed July 17, 2019.
[37] Seely DM, Wu P, Mills EJ. EDTA chelation therapy for cardiovascular disease: a systematic review. *BMC Cardiovasc Disord*. 2005;5:32.
[38] Diaz D, Fonseca V, Aude YW, Lamas GA. Chelation therapy to prevent diabetes-associated cardiovascular events. *Curr Opin Endocrinol Diabetes Obes.* 2018;25(4):258-266. doi: 10.1097/MED.0000000000000419.
[39] Horne S. Colon cleansing: a popular, but misunderstood natural therapy. *J Herb Pharmacother*. 2006;6(2):93-100.
[40] International Association of Colonic Hydrotherapists website. http://www.i-act.org/. Accessed July 17, 2019.
[41] Ernst E. Colonic irrigation: therapeutic claims by professional organisations, a review. *Int J Clin Pract*. 2010;64(4):429-431. doi: 10.1111/j.1742-1241.2009.02166.x.
[42] Crinnion WJ. Sauna as a valuable clinical tool for cardiovascular, autoimmune, toxicant-induced and other chronic health problems. *Alern Med Rev.* 2011;16(3):2015-225.
[43] Laukkanen T, Khan H, Zaccardi F, Laukkanen JA. Association between sauna bathing and fatal cardiovascular and all-cause mortality events. *JAMA Intern Med.* 2015;175(4):542-8. doi: 10.1001/jamainternmed.2014.8187.
[44] Environmental Working Group, EWG's 2019 shopper's guide to pesticides in produce, https://www.ewg.org/foodnews/summary.php. 2019. Accessed July 13, 2019.
[45] James P, Hart JE, Banay RF, Laden F. Exposure to greenness and mortality in a nationwide prospective cohort study of women. *Environ Health Perspect.* 2016;124(9):1344-52. doi:10.1389/ehp.1510363. Epub 2016 Apr 14.
[46] Gascon M, Triguero Mas M, Martínez D, et al. Residential green spaces and mortality: a systematic review. *Environ Int.* 2016;86:60-67. doi: 10.1016/j.envint.2015.10.013. Epub 2015 Nov 2.

[47] Maas J, Verheij RA, de Vries S, Spreeuwenberg P, Schellevis FG, Groenewegen PP. Morbidity is related to a green living environment. *J Epidemiol Community Health.* 2009;63(12):967-73. doi: 10.1136/jech.2008.079038. Epub 2009 Oct 15.
[48] Lee AC, Jordan HC, Horsley J. Value of urban green spaces in promoting healthy living and wellbeing: prospects of planning. *Risk Manag Healthc Policy.* 2015;8:131-7. doi: 10.2147/RMHP.S61654. eCollection 2015.
[49] de Keijzer C, Tonne C, Sabia S, et al. Green and blue spaces and physical functioning in older adults: Longitudinal analyses of the Whitehall II study. *Environ Int.* 2019;122:346-356.
[50] Kondo MC, Jacoby SF, South EC. Does spending time outdoors reduce stress? A review of real-time stress response to outdoor environments. *Health Place.* 2018;51:136-150. doi: 10.1016/j.healthplace.2018.03.001. Epub 2018 Mar 29.
[51] De Keijzer C, Gascon M, Nieuwenhuijsen MJ, Dadvand P. Long-term green space exposure and cognition across the life course: a systematic review. *Curr Environ Health Rep.* 2016;3(4):468-477.
[52] Whear R, Coon JT, Bethel A, Abbott R, Stein K, Garside R. What is the impact of using outdoor spaces such as gardens on the physical and mental well-being of those with demtia? A systematic review of quantitative and qualitative evidence. *J AM Med Dir Assoc.* 2014;15(10):697-705. doi: 10.1016/j.jamda.2014.05.013. Epub 2014 Jul 15.
[53] Barton J, Pretty J. What is the best dose of nature and green exercise for improving mental health? A multi-study analysis. *Environ Sci Technol.* 2010;44(10):3947-55. doi: 10.1021/es903183r.
[54] Thompson Coon J, Boddy K, Stein K, Whear R, Barton J, Depledge MH. Does participating in physical activity in outdoor natural environments have a greater effect on physical and mental wellbeing than physical activity indoors? A systematic review. *Environ Sci Technol.* 2011;45(5):1761-72. doi: 10.1021/es102947t. Epub 2011 Feb 3.
[55] Summers JK, Vivian DN. Ecotherapy – a forgotten ecosystem service: a review. *Front Psychol.* 2018;9(1389).
[56] Optimal Healing Environments. Samueli Institute, website. http://www.samueliinstitute.org/research-areas/optimal-healing-environments/ohe-framework.html. Accessed July 22, 2019.
[57] Berwick DM, Hackbarth AD. Eliminating waste in US health care. *JAMA.* 2012;307(14):1513-1516. doi: 10.1001/jama.2012.362. Epub 2012 Mar 14.
[58] Shochat T, Martin J, Marler M, Ancoli-Israel S. Illumination levels in nursing home patients: effects on sleep and activity rhythms. *J Sleep Res*. 2000;9(4):373-379.
[59] Fancourt D, Ockelford A, Belai A. The psychoneuroimmunological effects of music: a systematic review and a new model. *Brain Behav Immun*. 2014;36:15-26. doi: 10.1016/j.bbi.2013.10.014. Epub 2013 Oct 21.
[60] Baughan-Young K. Healing power of color as cheap as a coat of paint. *Manag Care*. 2001;10(11):40-41.
[61] Lankston L, Cusack P, Fremantle C, Isles C. Visual art in hospitals: case studies and review of the evidence. *J R Soc Med*. 2010;103(12):490-499.
[62] Rindfleisch A. Informing healing spaces through environmental design: thirteen tips. Whole Health Library website. https://wholehealth.wisc.edu/tools/healing-spaces-environmental-design. 2018. Accessed August 6, 2019.

Chapter 7. Personal Development: Personal Life & Work Life



Life isn't about finding yourself. It is about creating yourself.
—George Bernard Shaw

The Many Facets of Personal Development

The Personal Development circle involves all the ways that you can grow as a person. It focuses on how you spend your time and energy during the day, and how you invest in what matters most to you. The possibilities seem almost endless for ways Veterans can choose to focus on Personal Development when they are creating their Personal Health Plans (PHPs). Working with Whole Health Partners and Coaches can certainly support Personal Development. What are some other possibilities?

One option is to look at the "subtopics" related to the Personal Development self-care circle, as shown in Figure 7-1. The subtopics were created for the self-care skill-building courses for Veterans, introduced in Chapter 5. These subtopics encourage Veterans to think about options and focus in on which ones they want to use in their PHP. Note that there is a "Make One Small Change" circle that leaves room for creativity, if Veterans do not see an option that interests them.

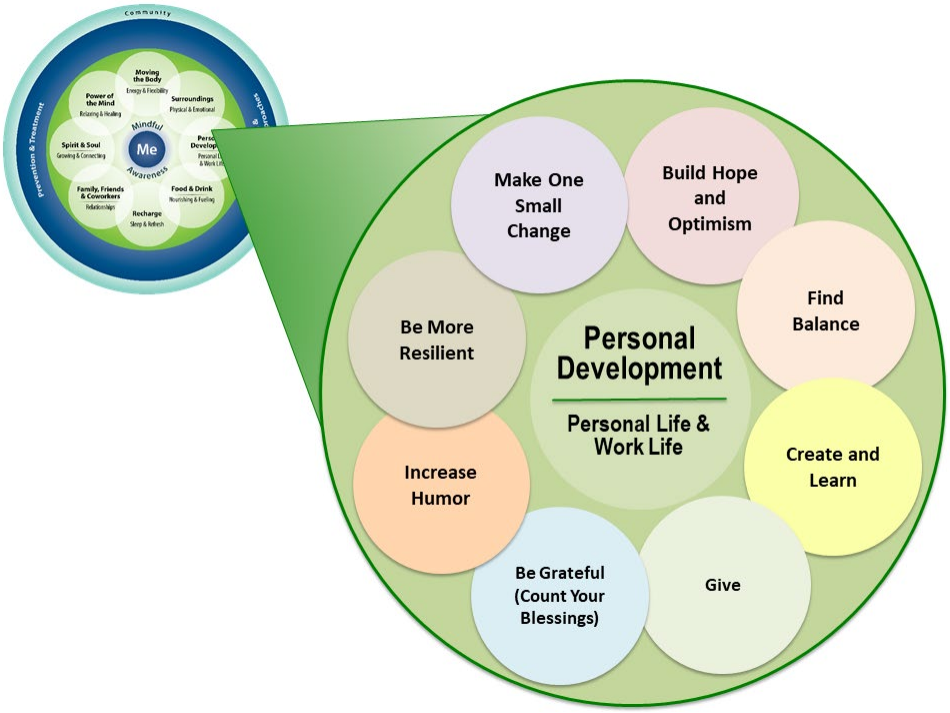


Figure 7-1. Subtopics within the Personal Development Circle of Self-Care

This chapter will review 14 well-researched items, tied in with the circles that can be considered when Personal Development is the focus[1]:

1. Improve the Quality of Your Work Life
2. Foster Resilience
3. Increase Happiness
4. Cultivate Hope and Optimism
5. Develop Self-Compassion
6. Commit Random Acts of Kindness
7. Enhance Humor and Laughter
8. Build Creativity
9. Balance (Integrate) Work and Other Areas of Life
10. Explore Lifelong Learning
11. Volunteer
12. Improve Financial Health
13. Practice Forgiveness
14. Practice Gratitude

Questions to Ask About Personal Development

These are just a few of the questions you might consider when you discuss Personal Development during personal health planning:

- What do you do during the day?
- Describe a typical day (at home or at work or both).
- Do you work outside the home? Where do you work?
- What sort of work did you do before you retired?
- How is your relationship with your co-workers?
- How do you feel about the amount of time you work?
- Do you enjoy your work?
- Is your work fulfilling?
- To what extent are you defined by our job?
- Is your job an expression of who you are?
- Do you have the job you want? If not, what is your ideal job?
- What are your greatest strengths? What has enabled you to make it this far?
- What gives you the strength to take on life's burdens?
- What would help you to handle life's challenges better?
- Who are your role models?
- Are you happy? What makes you happy?
- Are you hopeful about the future?
- Are you an optimist or a pessimist?
- Are you kind to yourself?
- How many times a day do you laugh?
- What do you do well?
- What would you like to learn more about?
- Do you do any volunteer work?
- What are you most proud of?
- What is your greatest talent?
- What creative and artistic pursuits do you enjoy?
- Is there anyone you feel you need to forgive?
- What are you grateful for? What are your blessings?

Fourteen Key Elements of Personal Development

This chapter highlights key elements related to the Personal Development area of self-care. If you would like to cover these and more topics in greater detail, refer to "Personal Development" on the Whole Health Library website.

Personal Development topics can easily be classified as belonging under other circles too. Social capital, for example, is covered in Chapter 10, "Family, Friends, & Co-Workers." Leisure time and hobbies, including taking breaks and vacations, are covered in Chapter 9, "Recharge."

1. Improve the Quality of Your Work Life

We know Quality of Work Life (QWL) is important in many professions. It can be useful to ask about one step a person could take to improve the quality of their work life. A 1997 meta-analysis among nursing staff found that the following workplace characteristics favorably influenced QWL.[2]

- **Autonomy**. It is important to have some control over one's work experiences.
- **Low levels of stress**. Chapter 12, "Power of the Mind" covers a number of options that might help with this.
- **Good relations** with supervisors.
- **Low levels of role conflict**. Everyone should be clear on their responsibilities.
- **Appropriate feedback** on performance. Good feedback is timely, constructive, and focused on personal and professional growth.
- **Opportunities for advancement**. What is a person's long-term trajectory at work?
- **Fair pay**. Is a person receiving a salary similar to others doing the same work?

Regardless of what sort of work a person does, discussing these factors might be helpful. In nursing, they are known to be linked to lower burnout rates, better working environments, and fewer injuries on the job. They are tied to better patient outcomes as well.[3] For some, "work life" might include working at home, doing volunteer work, or doing childcare.

Burnout

For all people in the helping professions, burnout is a high risk. For example, in Medscape's January 2017 Lifestyle Report, based on a survey of over 14,000 physicians from 30 different specialties, the number of physicians reporting being burnt out ranged from 42-59%, depending on specialty.[4] In addition, as many as 60% of psychologists also struggle with burnout.[5] A 2005 study of 751 practicing social workers found a current burnout rate of 39% and a lifetime rate of 75%.[6] In a survey of 257 RN's, 63% reported burnout.[7] In a 2018 meta-analysis of 21 studies focused on nurses, rates of compassion fatigue and burnout were 53% and 52%.[8]

For health care workers, burnout occurs in part because of poor QWL due to excess workload, loss of autonomy, administrative burdens, and challenges balancing work demands with other aspects of life.[9] Perfectionism, lack of stress-coping skills, unhealthy

personal habits (such as substance use), poor relationships with colleagues, poor self-care, and difficult patients can also contribute.[10,11] Burnout also affects teachers, lawyers, mental health professionals, social workers, and many other groups. It has three main aspects:

1. Emotional exhaustion
2. Cynicism and depersonalization
3. A sense of low personal accomplishment

Many burnout questionnaires are used in the research, but burnout can quickly be assessed using two questions. They are worth asking routinely and include[12]:

1. Do you feel burned out or emotionally depleted by your work?
2. Have you become more callous toward people since taking this job—treating patients and colleagues as objects instead of people?

Burnout has been found to improve with various interventions, including mindfulness training. In 2009, Krasner and colleagues[3] evaluated how a course on mindful communication, offered to a group of 70 primary care physicians, improved all 3 aspects of burnout.[13] A University of Wisconsin group conducted a pilot study that provided abbreviated, tailored mindfulness training (18 hours) to 30 primary care clinicians.[14] Data at nine months post-intervention showed statistically significant improvements in measures of job burnout, depression, anxiety, and stress. Another study of 93 different types of health care clinicians, including nurses, social workers, and psychologists, also found that all three subscales of the Maslach Burnout Inventory improved for participants after they took an eight-week Mindfulness-Based Stress Reduction course.[15]

Burnout can be reduced if a person has greater individual autonomy, a stronger sense of balance between work and other obligations, strong relationships with colleagues, and a sense of shared values at work. It helps if support for burnout reduction is offered at an institutional level.[16] *It is NEVER helpful to place the blame for burnout on the person who is experiencing it.* Some employers and institutions mistakenly do so.

One simple method for decreasing burnout is the following exercise. Have Veterans give it a try, and try it yourself.

End of the Day Exercise

At the end of each day, on the way home from work, after dinner, or before you go to bed, ask yourself the following three questions:

1. What did I learn today, and how will that change what I do tomorrow?
2. What am I grateful for? Try to list at least 3 things.
3. What do I need right now to take care of myself?

Anything to reduce burnout is a positive step in the direction of Whole Health. Burnout is the "shadow side" of resilience, which is another fundamental aspect of personal development, for patients and clinicians alike.[17]

2. Foster Resilience

Resilience involves being able to adapt to changing environments, identify opportunities, adapt to constraints, and bounce back from misfortunes and challenges.[18] Figure 7-2 is the Circle of Resilience, which explores how the Circle of Health might relate to fostering resilience.

Anything that can foster resilience can be an invaluable part of a PHP. How do we foster resilience? Cultivating positive emotions can help with our adaptability in the face of change or disruption. It has been noted that resilient people have negative emotions just as much as other people, but they generate many more positive emotions compared to those who are less resilient.[18]

Figure 7-2. The Circle of Resilience

The following are tips for increasing resilience in three different areas. They can be used by patients and clinicians alike. Many of these tie in to other parts of the Circle of Health as well.[1]

1. Attitudes and Perspectives

- Find a sense of meaning related to the work you do.
- Foster a sense of contribution.
- Stay interested in your roles.
- Accept professional demands.
- Come to terms with personal limitations (self-acceptance) and confront perfectionism.
- Work with thinking patterns.

- Develop a health philosophy for dealing with suffering and death.
- Exercise self-compassion.
- Give up the notion that you have to figure everything out.
- Practice mindful awareness.
- Interject creativity into work; consider an array of different therapeutic options, as appropriate.
- Treat everyone you see as though they were sent to teach you something important.
- Identify what energizes you and what drains you, seeking out the former.

2. Balance and Priorities

- Be aware of both personal and work goals.
- Balance work life and other aspects of life effectively.
- Set appropriate limits.
- Maintain professional development.
- Honor yourself.
- Exercise.
- Find time for recreation.
- Take regular vacations.
- Engage in community activities.
- Experience the arts.
- Cultivate a spiritual practice.
- Budget your time just as you might your finances, planning ahead when possible.

3. Supportive Relations

- Seek and offer peer support.
- Network with peers.
- Find a supportive mentor or role model.
- See your primary care provider.
- Consider having your own psychologist or counselor.
- Nurture healthy family, friend, and partner relationships.

3. Increase Happiness

An important question to ask in personal health planning is simply, "Are you happy?" Fostering happiness has, as you would expect, numerous benefits. There are three main aspects of happiness that are described in psychology research.[1]

1. The **pleasant** life (positive emotions and pleasure).
2. The **engaged** life (pursuing work, relationships, and leisure).
3. The **meaningful** life (life has meaning and one serves something one believes is bigger than oneself). This ties into the question of "what really matters." It can also tie into someone's spirituality, as discussed in Chapter 11.

People who pursue all three aspects are the most satisfied,[19] and the meaningful life is the one that has the most impact. Happier people are more successful, more socially engaged, and healthier.[20] People are happiest if they can identify and use their signature strengths.[21] Studies show that happiness is linked to positive outcomes such as financial success, supportive relationships, mental health, effective coping, physical health, and longevity.[18] It is important to remind people that the pursuit of happiness can be misdirected; people who equate money with happiness, for example, may end up less happy.[22] Ideally, happiness is one of an entire spectrum of healthy emotions people experience, when appropriate.

4. Cultivate Hope and Optimism

The definition of hope involves three components. These include the following:

1. Having goals related to a situation.
2. Believing one has the ability to reach those goals.
3. Sensing one can know the path to follow in order to achieve goals in any situation.

Hope is linked to a stronger sense that life is meaningful,[23] as well as to more positive emotions and productivity at work. Optimism is a more general term, based around the idea that positive things will happen in the future.

Optimism has been linked to taking more proactive steps for one's health, more effective coping, better physical health, and better socioeconomic status. It also seems to be associated with persistence with educational pursuits, better income, and stronger relationships.[24] It is associated with decreased pain sensitivity and better adjustment to chronic pain as well.[25] A 2017 systematic review linked it to better outcomes for cardiac patients, noting more studies were needed to gauge benefits for cancer patients.[26] With practice, people can learn to be more optimistic. Mind-body skills training can be helpful in cultivating optimism, as noted in Chapter 12, "Power of the Mind."

5. Develop Self-Compassion

Self-compassion involves directing care, kindness, and compassion toward oneself. It includes the realization that all experiences we have are part of the common experience of all people. Understanding that can help us be gentler with ourselves.

Mindful awareness is closely linked to self-compassion. One of the mindful awareness practices featured in Chapter 10 is the compassion, or metta, meditation. This practice begins by wishing oneself well. After that, you extend the compassion out to others. The practice also concludes with a moment of self-compassion.

Research indicates that having more self-compassion is linked to optimism and happiness, as well as to more successful romantic relationships.[27] Having more self-compassion is linked to greater levels of resilience.[28] A 2011 meta-analysis of 20 different studies found a large effect size when self-compassion was used to treat stress, anxiety, and depression.[29] Self-compassion was linked to having more happiness, optimism, curiosity, wisdom,

exploration, and emotional intelligence, in addition to other qualities.[29] It is also linked to better self-care and lower levels of negative affect.[30,31]

6. Commit Random Acts of Kindness

Random acts of kindness involve doing something for an unknown person that you hope will benefit them.[32] Examples might include paying for the order of the person behind you at the drive through restaurant or putting money in someone's expired parking meter. You can offer a stranger a flower, or write a kind note to someone about something you appreciate. These acts are linked to greater life satisfaction[33] and greater happiness.[20] Functional MRI studies indicate that imagining kindness activates the emotional regulation system of the brain. Kindness can become a self-reinforcing habit that becomes easier over time as neural connections build in a positive way.[34] Encourage Veterans to give them a try. It can help to strategize in advance about what those acts could be.

7. Enhance Humor and Laughter

In the 1970s, word spread that journalist Norman Cousins had improved his symptoms of ankylosing spondylitis through the use of humor.[35] Laughter affects us in many positive ways.[36] Laughter increases our pulse, breathing rates, and oxygen use, and it decreases blood vessel resistance, all of which can be beneficial. After we laugh, we feel more relaxed. 10-15 minutes of laughter daily can burn 10-40 extra calories. Intense laughter relaxes muscle tone. Humor seems to calm down the sympathetic nervous system, which is responsible for the 'fight or flight' response. It lowers stress hormone levels. It also bumps up endorphins (the feel-good chemicals in the body) and helps immune system function.

In terms of specific illnesses, laughter[36]:

- Decreases anxiety
- Lowers heart attack risk in high-risk diabetics
- Increases good cholesterol (HDL)
- Is linked to lower coronary heart disease and reduced arrhythmias and recurrent heart attacks for people in cardiac rehabilitation
- Increases pain tolerance and decreases body inflammation
- Relaxes the airways
- Reduces allergic reactions

The great thing about laughter is that there are many ways to make it happen. Be sure to mention it to patients, so they know it 'counts' as something they can do for their Whole Health. Build up your own repository of jokes to use with patients, as appropriate. For some more ideas, including about how to do Laughter Yoga, refer to the Resources at the end of this chapter. Laughter Yoga research is in its early stages, but it is known to improve depression in life satisfaction in elderly women.[37] It also increases heart rate variability, which corresponds to better overall health.[38]

8. Build Creativity

Creativity can be defined as the generation of something new, different, novel, or as taking something already known and elaborating on its uses, characteristics, or evolution. It can refer to a process (the "creative process") or to the product that is generated from the process.1 It can be helpful to explore what creative pursuits someone enjoys, because that can help guide personal health planning recommendations. Many creative activities can help a person relax, not to mention engage them socially. The benefits of creative arts therapies are discussed in Chapter 12.

In terms of research related to creativity, we know that it is enhanced by supportive environments, having control over aspects of your life, and internal motivation.[39] We know that it can engage problem solving as well as the generation of new ideas.[39] Creativity can be promoted through meditation.[40] Studies on the health benefits of creativity are still needed. Research suggests that creativity can be enhanced by keeping a verbal or written record of ideas, put yourself in novel and interesting circumstances, learn something outside your area of expertise, seek out challenging tasks, and "sleep on" tough problems.[41]

9. Balance (Integrate) Work and Other Areas of Life

Most of the literature on this topic can be searched using the term "Work-Life Balance." However, this term implies that work is not a part of "life," or perhaps that work has to be time spent doing something negative, which is not true for many people. As Swiss philosopher Alain de Botton put it, "There is no such thing as work-life balance. Everything worth fighting for unbalances your life."[42] Recently, people have begun to use the term, "Work-Life Integration." However you describe it, the balance between work and other aspects of life is[43]:

- An important contributor to satisfaction and well-being to clinicians
- Made up of three types of balance, and all of them are important:
    1. **Time balance**—how much time is devoted to different activities.
    2. **Satisfaction balance**—how much satisfaction different parts of your life give you.
    3. **Involvement balance**—how much you engage in various responsibilities. It is not merely about balancing time; it is about being committed and present during all the aspects of your life.
- Something you can enhance, using the following tips[43]:
    1. Allow for **spontaneity.** This is not something you just plan; it is like walking across a stream on slippery rocks. You have to keep reassessing and changing course.
    2. Ensure that **every day you accomplish something**. AND every day you find joy or fun. AND every day you connect with another person in a positive way. Ask yourself from time to time if your work feels meaningful.
    3. **Do not be trapped by delayed gratification**. Allow yourself to experience positive aspects of life regularly.

4. **Check in with others** for a perspective on how balanced you are. You may be enduring more than you realize, or working harder than you think.
5. **Share experiences** with others—friends, loved ones, and colleagues.
6. **Advocate for institutional changes** at work if there are threats to employees' balance.

10. Explore Lifelong Learning

Research shows education is a powerful influence on health and well-being. It is linked to midlife cognitive abilities (how well you think as you age),[44] as well as longer telomere length.[45] Telomeres are areas on the ends of chromosomes; the longer they are, the lower a person's risk of chronic disease and death. More education corresponds with lower risk of mortality.[46] Higher education is one of the most effective ways to raise family income.[47] Education seems to decrease stress and slow aging, too.[48] Lifelong learning keeps us up to date in an era when technology and research are constantly advancing. It can involve taking courses, completing a GED or degree program, working with vocational rehabilitation experts, or deciding how often to read up on new discoveries and innovations.

Lifelong learning can also involve cultivating various life skills. Research indicates life skills are important to health. For example, a 2017 study of over 8,100 men and women over age 52 found that having five key life skills—conscientiousness, emotional stability, determination, control, and optimism—was favorably linked to wealth, income, mood, social connection, a number of chronic diseases, activities of daily living, walking speed, obesity, and self-rated health and well-being.[49] Even lab results, like HDL cholesterol, vitamin D, and C-reactive protein were significantly better. No one skill was responsible; it was having a combination of them.

A lifelong learner[50]:

- Is flexible
- Reflects on what has been learned
- Is aware of the need for lifelong learning
- Requests feedback
- Is able to share what has been learned
- Is highly motivated
- Clearly sees how they will use what they are learning and applies it to his/her life
- Is aware of resources that can help with making future improvements

Encourage Veterans to think about learning and how they would like to do it. Frame it in terms of work and financial well-being as well.

11. Volunteer

In 2015, 62.6 million Americans—over 25% of the population—volunteered their time or money to a nonprofit organization.[51] The strong presence of volunteer programs in VA

programs is not only health-promoting for the recipients of the volunteers' efforts, but also for the volunteers themselves. Volunteering[52,53,54,55,56,57]:

- Increases longevity
- Improves functional ability
- Lowers rates of depression in the elderly
- Decreases heart disease incidence
- Improves mental health and life satisfaction, as well as quality of life
- Increases a sense of personal accomplishment
- Enhances social connections
- Benefits chronic illnesses more than medical care alone
- Protects against cognitive aging (keeps the brain working well)
- Leads to a "helper's high" in elderly women volunteers. Some also reported they felt stronger, calmer, and had fewer aches and pains.

Veterans tend to enjoy working with other Veterans. Encourage them to volunteer. It can be helpful to have a list of options available for them to consider.

12. Improve Financial Health

Financial health refers to the state of a person's financial life or situation. It can include the amount of savings a person has, how much they spend on fixed expenses like mortgage or rent, or their ability to stay out of debt.1 Financial literacy, the ability to make informed judgments and manage money, is also important.[58]

What do we know about money and health?[1]

- There is a small but positive link between income and happiness, but that decreases at higher income levels.
- Finances are a significant source of stress for 76% of Americans. Mindful awareness can help to reduce this stress. If people can identify stressors and make a plan, this can prove helpful.
- A financial planner can help as well.
- Enrolling in a course to build financial skills may be useful. Additional resources for fostering financial health are available in the Resources section at the end of this chapter.

13. Practice Forgiveness

This is best framed as a Whole Health tool, which is located on the following page.

14. Practice Gratitude

This is also best framed as a Whole Health tool and is featured right after the Forgiveness Tool.

Whole Health Tool: Forgiveness

What Is Forgiveness?

Forgiveness is a "…freely made choice to give up revenge, resentment, or harsh judgments toward a person who caused a hurt and to strive to respond with generosity, compassion, and kindness toward that person."[59] When used therapeutically, forgiveness is a process—a series of steps to follow. It is not just an isolated event.

Forgiveness may also involve the need to forgive ourselves or to request forgiveness from another person for something we have done. It may also involve accepting a request for forgiveness.

The following are important points to keep in mind about forgiveness[1]:

- Forgiveness does not require us to reconcile with the offender and have continued contact. There are times when it is in our best interest to stay away from the offender.
- Forgiveness is a process that can take time; it is not just a decision we make quickly. To forgive generally requires some emotional and mental energy on our part. (Refer to the stages of forgiveness, listed later in this Whole Health tool).
- To forgive means that we have to fully accept what actually happened, how we were hurt, how our lives were affected by the offense, and even how we have changed as a result.
- When we do not forgive, we continue to give the negative experiences and the offender power over us. To forgive is to become free to move forward.
- We need never forget what happened; forgiveness does not have to involve forgetting. Despite our continued memory of the event, we nevertheless forgive and live life in the present.
- Forgiveness does not relieve offenders of their responsibility. If it is necessary to pursue justice, we can still take the action that is needed, such as pressing charges, filing complaints, or otherwise appropriately addressing concerns.

How Forgiveness Works

Forgiveness reduces repetitive thoughts (ruminations) that may be begrudging, vengeful, or fearful. It does NOT condone the behavior or event that caused harm, but rather, it frees the victim of that harm from continuing to suffer after the fact. It has been said that forgiveness is "…giving up all hope of a better past."

How to Use It

There are a number of forgiveness materials and books available to help people move through the forgiveness process. However, people should know that this process could trigger emotions and memories, so it may be helpful to work through with a licensed mental health professional, if needed.

The forgiveness process tends to move through stages.[60] These include the following:

1. Recognize the need to forgive. Learn how an offense has affected us and how it has continued to preoccupy us.
2. Acknowledge and release emotions.
3. Decide to forgive. Making the decision to forgive is an important step.
4. Change old beliefs and patterns. Gain a deeper understanding and try to experience more empathy and compassion for ourselves and the perpetrator.
5. Emerge into greater wholeness. Find meaning in the suffering, and recognize suffering is universal.

When to Use Forgiveness

Forgiveness can be used whenever a person needs to work with traumatic past experiences. Currently, research shows that it is associated with the following[61]:

- Improved mental health, as well as reduced negative affect and emotions
- Satisfaction with life
- Fewer physical ailments and somatic complaints
- Less medication use
- Reduced fatigue and better sleep quality
- Reduced depression, anxiety and anger
- Reduced risk of myocardial ischemia and better cholesterol numbers in patients with coronary artery disease
- Reduction of vulnerability to chronic pain
- For people with substance use disorders, a decrease in likelihood of using illicit drugs
- Better work life, if one practices forgiveness with coworkers; productivity, mental health, and physical health improve[62]

What to Watch Out for (Harms)

Forgiveness is **not** a process that can be done in a hurry. It requires time for reflection and, often, time to work with a clinician or coach to move through the emotions and other challenges that come up as one moves through the process. A person should never be rushed through the stages of forgiveness.

Tips from Your Whole Health Colleagues

- If you are going to recommend forgiveness to people you see in your practice, become as familiar as you can with the Resources at the end of this chapter.
- Remember that this is not a process that can be rushed. That said, it is completely worth the time investment.
- Self-forgiveness is also important to explore.[63] It is linked to decreased risks of suicidal ideation and self harm.[64]
- Use the Resources at the end of this chapter to take the process deeper, and if interested, refer to the Whole Health tool, "Forgiveness: The Gift We Give Ourselves."

Whole Health Tool: Gratitude

What Is Gratitude?

Gratitude is a strong contributor to happiness and well-being. Found across all cultures, gratitude is universal. It shares origins with the word "gratia," which means grace. It is both an attitude and a practice. It is closely linked to thankfulness and appreciation.

How Gratitude Works

Gratitude practice is a direct cause of well-being, and it also protects against negative emotions and mental states. Some of its benefits include the following[65]:

- Self-reported physical health
- Increased happiness, pride, and hope
- Enhanced social connection and decreased loneliness
- Reduced risk for depression, anxiety, and substance abuse disorders
- Improved body image
- Higher likelihood of performing acts of kindness, generosity, and cooperation
- Resilience and more robust physical health
- Better sleep and energy level

Gratitude influences our neural networks, including how the brain and heart connect with one another; this is revealed in studies that look for links between heart rate and activation of different parts of the brain on functional MRI.[66]

Keeping a gratitude journal leads to more regular exercise, greater optimism, and more alertness, enthusiasm, determination, attentiveness, and energy. People also become more supportive of other people.[67] Study participants who wrote about three good things that happened each day and why they happened, felt happier and less depressed even six months later.[21]

How to Use It

There are different ways to cultivate gratitude, and the following are just a few examples of exercises you can suggest.[21]

Grateful Contemplation Exercise 1. Reflect on a happy moment that stays strong in your memory even though it may have happened years ago. Relive it, using all your senses. What about the experience stays with you? Was gratitude part of it? Write down your reflections.

Grateful Contemplation Exercise 2. Practice having an attitude of gratitude throughout the day. Think of cues you can use to remind you to be grateful. Examples might be a phone alarm, starting your commute home, sitting down to a meal (many people "say grace" before meals), or passing through the doorway to a building or room. Acknowledge—and enjoy—the positive things that happened during your day.

Grateful Contemplation Exercise 3. A Written Gratitude Practice. Find a regular time at the end of the day to reflect on the day and write down five things you are grateful for. Take time to reflect on their value as you write them. Writing them down is more powerful than just thinking about them. Use a special journal, or write what you are grateful on a piece of paper, and put it into a jar. Consider listing simple everyday things, people in your life, personal strengths or talents, moments of natural beauty, and/or gestures of kindness from others. Review the list (or open the jar) every so often, perhaps monthly or yearly, as a reminder.

Grateful Contemplation Exercise 4. Gratitude Visits.[21] Write *and deliver* a letter of gratitude to someone who has been very kind to you but whom you have never properly thanked. This practice has been found to lead to increased happiness and reduced depression for the person writing the letter (and it helps the recipient too).

When to Use Gratitude

Gratitude practice can be used by anyone. It may be particularly useful for those who do not routinely feel grateful or struggle with low mood or depression.

What to Watch Out for (Harms)

Gratitude practices tend to be quite safe.

Tips from Your Whole Health Colleagues

The following tips are from the Whole Health tool "Creating a Gratitude Practice":

- If you find your gratitude practice is getting stale, mix it up a bit; switch to another format to make it work for you.
- Pick one co-worker each day, and express thanks for what he or she is doing for the organization.
- Take turns going around the dinner table and share one thing each person is grateful for that happened that day.
- Express appreciation about what your partner, child, or friend does and who they are as a person.
- Go for a walk with a friend and talk about what you are most grateful for.
- Do an art project that focuses on your blessings and what is going well in your life.
- Write a thank you letter to yourself.
- Give thanks for your body.
- Pause to experience wonder about some of the ordinary moments of your life.
- Imagine your life without the good things in it, so as not to take them for granted.

Personal Development Resources

Websites

VA Whole Health Website

- Components of Health and Well-Being Video Series, "A Patient Centered Approach To: Personal Development."
  https://www.youtube.com/watch?v=sYZfEA5RgNw&feature=youtu.be
- Whole Health Veteran Handouts.
  https://www.va.gov/WHOLEHEALTH/veteran-handouts/index.asp
  - An Introduction to Personal Development
  - Finding Balance
  - The Healing Power of Hope and Optimism
  - Create a Gratitude Practice
  - Forgiveness
  - What Matters Most? Exploring Your Values
  - Laughter Heals

Whole Health Library Website

- "Personal Development" overview. Includes an extensive list of financial health resources
  https://wholehealth.wisc.edu/overviews/personal-development
- "Values"
  https://wholehealth.wisc.edu/tools/values
- "Creating a Gratitude Practice"
  https://wholehealth.wisc.edu/tools/creating-gratitude-practice
- "Forgiveness: The Gift We Give Ourselves"
  https://wholehealth.wisc.edu/tools/forgiveness-the-gift-we-give-ourselves/
- "The Healing Benefits of Humor and Laughter"
  https://wholehealth.wisc.edu/tools/healing-benefits-humor-laughter
- "Taking Breaks: When to Start Moving, and When to Stop"
  https://wholehealth.wisc.edu/tools/taking-breaks-when-to-start-moving-and-when-to-stop/
- "Work-Life Integration: Tips and Resources"
  https://wholehealth.wisc.edu/tools/work-life-integration-tips-and-resources/
- "Implementing Whole Health in Your Own Life: Clinician Self-Care" Focuses specifically on clinicians' Personal Development (and Self-Care).
  https://wholehealth.wisc.edu/overviews/clinician-self-care/
- "Self-Management of Chronic Pain" For patients with pain.
  https://wholehealth.wisc.edu/overviews/self-management-chronic-pain
- Whole Health for Skill Building: Personal Development
  https://wholehealth.wisc.edu/courses/whole-health-skill-building/
  - Faculty Guide
  - Veteran Handout
  - PowerPoints

- Mindful Awareness Script: A Mindful Awareness Experience to "Get Your Gratitude On"

Other Websites

- Laughter Yoga International. https://laughteryoga.org/
- Money Management International. Nonprofit agency that provides free education about credit and debt management. https://www.moneymanagement.org/
- Money Smart. FDIC education program with online financial training materials. https://moneysmartcbi.fdic.gov
- Self-Compassion. Includes practices and other resources. http://self-compassion.org
- Forgiveness Resources
  - World Forgiveness Alliance http://www.forgivenessday.org/
  - International Forgiveness Institute https://internationalforgiveness.com/
  - Forgive for Good http://learningtoforgive.com/
  - The Forgiveness Project https://www.theforgivenessproject.com/
  - Fetzer Institute https://fetzer.org/

Books

- *21 Keys to Work/Life Balance: Unlock Your Full Potential*, Michael Sunnarborg (2013)
- *A Life at Work: The Joy of Discovering What Your Were Born to Do*, Thomas Moore (2009)
- *Encore: Finding Work that Matters in the Second Half of Life*, Marc Freedman (2008)
- *Enjoy Every Sandwich: Living Each Day as If It Were Your Last*, Lee Lipsenthal (2011) (Dr. Lipsenthal wrote this book shortly before his death from colon cancer.)
- *Finding Balance in a Medical Life*, Lee Lipsenthal (2007)
- *Forgive for Good: A Proven Prescription for Health and Happiness*, Fred Luskin (2002)
- *Forgiveness Is a Choice: A Step by Step Process for Resolving Anger and Restoring Hope*, Robert Enright (2001)
- *Forgiveness: A Bold Choice for a Peaceful Heart*, Robin Casarjian (1992)
- *Forgiveness: The Greatest Healer of All*, Neale Walsch (1999)
- *Life Is Not Work, Work Is Not Life: Simple Reminders for Finding Balance in a 24-7 World*, Walker Smith (2001)
- *No Regrets: A Ten-Step Program for Living in the Present and Leaving the Past Behind,* Hamilton Beazley (2004)
- *Off Balance: Getting Beyond the Work-Life Balance Myth to Personal and Professional Satisfaction*, Matthew Kelly (2011)
- *Resilience: The Science of Mastering Life's Greatest Challenges*, Steven Southwick (2012)

- *Stop Living Your Job, Start Living Your Life: 85 Simple Strategies to Achieve Work/Life Balance*, Andrea Molloy (2005)
- *Striking a Balance: Work, Family, Life*, Robert Drago (2007)
- *The Book of Forgiving: The Fourfold Path for Healing Ourselves and Our World*, Desmond Tutu (2015)
- *The Forgiving Life: A Pathway to Overcoming Resentment and Creating a Legacy of Love*, Robert Enright (2012)
- *The Medical Marriage: Sustaining Healthy Relationships for Physicians and Their Families*, Wayne Sotile (2000)
- *Zen and the Art of Making a Living: A Practical Guide to Creative Career Design*, Laurence Boldt (2009)

Special thanks to Shilagh Mirgain, PhD, and Janice Singles, PsyD, who wrote the original Whole Health Library materials on Personal Development that inspired content for much of this chapter.

References

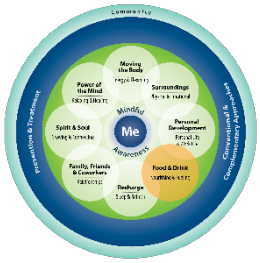
[1] Mirgain S, Singles J. Personal development. Whole Health Library website. https://wholehealth.wisc.edu/overviews/personal-development. 2018. Accessed July 17, 2019.
[2] Knox S, Irving JA. An interactive quality of work life model applied to organizational transition. *J Nurs Adm*. 1997;27(1):39-47.
[3] Horrigan JM, Lightfoot NE, Lariviere MA, Jacklin K. Evaluating and improving nurses' health and quality of work life. *Workplace Health Saf*. 2013;61(4):173-181. doi: 10.3828/21650799-20130327-18.
[4] Medscape Family Physician Lifestyle Report 2018: Personal Happiness vs Work Burnout. Medscape website. https://www.medscape.com/slideshow/2018-lifestyle-family-physician-6009224#1. Accessed July 31, 2019.
[5] Irving JA, Dobkin PL, Park J. Cultivating mindfulness in health care professionals: a review of empirical studies of mindfulness-based stress reduction (MBSR). *Complement Ther Clin Pract.* 2009;15(2):61-66. doi: 10.1016/ctcp.2009.01.002. Epub 2009 Feb 28.
[6] Siebert DC. Personal and occupational factors in burnout among practicing social workers: implications for researchers, practitioners, and managers. *J Soc Serv Res.* 2006;32(2):25-44.
[7] Kronos survey finds that nurses love what they do though fatigue is a pervasive problem. Kronos website. https://www.kronos.com/about-us/newsroom/kronos-survey-finds-nurses-love-what-they-do-though-fatigue-pervasive-problem. 2017. Accessed July 17, 2019.
[8] Zhang YY, Han WL, Qin W, et al. Extent of compassion satisfaction, compassion fatigue and burnout in nursing: a meta-analysis. *J Nurs Manag*. 2018;26(7):810-819.
[9] Shanafelt TD, Boone S, Tan L, et al. Burnout and satisfaction with work-life balance among US physicians relative to the general US population. *Arch Intern Med*. 2012;172(18):1377-1385.
[10] Eckleberry-Hung J, Lick D, Boura J, et al. An exploratory study of resident burnout and wellness. *Acad Med*. 2009;84(2):269-277. doi: 10.1097/ACM.0b013e3181938a45.
[11] Rindfleisch A. Implementing whole health in your own life: clinician self-care. Whole Health Library website. https://wholehealth.wisc.edu/overviews/clinician-self-care. 2018. Accessed July 17, 2019.
[12] West CP, Dyrbye LN, Sloan JA, Shanafelt TD. Single item measures of emotional exhaustion and depersonalization are useful for assessing burnout in medical professionals. *J Gen Intern Med*. 24(12):1318–21. doi: 10.1007/s11606-009-1129-z. Epub 2009 Oct 3.
[13] Krasner MS, Epstein RM, Beckman H, et al. Association of an educational program in mindful communication with burnout, empathy, and attitudes among primary care physicians. *JAMA*. 2009;302(12):1284-1293. doi: 10.1001/jama.2009.1384.
[14] Fortney L, Luchterhand C, Zakletskaia L, Zgierska A, Rakel D. Abbreviated mindfulness intervention for job satisfaction, quality of life, and compassion in primary care clinicians: a pilot study. *Ann Fam Med*. 2013;11(5):412-420. doi: 10.1370/afm.1511.

[15] Ratner P, Sawatzky R. Health status, preventive behaviour and risk factors among female nurses. *Health Rep*. 2009;20(3):53-61.
[16] Rindfleisch A. Burnout and resilience: frequently asked questions. Whole Health Library website. https://wholehealth.wisc.edu/tools/burnout-resilience. 2018. Accessed July 17, 2019.
[17] Nanda A, Wasan A, Sussman J. Provider health and wellness. *J Allergy Clin Immunol Pract.* 2017. pii: S2213-2198(17)30388-4. doi: 10.1016/j.jaip.2017.05.025. [Epub ahead of print].
[18] Cohn MA, Fredrickson BL, Brown SL, Mikels JA, Conway AM. Happiness unpacked: positive emotions increase life satisfaction by building resilience. *Emotion (Washington, DC)*. 2009;9(3):361-368. doi: 10.1037/a0015952.
[19] Peterson C, Park N, Seligman ME. Orientations to happiness and life satisfaction: The full life versus the empty life. *J Happiness Stud*. 2005;6(1):25-41. doi: 10.1007/s10902-004-1278-z.
[20] Lyubomirsky S, King L, Diener E. The benefits of frequent positive affect: does happiness lead to success? *Psychol Bull*. 2005;131(6):803-855.
[21] Seligman ME, Steen TA, Park N, Peterson C. Positive psychology progress: empirical validation of interventions. *Am Psychol*. 2005;60(5):410-421.
[22] Gruber J, Mauss IB, Tamir M. A dark side of happiness? How, when, and why happiness is not always good. *Perspect Psychol Sci*. 2011;6(3):222-33. doi: 10.1177/1745691611406927.
[23] Varahrami A, Arnau RC, Rosen DH, Mascaro N. The relationships between meaning, hope, and psychosocial development. *Int J Existential Psychol Psychother*. 2009;3:1-14.
[24] Carver CS, Scheier MF, Segerstrom SC. Optimism. *Clin Psychol Rev*. 2010;30(7):879–889. doi: 10.1016/j.cpr.2010.01.006. Epub 2010 Feb 1.
[25] Goodin BR, Bulls HW. Optimism and the experience of pain: benefits of seeing the glass as half full. *Curr Pain Headache Rep*. 2013;17(5):329. doi: 10.1007/s11916-013-0329-8.
[26] Schiavon CC, Marchetti E, Gurgel LG, Busnello FM, Reppold CT. Optimism and hope in chronic disease: a systematic review. *Front Psychol.* 2017;7:2022. doi: 10.3389/fpsyg.2016.02022. eCollection 2016.
[27] Neff KD, Kirkpatrick KL, Rude SS. Self-compassion and adaptive psychological functioning. *J Res Pers*. 2007;41(1):139-154.
[28] Atkinson DM Rodman JL, Thuras PD, Shiroma PR, Lim KO. Examining burnout, depression, and self-compassion in veterans affairs mental health staff. *J Altern Complement Med.* 2017;23(7):551-557. doi: 10.1089/acm.2017.0087. Epub 2017 Jun 7.
[29] Barnard LK, Curry JF. Self-compassion: Conceptualizations, correlates, & interventions. *Rev Gen Psychol.* 2011;15(4):289.
[30] Dunne S, Sheffield D, Chilcot J. Brief report: self-compassion, physical health and the mediating role of health-promoting behaviors. *J Health Psychol.* 2018;23(7):993-999. doi: 10.1177/1359105316643377. Epub 2016 Apr 26.
[31] Sirois FM. A self-regulation resource model of self-compassion and health behavior intentions in emerging adults. *Prev Med Rep.* 2015;2:218-22. doi: 10.1016/j.pmedr.2015.03.006. eCollection 2015.
[32] Buchanan KE, Bardi A. Acts of kindness and acts of novelty affect life satisfaction. *J Soc Psychol*. 2010;150(3):235-237. doi: 10.1080/00224540903365554.
[33] Andersen SM, Saribay A, Thorpe JS. Simple kindness can go a long way: relationships, social identity, and engagement. *Soc Psychol*. 2008;39(1):59.
[34] Gilbert P, Choden. *Mindful Compassion: Using the Power of Mindfulness and Compassion to Transform Our Lives*. London: Robinson, 2013.
[35] Cousins N. Anatomy of an illness (as perceived by the patient). *N Engl J Med*. 1976;295(26):1458-1463.
[36] Rindfleisch A. The healing benefits of humor and laughter. Whole Health Library website. https://wholehealth.wisc.edu/tools/healing-benefits-humor-laughter. 2018. Accessed July 17, 2019.
[37] Shahidi M, Mojtahed A, Modabbernia A, et al. Laughter yoga versus group exercise program in elderly depressed women: a randomized controlled trial. *Int J Geriatr Psychiatry*. 2011;26(3):322-327.
[38] Dolgoff-Kaspar R, Baldwin A, Johnson MS, Edling N, Sethi GK. Effect of laughter yoga on mood and heart rate variability in patients awaiting organ transplantation: a pilot study. *Altern Ther Health Med*. 2012;18(5):61-66.
[39] Trunnell EP, Evans C, Richards B, Grosshans O. Factors associated with creativity in health educators who have won university teaching awards: a modified qualitative approach. *J Health Educ*. 1997;28(1):35-41.

[40] Colzato LS, Ozturk A, Hommel B. Meditate to create: the impact of focused-attention and open-monitoring training on convergent and divergent thinking. *Front Psychol*. 2012;3:116. doi: 10.3389/fpsyg.2012.00116. eCollection 2012.
[41] Epstein R, Schmidt SM, Warfel R. Measuring and training creativity competencies: Validation of a new test. *Creativity Res J.* 2008 20(1): 7-12. doi: 10.1080/10400410701839876.
[42] Schwingshackl A. The fallacy of chasing after work-life balance. *Front Pediatr*. 2014;2:26. doi: 10. 3389/fped.2014.00026.
[43] Rindfleisch A. Work-life integration: tips and resources. Whole Health Library website. https://wholehealth.wisc.edu/tools/work-life-integration-tips-and-resources/. 2018. Accessed July 17, 2019.
[44] Hatch SL, Feinstein L, Link BG, Wadsworth ME, Richards M. The continuing benefits of education: adult education and midlife cognitive ability in the British 1946 birth cohort. *J Gerontol B Psychol Sci Soc Sci*. 2007;62(6):S404-414.
[45] Adler N, Pantell MS, O'Donovan A, et al. Educational attainment and late life telomere length in the Health, Aging and Body Composition Study. *Brain Behav Immun*. 2013;27(1):15-21. doi: 10.1016/j.bbi.2012.08.014. Epub 2012 Sep 5.
[46] Lantz PM, House JS, Lepkowski JM, Williams DR, Mero RP, Chen J. Socioeconomic factors, health behaviors, and mortality: results from a nationally representative prospective study of US adults. *JAMA*. 1998;279(21):1703-1708.
[47] Douglas-Hall A, Chau MM. Parents' low education leads to low income, despite full-time employment. 2007. National Center for Children in Poverty. Available at: http://www.nccp.org/publications/pub_786.html. Accessed July 17, 2019.
[48] Steptoe A, Hamer M, Butcher L, et al. Educational attainment but not measures of current socioeconomic circumstances are associated with leukocyte telomere length in healthy older men and women. *Brain Behav Immun*. 2011;25(7):1292-1298. doi: 10.1016/j.bbi.2011.04.010. Epub 2011 Apr 23.
[49] Steptoe A, Wardle J. Life skills, wealth, health, and wellbeing in later life. *Proc Natl Acad Sci U S A.* 2017;114(17):4354-4359.
[50] Stephenson P, Brigden D, Dangerfield P. Lifelong learning for the modern day clinician. *Br J Hosp Med (Lond).* 2009;70(4):230-232.
[51] Volunteering in the United States – 2015. Bureau of Labor Statistics, U.S. Department of Labor website. https://www.bls.gov/news.release/pdf/volun.pdf. Published February 25, 2016. Accessed July 17, 2019.
[52] Putnam RD, Leonardi R, Nanetti RY. *Making Democracy Work: Civic Traditions in Modern Italy*. New Jersey; Chichester, U.K.: Princeton University Press; 1994.
[53] Parkinson L, Warburton J, Sibbritt D, Byles J. Volunteering and older women: psychosocial and health predictors of participation. *Aging Ment Health*. 2010;14(8):917-927. doi: 10.1080/13607861003801045.
[54] von Bonsdorff MB, Rantanen T. Benefits of formal voluntary work among older people. A review. *Aging Clin Exp Res*. 2011;23(3):162-169. doi: 10.3275/7200. Epub 2010 Jul 16.
[55] Luks A. doing good: helper's high. *Psychol Today*. 1988;22(10):39-40.
[56] Yeung JWK, Zhang Z, Kim TY. Volunteering and health benefits in general adults: cumulative effects and forms. *BMC Public Health.* 2017;18(1):8.
[57] Guiney H, Machado L. Volunteering in the community: potential benefits for cognitive aging. *J Gerontol B Psychol Sci Soc Sci.* 2018;73(3):399-408.
[58] American Institutes for Research. Consumer education initiatives in financial and health literacy task 4: deliverable 4, final report. 2010. https://aspe.hhs.gov/sites/default/files/pdf/76156/index.pdf. Accessed July 17, 2019.
[59] Enright R, Freedman S, Rique J. Psychology of interpersonal forgiveness. In: Enright RD, North J, eds. *Exploring Forgiveness*. Madison, WI: University of Wisconsin Press; 1998.
[60] Rindfleisch A, Forgiveness. In Rakel D, ed, *Integrative Medicine*. 4th ed, Philadelphia: PA Saunders; 2017:940-944.
[61] Mirgain S, Singles J. Forgiveness: the gift we give ourselves. Whole Health Library website. https://wholehealth.wisc.edu/tools/forgiveness-the-gift-we-give-ourselves/. 2018. Accessed July 17, 2019.
[62] Toussaint L, Worthington EL, Van Tongeren DR, et al. Forgiveness working: forgiveness, health, and productivity in the workplace. *Am J Health Promot.* 2018;32(1):59-67. doi: 10.1177/0890117116662312. Epub 2016 Aug 25.
[63] Griffin BJ, Worthington EL, Davis DE, Hook JN, Maguen S. Development of the self-forgiveness dual-process scale. *J Couns Psychol.* 2018;65(6):715-726.

[64] Cleare S, Gumley A, O'Connor RC. Self-compassion, self-forgiveness, suicidal ideation, and self-harm: a systematic review. *Clin Psychol Psychother.* 2019. May 2. doi: 10.1002/cpp.2372.
[65] Mirgain S, Singles J. Creating a gratitude practice. Whole Health Library website. https://wholehealth.wisc.edu/tools/creating-gratitude-practice. 2018. Accessed July 17, 2019.
[66] Kyeong S, Kim J, Kim DJ, Kim HE, Kim JJ. Effects of gratitude meditation on neural network functional connectivity and brain-heart coupling. *Sci Rep.* 2017;7(1):5058.
[67] Emmons RA, McCullough ME. Counting blessings versus burdens: an experimental investigation of gratitude and subjective well-being in daily life. *J Pers Soc Psychol*. 2003;84(2):377-389.

Chapter 8. Food & Drink: Nourishing & Fueling



Nothing tastes as good as healthy feels.

—Unknown

The Benefits of Healthy Eating

In an average lifetime, people in the United States eat around 35 tons (70,000 pounds) of food.[1] They will spend about 3 years and 8 months of their lives eating and drinking beverages (67 minutes a day), [2] and they will consume 152 pounds of sugar yearly (6 cups a week).[3] We make dozens, if not hundreds, of nutrition-related choices each day.

No one will deny that healthy nutrition is important, and that the choices you make have important consequences for your health. What you eat and drink nourishes your body and mind, and it has an influence on any number of health issues. A 2015 study of nearly 216,000 people asked people to complete 4 diet quality surveys. Healthy diet scores were linked to lower risk of death from all causes as well as specifically from cardiovascular disease and cancer,[4] and an estimated 80,000 new cancer cases each year are linked to suboptimal diets.[5] A 2004 study concluded that 9% of mortality in women and 16% in men is linked to poor diet choices and noted that an increase in fruits, vegetables, whole grains, and lean meats markedly lowered one's risk of dying.[6] Healthy dietary patterns have been associated with better overall health and quality of life.[7]

Obesity and diabetes rates are climbing. In fact, over 2/3 of U.S. adults and 1/3 of children are overweight or obese.[8] Eating patterns are linked to blood vessel health, bone density, gut function, mental health, cancer risk, blood pressure, skin health, eye disorders, allergies, and many other aspects of health. Depending on what choices we make, our food and drink choices will either contribute to or prevent the development of chronic diseases.

But where to begin? Everyone seems to argue about what good nutrition means. How does a person tailor healthy eating habits to their lifestyle? How do you sort through it all as you create a Personal Health Plan (PHP), respecting what tens of thousands of studies (some of which contradict each other) have to offer? One way is to start with the "subtopics" of Food and Drink, listed in Figure 8-1. As noted in previous chapters, subtopics were developed for each of the 8 self-care areas in the Circle of Health for the Veterans' skill-building course as a way to get Veterans thinking about different options for the PHP. Note that there is a "Make One Small Change" circle that leaves room for creativity, if Veterans do not see an option that interests them.

Note too, the circle "Work with a Dietitian." Remember, as you explore Food and Drink, to enlist the support of your local dietitians, keeping in mind that some of the diets listed in this chapter and in other Whole Health resources may be more or less familiar to various colleagues. Dietitians have devoted their careers to becoming experts on Food & Drink! Respect scope of practice as you guide Veterans to the clinicians who can be most helpful to them as they set—and follow through with—their nutritional goals. Many dietitians in the

VA are now training or have trained in Integrative Functional Nutrition, allowing them to cultivate even more skills that are closely related to the Whole Health approach.

Figure 8-1. Subtopics within the Food and Drink Circle of Self-Care

A useful source of ideas is the *Eating for Whole Health: Nutrition for all Clinicians* course. In 2017, OPCC&CT collaborated with VA's Nutrition and Food Services leadership and clinicians with a background in Integrative Health and Functional Nutrition to create the course. The following topics covered in *Eating for Whole Health* can provide additional ideas about what could be discussed with a Veteran:

<u>General Guidelines</u>

- Follow a specific eating plan
- Macronutrients (fats, carbs, etc.)
- Micronutrients (e.g. vitamins)
- Phytonutrients (from plants)
- Meal timing & frequency
- Fruits, veggies, nuts
- Dessert and snack frequency
- Hydration

<u>Cooking Tips</u>

- Grocery shopping
- Try a new recipe
- Cooking classes, including with Healthy Teaching Kitchens

<u>Mindful Eating</u>

- Start a daily practice
- Number of chews
- Pacing eating
- Eating without distractions
- Observing cravings
- Stress management

<u>Prevention (seek dietitian support)</u>

- Diet and cancer risk
- Diet and vascular disease
- Diet and blood glucose
- Other health conditions

Nutrition for Specific Health Issues
- Referrals to dietitians (especially important for this topic)
- Diet and depression
- Diet and sleep
- Eliminating certain foods
- Probiotics

Food Preparation Tips
- Grocery shopping
- Using kitchen tools
- Try a new recipe
- Cooking classes, including with Healthy Teaching Kitchens

Food in Context
- Dietitians
- Culture and nutrition
- Transportation/Access
- Finances
- Food safety
- Food and social connection

Nutrition Resources
- Cookbooks
- Recipes
- Websites
- Nutrition classes
- Community programs

Nutrition Assessment

Healthy eating begins with obtaining good, individualized information about a patient's eating patterns and preferences. You can do this when you gather a history, and you can also have them complete a food diary or various questionnaires in advance.

Questions to Ask About Food & Drink

When you are talking to someone about Food and Drink, consider asking some of the following questions:

General
- Do you have any concerns that you believe are related to the way you eat?
- How would you describe your relationship with eating?
- Are you satisfied with your eating habits? Why or why not?
- Do you ever skip a meal? How often, and which meals?
- What is typically your biggest meal?
- What are your favorite foods? What don't you like?
- What would you like to focus on today, in terms of your nutrition?
- Why is healthy nutrition important to you?

Eating and Drinking Patterns
- What is your eating pattern? How many meals do you eat a day, and when do you eat them?
- Have you recently changed the way you eat? If yes, for what reason?
- Do you follow a specific diet? Vegetarian? Low-carb? Mediterranean?
- How often do you eat out? What types of restaurants (fast food, fast casual, casual, fine dining)? What do you usually order?

- How often do you eat fast food? What do you usually get?
- How much water do you drink in a day?
- Do you drink anything else regularly (e.g. sodas, alcohol, caffeinated drinks, juice, sports drinks)?
- Do you ever eat when you are not hungry?
- Do you ever wake up in the middle of the night and eat?
- Do you ever binge eat?
- What is the most important thing for me to know about the role food plays in your life?
- What do you typically eat for breakfast? Lunch? Dinner? Snacks?
- Do you ever skip meals or fast?
- What are your comfort foods?
- Are you taking any vitamins, minerals, or other dietary supplements? Why?

Eating and Body Weight

- Have you been eating more or less than normal? If yes, for what reason?
- What is your usual weight?
- Have you gained or lost weight recently?
- What is your highest weight in adulthood? When were you that weight?
- What is your lowest weight? When were you that weight?
- Have you ever tried to intentionally lose weight? How much? If you succeeded, did you ever regain it back? How much? Why was it regained?
- What weight loss strategies (diets, exercise programs, etc.) have you used?
- Do you have the same body type as anyone else in your family?

Context for Eating

- Who are the members of your household? Who does the food shopping and preparation?
- Do you share your meals with others? Who?
- Who participates in food choices and mealtime in your household?
- Are the other members of your household supportive of your efforts to make dietary changes?
- Where do you eat? (At the kitchen/dining room table, in front of the TV/computer, in the car, at your desk, etc.)

Mindful Awareness and Nutrition

- Sometimes hunger is physical, but it can also be emotional or mental. When you eat, what part of yourself are your feeding?
- Are you an emotional or stress eater?
- Are you conscious of your cravings? What do you tend to crave and when?
- What factors influence how you choose your food?
- Do you do other activities, like driving, working, or watching TV while you are eating?
- How do you feel after eating? Physically (e.g. satisfied, stuffed, still hungry)? Emotionally (e.g. content, guilty, angry)?

Nutrition and Symptoms

- Are there any foods that do not agree with you?
- Do you have any food allergies, intolerances or sensitivities that you are aware of? What reactions have you noticed?
- Do you think what you eat plays a role in how you are feeling?
- Have you noticed that what you eat and drink affect your sleep?
- Do you ever feel like particular foods cause you to have more or less pain?
- Do any foods give you heartburn, gas, bloating, diarrhea or constipation? How soon after eating these do you notice these symptoms?

Food Diaries

Food diaries can also be a powerful tool for gathering more information about Food and Drink. Having a person keep track of what they eat and drink can help you watch for certain patterns, and this can be done on paper, using web-based tools, or with apps.[9] Ideally, a food diary, kept over 3-5 days, can be useful. However, if that is not possible, doing a 24-hour food recall can also be of value. Assess *when* they eat, *what* they eat, and *how much* they eat. It can also help for people to describe how they were feeling as they ate as well as document times when they were physically active or asleep. Documenting any symptoms they notice (and when they have them) can also be helpful.

As you look over a completed food recall, consider each of the following as topics to ask them about:

- Overall calorie consumption and portion sizes
- Proportions of macronutrients—carbohydrates fats and proteins—they eat
- Number of servings of fruits, vegetables, and nuts they consume
- Omega-3 fat intake
- Fiber intake
- How often they eat out versus cooking for themselves
- How pro- or anti-inflammatory their diet is (This is discussed in more detail later in this chapter.)
- Meal frequency and timing. Are there any indications of skipped meals, nighttime eating, or binge eating? (There are a number of recent articles about binge-eating disorder.)[10]
- Length of time spent eating
- Whether they primarily eat alone or with others
- The degree to which they are eating mindfully. Are they doing other activities (watching TV, working at their desk) during their meals?
- Where they get their food. Do they have trouble affording good food? Do they live in a "food desert"?

Any of these questions could be a starting point for creating a PHP. It may not be practical to ask them all, but even asking one or two can bring awareness to ways to eat more healthily. The Resources section at the end of this chapter includes links to food diary forms and other resources that can help with Whole Health Assessment for Food and Drink.

The sheer number of suggestions you can make regarding nutrition can feel overwhelming. Take it step by step, and remember, any one suggestion is a step in the right direction. Most people do best making small, incremental changes.[11] Don't forget about having a dietitian as part of the team, especially if eating is a major stumbling block for someone.

Six Guidelines for Food & Drink

The following are some guidelines you can follow as you incorporate Food and Drink into personal health planning[12]:

- Guideline 1. Be Clear Right Away About Motivation to Change
- Guideline 2. Incorporate Mindful Eating
- Guideline 3. Be Realistic About Vitamins and Minerals
- Guideline 4. Be Able to Discuss Specific Eating Plans
- Guideline 5. Come Up with a List of Your Favorite Cookbooks, Recipes, and Cooking Websites
- Guideline 6. Develop a List of Your Favorite Eating Tips for Patients

Each of these is covered in more detail below.

1. Be Clear Right Away About Motivation to Change

You can ask people to rate the importance of making a Food and Drink change on a scale of 1-10. The Importance Scale is featured in Chapter 3. Most people do best if they focus on one change—one SMART goal—at a time. SMART goals are also discussed in Chapter 3. Examples of goals a person could consider include the following:

- Focus on a certain number of servings of fruits and vegetables each day. 7-10 servings is a good ultimate goal, but intake can be increased gradually. Starting with one more serving each day may be a good starting point.
- Change away from drinking sweetened sodas or other sugary drinks. Risk of type 2 diabetes increases by 18% for every additional sweetened beverage a person consumes each day.[13]
- Choose one high calorie (or otherwise unhealthy) food that may be eliminated or reduced (e.g. peanut butter, cheese, donuts, or a snack food like potato chips). We know that higher intakes of fast foods (e.g. donuts) can increase risks for chronic problems such as depression.[14]
- Discuss modifying their daily or weekly number of servings of red meat, alcohol, simple carbohydrates, etc.
- Increase fiber intake to recommended daily levels, as appropriate.
- Drink eight glasses of fluid (being careful about alcohol intake) daily.

Remember, you aren't doing this alone. Make use of your team. Specifically, if you are not a dietitian yourself, consider enlisting the help of a dietitian. Whole Health Coaches, if available, can also be incredibly helpful. And always—**always**—make the patient a part of

decision making. If you are working harder than they are to set and achieve a nutrition goal, check back with them about how important the change truly is to them.

2. Incorporate Mindful Eating

Chapter 4 introduces the concept of mindful awareness. There are many ways to cultivate it, and mindful eating can be a powerful tool. People can learn to pay more attention to their eating patterns and why they choose to eat what they do. They are encouraged to explore what "hunger" actually means and how it may or may not connect calorie needs, or cravings, or emotional states.

Systematic reviews related to mindful eating show that it has promise for helping people with binge eating[15] and other eating disorders.[16] It favorably influences food intake.[17] Mindfulness-Based Eating Awareness Training (MB-EAT) is offered with increasing frequency in health care organizations and has shown benefit for stabilizing glucose levels in people with type 2 diabetes.[18] Mindful eating is linked to decreases in depression symptoms.[19] A 2018 review concluded that mindfulness-based interventions are effective for reducing weight and changing behaviors in people who are overweight or obese.[20] Canada's national Food Guide now recommends mindful eating.[21]

Examples of mindful eating practices can include the following:

- Carefully observe each phase of eating. This includes noting the appearance, smell, and texture of the food, bringing it slowly to the mouth, and slowly chewing it and swallowing while paying close attention to taste. It may also include considering where the food came from, or feeling gratitude for everyone who helped to produce it.
- Chew a certain number of times with each bite. A 2019 study found that specific chewing training had a strong positive effect on energy intake and enjoyment of eating.[22]
- Limit other activities while eating. This could mean not watching TV or reading while eating, or being sure to be seated comfortably at a table during a meal.
- Experiment with eating in complete silence.

Mindful eating resources are listed at the end of this chapter. The following Whole Health tool is an example of a mindful eating exercise.

Whole Health Tool: Mindful Eating Exercise

Eating has far-reaching health consequences for individuals, societies, and the planet. These consequences can be positive or negative depending on our patterns and choices. The following exercise can help you to bring more awareness to your eating behaviors, while helping you to cultivate present-moment awareness. It requires that you have a food of your choice.

1. Sit comfortably, facing your food.

2. Minimize distractions. Avoid screens (e.g. phone, computer, television), background noise, printed materials, and other stimuli.

3. Note your internal state.

    - Do you feel hungry? Thirsty?
    - What is your emotional state—happy, sad, angry, frustrated, anxious, exhausted, energized, or neutral?

4. Look at what is on the table in front of you. Try not to label it as anything specific; rather, ask questions:

    - How does it look? Is the color bright, dull, varied, or uniform?
    - Does it appear hot, warm, or cold?
    - Does it appear dry or moist?
    - Do you detect an aroma from the food? How would you describe this aroma?

5. Take the first bite.

6. Put down whatever is in your hand—the food and/or your utensil. Note preliminary aspects of your experience with this first bite of food, including:

    - Temperature. Frozen, cold, cool, warm, hot, or super-hot?
    - Texture. Is it soft, firm, chewy, creamy, brittle, light, or dense?
    - Flavor. Is it mild, bland, sour, sweet, savory, salty, spicy, pungent, or rich?
    - Intensity. Mild, moderate, or extreme?

7. Take the first swallow.

    - Is the food easy or difficult to swallow?
    - How does this food feel passing from the mouth, to the esophagus, to the stomach?

8. Now take the next bite. With each subsequent bite, consider your ongoing experience with this food.

    - Continue to note the temperature, texture, flavor, and intensity.

- How does this food feel in your stomach?
- How do you feel, looking at the remainder of your portion?
- At what point do you begin to feel full? At what point do you feel that your hunger is entirely satisfied by this food?
- At what point do you decide to stop eating this food?

9. After eating, note how you feel.

    - Do you feel hungry, thirsty, satisfied, full, or overly full?
    - What is your emotional state? Did your emotional state influence your eating in this exercise?

10. Close your eating activity with a deep breath before moving on with your day.

Eating with this degree of attention to your experience may initially seem cumbersome or frustrating, but with time you will appreciate a richer, more satisfying eating experience.

3. Be Realistic About Vitamins and Minerals

People tend to assume they need to take multivitamin and mineral supplements and that these are beneficial. Some groups may, in fact, need specific nutrients to be supplemented. For instance:

- People who eat limited amounts of animal protein (e.g. vegetarians and especially vegans) may need to supplement vitamin B12.
- Some people—especially women who menstruate heavily—may need iron.
- Prenatal vitamins can be very important for expectant mothers.
- A recent study found that people who are obese tend to be more deficient in fat-soluble vitamins, folic acid, B12, and vitamin C than those who are normal weight.[23]
- Community-dwelling older adults may be at risk for deficiencies of vitamin D, B1 (thiamine), B2 (riboflavin), calcium, magnesium, and selenium.[24]

However, there is limited data to show that vitamin and mineral supplements make a difference for the considerable majority of people.[25] A 2019 study using National Health and Nutrition Examination Survey data found no indication that dietary supplement use provided a mortality benefit.[26] Large-scale studies have not found an association between multivitamin use and mortality from all causes, cancer, or cardiovascular disease.[27] Most recommendations favor getting vitamins and minerals from foods whenever possible. The role of these various chemical compounds in various chemical pathways cannot be understated; they are vital for immune system regulation, production of various signaling molecules, brain function, regulation of pain, and any number of other physiological functions that are fundamental to good health. We know that they play key roles in healthy genetic expression as well; for example, they help to preserve telomere length, which correlates with better overall health and longevity.[28]

4. Be Able to Discuss Specific Eating Plans

One of the most common questions that might arise during a Whole Health visit is, "So, what diet should I follow?" This is not an easy question to answer. In general, a simple answer is that any eating plan that is reasonable in terms of calorie content and nutritional quality may prove helpful. (Note that many dietitians and other clinicians prefer to use "eating plan" instead of "diet," because the word "diet" has so many negative associations for people). The key is that a person must be consistent with following the plan; adherence is key. How well a person sticks to an approach to eating may be as important as the specifics of how they eat.[29] A 2014 study concluded, "Head to head randomized controlled trials, providing the most robust evidence available, demonstrated that Atkins, Weight Watchers, and Zone achieved modest and similar long-term weight loss. Despite millions of dollars spent on popular commercial diets, data are conflicting and insufficient to identify one popular diet as being more beneficial than the others."[30]

As far as commercial weight-loss programs, a 2015 study reviewed 45 studies to see what programs were supported in the research up to that point.[31] Weight Watchers and Jenny

Craig programs were found to lead to an average of 2.6% and 4.9% of weight loss, in studies that were at least 12 weeks long. Nutrisystem was also found to be promising.

A 2017 systematic review involving over 1.5 million participants focused on how much different eating plans affected risk for developing type 2 diabetes.[32] Relative risk of diabetes was 0.87 for people eating a Mediterranean eating plan, 0.79 for those using the Alternate Healthy Eating Index, and 0.81 for Dietary Approaches to Stop Hypertension (DASH).

It can be helpful to know where you can go to learn about the hundreds of different "fad" diets that come in and out of popularity. Some resources to help with that are listed at the end of this chapter.

In terms of recommending specific diets for Whole Health it is perhaps best, in the spirit of personalizing care, to explore with each individual patient what approach to eating might work best for him or her. Here are a few specific eating plans worth considering. They are referred to here as "diets" because that term is used for them in the medical literature. Check at your local facility to see what diets have been formally approved by NFS.

Mediterranean Diet

The Mediterranean Diet (MD) features[33]:

- High consumption of fruits and vegetables
- Monounsaturated fats (mainly from olive oil)
- Whole grains and nuts
- Moderate intake of poultry, fish, and dairy with minimal consumption of red meat
- Good intake of water and moderate amounts of wine
- Cooking and eating at a leisurely pace, in the company of others

Despite some recent questions around methodology of an important 2013 study,[34] the MD has been linked to good overall health since it was first studied in the 1950s.[35] Data continues to come in regarding many of its favorable effects, which include the following:

- Similar weight loss and cardiovascular risk benefits to other popular diets, including the American Diabetes Association diet, low-fat diets, and low-carbohydrate diets.[33] 2019 Cochrane review noted that currently the data for a "modest benefit" is "low or moderate"[36]
- Reduced incidence of cardiovascular syndromes, neurodegenerative diseases, type 2 diabetes, and allergy[37]
- More healthy populations of microbes in the gut[37]
- Reversal of age-related cognitive decline[38]
- Decreased cancer risk. It lowers risk of overall cancer mortality by 10%, colorectal cancer 14%, prostate cancer 4%, and aerodigestive (e.g. mouth, pharynx, larynx) cancers 56%[39,40]

The MD is, in essence, an anti-inflammatory diet. The same is true for the Nordic Prudent diet, which is sort of the Baltic Sea/Scandinavian equivalent of the MD.[41]

The Anti-Inflammatory Diet and Elimination Diets

The Anti-Inflammatory Diet (AID) is one of the most commonly used tools in Integrative Health practices. Eliminating problematic foods can also be helpful. *Note that both of these are not formal eating plans per se, but overall approaches to eating that can be tailored to individual needs, when appropriate.*

Whole Health Tool: The Anti-Inflammatory Diet

What Is It?

The Anti-Inflammatory Diet (AID) is a general name for an approach to eating that is intended to decrease inflammation (and related pain).[42] It can have an impact on a number of chronic diseases, including asthma, arthritis, hypertension, COPD, diabetes, cardiovascular disease, peripheral arterial disease, obesity, irritable bowel disease (IBD), nonalchoholic fatty liver disease, cancer, dementia, psoriasis, and depression,[43] to name a few.

How It Works

- Certain essential fatty acids, including omega-6s and omega-3s, are used by the body to produce eicosanoids (e.g. prostaglandins and leukotrienes, and thromboxanes). Most omega-6s lead to the production of pro-inflammatory compounds (e.g. PGE2 and LT2) and omega-3s to less inflammatory ones (e.g. PGE1, PGE3, and LTB5).
- Omega-3 fats, which are anti-inflammatory, alter gene expression and cell receptor signaling.
- Certain foods have more antioxidant effects. They are less likely to create free radicals, and they are linked to lower C-reactive protein (CRP) levels.
- Maintaining a healthy glycemic index/load keeps CRP levels down.
- A healthy gut microbiome seems to be linked to lower levels of inflammation.

How to Use It

Key recommendations for eating an AID include the following[43]:

- **Keep non-fish animal fat intake low**. They contain arachidonic acid, which is pro-inflammatory and increases clotting, vasoconstriction, and vasospasm. Wild sources of meat seem to be better than farm-raised ones. Visible fat should be trimmed off cuts of meat.
- **Eat more fish**. Tilapia, anchovies, and wild salmon are safe options, whereas fish higher up the food chain, like sharks, swordfish, and golden bass are less ideal because of mercury levels. Aim for 2-3 servings of fatty, cold-water fish weekly.
- **Limit omega-6 fats** such as corn, soy and vegetable oil. Coconut oil that hasn't been hydrogenated is probably okay, because it contains a lot of medium-chain fatty acids that the liver readily absorbs. Extra virgin olive oil is a healthy choice.
- **Eat more omega-3s**. Go for 1-2 grams of docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA) daily. Omega-3 eggs are an option. 1 gram of fish oil has about 0.5-1 gram of combined omega-3s, so a standard dose of fish oil is 3-4 grams daily. To treat inflammatory conditions, consider 4-5 grams of fish oil daily.
- Keep **vegetable and fruit intake** high. This is correlated to lower levels of inflammatory markers. Remember that corn and potatoes really don't count as vegetables.
- Eating **whole grains** is linked to lower CRP levels.
- Eating dietary **fiber** slows digestion and can reduce inflammation—go for at least 22 grams daily.

- Eating **legumes**, 4 servings per week, has been found to reduce CRP.
- Eating 5 or more servings of **nuts and seeds** weekly also lowers inflammatory markers.
- Eat anti-inflammatory **herbs and spices**. Examples include turmeric, rosemary, ginger, oregano, clove, cumin, cayenne, and boswellia.
- **Don't char food**, as charring is linked to inflammation (especially meat).
- Pay attention to **glycemic load** (discussed in the "Glycemic Index" tool).
- **Avoid obesity**, which is in and of itself an inflammatory state. Even with healthy eating, portion size should be controlled.
- Ensure adequate **magnesium** intake (6 mg/kg daily) from foods like spinach, peanuts, almonds, quinoa, mackerel, avocados, and brown rice.

The Mediterranean and Okinawan diets are excellent examples of AIDs.

When to Use It

AIDs can be used in any chronic disease where inflammation is a component. Key examples with good associated research include[43]:

- Coronary heart disease
- Type 2 diabetes
- Rheumatoid arthritis and other autoimmune diseases
- Chronic obstructive pulmonary disease
- Alzheimer's
- Inflammatory bowel disease
- Allergies and asthma (including eczema)
- Cancer
- Depression (people with severe depression are especially likely to improve)

What to Watch Out for (Harms)

- This diet is quite safe.
- Remind people that inflammation isn't all bad. We need it, just not chronically and not in excess. The goal is to decrease "meta-inflammation," the chronic, low grade damaging processes that use the same pathways as acute inflammation. In acute illness, fevers, swelling, and activation of the immune system are important to our health. It is not helpful to completely eliminate omega-6 fats.
- You may be asked to check levels of omega-3 fats. Most clinicians will have people try the diet first and only consider more investigations if it is not effective over time. People need not have an elevated sedimentation rate or C-reactive protein to benefit.

Tips from Your Whole Health Colleagues

- The AID can take a while to be effective. Patients should try it for at least 6 weeks, if not longer.

- The AID is part of an anti-inflammatory lifestyle that includes many different aspects of good self-care. Be sure to complement an AID with other ways to lower inflammation, such as the following:
    - Limit alcohol.
    - Balance glucose levels, so that there aren't large insulin spikes (insulin is pro-inflammatory).
    - Ensure adequate sleep.
    - Keep stress levels low.
    - Stay active.
    - Maintain a healthy mix of gut microorganisms. Refer to Whole Health tool: "A Healthy Microbiome," later in this chapter.
- Many people assume they can just eat or supplement with alpha-linolenic acid (ALA), not to be confused with the other ALA, alpha-lipoic acid. ALA is found in flax oil. Less than 1% of it is converted into DHA and EPA, which are needed for the anti-inflammatory effect.
- For vegetarians, there are algae-derived omega-3 supplements available.

Whole Health Tool: Eliminating Problematic Foods [44]

What Is It?

Elimination diets (EDs) involve the strategic removal of a specific food or foods from the diet in an attempt to reduce a given set of symptoms. An ED is not one specific eating plan; different approaches are used for different people. Like drugs, foods can have both helpful and harmful effects. There are a number of different elimination diets in use. One that has gained currency in recent years is the low FODMaP diet, particularly for people with irritable bowel and other functional bowel problems (refer to "The Low FODMaP Diet" for more information). It involves avoiding various types of sugars that give the diet its name, including **f**ementable **o**ligo-, **d**i- and **m**onosaccharides **a**nd **p**olyols. Examples of the large number of foods eliminated in a FODMaP diet include various dairy products, foods that contain fructose (e.g. honey, apples, corn syrups), and certain grains (e.g. wheat, rye). Some vegetables, including onions and garlic, are also avoided.

How Elimination Diets Work

A person may develop intolerance to a particular food. This may be tied to a known structural or functional issue, such as lactose intolerance or celiac disease, but it may also be due to other, less clearly-defined, mechanisms. Intolerance can involve an IgE-mediated response or an accumulation of eosinophils, or it may be due to IgG, pseudo-allergies, cross-allergies, psychogenic effects, or other mechanisms.

Inflammation of the lining of the gut can be caused by food intolerances, disruptions in the microbiome, and other processes. It is thought to allow for increased permeability in the gut. If larger molecules are able to enter the bloodstream, immune responses and inflammation, with all their secondary effects, can occur.

How to Use Elimination Diets

There are four steps to an elimination diet.

1. **The Planning Phase**. It helps to use a food diary/log to explore the relationship between foods and symptoms. It details which foods are eaten, as well as symptom timing. Comfort foods and highly-craved foods are often the very foods that should be removed first. Work with the patient to create a list of potential culprits. Common ones include gluten, dairy, eggs, soy, citrus, fish, peanuts and/or tree nuts, shellfish, and food additives like the sweetener aspartame.

2. **The Avoidance Phase**. People may just choose to eliminate one food or food group, or (with appropriate guidance) they may remove a number of foods at once and then add one food back every so often. How long to eliminate is controversial, but try for at least 10 days, if not for 2-4 weeks. In some cases, people find it can take several days for the symptoms to improve; they may even describe low-level withdrawal symptoms, or a brief worsening of symptoms, after first stopping a food. It is important to avoid even the smallest amount of the food during this time. For example, if they eliminate dairy, have them stay off of all casein and whey-containing foods too. Label reading is key.

3. **The Challenge Phase**. Next, if symptoms decrease, it is important to re-introduce the food to verify whether or not symptoms recur. In essence, this equivalent to doing an "n of 1" trial. If symptoms come back, one can be fairly sure there is a link with eating the food in question. Add the food back in a small quantity at one meal, then in a larger quantity the next one. If multiple foods have been eliminated, and symptoms don't recur after a day of adding a specific food (or food group) back, it is still recommended to go back off it while the other foods that have been eliminated have also been tested.

4. **The Long-Term Plan**. It is reasonable to stay off the food for 3-6 months. Sometimes people will become tolerant of an eliminated food after a period of time.

When to Use It

The list of potential indications for EDs is huge.[45] Consider it for chronic conditions, where symptoms are fairly frequent and not likely to spontaneously improve on their own. Use it with people who have the financial (and emotional) resources to make shifts in their diet without too much difficulty. Fatigue, irritable bowel syndrome (IBS), inflammatory bowel disease (IBD), allergic symptoms, chronic sinusitis, rheumatoid arthritis, ADHD, gout, rheumatoid arthritis, chronic pelvic pain, asthma, autism, gastroesophageal reflux disease (GERD), migraine headaches, and numerous other health conditions often respond well. Consider it with autoimmune problems, arthritis, and pain of unknown cause as well.

What to Watch Out for (Harms)

- Never reintroduce a food that has previously caused an anaphylactic reaction.
- Use caution in people with eating disorders.
- Pay close attention to weight loss and gain.
- Ensure people are keeping their nutrition balanced. Are nutrient needs being met?
- Take care that people don't overeat other foods to compensate for the groups they have eliminated.

Tips from Your Whole Health Colleagues

- Some patients will ask about lab testing for food intolerances. There are a number of private labs that provide these services. Most of them test for Immunoglobulin G (IgG) reactions to particular foods; many also test for IgE. Insurance rarely covers this testing, but many clinicians find it to be useful if initial ED trials have not clearly pointed toward a specific food or group of foods.
- Remember that some people may be bothered by more than one food group. If removing one food helps somewhat but not fully, consider elimination of other foods or food groups as well.
- Experience on the part of Integrative Health clinicians is markedly favorable when it comes to EDs.
- Combine EDs with approaches to promote a healthy microbiome (refer to the "Healthy Microbiome" Whole Health tool later in this chapter for more information).
- Some disorders seem to be affected by specific foods. Try dairy elimination for sinusitis. Headaches are often linked to distinct groups of foods as well.

5. Come Up with a List of Favorite Cookbooks, Recipes, and Cooking Websites

Refer to the Resources section at the end of this chapter for some suggestions regarding cookbooks, recipes and websites that offer guidance around healthy eating, while respecting a person's budget.

6. Develop a List of Your Favorite Eating Tips for Patients

In addition to following one or more of the guidelines listed above, another option for the Food and Drink portion of a PHP is to choose one specific eating tip with the patient and focus on it for a set period of time. Here is a brief overview of 10 Whole Health Eating Tips. You can cover one or more tip, depending on each patient's interest and motivation. Remember, many people will be more successful if they make one SMART Goal-based change at a time. The eating tips covered in the rest of this chapter (by no means an all-inclusive list) include[12]:

- Whole Health Eating Tip #1: Pay Attention to Calories
- Whole Health Eating Tip #2: Be Careful with Eating Out and Eating Fast Food
- Whole Health Eating Tip #3: Eat Fruits and Vegetables
- Whole Health Eating Tip #4: Eat Healthy Carbohydrates
- Whole Health Eating Tip #5: Keep Glycemic Index and Load in Mind
- Whole Health Eating Tip #6: Choose Healthy Fats
- Whole Health Eating Tip #7: Eat Healthy Sources of Protein
- Whole Health Eating Tip #8: Eat Adequate (Not Excessive) Amounts of Nuts
- Whole Health Eating Tip #9: Choose Healthy Beverages
- Whole Health Eating Tip #10: Remember the Context of Each Meal
- Whole Health Eating Tip #11: Eat in a Way that Keeps Your Microbiome Healthy

Whole Health Eating Tip #1: Pay attention to calories

Cutting back on calories to 500 a day below an amount that maintains weight should lead to a weight loss of roughly a pound a week (though exactly how many calories are actually in a pound is actually a subject of some debate). It can be a hassle to do strict calorie counts, but it can help to remind people of how many calories they need daily to maintain their weight. Keep in mind that it is not just the number of calories, but also the form they are in when a person consumes them (i.e. what specific foods they eat). Table 8-1, below, is a simple guide for calculating caloric needs.

A number of websites and phone apps can assist with calorie counting. Refer to the Resources section at the end of this chapter for some suggestions. There are diets that encourage people to fast for brief periods (intermittent fasting), and some research finds this is helpful (though more studies are needed).[46,47] Animal studies indicate intermittent fasting delays aging, improves cognition, changes microbiome and reduces oxidative stress.[48]

Table 8-1. Calculating Caloric Needs by Weight and Activity Level

Lifestyle	To calculate daily calorie needs, Multiply current body weight by this factor	
	Pounds	**Kilograms**
Confined to bed	12	20
Sedentary	13	25
Moderately active	15	30
Very active	17	30
Athlete in training	20	40-45
For example, a moderately active person who weighs 150 pounds would want to eat 150x15= 2,250 calories to maintain body weight.		

Whole Health Eating Tip #2: Be Careful With Eating Out and Eating Fast Food

People who eat away from their homes are at much higher risk of eating more calories and unhealthy fats. Overall intake of some nutrients also decreases.[49] Most studies find a link between the intake of ultra-processed foods (the kind that is usually sold in fast food restaurants) and obesity, cholesterol levels, glucose levels, blood pressure, and metabolic syndrome.[50] Talk with patients about how often they eat out. Encourage them to eat more self-prepared meals, if this is possible. Negotiate with them about a maximum number of meals to eat out weekly, and discuss healthy options.

Whole Health Eating Tip #3: Eat Fruits and Vegetables

Fruit and vegetable consumption decreases mortality in general, and it specifically reduces deaths due to cardiovascular disease. A 2014 systematic review found that risk of death from all causes dropped by 5% and 6%, respectively, for each serving of vegetables or fruits a person eats daily.[51] The benefits started to diminish once people reached more than 5 daily servings of fruits and veggies combined. A 2017 meta-analysis/systematic review found that a graded improvement in risk from cardiovascular disease, cancer, and all-cause mortality.[52] Increased fruit and vegetable intake is also linked to reduced cognitive impairment risk[53] and is protective against depression.[54]

Remind people that corn and potatoes are not really vegetables so much as grains/starches. Green leafy vegetables contain multiple nutrients, including indole-3 carbinol, which facilitates removal of cancer-causing chemicals by the liver. Red, orange, and yellow vegetables also contain carotenoids, which have numerous health benefits. Eating a rainbow of colors of foods (let cauliflower be the white food that is eaten, in place of starches) can be a simple way to vary the types of fruits and vegetables one eats.

Whole Health Eating Tip #4: Eat Healthy Carbohydrates

The National Research Council recommends that people eat 45-65% of calories from carbohydrates, keeping added sugars below 25% of calories.[55] There is some debate about the relative proportion of carbohydrates a person should eat. The PURE study, which included over 135,000 people, found that higher carbohydrate intake is associated with an increased mortality risk, but want found to be linked to cardiovascular disease risk or mortality.[56] Encourage patients not to eat too many simple sugars (e.g. processed foods, or foods that are "white" like donuts, plain bagels, and white bread). In plant-based foods, 90-95% of the calories come from carbohydrates. Carbohydrates are absorbed more slowly and blood glucose levels stay lower if multiple small meals are eaten, rather than just a few large ones.[57]

Fructose. Fructose is a simple sugar found in fruit, honey, and some vegetables. It is closely related to high fructose corn syrup (HFCS), which contains both fructose and sucrose (table sugar). In small quantities, fructose alone can decrease blood sugars.[58] However, most Americans consume 40 grams of fructose a day, mostly as HFCS. This has been linked to metabolic syndrome and increased cardiac risk,[59,60] as well as salt-sensitive hypertension,[61] and fatty liver disease.[62]

Fiber. Fiber refers to carbohydrates that are eaten but do not break down into sugars the gut can absorb. Most fiber travels all the way through the intestinal tract, serving a number of purposes as it does so. Fiber helps with bowel movements, controls cholesterol levels, prevents insulin resistance (and type 2 diabetes), reduces cardiovascular disease risk, and supports a healthy gut microbiome (the bacteria that live in the gut).[12] People with a high fiber intake, compared to those with poor fiber intake, have a 77% lower risk for all-cause mortality.[63] Fiber intake is protective against colon cancer,[64] pancreatic cancer,[65] ovarian cancer,[66] cardiovascular disease,[65] and stroke.[67] The most beneficial fibers are those from cereals and whole foods.

Most American adults eat insufficient fiber (about 15 grams daily) but the Institute of Medicine recommends that women get 25 grams daily, and men 38. Good sources of fiber include[68]:

- Apples
- Asparagus
- Bananas
- Beans
- Blueberries
- Broccoli
- Cabbage
- Carrots
- Corn
- Green, leafy vegetables
- Mangoes
- Nuts
- Oranges
- Peas
- Popcorn
- Potatoes with skin
- Pumpkins
- Raisins
- Strawberries
- Whole wheat pasta

There are two types of fiber. Soluble fiber is found in many foods, including apples, beans, blueberries, lentils, nuts, oatmeal, pears, peas, psyllium, and strawberries. It helps with cholesterol and blood sugar control. Insoluble fiber helps with diverticular disease and constipation. It is found in couscous, barley, whole grains, brown rice, wheat bran, nuts, seeds, carrots, cucumbers and many of the other foods listed above.

Whole Health Eating Tip # 5: Keep Glycemic Index and Load in Mind[12]

Rather than getting caught up in whether or not a carbohydrate is simple or complex, it may be best to focus on glycemic index (GI) and glycemic load (GL). These measures take into account how much glucose a food releases into the blood. Glycemic index (GI) compares how much a particular food that contains 50 grams of carbohydrates will raise blood glucose levels 2 hours after eating, relative to an equivalent amount of glucose (or white bread). The problem with the GI is that different foods have different amounts of carbohydrate by weight. For example, in order to get 50 grams of carbohydrates from carrots, you would have to eat at least 5 cups of them. To allow for more realistic comparisons, GL is used instead. GLs account for serving size.[69]

A large 2014 study found that the quintile of patients with the highest food measures of GI and GL had a 33% higher risk of developing the type 2 diabetes.[70] Low-GI diets have been found to be more effected in controlling A1C and fasting blood glucose levels versus higher-GI diets.[71] There is also a correlation between high-GL diet and ischemic stroke risk, obesity, and chronic inflammation.12 A 2008 meta-analysis found that high GI and GL diets correlated with higher risks of certain cancers, including colon and ovarian cancer (but not pancreatic or breast cancers),[72] and low GI/GL diets lowered gall bladder and coronary artery disease risk.[73] Low GI diets also seem to favorably affect blood pressure.[74] A few recent studies have questioned if these measures are the best for looking at disease risk or outcomes,[75] but it has been found to be useful for many people. Glycemic index/load resources are featured in the Resources section at the end of this chapter.

Whole Health Eating Tip #6: Choose Healthy Fats

While this is controversial, some experts suggest that 20-35% of calories should come from fat.55 For years, we were discouraged from eating fat, and the fat-free foods market boomed. Unfortunately, this eating pattern did not help people to sustainably lose weight.[76] The PURE study (a multi-country study of over 135,500 people) surprised many people when it found that "intake of total fat and each type of fat was associated with a lower risk of total mortality."[56] There are several categories of fats that include the following[43]:

- **Saturated** fats do not have double bonds. They are solid at room temperature. Examples are butter, coconut oil, and palm oils. While there is discussion that coconut oil might have some unique properties, most saturated fats are best avoided.
- **Monounsaturated** fats are liquid at room temperature. They are found in olive, canola, and peanut oils, as well as in avocados. They tend to be a healthy choice.
- **Trans fats** are the unhealthiest fat choice of all. In many countries, they are now banned as food ingredients. They are fats that have been chemically manipulated so that they will have a longer shelf life. Avoid them entirely, if possible. This requires looking at ingredient lists, because a food can contain small amounts of trans fats and manufacturers can still technically be able to round down to "0" for trans fats per serving when they list contents on the food's label.
- **Polyunsaturated** fatty acids (PUFAs) are liquid at room temperature. Our bodies cannot synthesize linoleic (omega-6) or linolenic (omega-3) acids, so they must be

obtained in the diet by eating dark leafy greens, purslane, or meat from animals that were fed diets rich in PUFAs. Omega-3s are found in deep-sea fish, like salmon and sardines, as well as in walnuts.

Omega-3s are PUFAs that deserve special mention. They are precursors to anti-inflammatory compounds in the body, but they tend to be eaten in less-than-desired quantities in the American diet. Omega-3s are discussed in the "Anti-Inflammatory Diet" Whole Health tool, earlier in this chapter.

Whole Health Eating Tip #7: Eat Healthy Sources of Protein

Roughly 10-35% of calories should come from protein, according to many expert sources.[77] For adults, the recommendation is 0.8 grams of protein per kilogram of body weight. 2 or 3 servings a day is sufficient, but most Americans eat more protein than is necessary (an average of 100 grams daily).[77] It is recommended to eat animal proteins in moderation, as meats commonly contain saturated fats, which may have negative health effects. A 2019 trial questioned whether white meat was superior to red for preventing cardiovascular disease.[78] Protein leads to more satiety than carbohydrates or fats. Encourage people to vary their protein sources to get all their essential amino acids. Meats, beans, lentils, rice, grains, egg whites, soy, and mushrooms all contain a good variety. It is often proteins that seem to trigger not only food allergies, but also food intolerances. Refer to the "Elimination Diet" Whole Health tool (earlier in this chapter) for more information.

Whole Health Eating Tip #8: Eat Adequate (Not Excessive) Amounts of Nuts

Eating a handful of nuts daily (not a canful, because they are high in calories) has been found to have health benefits in increasing numbers of studies. A 2016 systematic review and meta-analysis concluded that higher nut consumption is associated with lower risk of all-cause mortality, total cardiovascular disease, cardiovascular disease mortality, and sudden cardiac death.[79] Nut consumption also lowered systolic blood pressure, especially eating pistachios.[80] Nut consumption is also linked to lower cancer mortality.[81]

Whole Health Eating Tip #9: Choose Healthy Beverages

21% of our caloric intake comes in the form of beverages.[82] Cutting out soda, sweetened tea or coffee, juice, alcohol, energy drinks, smoothies, and milk—and replacing them with water—can markedly decrease calorie intake. Always ask how much alcohol and caffeine a person consumes as well. Keep in mind that many sweetened beverages contain HFCS, the effects of which are discussed above (Tip #1). More resources related to beverages are listed at the end of this chapter.

Whole Health Eating Tip #10: Remember the Context of Each Meal

In addition to what a person eats, there are many other factors that are linked to how Food and Drink influence health. Examples include the following:

- Access. Does a person live in a food desert? Do they experience food insecurity?
- Food safety. Does the person eat whole foods, or processed foods? How many pesticides are they taking in when they eat?

- Culture and nutrition. How do a person's ethnicity, religious beliefs, family of origin, geographical location, or other factors influence their dietary patterns?
- Context of meals. Food psychology has demonstrated that glass size, plate size and color, number of foods offered during a meal, how many people eat together, and even the speed of the slowest eater at the table can influence our eating patterns.[83]

Whole Health Eating Tip #11: Eat in a Way that Keeps Your Microbiome Healthy
Last but not least, do not forget about probiotics and their potential role. What follows is a tool to guide you if you choose to incorporate probiotics into a PHP.

Whole Health Tool: A Healthy Microbiome: The Role of Probiotics [84,85]

What Is the Microbiome?

Trillions of microorganisms—mostly bacteria, and over 30,000 different species—live in the human gut. Which ones live there can have a marked effect on health. You can support a healthy microbiome through your diet as well as by taking various dietary supplements.

Probiotics are living organisms that offer benefits to their host. Prebiotics are the food they need to survive, and postbiotics are their metabolic byproducts (which can include vitamins and other nutrients). They are usually identified by their species. Common examples include *Lactobacillus acidophilus* and *Bifidobacterium bovum*.

How It Works

New roles for the gut microbiome are being discovered all the time. Some of the roles we know of so far include direct DNA signaling, vitamin production, interacting with the immune system, protecting the gut from attachment of harmful microbes, impeding the growth of harmful organisms, and modulating central nervous system function.

In order to be effective, probiotic foods and supplements should actually contain organisms that can survive exposure to the stomach acid and bile, and they should be able to effectively colonize once they reach the appropriate part of the gastrointestinal (GI) tract.

How to Use Probiotic Foods and Supplements

Nutrition and the Microbiome. Diets high in fiber, vegetables, and fruits are the best at helping the gut keep a healthy mix of microbes. Avoiding red meat and animal fats is also helpful. Common probiotic foods clinicians can encourage patients to eat include yogurt, milk (if not overly pasteurized), kefir, kombucha tea, sauerkraut, miso and tempeh (forms of soy), and pickles. Frozen foods tend not to have viable bacteria.

Probiotic Supplements. Capsules containing beneficial organisms are dosed based on colony forming units (CFUs). These are normally dosed in powers of 10. Standard doses are 1 billion (10^9) CFUs, or 10 billion (10^{10}) once or twice a day. There are many brands available, and some of them contain specially patented mixtures or species.

Some of the most-researched strains of probiotics include:

- *B. bifidum* Malyoth strain
- *B. longum*
- *Bifidobacterium lactis* BB12 (abbreviated as *B. lactis* BB12)
- *Lactobacillus acidophilus* DDS1 (abbreviated as *L. acidophilus* DDS1)
- *L. acidophilus* NAS
- *L. bulgaricus* LB-51
- *L. gasseri*
- *L. plantarum*
- *Lactobacillus rhamnosus* GG (available as the brand Culturelle)

- *Saccharomyces boulardii*—this is a yeast found to have several benefits. Keep it in mind for recurrent *Clostridium difficile* ("*C. Diff*") colitis and inflammatory bowel disorders.

Have patients take probiotics on an empty stomach, and if they are taking an antibiotic, separate them by two hours. If they are heat-dried, they should be kept in the fridge, but if they are lyophilized, they can be kept at room temperature. It is unclear how long they should be taken, but 2 weeks to 2 months is typical, or longer if people have chronic conditions such as Crohn's or irritable bowel syndrome (IBS).

When to Use Probiotics[84]

Antibiotics, bowel preps, proton pump inhibitors, and exposure to pathogens (e.g., viral gastroenteritis) can all alter bowel flora. Many Integrative Health clinicians will use probiotics whenever they prescribe antibiotics or anytime a person has had an infectious gastrointestinal illness. They also seem to reduce inflammation, so they should be considered in any inflammatory process. Other indications include vulvovaginal candidiasis, eczema, IBS, respiratory infections, prevention of traveler's diarrhea, and augmentation of *H. pylori* treatment.

What to Watch Out for (Harms)

Probiotics tend to be quite safe. There are a few case reports about them translocating into the bloodstream to cause abscesses, or infecting people with severe immunocompromise. Untested strains should not be used, nor should strains that are usually classed as pathogens. One study found negative outcomes in patients who were given probiotics when they had severe acute pancreatitis.

Tips from Your Whole Health Colleagues

- A number of clinicians report that the probiotic yeast, *Saccharomyces boulardii*, can also be helpful.
- While more studies are needed, research indicates that the microbiome affects brain function[86] and emotional states.[87] Research into psychobiotics is showing promise.[88,89] More studies are needed, but a 2019 study found that probiotics have significant therapeutic effects for people with depression.[90]
- There is a connection between gut flora and obesity as well.[91]
- *Lactobacilli* tend to do more in the upper GI tract. *Bifidobacteria* are more likely to affect the colon.

Food & Drink Resources

Websites

VA Whole Health Website

- Components of Health and Well-Being Video Series, "A Patient Centered Approach To: Food and Drink." https://www.youtube.com/watch?v=Xa6-dyaFddo&feature=youtu.be
- Whole Health Veteran Handouts
  https://www.va.gov/WHOLEHEALTH/veteran-handouts/index.asp
  - An Introduction to Food and Drink for Whole Health
  - Carbohydrates and Your Health—Glycemic Index, Glycemic Load, and Blood Sugars
  - Deciding How to be a Healthier Eater
  - Eating to Reduce Inflammation
  - Healthy Tips on Eating Out and Grocery Shopping
  - Mindful Eating
  - How a Healthy Gut Makes for a Healthier You
  - Probiotics for Specific Conditions
  - How to Eat a Mediterranean Diet
  - Using an Elimination Diet to Help Learn if Certain Foods are Making You Sick
  - Eating to Reduce Irritable Bowel Symptoms: The FODMaP Diet
  - Whole Health Food, Drink, Activity and Symptom Log

Whole Health Library Website

- Course materials for *Eating for Whole Health: Functional Approaches to Food and Drink.* Includes PowerPoints, course manual, and list of resources from course faculty.
  https://wholehealth.wisc.edu/courses/eating-for-whole-health/
- "Food and Drink" overview
  https://wholehealth.wisc.edu/overviews/food-drink
- "What We Drink"
  https://wholehealth.wisc.edu/tools/what-we-drink
- "Choosing A Diet"
  https://wholehealth.wisc.edu/tools/choosing-a-diet
- "Food Safety"
  https://wholehealth.wisc.edu/tools/food-safety
- "Promoting a Healthy Microbiome with Food and Probiotics"
  https://wholehealth.wisc.edu/tools/promoting-healthy-microbiome-with-food-probiotics
- "Elimination Diets"
  https://wholehealth.wisc.edu/tools/elimination-diets
- "The Low FODMaP Diet"
  https://wholehealth.wisc.edu/tools/fodmap-diet
- "Achieving a Healthy Weight"
  https://wholehealth.wisc.edu/tools/achieving-healthy-weight

- "Glycemic Index" https://wholehealth.wisc.edu/tools/glycemic-index
- "Understanding Sweeteners" https://wholehealth.wisc.edu/tools/understanding-sweeteners
- "The DASH Diet" https://wholehealth.wisc.edu/tools/dash-diet
- Whole Health for Skill Building: Food & Drink https://wholehealth.wisc.edu/courses/whole-health-skill-building/
    - Faculty Guide
    - Veteran Handout
    - PowerPoints
    - Mindful Awareness Script: Mindful Eating

Other Websites

- VA's Nutrition and Health webpage. http://www.nutrition.va.gov. Has a "Get Help from a Dietitian" tab on the left. Also has a "Recipe and Cookbooks" tab, in addition to a listing of ways nutrition can influence health for a number of different diagnoses. Check out their "Additional Resources" tab as well.
- 2015 Dietary Guidelines for Americans. http://health.gov/dietaryguidelines/2015/guidelines/
- MOVE! Weight Management Program. http://www.move.va.gov. Excellent resources. Be sure to look over the comprehensive list of handouts they provide at http://www.move.va.gov/handouts.asp. There are dozens, and they feature diet as well as exercise. Check out their app, "MOVE! Coach" at https://www.move.va.gov/moveCoach.asp
- USDA's National Nutrient Database for Standard Reference. https://fdc.nal.usda.gov/. Search for the contents of various nutrients, including fiber, in any given food. You can do a "Food Search" to see the nutrients in a particular food.
- USDA Economic Research Service, Food Access Research Atlas. https://www.ers.usda.gov/data-products/food-access-research-atlas/go-to-the-atlas.aspx. Shows urban and rural food deserts on an interactive map.
- The Center for Mindful Eating. http://thecenterformindfuleating.org. This is where Mindful Awareness meets Food and Drink.
- Oldways Diet Guides. https://www.oldwayspt.org. Includes guidance on eating within various traditions (e.g., African Heritage, Latin American, Asian, Vegetarian/Vegan styles of eating).
- Dr. Weil's Anti-Inflammatory Diet Food Pyramid. http://www.drweil.com/diet-nutrition/anti-inflammatory-diet-pyramid/.
- Local Harvest Community-Supported Agriculture (CSA) site. http://www.localharvest.org/. Search out CSAs in your area, or order fresh foods from around the country.
- Harvard School of Public Health Nutrition Source. https://www.hsph.harvard.edu/nutritionsource/

- Mayo Clinic Nutrition Resource site. http://www.mayoclinic.org/healthy-lifestyle/nutrition-and-healthy-eating/basics/nutrition-basics/hlv-20049477
- California Dairy Research Foundation Probiotics Information. http://cdrf.org/home/checkoff-investments/usprobiotics/. Nice summary of research.
- Recipe sites (Note that these are all .com sites. The VA Nutrition and Food Services Page also features a number of government-approved recipes.)
    - Epicurious. http://www.epicurious.com
    - My Recipes. http://www.myrecipes.com
    - Cooking Light Magazine. http://www.cookinglight.com
    - 101 Cookbooks. http://www.101cookbooks.com. Natural foods recipes
    - Sparkpeople. http://www.sparkpeople.com. Free registration allows access to a calorie counter and fitness programs

Books

- *Integrative Medicine*, 4th edition, David Rakel (2017). Available through VA library system. Includes chapters on food elimination, anti-inflammatory eating, DASH, FODMaP, and prescribing probiotics
- *Eat, Drink, and Be Healthy: The Harvard Medical School Guide to Healthy Eating*, Walter Willett (2005)
- *Eating Well for Optimum Health: The Essential Guide to Bringing Health and Pleasure Back to Eating*, Andrew Weil (2001)
- *Good and Cheap: Eat Well on $4/Day,* Leanne Brown (2014)
- *In Defense of Food: An Eater's Manifesto*, Michael Pollan (2009)
- *Mindful Eating: A Guide to Rediscovering a Healthy and Joyful Relationship with Food*, Jan Bays (2009)
- *Mindless Eating: Why We Eat More Than We Think*, Brian Wansink (2007)
- *Nutrition in Clinical Practice*, 2nd edition, David Katz (2014)
- *Passionate Vegetarian*, Crescent Dragonwagon (2002)
- *The Low Glycemic Index Handbook*, Jennie Brand-Miller (2010)
- *The New Mediterranean Diet Cookbook*, Nancy Jenkins (2008)
- *The New Vegetarian Cooking for Everyone*, Deborah Madison (2014)
- *The Omnivore's Dilemma: A Natural History of Four Meals*, Michael Pollan (2007)
- *What I Eat: Around the World in 80 Diets,* Peter Menzel (2010)
- *Wheat Belly: Lose the Wheat, Lose the Weight, and Find Your Path Back to Health*, William Davis (2014). Many patients are reading books like this and have questions about their content.

Special thanks to Samantha Sharp, MD, who wrote the original Whole Health Library materials on Food and Drink that inspired content for much of this chapter, as well as Sagar Shah, MD, who updated the library materials in 2018. Also, gratitude to the VA dietitians and other Nutrition and Food Service leaders who have offered feedback regarding content.

References

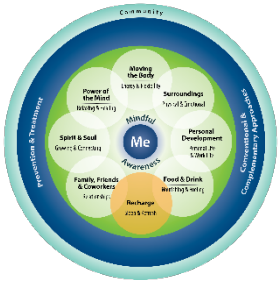
[1] Food Consumption and Nutrient Intakes. United States Department of Agriculture website. https://www.ers.usda.gov/Data/FoodConsumption/. 2016. Updated October 20, 2016. Accessed July 17, 2019.
[2] Table 12. Average hours per day spent in primary activities for the civilian population, 2016 quarterly and annual averages. Bureau of Labor Statistics website. https://www.bls.gov/news.release/atus.t12.htm. 2016, Updated June 27, 2017. Accessed July 17, 2019.
[3] Sugar. New Hampshire Department of Health and Human Services website. https://www.dhhs.nh.gov/dphs/nhp/documents/sugar.pdf. Accessed July 17, 2019.
[4] Harmon BE, Boushe CJ, Shvestov YB, et al. Associations of key diet-quality indexes with mortality in the multiethnic cohort: the dietary patterns methods project. *Am J Clin Nutr*. 2015;101(3):587-97. doi: 10.3945/ajcn.114.090688.
[5] Zhang FF, Cudhea F, Shan Z, et al. Preventable cancer burden associated with poor diet in the United States. *JNCI Cancer Spectr*. 2019;3(2).
[6] Kant AK, Graubard BI, Schatzkin A. Dietary patterns predict mortality in a national cohort: the national health interview surveys, 1987 and 1992. *J Nutr*. 2004;134(7):1793-9.
[7] Govindaraju T, Sahle BW, McCaffrey TA, McNeil JJ, Owen AJ. Dietary patterns and quality of life in older adults: a systematic review. *Nutrients*. 2018;10(8):971.
[8] Dietary Guidelines for Americans, 2015-2020. http://health.gov/dietaryguidelines/2015/guidelines/. Accessed July 17, 2019.
[9] Cade JE. Measuring diet in the 21st century: use of new technologies. *Proc Nutr Soc*. 2017;76(3):276-282.
[10] Amianto F, Ottone L, Abbate Daga GA, Fassino S. Binge-eating disorder diagnosis and treatment: a recap in front of DSM-5. *BMC Psychiatry*. 2015;15:70. doi: 10.1186/s12888-015-0445-6.
[11] Kaipainen K, Payne CR, Wansink B. Mindless eating challenge: retention, weight outcomes, and barriers for changes in a public web-based healthy eating and weight loss program. *J Med Internet Res*. 2012;14(6):e168. doi: 10.2196/jmir.2218.
[12] Shah S. Food and drink. Whole Health Library website. https://wholehealth.wisc.edu/overviews/food-drink. 2018. Accessed July 17, 2019.
[13] Imamura F, O'Connor L, Ye Z, et al. Consumption of sugar sweetened beverages, artificially sweetened beverages, and fruit juice and incidence of type 2 diabetes: systematic review, meta-analysis, and estimation of population attributable fraction. *Br J Sports Med.* 2016;50(8):496-504. doi: 10.1136/bjsports-2016-h3576rep.
[14] Sánchez-Villegas A, Toledo E, de Irala J, Ruiz-Canela M, Pla-Vidal J,Mmartínez-González MA. Fast-food and commercial baked goods consumption and the risk of depression. *Public Health Nutr.* 2012;15(3):424-432. doi: 10.1017/S1368980011001856. Epub 2011 Aug 11.
[15] Katterman SN, Kleinman BM, Hood MM, Nackers LM, Corsica JA. Mindfulness meditation as an intervention for binge eating, emotional eating, and weight loss: a systematic review. *Eat Behav.* 2014;15(2):197-204. doi: 10.1016/j.eatbeh.2014.01.005. Epub 2014 Feb 1.
[16] Godsey J. The role of mindfulness based interventions in the treatment of obesity and eating disorders: an integrative review. *Complement Ther Med.* 2013;21(4):430-439. doi: 10.1016/ctim.2013.06.003. Epub 2013 Jul 9.
[17] Robinson E, Aveyard P, Daley A, et al. Eating attentively: a systematic review and meta-analysis of the effect of food intake memory and awareness on eating. *Am J Clin Nutr*. 2013;97(4):728-742.
[18] Mason AE, Epel ES, Kristeller J, et al. Effects of a mindfulness-based intervention on mindful eating, sweets consumption, and fasting glucose levels in obese adults: data from the SHINE randomized controlled trial. *J Behav Med.* 2016;39(2):201-213. doi: 10.1007/s10865-015-9692-8. Epub 2015 Nov 12.
[19] Winkens LHH, van Strien T, Brouwer IA, Penninx B, Visser M. Mindful eating and change in depressive symptoms: mediation by psychological eating styles. *Appetite*. 2019;133:204-211.
[20] Carriere K, Khoury B, Gunak MM, Knauper B. Mindfulness-based interventions for weight loss: a systematic review and meta-analysis. *Obes Rev*. 2018;19(2):164-177.
[21] Webster P. Canada's updated food guide promotes mindful eating. *Lancet*. 2019;393(10170):e5.

[22] Schnepper R, Richard A, Wilhelm FH, Blechert J. A combined mindfulness–prolonged chewing intervention reduces body weight, food craving, and emotional eating. *J Consult Clin Psychol*. 2019;87(1):106-111. doi: 10.1037/ccp0000361.
[23]Thomas-Valdés S, Tostes MDGV, Anuncioção PC, da Silva BP, Sant'Ana HMP. Association between vitamin deficiency and metabolic disorders related to obesity. *Crit Rev Food Sci Nutr.* 2017;57(15):3332-3343. doi: 10.1080/10408398.2015.1117413.
[24] Ter Borg S, Verlaan S, Hemsworth J, Mijnarends DM, Schols JM, Luiking YC, de Groot LC. Micronutrient intakes and potential inadequacies of community-dwelling older adults: a systematic review. *Br J Nutr*, 2015;113(8):1195-1206. doi: 10.1017/S0007114515000203. Epub 2015 Mar 30.
[25] McCormic DB. Vitamin/mineral supplements: Of questionable benefit for the general population. *Nutr Rev*. 2010;68(4):207-213. doi: 10.1111/j.1753-4887.2010.00279.x.
[26] Chen F, Du M, Blumberg JB, et al. Association among dietary supplement use, nutrient intake, and mortality among U.S. adults: a cohort study. *Ann Intern Med*. 2019;170(9):604-613. doi: 10.7326/M18-2478. Epub 2019 Apr 9.
[27] Park SY, Murphy SP, Wilkens LR, Henderson BE, Kolonel LN. Multivitamin use and the risk of mortality and cancer incidence: the multiethnic cohort study. *Am J Epidemiol*, 2011; 173(8):906-914. doi: 10.1093/aje/kwq447. Epub 2011 Feb 22.
[28] Freitas-Simoes T-M, Ros E, Sala-Vila A. Nutrients, foods, dietary patterns and telomere length: update of epidemiological studies and randomized trials. *Metabolism*. 2016;65(4):406-415.
[29] Greenberg I, Stampfer MJ, Schwarzfuchs D, Shai I. Adherence and success in long-term weight loss diets: the dietary intervention randomized controlled trial (DIRECT). *J Am Coll Nutr*. 2009;28(2):159-68.
[30] Atallah R, Filion KB, Wakil SM, et al. Long-term effects of 4 popular diets on weight loss and cardiovascular risk factors: a systematic review of randomized controlled trials. *Circ Cardiovasc Qual Outcomes*. 2014;7(6):815-827. doi: 10.1161/CIRCOURTOUTCOMES.113.000723. Epub 2014 Nov 11.
[31] Gudzune KA, Doshi BA, Mehta AK, et al. Efficacy of commercial weight-loss programs an updated systematic review. *Ann Intern Med*. 2015;162:501-512. doi: 10.7326/M14-2238.
[32] Jannasch F, Kröger J, Schulze MB. Dietary patterns and type 2 diabetes: a systematic literature review and meta-analysis of prospective studies. *J Nutr.* 2017;147(6):1174-1184. doi: 10.3945/jn.116.242552. Epub 2017 Apr 19.
[33] Mancini JG, Filion KB, Atallah R, Eisenberg MJ. Systematic review of the Mediterranean Diet for long-term weight loss. *Am J Med*. 2016;129(4):407-415.e4. doi: 10.1016/j.amjmed.2015.11.028. Epub 2015 Dec 22.
[34] Kolata G. That huge mediterranean diet study was flawed. But was it wrong? The New York Times website. https://www.nytimes.com/2018/06/13/health/mediterranean-diet-heart-disease.html. Published: June 13, 2018. Accessed July 17, 2019.
[35] Bach-Faig A, Berry EM, Lairon D, et al. Mediterranean Diet Foundation Expert Group. Mediterranean diet pyramid today: science and cultural updates. *Public Health Nutr*. 2011;14:2274-2284.
[36] Rees K, Takeda A, Martin N, et al. Mediterranean-style diet for the primary and secondary prevention of cardiovascular disease. *Cochrane Database Syst Rev*. 2019;3:Cd009825.
[37] Del Chierico F, Vernocchi P, Dallapiccola B, Putignani L. Gut microbiota and disease control. *Int J Mol Sci*. 2014;15:11678-11699.
[38] Valls-Pedret C, Sala-Vila A, Serra-Mir M, et al. Mediterranean diet and age-related cognitive decline: a randomized clinical trial. *JAMA Intern Med*. 2015;175(7):1094-1103. doi: 10.1001/jamainternmed.2015.1668.
[39] Schwingshackl L, Hoffmann G. Adherence to Mediterranean diet and risk of cancer: a systematic review and meta-analysis of observational studies. *Int J Cancer*. 2014;135(8):1884-97. doi: 10.1002.ijc.28824. Epub 2014 Mar 11.
[40] Barak Y, Fridman D. Impact of mediterranean diet on cancer: focused literature review. *Cancer Genomics Proeomics.* 2017;14;(6):403-408.
[41] Shakersain B, Rizzuto D, Larsson SC, Faxen-Irving G, Fratiglioni L, Xu WL. The nordic prudent diet reduces risk of cognitive decline in the Swedish older adults: a population-based cohort study. *Nutrients*. 2018;10(2).
[42] Ricker MA, Haas WC. Anti-inflammatory diet in clinical practice: a review. *Nutr Clin Pract*. 2017;32(3):318-325.
[43] Kohatsu W, Karpowitz S. The antiinflammatory diet. In Rakel D, ed. *Integrative Medicine*, 4th ed., Philadelphia: Elsevier; 2017:869-877.
[44] Lessens D, Rakel D. Elimination diets. Whole Health Library website. https://wholehealth.wisc.edu/tools/elimination-diets. 2014. Accessed July 17, 2019.

[45] Bora S and Rindfleisch JA, The elimination diet. In Rakel D ed, *Intagrative Medicine*, Philadelphia: Saunders, 2017.
[46] Horne BD, Muhlestein JB, Anderson JL, Health effects of intermittent fasting: hormesis or harm? A systematic review. *Am J Clin Nutr*, 2015;102(2):464-470. doi: 10.3945/ajcn.115.109553. Epub 2015 Jul 1.
[47] Sainsbury A, Wood RE, Seimon RV, et al. Rationale for novel intermittent dieting strategies to attenuate adaptive responses to energy restriction. *Obes Rev*. 2018;19 Suppl 1:47-60.
[48] Stockman MC, Thomas D, Burke J, Apovian CM. Intermittent fasting: is the wait worth the weight? *Curr Obes Rep*. 2018;7(2):172-185.
[49] Lachat C, Nago E, Verstraeten R, Roberfroid D, Van Camp J, Kolsteren P. Eating out of home and its association with dietary intake: a systematic review of the evidence. *Obes Rev*. 2012;13(4):329-346. doi: 10.1111/j.1467-789X.2011.00953.x. Epub2011 Nov 23.
[50] Poti JM, Braga B, Qin B. Ultra-processed food intake and obesity: what really matters for health-processing or nutrient content? *Curr Obes Rep*. 2017;6(4):420-431.
[51] Wang X, Ouyang Y, Liu J, et al. Fruit and vegetable consumption and mortality from all causes, cardiovascular disease, and cancer: systematic review and dose-response meta-analysis of prospective cohort studies. *BMJ*. 2014;349:g4490. doi: 10.1136/bmj.g4490.
[52] Aune D, Giovannucci E, Boffetta P, et al. Fruit and vegetable intake and the risk of cardiovascular disease, total cancer and all-cause mortality-a systematic review and dose-response meta-analysis of prospective studies. *Int J Epidemiol*. 2017;46(3):1029-1056.
[53] Mottaghi T, Amirabdollahian F, Haghighatdoost F. Fruit and vegetable intake and cognitive impairment: a systematic review and meta-analysis of observational studies. *Eur J Clin Nutr*. 2018;72(10):1336-1344.
[54] Saghafian F, Malmir H, Saneei P, Milajerdi A, Larijani B, Esmaillzadeh A. Fruit and vegetable consumption and risk of depression: accumulative evidence from an updated systematic review and meta-analysis of epidemiological studies. *Br J Nutr*. 2018;119(10):1087-1101.
[55] Institute of Medicine Panel on Macronutrients, Institute of Medicine Standing Committee on the Scientific Evaluation of Dietary Reference Intakes. *Dietary Reference Intakes for Energy, Carbohydrate, Fiber, Fat, Fatty Acids, Cholesterol, Protein, and Amino Acids*. Washington, D.C.: National Academies Press; 2005.
[56] Dehghan M, Mente A, Zhang X, et al. Associations of fats and carbohydrate intake with cardiovascular disease and mortality in 18 countries from five continents (PURE): a prospective cohort study. *Lancet*. 2017;390(10107):2050-2062.
[57] Schafer RG, Bohannon B, Franz M, et al. Translation of the diabetes nutrition recommendations for health care institutions. *Diabetes Care*. 1997;20(1):96-105.
[58] Noronha JC, Braunstein CR, Blanco Mejia S, et al. The effect of small doses of fructose and its epimers on glycemic control: a systematic review and meta-analysis of controlled feeding trials. *Nutrients*. 2018;10(11).
[59] Kelishadi R, Mansourian M, Heidari-Beni M. Association of fructose consumption and components of metabolic syndrome in human studies: a systematic review and meta-analysis. *Nutrition*. 2014;30(5):503-510. doi: 10.1016/j.nut.2013.08.014.
[60] Mortera RR, Bains Y, Gugliucci A. Fructose at the crossroads of the metabolic syndrome and obesity epidemics. *Front Biosci (Landmark Ed)*. 2019;24:186-211.
[61] Xu CM, Yang TX. New advances in renal mechanisms of high fructose-induced salt-sensitive hypertension. *Sheng Li Xue Bao*. 2018;70(6):581-590.
[62] Ter Horst KW, Serlie MJ. Fructose consumption, lipogenesis, and non-alcoholic fatty liver disease. *Nutrients*. 2017;9(9).
[63] Kim Y, Je Y. Dietary fiber intake and total mortality: a meta-analysis of prospective cohort studies. *Am J Epidemiol*. 2014;180(6):565-573. doi: 10.1093/aje/kwu174. Epub 2014 Aug 20.
[64] Ma Y, Hu M, Zhou L, et al. Dietary fiber intake and risks of proximal and distal colon cancers: a meta-analysis. *Medicine*. 2018;97(36):e11678.
[65] Veronese N, Solmi M, Caruso MG, et al. Dietary fiber and health outcomes: an umbrella review of systematic reviews and meta-analyses. *Am J Clin Nutr*. 2018;107(3):436-444.
[66] Xu H, Ding Y, Xin X, Wang W, Zhang D. Dietary fiber intake is associated with a reduced risk of ovarian cancer: a dose-response meta-analysis. *Nutr Res*. 2018;57:1-11.
[67] Chen GC, Lv DB, Pang Z, Dong JY, Liu QF. Dietary fiber intake and stroke risk: a meta-analysis of prospective cohort studies. *Eur J Clin Nutr*. 2013;67(1):96-100.
[68]Institute of Medicine. *Dietary Reference Intakes: The Essential Guide to Nutrient Requirements.* Meyers LD, Pitzi Hallwig J eds. National Academies Press, Washington DC, 2005.

[69] McMillan-Price J, Petocz P, Atkinson F, et al. Comparison of 4 diets of varying glycemic load on weight loss and cardiovascular risk reduction in overweight and obese young adults: a randomized controlled trial. *Arch Intern Med*. 2006;166(14):1466-1475.
[70] Bhupathiraju SN, Tobias DK, Malik VS, et al. Glycemic index, glycemic load, and risk of type 2 diabetes: results from 3 large US cohorts and an updated meta-analysis. *Am J Clin Nutr*. 2014;100(1):218-232. doi: 10.3945/ajcn.113.079533. Epub 2014 Apr 30.
[71] Ojo O, Ojo OO, Adebowale F, Wang X-H. The effect of dietary glycaemic index on glycaemia in patients with type 2 diabetes: a systematic review and meta-analysis of randomized controlled trials. *Nutrients*. 2018;10(3):373.
[72] Gnagnarella P, Gandini S, La Vecchia C, Maisonneuve P. Glycemic index, glycemic load, and cancer risk: a meta-analysis. *Am J Clin Nutr*. 2008;87(6):1793-1801.
[73] Barclay AW, Petocz P, McMillan-Price J, et al. Glycemic index, glycemic load, and chronic disease risk—a meta-analysis of observational studies. *Am J Clin Nutr*. 2008;87(3):627-637.
[74] Evans CE, Greenwood DC, Threapleton DE, Gale CP, Cleghorn CL, Burley VJ. Glycemic index, glycemic load, and blood pressure: a systematic review and meta-analysis of randomized controlled trials. *Am J Clin Nutr*. 2017;105(5):1176-1190.
[75] Vega-López S, Venn BJ, Slavin JL. Relevance of the glycemic index and glycemic load for body weight, diabetes, and cardiovascular disease. *Nutrients.* 2018;10(10). pii: E1361. doi: 10.3390/nu10101361.
[76] Bailes J. The "Fat-Free Fallacy:" Is it obesity's great enabler? Diabetes Health website. https://liveahealthygoodlife.wordpress.com/2009/09/01/the-fat-free-fallacy-is-it-obesitys-great-enabler/. 2008. Accessed May 27, 2014.
[77] Wolfe RR, Cifelli AM, Kostas G, Kim IY. Optimizing protein intake in adults: interpretation and application of the recommended dietary allowance compared with the acceptable macronutrient distribution range. Adv Nutr. 2017;8(2):266-275.
[78] Bergeron N, Chiu S, Williams PT, M King S, Krauss RM. Effects of red meat, white meat, and nonmeat protein sources on atherogenic lipoprotein measures in the context of low compared with high saturated fat intake: a randomized controlled trial. *Am J Clin Nutr*. 2019;110(1):24-33.
[79] Mayhew AJ, de Souza RJ, Meyre D, Anand SS, Mente A. A systematic review and meta-analysis of nut consumption and incident risk of CVD and all-cause mortality. *Br J Nutr*. 2016;115(2):212–225. doi: 10.1017/S0007114515004316. Epub 2015 Nov.9.
[80] Mohammadifard N, Salehi-Abargouei A, Salas-Salvadó J, Guasch-Ferré M, Humphries K, Sarrafzadegan N. The effect of tree nut, peanut, and soy nut consumption on blood pressure: a systematic review and meta-analysis of randomized controlled clinical trials. *Am J Clin Nutr*. 2015;101(5):966–982. doi: 10.3945/ajcn.114.091595. Epub 2015 Mar 25.
[81] Falasca M, Casari I, Maffucci T. Cancer chemoprevention with nuts. *J Natl Cancer Inst*. 2014; 106(9):dju238. doi: 10.1093/jnci/dju238.
[82] Nielsen SJ, Popkin BM. Changes in beverage intake between 1977 and 2001. *Am J Prev Med*. 2004;27(3):205-210.
[83] Wansink, B. *Mindless eating: Why we eat more than we think*. London: Hay House; 2011.
[84] Takahashi J, Rindfleisch A. Prescribing probiotics. In Rakel D, ed. *Integrative Medicine*, 4th ed, Philadelphia: Elsevier; 2017:986-995.
[85] Lessens D, Rakel D. Promoting a healthy microbiome with food and probiotics. Whole Health Library website. https://wholehealth.wisc.edu/tools/promoting-healthy-microbiome-with-food-probiotics. 2014. Accessed July 17, 2019.
[86] Galland L. The gut microbiome and the brain. *J Med Food.* 2014;17(12):1261-72. doi: 10.1089/jmf.2014.7000.
[87] Rios AC, Maurya PK, Pedrini M, et al. Microbiota abnormalities and the therapeutic potential of probiotics in the treatment of mood disorders. *Rev Neurosci.* 2017;28(7):739-749. doi: 10.1515/revneuro-2017-0001.
[88] Dinan TG, Cryan JF. Brain-gut-microbiota axis and mental health. *Psychosom Med*. 2017;79(8):920-926.
[89] Sarkar A, Lehto SM, Harty S, Dinan TG, Cryan JF, Burnet PWJ. Psychobiotics and the manipulation of bacteria-gut-brain signals. *Trends Neurosci*. 2016;39(11):763-781.
[90] Nadeem I, Rahman MZ, Ad-Dab'bagh Y, Akhtar M. Effect of probiotic interventions on depressive symptoms: a narrative review evaluating systematic reviews. *Psychiatry Clin Neurosci*. 2019;73(4):154-162.
[91] Mathur R, Barlow GM. Obesity and the microbiome. *Expert Rev Gastroenterol Hepatol.* 2015;9(8):1087-99. doi: 10.1586/17474124.2015.1051029. Epub 2015 Jun 16.

Chapter 9. Recharge: Sleep & Refresh



If there's a secret to a good night's sleep, it's a good day's waking.
—Rubin Naiman[1]

The Importance of Sleep and Rest

Most people need 7-8 hours of sleep to function physically, mentally, emotionally, and socially, but 30% of the American population has chronic insomnia. As of 2012, 70 million Americans were sleeping fewer than six hours nightly, and the number is growing.[2] On average, 20% of the adult population is sleep deprived.[3] Sleep has a significant impact on Whole Health. For example, it is closely linked to cardiometabolic health.[4] When people who sleep under five hours nightly are compared with people who sleep over seven hours, they have[5]:

- 42% greater chance of obesity
- 69% greater chance of hypertension
- 40% greater risk of diabetes
- 36% greater likelihood of having elevated lipids
- 62% greater risk of stroke
- 152% increase in risk of having a heart attack

It has even been found that sleep loss is comparable to physical inactivity when it comes to increasing the risk of insulin resistance; even one night of less than four hours of sleep leads to measurable blood glucose differences.[2] We also know that people who sleep less have increased sensitivity to pain.[6] They also have much higher mortality rates, as was noted in a recent systematic review that included over 70,000 elderly individuals.[7] In one study, men who averaged under six hours per night were four times more likely to die over 14 years.[8] If people have a concussion, sleep deprivation increases brain damage,[9] and sleep and immune system function are bidirectionally linked.[10] Poor sleep is linked to poor glucose control in people with diabetes.[11,12]

Poor sleep is closely linked to suicidal ideation.[13] In a study of Veterans, those who reported sleeping less were much more likely to report having suicide attempts in the past year.[13] One 2012 study found that sleep disorders were more likely to correlate with suicidal ideation in military personnel than depression or hopelessness.[14] Insomnia is predictive of subsequent mental illness, particularly for depression,[15] and it contributes to Alzheimer's disease risk.[16] Sleep impairments have been linked to allostatic load, the "wear and tear" that happens if the body loses its ability to effectively respond to stress.[17]

Sleep serves many purposes. It is a time when hormones, neurotransmitters, and other compounds are regenerated. It is a time when short-term memories are converted to long-term memories.[18] Sleep is important to maintaining a healthy weight (allows ghrelin and leptin levels to balance),[19] and it is closely linked to mental health,[20] including emotional stability.[21] Good sleep prevents work and motor vehicle accidents.[22,23] Being awake for 17-19 hours is like having a blood alcohol level of 0.05; for more than 24 straight hours, it

is 0.1. Not only that, but it is linked to increased alcohol use. Poor sleep can also lead to permanent cognitive defects and may contribute to risk of Alzheimer's.[3]

In addition to sleep, daytime rest and opportunities to recharge are also important to health. These are discussed toward the end of this chapter. We know that people who do not take breaks from sitting during the day are at much higher risk of health concerns. Leisure time, hobbies, and vacations are also important to well-being.

For ideas for Personal Health Plan (PHP) content, you can look at the "subtopics" developed for skill-building courses for Veterans. These are intended to help them zero in on areas they could focus on. Figure 9-1 shows the subtopics for the Recharge circle.

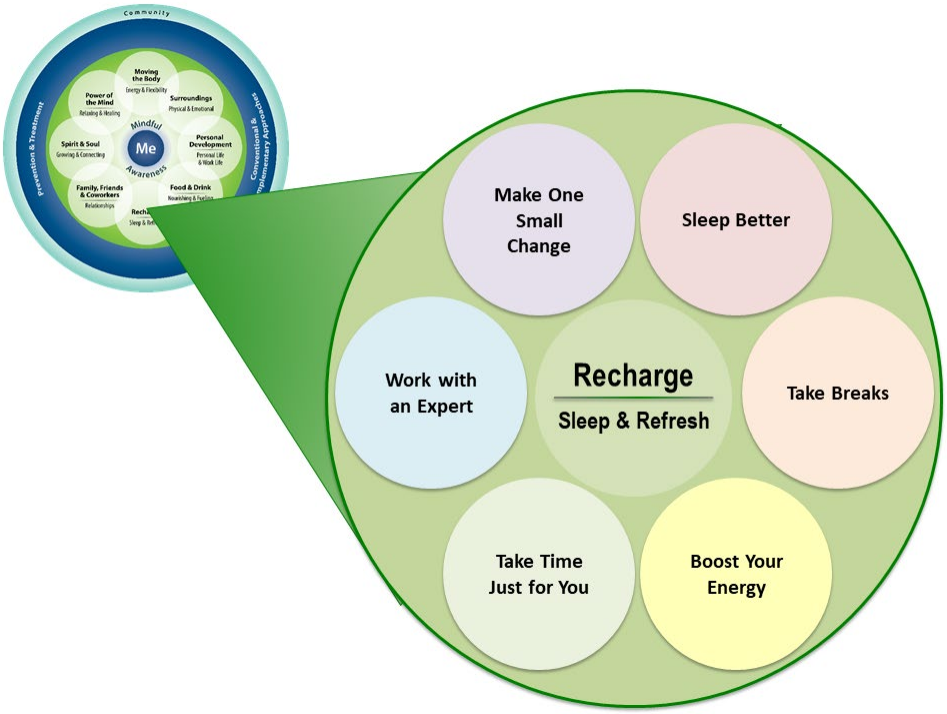


Figure 9-1. Subtopics within the Recharge Circle of Self-Care

Questions to Ask Related to Recharge

- Are you satisfied with your energy level?
- At what time of day are you most energized?
- What activities energize you and leave you feeling refreshed?
- At what time of day is your energy lowest?
- What drains or lowers your energy?
- When your energy is depleted, what do you do? Nap? Eat?
- How many hours of sleep do you usually get each night?
- Do you sleep well?
- Do you wake up feeling well-rested?
- If you nap, can you sleep briefly and feel refreshed?
- Describe any issues you have with sleep.

- What have you tried to help you sleep better? Any medications or dietary supplements?
- Do you ever listen to guided imagery recordings to fall asleep?
- Do you do restorative practices like gentle yoga or mediation?

Eleven Tips for Improving Sleep

As you work with someone on the Recharge section of the Circle of Health, consider the following to promote good sleep:

1. Rule out sleep disorders and other health issues that can lead to sleep problems.
2. Keep active during the day.
3. Consider Cognitive Behavioral Therapy for Insomnia (CBT-I).
4. Follow good sleep hygiene.
5. Consider light therapy.
6. Use mind-body practices.
7. Focus on nutrition and sleep.
8. Consider dietary supplements.
9. Give yoga a try.
10. Consider Chinese Medicine.
11. Know how to nap.

1. Rule out sleep disorders and other health issues that can lead to sleep problems

Ask about snoring and whether a person has been observed to intermittently stop breathing at night, which may indicate obstructive sleep apnea. People may also note having restless legs (periodic limb movements of sleep). Are bladder problems playing a role? Could the thyroid be involved? Pain can also have a significant effect on sleep. 24% of patients report fatigue as a significant problem, and chronic fatigue syndrome/myalgic encephalomyelitis is a challenging problem that can be due to a number of different causes.[24]

Recent literature indicates that men and women who have recently served in the military have much higher rates of insomnia than the general population, at 25-54%.[25] Sleep problems are particularly common in people with posttraumatic stress and traumatic brain injury.[26] One study, focused on female service members, found that 75% of the women reported a traumatic event that correlated with the beginning of sleep problems; 10% reported sexual harassment, trauma, abuse, or rape.[27]

2. Keep active during the day

Exercise improves a number of sleep outcomes.[28] A review of six trials focused on people over 40 found that people who engage in moderate intensity aerobic and high-intensity resistance training had better insomnia scores and fell asleep faster, but they did not sleep longer at night or function differently during the day.[29] A 2018 study found that people ages 45-86 had better sleep efficiency if they were more active and/or less sedentary.[30] One study found that people over age 60 who exercised had improved sleep at 16 weeks,

including both sleep quality and time to fall asleep.[31] No studies have shown conclusively that exercising before bed causes sleep problems.[32]

3. Consider Cognitive Behavioral Therapy for Insomnia

Cognitive Behavioral Therapy for Insomnia (CBT-I) is widely considered to be the gold standard for insomnia treatment.[33] It is highly effective,[34] including in VA and military populations,[35] and it is widely available in the VA, especially relative to other organizations. People are taught how to work with both behavioral and cognitive issues that interfere with sleep. Some key elements of CBT-I include the following[36]:

- **Sleep restriction**. With sleep restriction, the time a person sleeps is limited, especially during the day, to increase the drive to sleep and shift to a consistent sleep schedule.
- **Stimulus control** focuses on reducing anything that contributes to arousal. These approaches are often recommended as part of "sleep hygiene."
- **Relaxation** involves the use of mind-body tools to help a person relax and move more easily into sleep.
- The cognitive component of CBT-I addresses **unhelpful beliefs or feelings** about sleep. For example, a person might have an exaggerated sense of how poor sleep will affect their function, or have a strong emotional response to waking up before they intended to do so. Simply normalizing how sleep is for people—letting them know that nighttime awakenings are normal—and helping them to respond more calmly to insomnia or early awakening can be quite helpful.

CBT-I is an effective treatment for and seems to help treat depression.[37] One systematic review noted that CBT-I has more durable long-term benefits than standard sleep medications.[38] Best of all, patients treated with CBT-I continue to maintain and, in many cases, improve even more after the completion of treatment. CBT-I even works when people do it remotely on the Internet.[39] For more information, including information about a CBT-I app created by the VA, refer to the Resources section at the end of this chapter.

4. Follow good sleep hygiene

Sleep hygiene is closely connected with stimulus control in CBT-I. Essentially it involves optimizing surroundings and circumstances to allow for good sleep. It works much better when used in conjunction with CBT. Recommendations to improve sleep hygiene include the following[36]:

- Only use the bed for sleep and sex. Do not read or watch TV in bed.
- Make sure that where one sleeps is comfortable.
- Avoid daytime napping.
- Go to bed and get up at the same time each day. A ritual, or standard set of activities followed before bed, can be helpful.
- If sleep is not happening, go somewhere else and do something relaxing.
- If worries come up, practice a mindfulness exercise, such as writing about concerns in a journal, so that they can be attended to during waking hours.

- Ensure the environment is dark. Use light-opaque curtains or a sleep mask, as needed.
- Keep the sleep environment quiet. Earplugs, if practical, can be considered.
- Keep the sleep environment cool.
- Avoid light exposure from anything with a screen before bed (some people suggest for at least an hour before bedtime). That includes tablets and smartphones.
- Move the alarm clock or turn it away to avoid watching the clock.
- Electromagnetic fields can affect sleep in a dose-related fashion,[40] suppressing melatonin release in the brain.[41] It is best to minimize how many electrical devices are in the bedroom. Keep them as far away from the head of the bed as possible. It is best to use a battery-powered clock versus an electric one.
- Make sure certain allergies are not triggered by the sleep area. Keep the bedroom dust-free and clean, and if allergies seem to be a factor, consider a HEPA filter, mold control, removal of carpets, and hypoallergenic bedding that can be washed frequently.
- Aromatherapy. A very small trial found that vaporized lavender oil improved insomnia scores.[42] A few drops of lavender oil can be placed on a cotton ball a foot or so from a person's head. Another review of 13 general aromatherapy studies concluded that readily available treatments effectively promote sleep.[43]

5. Consider light therapy

A 2019 Cochrane review found that evidence is limited for using light therapy to prevent seasonal affective disorder,[44] but many people report feeling recharged when they use this safe and relatively inexpensive therapy. Sitting within three feet of a light for 20-60 minutes, 2-3 times daily, can boost energy levels. Morning therapy seems to be most effective, and light levels should be from 2500 to 10,000 lux. Recent studies indicate that this is not only beneficial to people with seasonal affective disorder, but also to people with depression of any sort.[45] Depression is a common cause (or effect) of sleep disturbance. For more information about light therapy, refer to the Resources section at the end of this chapter.

6. Use mind-body practices

Any mind-body approaches, which elicit the relaxation response, can be used. The goal is to tailor the technique to individual preference.

Meditation. A study of 24 long-term meditators and 24 meditation-naïve controls found that even two 8 hour sessions of compassion or other types of meditation led to alterations in non-REM sleep patterns.[46] A 2015 randomized controlled trial that compared mindful awareness training to sleep hygiene found that the mindfulness group had improvements in sleep quality superior to the other group.[47] In addition, a 2018 study found mindfulness-based stress reduction training significantly improved sleep quality. A 2016 meta-analysis found mild improvement of some sleep parameters with mindfulness meditation.[48] Another systematic review found that meditative movements (tai chi, qi gong, and yoga) significantly improve sleep.[49]

Mindfulness-Based Sleep Induction Technique. A useful tool you can encourage patients to try on their own, when appropriate, is the Mindfulness-Based Sleep Induction Technique.[36] It is designed to calm a racing mind when a person is trying to fall asleep. Follow these steps:

1. Begin with abdominal breathing. Place one hand on your chest and the other on your abdomen. When you take a deep breath, the hand on the abdomen should rise higher than the one on the chest. This insures that the diaphragm is expanding, pulling air into the bases of the lungs. (Once you have this mastered, you do not have to use your hands). This diaphragmatic breathing stimulates the vagus nerve, which enhances the relaxation response.
2. Take a slow, deep breath in through your nose for a count of 3-4, and exhale slowly through your mouth for a count of 6-7. (Your exhalation should be twice as long as your inhalation).
3. Allow your thoughts to focus on your counting or your breath as the air gently enters and leaves your nose and mouth.
4. If your mind wanders, gently bring your attention back to your breath.
5. Repeat the cycle for a total of eight breaths.
6. After each eight-breath cycle, change your body position in bed and repeat for another eight breaths.

It is rare that a person will complete four cycles of breathing and body position changes before falling asleep.

Other Approaches

- **Guided imagery** (discussed in Chapter 12) has been found to improve sleep as well. Focusing on imagery was found to reduce time to fall asleep in one small study.[50]
- **Image Rehearsal Therapy** can help those with chronic insomnia related to nightmares.[51] (Image rehearsal therapy is successfully used for nightmares in patients with PTSD. The approach should be done with a trained therapist.)
- **Breathwork** (also discussed in Chapter 12) involves conscious manipulation of breathing. Various breathing patterns can have an immediate effect on relaxation.[52]
- **Yoga Nidra**. The military has done pilots of the use of iRest® Yoga Nidra, which is a secularized practice of a specific form of yogic meditation. Elements include deep relaxation, attention training, self-management tools, and mindful awareness of thoughts and emotions. A pilot study related to sleep found a trend toward decreasing waking somnolence.[53] Other studies are in process.

A 2017 review looking at various psychological interventions for college students with insomnia found that CBT had large effects.[54] Sleep hygiene-based interventions had medium effects, as did other approaches, such as mindfulness and hypnotherapy. The effects of relaxation approaches were variable.

7. Focus on nutrition and sleep

Here are some general suggestions to keep in mind:

- When considering dietary changes to enhance sleep, remember that caffeine has a significant effect. It influences sleep onset and quality even in people who otherwise

do not have sleep problems.[55] People tolerate caffeine less well with age; its half-life in the body increases.[56]
- Alcohol may result in faster sleep onset, but sleep is disrupted in the second half of the sleep period. In people who drink frequently, the sleep benefit may go away while the disruption worsens.[57]
- A healthy diet in general can provide the raw materials needed for the body to synthesize melatonin, which can lead to better sleep.
- Avoid foods that can promote gastroesophageal reflux, like chocolate, tomatoes, onions, fats, mint, and alcohol.

8. Consider dietary supplements

Several supplements are commonly used for sleep, and it is worth it for clinicians to be familiar with them.[58]

- Melatonin is secreted by the pineal gland when the brain senses declining light levels, and its release stops when light is present. Optimal dose varies greatly from one person to the next. A systematic review and meta-analysis of melatonin looked at 17 studies involving 284 study participants.[59] Its effects are statistically significant, but they may not be all that meaningful clinically. Melatonin treatment reduced sleep onset latency by 4.0 minutes (95% CI 2.5-5.4), increased sleep efficiency by 2.2% (95% CI 0.2-4.2), and increased total sleep duration by 12.8 minutes (95% CI 2.9-22.8). It is especially effective in the setting of delayed sleep phase syndrome.[60] Melatonin is well tolerated. It should be taken about two hours before bedtime. A typical dose is 1-3 milligram(s), taken orally. Lower doses, like 0.3 milligrams, may be more effective for some people. Note: Melatonin is now on the VA formulary.
- Valerian must be taken daily for 2-4 weeks to take effect. It seems to increase the availability of the neurotransmitter GABA. Safety seems to be quite good, with just a few people reporting grogginess in the morning after taking it. A systematic review and meta-analysis that focused on 16 studies noted methodological problems and variability, but concluded the available evidence suggests it may improve sleep quality with minimal side effects.[61] Other reviews have not been so favorable.[62]
- Lavender oil shows some promise as a sleep aid, in very small trials.[63]
- Coenzyme Q-10 seems to help in insomnia related to heart failure.
- Other commonly use supplements have less research favoring their use.[58] These include German chamomile, 5-hydroxytryptophan (5-HTP), L-tryptophan, and teas that contain hops and passionflower. These tend to be safe, but efficacy is not clear from current research.

For a detailed review of herbal remedies for sleep, refer to the tool, "Botanical Medicines to Support Healthy Sleep and Rest." Chapter 15 has more information about the safe and appropriate use of dietary supplements.

9. Give yoga a try

A 2014 study concluded that yoga is beneficial for sleep in older adults in terms of sleep quality, sleep efficiency, and sleep duration and sleep latency.[64] Another trial involving 139

people over age 60 found that all aspects of sleep improved.[65] A large review of 18 studies found that sleep quality scores, time to sleep, and sleep duration were improved,[66] and yoga was found to improve sleep in patients with breast cancer.[67] Refer to Chapter 5, "Moving the Body," for more information about yoga.

10. Consider Chinese medicine

Acupuncture has wide use in China as an insomnia treatment, and data is favorable. For example, a 2012 review of 46 trials of 3,811 participants found it was a safe and effective treatment.[66] A Cochrane review focusing on 33 trials found improvement in sleep measures but noted that effect sizes were small and that more study is needed.[68] A 2017 trial including 72 people found that acupuncture was more effective than sham treatment for increasing sleep quality and psychological health in people with primary insomnia.[69] A 2017 review found acupuncture to benefit depression-related insomnia.[70] A 2017 review for cancer-related insomnia was less conclusive.[71]

11. Know how to nap

A nap's length determines how recuperative it is, and longer is not necessarily better. Naps less than 30 minutes have been found to restore alertness, as long as they are not "ultrabrief" (30-90 seconds).[72] They have benefits that last from 1-3 hours. With short naps the brain moves through sleep stages 1 and 2, without rapid eye movement (REM) sleep; it appears that stage 2 is needed for a nap to be beneficial. Naps longer than 30 minutes are associated with more sleep inertia (grogginess), but 40-60 minute naps have longer-lasting cognitive benefits than shorter naps.[73] Relative risk of cardiovascular disease decreases when people regularly take short (under 30 minute) naps, then increases when naps are longer, especially when they are longer than 45 minutes.[74] Daytime napping is linked to more severe symptoms for people with fibromyalgia syndrome.[75]

Beyond Sleep: Additional Recharging Tips

Of course, Recharge does not just include sleep. Here are some additional recommendations to help people recharge in other ways. There are three areas to consider here:

1. Ensure a person is finding **time for leisure, creativity, and hobbies or other non-work interests**. This is discussed further in Chapter 7, "Personal Development."
2. **Vacations and rest periods** decrease job stress and burnout and improve life satisfaction, even though the results fade quickly after one goes back to work.[76] When you go on vacation, really detach from work. Be careful not to let a vacation become a different form of stress. Length of vacation does not seem to matter.
3. **Taking breaks while working** is also important to health. We know that cardiac risk is decreased based on how often one interrupts times of inactivity. Frequent breaks for movement lower waist circumference and blood sugars.[77] Here are some tips related to taking breaks that you can share with Veterans:[76]
    - Be clear about your workplace's break policy, and discuss it with your supervisor, as needed.

- Build break time into your daily schedule. A five-minute break every 30 minutes is a common suggestion. Try for at least one per hour, and take longer breaks (15 minutes or so) in the middle of the morning and the afternoon. You can set a clock, watch, smartphone, or computer to give you reminders about when it is break time.
- Be clear on how you will spend your break time. You can do nothing, stretch, have a healthy snack, take a moment for mindful awareness, listen to music, or even take a power nap.
- Change locations during breaks, to help you make a clean break from working.
- Consider a standing workstation to keep yourself from becoming too sedentary.

Part of personal health planning can involve helping a Veteran be strategic about leisure time, breaks, and vacations. Just as you can create an activity prescription (as outlined in Chapter 5, "Moving the Body"), you can also create a prescription for rest.

For more information on work breaks and vacations, refer to "Taking Breaks: When to Start Moving, and When to Stop."

Recharge Resources

Websites

VA Whole Health Website

- Components of Health and Well-Being Video Series, "A Patient Centered Approach To: Recharge, Rest, Sleep." https://www.youtube.com/watch?v=zT-bbZmeW4I&feature=youtu.be
- Whole Health Veteran Handouts
  https://www.va.gov/WHOLEHEALTH/veteran-handouts/index.asp
  - An Introduction to Recharge for Whole Health
  - Hints for Encouraging Healthy Sleep
  - Change Your Habits to Sleep Better
  - How Pausing and Taking Breaks Leads to Whole Health
  - Counseling for Insomnia

Whole Health Library Website

- "Recharge" overview
  https://wholehealth.wisc.edu/overviews/recharge
- "Botanical Medicines to Support Healthy Sleep and Rest"
  https://wholehealth.wisc.edu/tools/botanical-medicines-healthy-sleep-rest
- "Taking Breaks: When to Start Moving, and When to Stop"
  https://wholehealth.wisc.edu/tools/taking-breaks-when-to-start-moving-and-when-to-stop/
- Whole Health for Skill Building: Recharge
  https://wholehealth.wisc.edu/courses/whole-health-skill-building/
  - Faculty Guide

- Veteran Handout
- Veteran Tool: Charting Your Energy
- PowerPoints
- Mindful Awareness Script: Mindful Awareness For the "Rest" of Us

Other Websites

- Society of Behavioral Sleep Medicine. https://www.behavioralsleep.org
- National Sleep Foundation. http://www.sleepfoundation.org/. An excellent resource for a sleep diary can be found at http://sleepfoundation.org/sleep-diary/SleepDiaryv6.pdf
- Information about iRest® Yoga Nidra. http://www.irest.us/
- VA CBT-I website. https://vaww.portal.va.gov/sites/OMHS/cbt_insomnia/Lists/CBTAbout/AllItems.aspx
- National Center for PTSD Mobile App for CBT-I (an excellent app that makes CBT-I techniques more portable). https://www.ptsd.va.gov/appvid/mobile/cbticoach_app_public.asp
- National Sleep Foundation website, "Cognitive Behavioral Therapy for Insomnia." http://sleepfoundation.org/sleep-news/cognitive-behavioral-therapy-insomnia
- National Center for PTSD Continuing Education Course on Assessment and Treatment of Sleep Problems in PTSD. https://www.ptsd.va.gov/professional/continuing_ed/assessment_tx_sleep_problems.asp
- University of Wisconsin Integrative Medicine Department of Family Medicine and Community Health Light Therapy Handout. https://www.fammed.wisc.edu/files/webfm-uploads/documents/outreach/im/handout_light_therapy.pdf

Books

- *Healing Night: The Science and Spirit of Sleeping, Dreaming and Awakening*, Rubin Naiman (2005)
- *Insomnia: The Integrative Mental Health Solution*, James Lake (2015)
- *Say Good Night to Insomnia*, Greg Jacobs (2009)
- *Sleep Smarter*, Shawn Stevenson (2016)

Special thanks to John McBurney, MD, who wrote the original Whole Health Library materials on Recharge that inspired some of the content for this chapter, as well as Vinny Minichiello, MD, who updated the materials in 2018.

References

[1] Naiman R. Insomnia. In: Rakel D, ed. *Integrative Medicine*. 4th ed. Philadelphia, PA: Elsevier Saunders; 2017:74-85.
[2] Saner NJ, Bishop DJ, Bartlett JD. Is exercise a viable therapeutic intervention to mitigate mitochondrial dysfunction and insulin resistance induced by sleep loss? *Sleep Med Rev.* 2018;37:60-68. doi: 10.1016/j.smrv.2017.01.001. Epub 2017 Jan 19.

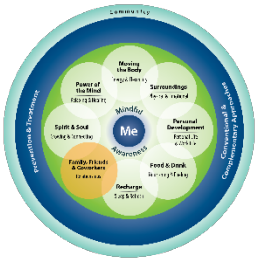
[3] Abrams RM. Sleep deprivation. *Obstet Gynecol Clin North Am.* 2015;42(3):493-506. doi: 10.1016/j.ogc.2015.05.013.
[4] St-Onge MP, Grandner MA, Brown D, et al. Sleep duration and quality: impact on lifestyle behaviors and cardiometabolic health: a scientific statement from the American Heart Association. *Circulation.* 2016;134(18):e367-e386. Epub 2016 Sep 19.
[5] Altman NG, Izci-Baserak B, Schopfer E, et al. Sleep duration versus sleep insufficiency as predictors of cardiometabolic health outcomes. *Sleep Med*. 2012;13(10):1261-70. doi: 10.1016/j.sleep.2012.08.005. Epub 2012 Nov 8.
[6] Faraut B, Andrillon T, Vecchierini MF, Leger D. Napping: a public health issue. From epidemiological to laboratory studies. *Sleep Med Rev.* 2017;35:85-100. doi: 10.1016/j.smrv.2016.09.002. Epub 2016 Sep 13.
[7] da Silva AA, de Mello RG, Schaan CW, Fuch FD, Redline S, Fuchs SC. Sleep duration and mortality in the elderly: a systematic review with meta-analysis. *BMJ Open*. 2016;6(2):e008119. doi: 10.1136/bmjopen-2015-008119.
[8] Institute of Medicine (US) Committee on Sleep Medicine and Research, Colten HR, Altevogt BM, eds. *Sleep Disorders and Sleep Deprivation: An Unmet Public Health Problem.* Washington (DC): National Academies Press; 2006.
[9] Sharma A, Muresanu DF, Ozkizilcik A, et al. Sleep deprivation exacerbates concussive head injury induced brain pathology: neuroprotective effects of nanowired delivery of cerebrolysin with alpha-melanocyte-stimulating hormone. *Prog Brain Res.* 2019;245:1-55.
[10] Besedovsky L, Lange T, Haack M. The sleep-immune crosstalk in health and disease. *Physiol Rev.* 2019;99(3):1325-1380.
[11] Griggs S, Redeker NS, Grey M. Sleep characteristics in young adults with type 1 diabetes. *Diabetes Res Clin Pract.* 2019;150:17-26.
[12] Zhu B, Hershberger PE, Kapella MC, Fritschi C. The relationship between sleep disturbance and glycaemic control in adults with type 2 diabetes: an integrative review. *J Clin Nurs.* 2017;26(23-24):4053-4064.
[13] Chakravorty S, Grandner MA, Mavandadi S, Perlis ML, Sturgis EB, Oslin DW. Suicidal ideation in veterans misusing alcohol: relationships with insomnia symptoms and sleep duration. *Addict Behav*. 2014;39(2):399-405. doi: 10.1016/j.addbeh.2013.09.002. Epub 2013 Oct 12.
[14] Ribeiro JD, Pease JL, Gutierrez PM, et al. Sleep problems outperform depression and hopelessness as cross-sectional and longitudinal predictorys of suicidal ideation and behavior in young adults in the military. *J Affect Disord.* 2012 Feb;136(3):743-50. doi: 10.1016/j.jad.2011.09.049. Epub 2011 Oct 26.
[15] Pigeon WR, Bishop TM, Krueger KM. Insomnia as a precipitating factor in new onset mental illness: a systematic review of recent findings. *Curr Psychiatry Rep.* 2017;19(8):44.
[16] Minakawa EN, Wada K, Nagai Y. Sleep disturbance as a potential modifiable risk factor for Alzheimer's disease. *Int J Mol Sci.* 2019;20(4).
[17] Juster RP, McEwen BS. Sleep and chronic stress: new directions for allostatic load research. *Sleep Med.* 2015;16(1):7-8.
[18] Alger SE, Chambers AM, Cunningham T, Payne JD. The role of sleep in human declarative memory consolidation. *Curr Top Behav Neurosci.* 2015;25:269-306. doi: 10.1007/7854_2014_341.
[19] Bayon V, Leger D, Gomez-Merina D, Vecchierini MF, Chennaoui M. Sleep debt and obesity. *Ann Med*. 2014; 46(5): 264–272. doi: 10.3109/07853890.2014.931103. Epub 2014 Jul 11.
[20] Franzen PL, Buysse DJ. Sleep disturbances and depression: risk relationships for subsequent depression and therapeutic implications. *Dialogues Clin Neurosci*. 2008;10(4):473-481.
[21] Motomura Y, Kitamura S, Oba K, et al. Sleep debt elicits negative emotional reaction through diminished amygdala-anterior cingulate functional connectivity. *PLoS One.* 2013;8(2):e56578. doi: 10.1371/journal.pone.0056578. Epub 2013 Feb 13.
[22] Shahly V, Berglund PA, Coulouvrat C, et al. The associations of insomnia with costly workplace accidents and errors: results from the America Insomnia Survey. *Arch Gen Psychiatry*. 2012;69(10):1054-1063. doi: 10.1001/archgenpsychiatry.2011.2188.
[23] National Sleep Foundation. Drowsy driving facts and stats. http://drowsydriving.org/about/facts-and-stats/. Accessed July 17, 2019.
[24] Brown BI, Chronic fatigue syndrome: a personalized integrative medicine approach. *Altern Ther Health Med*. 2014;20(1):29-40.
[25] Hoge CW, McGurk D, Thomas JL, Cox AL, Engel CC, Castro CA. Mild traumatic brain injury in U.S. soldiers returning from Iraq. *N Engl J Med*. 2008;358(5):453–463. doi: 10.1056.NEJMoa072972. Epub 2008 Jan 30.

[26] Bramoweth AD, Germain A. Deployment-related insomnia in military personnel and veterans. *Curr Psychiatry Rep*. 2013;15(10):401. doi: 10.1007/s11920-013-0401-4.
[27] Hughes J, Jouldjian S, Washington DL, Alessi CA, Martin JL. Insomnia and symptoms of post-traumatic stress disorder among women veterans. *Behav Sleep Med*. 2013;11(4):258–274. doi: 10.1080/15402002.2012.683903. Epub 2012 Dec 3.
[28] Kelley GA, Kelley KS. Exercise and sleep: a systematic review of previous meta-analyses. *J Evid Based Med.* 2017;10(1):26-36.
[29] Yang PY, Ho KH, Chen HC, Chien MY. Exercise training improves sleep quality in middle-aged and older adults with sleep problems: a systematic review. *J Physiother*. 2012;58(3):157-163. doi: 10.1016/S1836-9553(12)70106-6.
[30] Gubelmann C, Heinzer R, Haba-Rubio J, Vollenweider P, Marques-Vidal P. Physical activity is associated with higher sleep efficiency in the general population: the CoLaus study. *Sleep.* 2018;41(7). doi: 10.1093/sleep/zsy070.
[31] King AC, Oman RF, Brassington GS, Bliwise DL, Haskell WL. Moderate-intensity exercise and self-rated quality of sleep in older adults. A randomized controlled trial. *JAMA*. 1997;277(1):32-37.
[32] Myllymaki T, Kyrolainen H, Savolainen K, et al. Effects of vigorous late-night exercise on sleep quality and cardiac autonomic activity. *J Sleep Res*. 2011;20(1 Pt 2):146-153. doi: 10.1111/j.1365-2869.2010.00874.x.
[33] Morgenthaler T, Kramer M, Alessi C, et al. Practice parameters for the psychological and behavioral treatment of insomnia: an update. An American academy of sleep medicine report. *Sleep*. 2006;29(11):1415-1419.
[34] Buenaver LF, Townsend D, Ong JC. Delivering cognitive behavioral therapy for insomnia in the real world: considerations and controversies. *Sleep Med Clin.* 2019;14(2):275-281.
[35] Kelly MR, Robbins R, Martin JL. Delivering cognitive behavioral therapy for insomnia in military personnel and veterans. *Sleep Med Clin*. 2019;14(2):199-208.
[36] Minichiello V. Recharge. Whole Health Library website. https://wholehealth.wisc.edu/overviews/recharge. 2018. Accessed July 17, 2019.
[37] Cunningham JEA, Shapiro CM. Cognitive behavioural therapy for insomnia (CBT-I) to treat depression: a systematic review. *J Psychosom Res.* 2018;106:1-12.
[38] Mitchell MD, Gehrman P, Perlis M, Umscheid CA. Comparative effectiveness of cognitive behavioral therapy for insomnia: a systematic review. *BMC Fam Pract*. 2012;13:40. doi: 10.1186/1471-2296-13-40.
[39] Ritterband LM, Thorndike FP, Ingersoll KS, et al. Effect of a web-based cognitive behavior therapy for insomnia intervention with 1-year follow-up: a randomized clinical trial. *JAMA psychiatry.* 2017;74(1):68-75.
[40] Regel SJ, Tinguely G, Schuderer J, et al. Pulsed radio-frequency electromagnetic fields: dose-dependent effects on sleep, the sleep EEG and cognitive performance. *J Sleep Res*. 2007;16(3):253-258.
[41] Lambrozo J, Touitou Y, Dab W. Exploring the EMF-melatonin connection: a review of the possible effects of 50/60-hz electric and magnetic fields on secretion. *Int J Occup Environ Health*. 1996;2(1):37-47.
[42] Lewith GT, Godfrey AD, Prescott P. A single-blinded, randomized pilot study evaluating the aroma of Lavandula augustifolia as a treatment for mild insomnia. *J Altern Complement Med*. 2005;11(4):631-637.
[43] Hwang E, Shin S. The effects of aromatherapy on sleep improvement: a systematic literature review and meta-analysis. *J Altern Complement Med*. 2015;21(2):61-68. doi: 10.1089/acm.2014.0113. Epub 2015 Jan 13.
[44] Nussbaumer-Streit B, Forneris CA, Morgan LC, et al. Light therapy for preventing seasonal affective disorder. *Cochrane Database Syst Rev.* 2019;3:Cd011269.
[45] Lam RW, Levitt AJ, Levitan RD, et al. Efficacy of bright light treatment, fluoxetine, and the combination in patients with nonseasonal major depressive disorder: a randomized clinical trial. *JAMA Psychiatry*. 2016;73(1):56-63. doi: 10.1001/jamapsychiatry.2015.2235.
[46] Dentico D, Ferrarelli F, Riedner BA, et al. Short meditation trainings enhance non-REM sleep low-frequency oscillations. *PLoS One*. 2016;11(2):e0148961. doi: 10.1371/journal.pono.0148961.
[47] Black DS, O'Reilly GA, Olmstead R, Breen EC, Irwin MR. Mindfulness meditation and improvement in sleep quality and daytime impairment among older adults with sleep disturbances: a randomized clinical trial. *JAMA Intern Med*. 2015;175(4):494-501. doi: 10.1001/jamainternmed.2014.8081.
[48] Gong H, Ni CX, Liu YZ, et al. Mindfulness meditation for insomnia: a meta-analysis of randomized controlled trials. *J Psychosom Res.* 2016;89:1-6.
[49] Wang F, Eun-Kyoung Lee O, Feng F, et al. The effect of meditative movement on sleep quality: a systematic review. *Sleep Med Rev*. 2016;30:43-52. doi: 10.1016/j.smrv.2015.12.001. Epub 2015 Dec 12.

[50] Harvey AG, Payne S. The management of unwanted pre-sleep thoughts in insomnia: distraction with imagery versus general distraction. *Behav Res Ther*. 2002;40(3):267-277.
[51] Aurora RN; Zak RS; Auerbach SH; et al. Best practice guide for the treatment of nightmare disorder in adults. *J Clin Sleep Med*. 2010;6(4):389-401.
[52] Castell DO. Diet and the lower esophageal sphincter. *Am J Clin Nutr*. 1975;28(11):1296-1298.
[53] Pence P, Katz L, Huffman C, Cojucar G. Delivering integrative restoration-Yoga Nidra Meditation (iRest®) to Women with Sexual Trauma at a Vetern's Medical Center: a Pilot Study. Integrative Restoration Institute website. https://www.irest.org/sites/default/files/iRest-for-Women-with-Sexual-Trauma-2014-Research-Pence.pdf. Accessed July 30, 2019.
[54] Friedrich A, Schlarb AA. Let's talk about sleep: a systematic review of psychological interventions to improve sleep in college students. *J Sleep Res.* 2018;27(1):4-22. doi: 10.1111/jsr.12568. Epub 2017 Jun 15.
[55] Landolt HP, Retey JV, Tonz K, et al. Caffeine attenuates waking and sleep electroencephalographic markers of sleep homeostasis in humans. *Neuropsychopharmacology*. 2004;29(10):1933-1939.
[56] Tanaka E. In vivo age-related changes in hepatic drug-oxidizing capacity in humans. *J Clin Pharm Ther*. 1998;23(4):247-255.
[57] Roehrs T, Roth T. Sleep, sleepiness, sleep disorders and alcohol use and abuse. *Sleep Med Rev*. 2001;5(4):287-297.
[58] Zhou ES, Gardiner P, Bertisch SM. Integrative medicine for insomnia. *Med Clin North Am.* 2017;101(5):865-879.
[59] Michelson D, Page SW, Casey R, et al. An eosinophilia-myalgia syndrome related disorder associated with exposure to L-5-hydroxytryptophan. *J Rheumatol*. 1994;21(12):2261-2265.
[60] van Geijlswijk IM, Korzilius HP, Smits MG. The use of exogenous melatonin in delayed sleep phase disorder: a meta-analysis. *Sleep*. 2010;33(12):1605-1614.
[61] Bent S, Padula A, Moore D, Patterson M, Mehling W. Valerian for sleep: a systematic review and meta-analysis. *Am J Med*. 2006;119(12):1005-1012.
[62] Leach MJ, Page AT. Herbal medicine for insomnia: a systematic review and meta-analysis. *Sleep Med Rev.* 2015;24:1-12.
[63] Lillehei AS, Halcon LL. A systematic review of the effect of inhaled essential oils on sleep. *J Altern Complement Med.* 2014;20(6):441-451.
[64] Halpern J, Cohen M, Kennedy G, Reece J, Cahan C, Baharav A. Yoga for improving sleep quality and quality of life for older adults. *Altern Ther Health Med.* 2014;20(3):37-46.
[65] Chen KM, Chen MH, Chao HC, Hung HM, Lin HS, Li CH. Sleep quality, depression state, and health status of older adults after silver yoga exercises: cluster randomized trial. *Int J Nurs Stud*. 2009;46(2):154-163. doi: 10.1016/j.ijnurstu.2008.09.005. Epub 2008 Oct 22.
[66] Cao H, Pan X, Li H, Liu J. Acupuncture for treatment of insomnia: a systematic review of randomized controlled trials. *J Altern Complement Med*. 2009;15(11):1171-1186. doi: 10.1089/acm.2009.0041.
[67] McCall M. Yoga intervention may improve health-related quality of life (HRQL), fatigue, depression, anxiety and sleep in patients with breast cancer. *Evid Based Nurs.* 2018;21(1):9.
[68] Cheuk DK, Yeung WF, Chung KF, Wong V. Acupuncture for insomnia. *Cochrane Database Syst Rev*. 2012;(9):CD005472. doi: 10.1002/14651858.CD005472.pub3.
[69] Yin X, Gou M, Xu J, et al. Efficacy and safety of acupuncture treatment on primary insomnia: a randomized controlled trial. *Sleep Med.* 2017;37:193-200.
[70] Dong B, Chen Z, Yin X, et al. The efficacy of acupuncture for treating depression-related insomnia compared with a control group: a systematic review and meta-analysis. *Biomed Res Int.* 2017;2017:9614810. doi: 10.1155/2017/9614810. Epub 2017 Feb 14.
[71] Choi TY, Kim JI, Lim HJ, Lee MS. Acupuncture for managing cancer-related insomnia: a systematic review of randomized clinical trials. *Integr Cancer Ther.* 2017;16(2):135-146. doi: 10.1177/1534735416664172. Epub 2016 Aug 16.
[72] Hayashi M, Motoyoshi N, Hori T. Recuperative power of a short daytime nap with or without stage 2 sleep. *Sleep.* 2005;28(7):829-836.
[73] Lovato N, Lack L. The effects of napping on cognitive functioning. *Prog Brain Res.* 2010;185:155-66. doi: 10.1016/B978-0-444-53702-7.00009-9.
[74] Yamada T, Hara K, Shojima N, Yamauchi T, Kadowaki T. Daytime napping and the risk of cardiovascular disease and all-cause mortality: a prospective study and dose-response meta-analysis. *Sleep.* 2015;38(12):1945-1953. doi: 10.5665/sleep.5246.

[75] Theasom A, Cropley M, Kantermann T. Daytime napping associated with increased symptom severity in fibromyalgia syndrome. *BMC Musculoskelet Disord.* 2015;16:13. doi: 10.1186/s12891-015-0464-y.
[76] Rindfleisch A. Taking breaks: when to start moving, and when to stop. Whole Health Library website. https://wholehealth.wisc.edu/tools/taking-breaks-when-to-start-moving-and-when-to-stop/. 2018. Accessed August 9, 2019.
[77] Dunstan DW, Thorp AA, Healy GN. Prolonged sitting: is it a distinct coronary heart disease risk factor? *Curr Opin Cardiol*. 2011;26(5):412-419. doi: 10.1097/HCO.0b013e3283496605.

Chapter 10. Family, Friends, & Co-Workers: Relationships



It is in the shelter of each other that people live.
—Irish Proverb

The Importance of Healthy Relationships

If you put an animal under stress and it is alone, its plasma cortisol, a stress hormone, will increase by 50%. If you stress the same animal when it is surrounded by familiar companions, its cortisol does not change.[1] The same holds true for people; social support matters. The Alameda County study followed over 7,000 people for nine years and found that the best predictor of mortality in people over 60 was how much social support they had.[2] We know that better social support correlates with better surgical outcomes,[3] as well as with decreased frequency of colds.[4] Cancer recurrences, development of dementia, and depression also decrease for those with positive social relationships.[5] A 2016 review of 35 studies found benefit for connection in diabetes care as well (when done in person or using various communication technologies), including for self-care behavior, physical activity, weight management, and hemoglobin A1C levels.[6]

When all is said and done, connection is life. We are social beings, and we thrive on interaction. As you co-create a Personal Health Plan (PHP) with someone, keep in mind that the "Me" at the center of the Circle of Health is best served when there is a "We" offering support. In this chapter, the focus is more on relationships with other individuals. In Chapter 19, we will focus on broader relationships related to Community.

It is clear (and not surprising) that loneliness and lack of connection decrease health. A 2014 summary of 23 interviews with Veterans who had attempted suicide reported that one of the main issues contributing to their decision was loneliness and isolation.[7] A 2019 review went so far as to say that loneliness and social isolation should be included into suicide risk assessments.[8] Isolation has a significant health impact. A 2015 analysis of 70 different studies found that social isolation is linked to a 29% higher likelihood of dying.[9] These findings were consistent across gender, world region, and length of follow up. Loneliness and poor social connection lead to inflammation and chronic disease.[10] There is a reason why solitary confinement is considered a terrible punishment.

In addition to asking a person **What** really matters, it is also important to ask:

***Who* really matters?**

The diagram shown in Figure 10-1 is used in skill-building courses to give Veterans a framework for thinking about Family, Friends, and Co-Workers, or "who really matters." The "subtopics" can offer ideas for how to bring one's relationships more fully into focus and assist in incorporating that aspect of self-care into their PHPs. Each of these areas is discussed in this chapter.

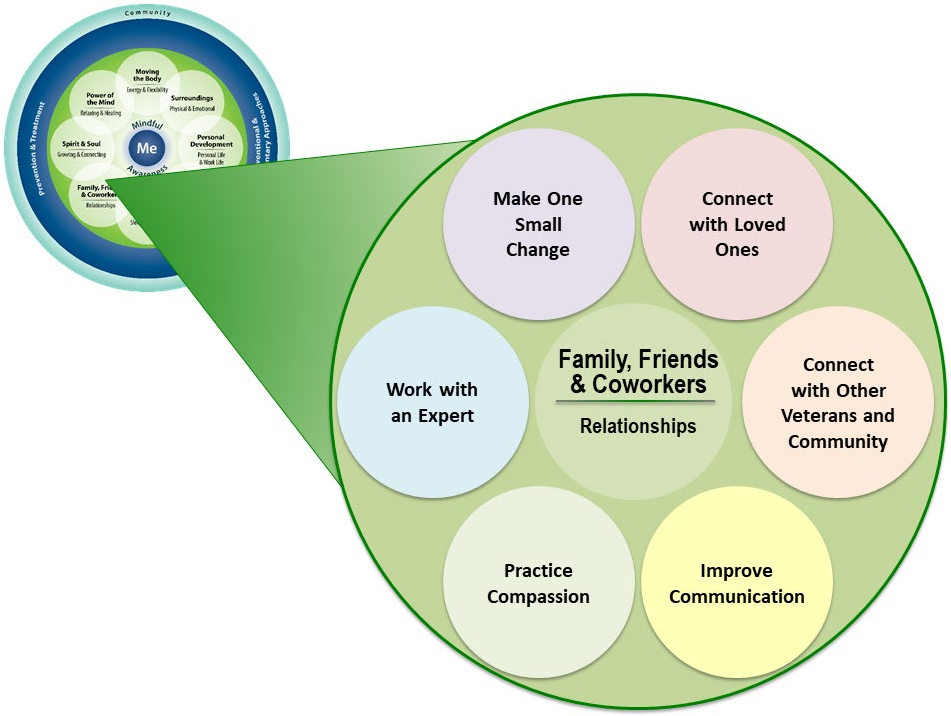


Figure 10-1. Subtopics within the Family, Friends, and Co-Workers Circle of Self-Care

Questions to Ask About Relationships

Social support has three dimensions, and all of them are important. Consider asking about all three[11]:

1. Who provides you with support?
2. How satisfied are you with the support you receive? A negative relationship may be worse than no relationship at all.
3. What types of support do you receive? Social support can be emotional or instrumental (i.e. involves receiving labor, time, or funding from others). It may also involve receiving mentoring (feedback) or information.

To pursue this further, you can ask the following[11]:

- Who are the **10 people** in your life who matter the most to you? Who are you closest to in your family? Who is your best friend? Who is your most trusted colleague?
- Who provides you with **emotional** support?
- Who gives you **instrumental** support in the form of time, money, and other types of help?
- What about your sources of **appraisal** support? Who gives you affirmation, evaluation, and feedback?
- Finally, where do you get **informational** support? Who offers you advice, guidance, and helpful suggestions?

And here are some other key questions you can consider:

- Which relationships fulfill and/or strengthen you?
- Do you get the support you need from your loved ones?
- Are you lonely?
- How often do you share your feelings and thoughts with others?
- Who or what drains your energy? Can you change this?
- Do you have friends or family members you can talk to about your health?
- What do your partner and family think are the causes of your health issues?
- Has an illness of a loved one ever affected you? Are you taking care of anyone with chronic illness?
- Is there someone you would like to have come with you to your health care appointments?
- Are you close to your blood relatives (parents, siblings, extended family, children)?
- Who do you consider to be your "family of choice?" Is it your blood relatives? Who else is important to you in your life?
- How deeply are your family members involved in each other's lives?
- Do you have a significant other?
- Do you feel supported by your partner?
- Are you sexually active? Are you satisfied with this aspect of your health, and why or why not?
- Do you have any children? What ages?
- What activities do you and your partner do together?
- Is anyone hurting you? Have you been hit, kicked, punched, choked, or otherwise hurt by an intimate partner? (Never forget to ask about safety at home, as noted in Chapter 6, "Surroundings.")
- If single: Are you satisfied with being single, and do you have the support you need in your life?
- Tell me about your closest friend. What do friendships mean to you?

Ten Tips for Enhancing Social Connection and Relationships

The following tips can help as you explore enhancing social connection.

1. Consider social capital, and ways to increase it

The term "social capital" was first introduced by Robert Putnam in *Bowling Alone: The Collapse and Revival of American Community*.[12] The act of bowling alone was used as a reference to the disintegration of U.S. after-work bowling leagues. It serves as a metaphor for the decline of social, political, civic, religious, and workplace connections in the United States.

Social capital refers to the value of belonging to one's social networks. It is all the benefits that arise from reciprocal exchanges with others, be they family, friends, co-workers, or social, political, or religious organizations. These networks have value for health. You contribute in relationships, and just as other people or groups can count on you if they are

in need, you can count on them. Your contributions to relationships increase your chances of receiving support in the future. An example of social capital would be the shared connection between two people who are both alumni of the same college; they are more likely to connect and share various resources with each other. There is a strong positive relationship between social capital and health, measured in terms of both self-reports and mortality rates.[13] A study of 944 pairs of identical twins found that if they had higher degrees of social capital, they had better mental and physical health.[14]

2. Join a healthy group of some kind

This recommendation can be a helpful part of practically every PHP that is written. Strategize with Veterans about which groups they might like to join, respecting that some people are introverted and need to strike a healthy balance between social time and "alone time." Encourage Veterans to explore their options, and have a list of options handy. These may include the following:

- **Volunteer programs**. Volunteering and its benefits are discussed in Chapter 7, "Personal Development."
- **Support groups**. Many of these are available in the VA. Some are even offered remotely, via Telehealth. Find out what is offered in your area. Many of them center on a specific diagnosis, such as chronic pain, mental health, or substance use disorders (e.g. Alcoholics Anonymous can be quite beneficial). A study of the benefits of support groups for patients with malignant melanoma found that participants in a six-week support group had half the recurrence rate and a third of the mortality rate when compared to the control group at five years follow-up.[15] More studies are needed, however, as was shown by a 2016 review of the benefits of support groups which only found 1 of 9757 studies that met inclusion criteria.[16]
- **Social media**. For Veterans comfortable with technology, sites like Facebook can be useful resources.[17]
- **Help with a community garden**. Many VA facilities are now sponsoring these, as well as farmer's markets where Veterans sell what they grow.
- **Join a gym**. This draws on Chapter 5, "Moving the Body," and offers potential for social connections.

3. Become more active in the local community

This ties in to the other suggestions listed above. Examples include the following:

- Attend community events like civic celebrations, stage productions, and fundraisers.
- Attend local sporting events.
- Help with directing or organizing community events.
- Join a religious or spiritual community.
- Participate in the arts.
- Take (or teach) a course of some kind.

See Chapter 19 for more about "Whole Health and Community."

4. Have confidants in your life, if possible

We know that health is influenced by the number of close confidants a person has. Number of confidants is more of a health indicator than how many friends one has or how many people one knows.[18] That is, quality of relationships matters more than quantity. Ask people if they have someone in their lives they can confide in, someone they are comfortable telling secrets to or sharing what is going on with them in terms of their health. In one study of older women, lack of a confidant was associated with lower reported physical function and vitality. The negative effect of not having confidants was as strong as being a heavy smoker or overweight.[19] Unfortunately, the number of confidants per person has dropped over the years in the U.S.[20] On the positive side, while people may not know their neighbors, and while people are less engaged than they used to be in civic activities, a 2009 report concluded that mobile phones and online social media may be helping people to connect in other ways.[17]

5. Connect with a significant other, if possible

Having a close relationship with a significant other is also health promoting. For example, in a study of 10,000 men with heart disease, being able to answer, "Yes, my wife shows me her love" was linked to 50% less angina and 50% fewer ulcers.[21] In 1,400 men and women who had been through heart catheterization, the five-year mortality rate was over three times higher for those who reported not being happily married or having a confidante.[22] A study of women who were anticipating receiving an electric shock looked at their functional MRIs. It was noted that they had fewer anxiety-related MRI findings if they were holding hands with their husbands (versus strangers) *and* they rated their marriages favorably.[23] Being unhappily married seems to be associated with worse health outcomes than being single, and negative partner interactions are associated with higher rates of depression, anxiety and chronic illness. Recent research has also indicated that legalization of same-sex marriages has had numerous health-related benefits.[24]

A fascinating 2018 study measured EEG tracings on couples.[25] One person was subjected to pain, and the other would touch his/her hand to offer "social touch analgesia." (We know that touch can have a pain-reducing effect.) Researchers found that both people would show certain alpha waves in the same parts of their brains, which were in the same area where the brain was stimulated by the pain. How much the coupling there was between the two people's brains correlated to the degree of pain reduction the touch offered. A prior study by the same researchers found that heart rate and respiration also occurred under similar circumstances.[26]

6. Connect with animals

Animals can be powerful healers. Animal-assisted therapy has been found to have a number of health benefits.[27] Having a companion animal reduces depression and loneliness, decreases anxiety, and enhances social skills; it often promotes physical activity as well.[28] A number of VA's offer equine therapy programs (working with horses), therapy dog visits, or programs that help Veterans find pets. Refer to "Animal-Assisted Therapies" for more information.

7. Heal—or avoid—negative relationships

Conflicted or unfulfilled relationships can have a negative health impact, as you might expect.[29] Spousal conflict is associated with poor pain tolerance and higher blood pressure and heart rate in addition to significantly worse cardiovascular outcomes, endocrine function and immunity.[30] Safety of one's emotional environment is covered in Chapter 6, "Surroundings."

8. Cultivate communication skills

Everyone can learn simple communication skills that can foster better connections with others and help them to avoid negative interactions. Some examples of approaches you can teach Veterans about or try yourself include the following[5]:

- **Listen well**. Listen in a way where you are totally present, with full mindful awareness of what the other person is saying. Listen with your "entire self"—this means not only using your ears, but listening with your heart (tuning in to emotions) and closely observing body language. Good listeners are not judgmental; they are able to share about themselves without over-disclosing.
- **Inquiry**. Good communicating involves actively reflecting what has been said to you, showing the other person through clarifying questions that you are genuinely interested in them. Inquiry helps the other person to more easily draw their own conclusions; it does not involve the listener trying to impose those conclusions on them.
- **Nonviolent Communication (NVC)**.[31] Created by Marshall Rosenberg, nonviolent communication teaches a series of steps one can follow in communicating with others. It was designed to steer interactions away from blame and criticism to a place of greater empathy and understanding. NVC assumes people share certain fundamental needs and are compassionate by nature. We can unlearn strategies that involve violence and come together through our common humanity to solve interpersonal differences. The process might include making an observation about an event and sharing the feeling it evokes, rather than making generalizations about the experience. NVC focuses on considering what you and the other person need. Then both people outline concrete steps that might be taken to improve a situation. More information on NVC is available in the Resources section at the end of this chapter.
- **"I Statements."** This is another commonly-used communication tool.[32] Speaking strictly for yourself gives another person space for the opinions, beliefs, and thoughts they have that might be different from yours. Sentences begin with "I" rather than "You." For example, rather than generalizing by saying, "It is bad for you to do that," a person could say, "I am opposed to doing that." Instead of saying, "That movie was great," a person could say, "I liked that movie. What did you think?" These statements do not attribute feelings to the other person, but they make the speaker's feelings and thoughts clear. This supports healthy dialog.
- **Use the Four Habits Model**. This was created by Kaiser Permanente, to enhance clinician communication. Its four steps, which can inform any conversation where one person is trying to help another (including Whole Health visits), are as follows[33]:

1. **Invest in the beginnin**g. Introduce yourself and put the other person at ease. Ask open-ended questions about concerns. Plan out the discussion with the other person. What do they want to accomplish with the conversation?
2. **Get the other person's perspective**. Ask them what is going on and what is concerning to them. If you are speaking of illness, explore how it has affected his or her life.
3. **Show empathy**. Empathy is the ability to mutually experience what is going on with others—thoughts, experiences, and emotions—while maintaining healthy boundaries.[34] Be open to the other person's emotions and show it through both verbal and nonverbal communication. We know that empathy is a powerful contributor to health and well-being.[35]
4. **Invest in the end of the conversation**. Provide any information and education that is required. Involve the other person in deciding next steps, and summarize what has been discussed. Verify that the other person has asked all their questions.

9. Work with social workers

Social workers can be powerful allies when it comes to forging helpful relationships, finding support groups and community resources, or navigating the health care system in general.[36] While noting that more research is needed, a 2017 review found that having social workers involved in care had positive effects on health outcomes and service utilization and saved costs.[37] The study concluded, "The economic and health benefits reported in these studies suggest that the broad health perspective taken by the social work profession for patient, personal, and environmental needs may be particularly valuable for achieving goals of cost containment, prevention, and population health." Social workers significantly contribute an additional, helpful perspective that honors the power of relationship.

10. Practice compassion and loving-kindness

There are many ways to do this. Loving-kindness meditation is a traditional Buddhist meditation wherein one focuses benevolence and support toward self and others.[38] Compassion-based interventions focus on tuning into suffering of oneself or others, with a commitment to prevent it. An example of a loving-kindness meditation is featured as a Whole Health tool on the next page.

Compassion based interventions and loving-kindness meditation have many benefits, whether a person is struggling with health conditions or not. These types of meditation lead to progressive and favorable changes in brain function.[39] They increase mindfulness, positive emotions, compassion, and self-compassion in a systematic review and meta-analysis of 22 studies.[40] They also enhance pro-social behavior.[41] Loving-kindness has been found to be effective in treating chronic pain. Compassion meditation was found to help with psychotic disorders, affective disorders, major depression, eating disorders, and suicide risk. A combination of the two was helpful with borderline personality disorder.[38]

Whole Health Tool: Loving-Kindness Meditation [42]

While many meditation exercises have you focus on what is happening with your thinking, this one focuses more on your heart. Make sure you are in a comfortable position. Close your eyes, or rest them comfortably with a soft gaze on a place a few feet in front of you. Begin with five deep breaths. Focus on using your abdomen to breathe first. As you breathe in, your abdomen should go out. As you breathe out, your abdomen should pull back in.

After you have settled into being aware of your breath, focus on the area around your heart. With each breath, draw love, compassion and acceptance into your heart. It can help to focus on people who "warm your heart" or memories that "make your heart sing."

Next, turn your attention to feeling compassion for yourself and for others. Recognize that compassion is the desire for freedom from suffering. In this state, visualize radiating **how you feel in your heart** to everyone mentioned in the statements below. Without judgment, notice the feelings, thoughts, sensations, or images that arise.

Pause with each statement—at least for the space of one breath—before moving on to the next one.

1. Start by directing the compassion towards yourself.

   May I be safe and protected. (Breathe)
   May I be balanced and well in body and mind. (Breathe)
   May I be full of loving-kindness. (Breathe)
   May I be truly happy and free. (Breathe)

2. Next, direct this compassion toward someone you love or for whom you feel great gratitude. This can be a family member or friend, a teacher, a pet, a role model, or someone else who has supported you sometime in your life.

   May you be safe and protected. (Breathe)
   May you be balanced and well in body and mind. (Breathe)
   May you be full of loving-kindness. (Breathe)
   May you be truly happy and free. (Breathe)

3. Now visualize someone you relate to in a neutral way, someone you neither like nor dislike. Perhaps this is someone you just passed on the street or a person you see on your way to work.

   May you be safe and protected. (Breathe)
   May you be balanced and well in body and mind. (Breathe)
   May you be full of loving-kindness. (Breathe)
   May you be truly happy and free. (Breathe)

4. Now, if possible, turn your attention to someone who is challenging, someone who you might be having a hard time relating to. This need not be the most difficult person in your life—do this in a way that does not cause you distress.

   May you be safe and protected. (Breathe)
   May you be balanced and well in body and mind. (Breathe)
   May you be full of loving-kindness. (Breathe)
   May you be truly happy and free. (Breathe)

5. Now, direct this compassion toward all the Veterans/patients who you serve and their loved ones.

   May you all be safe and protected. (Breathe)
   May you all be balanced and well in body and mind. (Breathe)
   May you all be full of loving-kindness. (Breathe)
   May you all be truly happy and free. (Breathe)

6. Next direct this compassion toward your colleagues who serve Veterans and their families.

   May you all be safe and protected. (Breathe)
   May you all be balanced and well in body and mind. (Breathe)
   May you all be full of loving-kindness. (Breathe)
   May you all be truly happy and free. (Breathe)

7. Direct this compassion toward all people and all beings everywhere.

   May all living beings be safe and protected. (Breathe)
   May all living beings be balanced and well in body and mind. (Breathe)
   May all living beings be full of loving-kindness. (Breathe)
   May all living beings be truly happy and free. (Breathe)

8. And, finally, return to offering this compassion for yourself.

   May I be safe and protected. (Breathe)
   May I be balanced and well in body and mind. (Breathe)
   May I be full of loving-kindness. (Breathe)
   May I be truly happy and free. (Breathe)

As you conclude, notice how you are feeling in your heart area, and in your body in general. Note, but try not to judge, any emotions that came up during this exercise.

Family, Friends, & Co-Workers Resources

Websites

VA Whole Health Website

- Components of Health and Well-Being Video Series, "A Patient Centered Approach To: Family, Friends, and Co-Workers." https://www.youtube.com/watch?v=_CmqMRCezb0&feature=youtu.be
- Whole Health Veteran Handouts https://www.va.gov/WHOLEHEALTH/veteran-handouts/index.asp
    - An Introduction to Family, Friends and Coworkers: Relationships for Whole Health
    - Relationships and Health
    - Compassion Practice
    - Coping with Grief Following a Death

Whole Health Library Website

- "Family, Friends, and Co-Workers" overview https://wholehealth.wisc.edu/overviews/family-friends-coworkers
- "Animal-Assisted Therapies" https://wholehealth.wisc.edu/tools/animal-assisted-therapies
- Whole Health for Skill Building: Family, Friends, and Co-Workers https://wholehealth.wisc.edu/courses/whole-health-skill-building/
    - Faculty Guide
    - Veteran Handout
    - PowerPoints
    - Mindful Awareness Script: A Loving-Kindness Mindful Awareness Practice

Other Websites

- Center for Nonviolent Communication. https://www.cnvc.org
- Information about social workers in the VA, http://www.socialwork.va.gov/socialworkers.asp
- Information about support and peer-led groups in the VA. https://www.ptsd.va.gov/gethelp/peer_support.asp
- VA Caregiver Support. http://www.caregiver.va.gov. Programs available both in and out of the home to help caregivers support Veterans and themselves
- Compassion: Bridging Practice and Science, Stanford University e-book. downloadable at http://www.compassion-training.org/
- Health Journeys. www.healthjourneys.com. Numerous resources involving guided imagery for various health issues and scenarios

Books

- *Be the Person You Want to Find: Relationship and Self-Discovery*, Cheri Huber (1997)
- *Bowling Alone: The Collapse and Revival of American Community*, Robert Putnam (2001)

- *Connected: The Surprising Power of Our Social Networks and How They Shape Our Lives*, Nicholas Christakis (2009)
- *Emotional Intelligence,* Daniel Goleman (2006)
- *Lifeskills: 8 Simple Ways to Build Stronger Relationships, Communicate More Clearly, and Improve Your Health*, Virginia Williams (1999)
- *Nonviolent Communication: A Language of Life*, Marshall Rosenberg (2015)
- *The Brain That Changes Itself*, Norman Doidge (2007)
- *The Wisdom of Crowds*, James Surowiecki (2005)
- *The Zen of Listening: Mindful Communication in an Age of Distraction*, Rebecca Shafir (2003)

Special thanks to Christine Milovani LCSW, who co-wrote the original Whole Health Library materials on Family, Friends, and Co-Workers that inspired content for some of this chapter, as well as to Greta Kuphal, MD, who updated those materials in 2018.

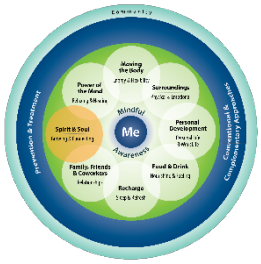
References

[1] Levine S, Lyons DM, Schatzberg AF. Psychobiological consequences of social relationships. *Ann N Y Acad Sci*. 1997;807:210-218.
[2] Hook EB. Re: "Neighborhood social environment and risk of death: multilevel evidence from the Alameda County study". *Am J Epidemiol*. 2000;151(11):1132-1133.
[3] Rosenberger PH, Jokl P, Ickovics J. Psychosocial factors and surgical outcomes: an evidence-based literature review. *J Am Acad Orthop Surg*. 2006;14(7):397-405.
[4] Cohen S, Doyle WJ, Skoner DP, Rabin BS, Gwaltney JM, Jr. Social ties and susceptibility to the common cold. *JAMA*. 1997;277(24):1940-1944.
[5] Duke Integrative Medicine. Personalized health plan manual. Duke University, August 2015.
[6] Colorafi K. Connected health: a review of the literature. *Mhealth.* 2016;2:13. doi: 10.21037/mhealth.2016.03.09. eCollection 2016.
[7] Montross Thomas LP, Palinkas LA, Meier EA, Iglewicz A, Kirkland T, Zisook S. Yearning to be heard: what veterans teach us about suicide risk and effective interventions. *Crisis*. 2014;35(3):161-167. doi: 10.1027/0227-5910/a000247.
[8] Calati R, Ferrari C, Brittner M, et al. Suicidal thoughts and behaviors and social isolation: a narrative review of the literature. *J Affect Disord.* 2019;245:653-667.
[9] Holt-Lunstad J, Smith TB, Baker M, Harris T, Stephenson D. Loneliness and social isolation as risk factors for mortality: a meta-analytic review. *Perspect Psychol Sci*. 2015;10(2):227-237. doi: 10.1177/1745691614568352.
[10] Fagundes CP, Bennett JM, Derry HM, Kielcolt-Glaser JK. Relationships and inflammation across the lifespan: social developmental pathways to disease. *Soc Personal Psychol Compass.* 2011;5(11):891-903.
[11] Kuphal, G. Family, friends, and co-Workers. Whole Health Library website. https://wholehealth.wisc.edu/overviews/family-friends-coworkers. 2018. Accessed July 17, 2019.
[12] Putnam RD. *Bowling Alone: The Collapse and Revival of American Community*. New York: Simon and Schuster; 2000.
[13] Gilbert KL, Quinn SC, Goodman RM, Butler J, Wallace J. A meta-analysis of social capital and health: a case for needed research. *J Health Psychol*. 2013;18(11):1385-1399.
[14] Fujiwara T, Kawachi I. Social capital and health. A study of adult twins in the U.S. *Am J Prev Med*. 2008;35(2):139-144. doi: 10.1016/j.amepre.2008.04.015.
[15] Fawzy FI, Fawzy NW, Hyun CS, et al. Malignant melanoma. Effects of an early structured psychiatric intervention, coping, and affective state on recurrence and survival 6 years later. *Arch Gen Psychiatry*. 1993;50(9):681-689.

[16] Delisle VC, Gumuchian ST, Kloda LA, et al. Effect of support group peer facilitator training programmed on peer facilitator and support group member outcomes: a systematic review. *BMJ Open.* 2016;6(11):e013325. doi: 10.1136/bmjopen-2016-013325.
[17] Hampton KN, Sessions LF, Her EJ, Rainie L. Social isolation and new technology: how the internet and mobile phones impact Americans' social networks. 2009; Pew Research Center website. http://www.pewinternet.org/2009/11/04/social-isolation-and-new-technology/. Accessed July 17, 2019.
[18] McPherson M, Smith-Lovin L, Brashears ME. Social isolation in America: changes in core discussion networks over two decades. *Am Sociol Rev*. 2006;71(3):353-375.
[19] Michael YL, Colditz GA, Coakley E, Kawachi I. Health behaviors, social networks, and healthy aging: cross-sectional evidence from the Nurses' Health Study. *Qual Life Res*. 1999;8(8):711-722.
[20] Paik A, Sanchagrin K. Social isolation in America: an artifact. *Am Sociol Rev*. 2013;78(3):339-360.
[21] Madalie, JH, Goldbourt U. Angina pectoris among 10,000 men. II. Psychosocial and other risk factors as evidenced by a multivariate analysis of a five-year incidence study. *Am J Med*. 1976;60(6):910-21.
[22] Williams RB, Barefoot JC, Califf RM, et al. Prognostic importance of social and economic resources among medically treated patients with angiographically documented coronary artery disease. *JAMA* 1992, 267(4):520-524.
[23] Coan JA, Kasle S, Jackson A, Schaefer HS, Davidson RJ. Mutuality and the social regulation of neural threat responding. *Attach Hum Dev*. 2013;15(3):303-315. doi: 10.1080/14616734.2013.782656. Epub 2013 Apr 2.
[24] Tuller D. The health effects of legalizing same-sex marriage. *Health Aff (Millwood).* 2017;36(6);978-981. doi: 10.1377/hlthaff.2017.0502.
[25] Goldstein P, Weissman-Fogel I, Dumas G, Shamay-Tsoory SG. Brain-to-brain coupling during handholding is associated with pain reduction. *Proc Natl Acad Sci*. 2018;115(11):E2528-E2537.
[26] Goldstein P, Weissman-Fogel I, Shamay-Tsoory SG. The role of touch in regulating inter-partner physiological coupling during empathy for pain. *Sci Rep.* 2017;7(1):3252.
[27] Rindfleisch A. Animal-assisted therapies. Whole Health Library website. https://wholehealth.wisc.edu/tools/animal-assisted-therapies. 2018. Accessed July 17, 2019.
[28] Friedman E, Krause-Parello CA. Companion animals and human health: benefits, challenges, and the road ahead for human-animal interaction. *Rev Sci Tech.* 2018;37(1):71-82.
[29] Cohen S, Gottleib B, Underwood L. Social relationships and health. In Cohen S, Gottleib B, Uderwood L, eds. *Social Support Measurement and Interventions: A Guide for Health and Social Scientists*. New York: Oxford University Press; 2000.
[30] Birmingham WC, Holt-Lunstad J. Social aggravation: understanding the complex role of social relationships on stress and health-relevant physiology. *Int J Psychophysiol.* 2018;131:13-23. doi: 10.1016/j.ijpsycho.2018.03.023. Epub 2018 Apr 5.
[31] The Center for Nonviolent Communication. https://www.cnvc.org. Accessed July 17, 2019.
[32] "I" Message. http://www.goodtherapy.org/blog/psychpedia/i-message. Good Therapy website. Accessed July 17, 2019.
[33] Stein T, Frankel RM, Krupat E. Enhancing clinician communication skills in a large healthcare organization: a longitudinal case study. *Patient Educ Couns*. 2005;58(1):4-12.
[34] Olinick S. A critique of empathy and sympathy. In: Lichtenberg JD, Bornstein M, Silver D, eds. *Empathy*. Hillsdale, N.J.: Analytic Press: Distributed by L. Erlbaum Associates; 1984.
[35] Derksen F, Bensing J, Largo-Janssen A. Effectiveness of empathy in general practice: a systematic review. *Br J Gen Pract.* 2013;63(606):e76-84. doi: 10.3399/bjgp13X660814.
[36] VHA Social Work. U. S. Department of Veterans Affairs website. https://www.socialwork.va.gov. Published February 7, 2018. Accessed July 17, 2019.
[37] Steketee G, Ross AM, Wachman MK. Health outcomes and costs of social work services: a systematic review. *Am J Public Health.* 2017;107(S3):S256-s266.
[38] Graser J, Stangier U. Compassion and loving-kindness meditation: an overview and prospects for the application in clinical samples. *Harv Rev Psychiatry.* 2018;26(4):201-215.
[39] Weng, HY, Fox AS, Shackman AJ, et al. Compassion training alters altruism and neural responses to suffering. *Psychol Sci.* 2013;24(7):1171-1180. doi: 10.1177/0956797612469537. Epub 2013 May 21.
[40] Galante J, Galante I, Bekkers MJ, Gallacher J. Effect of kindness-based meditation on health and well-being: a systematic review and meta-analysis. *J Consult Clin Psychol.* 2014;82(6):1101-14. doi: 10.1037/a0037249. Epub 2014 Jun 30.

[41] Bankard J. Training emotion cultivates morality: how loving-kindness meditation hones compassion and increase prosocial behavior. *J Relig Health.* 2015;54(6):2324-43. doi: 10.1007/s10943-014-9999-8.
[42] Loving-kindness meditation. University of Wisconsin Department of Family Medicine and Community Health Integrative Health website. http://www.fammed.wisc.edu/files/webfm-uploads/documents/outreach/im/handout_loving_kindness.pdf. Accessed July 17, 2019.

Chapter 11. Spirit & Soul: Growing & Connecting



The twenty-first century will be all spiritual or it will not be at all.
—André Malraux

The Importance of Spirituality, Meaning, and Purpose

Spirituality, for many people, is at the heart of "what really matters." It provides the context for health and well-being. It connects us to our deepest values and beliefs. It can be at the core of our resilience, and it can help us make sense of why we suffer, the nature of death and dying, and ultimately, the meaning of life. Drawing on Spirit and Soul can be foundational when it comes to providing individualized, whole-person care.[1]

Roger Walsh, MD, author of *Essential Spirituality*, defines "spirituality" as the "…direct experience of the sacred."[2] Fred Craigie, PhD, who teaches widely about spirituality in medicine, defines spirituality simply as, "what life is about." "Religion," in contrast, has been described as "…a body of beliefs and practices defined by a community or society to which its adherents mutually subscribe."[3] "Religiosity," a term mainly used in research, is used to describe a person's being religious. Soul, in the most general sense, is what makes something or someone alive.

Each of us experiences the sacred in different ways, and this is even true for people who belong to the same religion. Keeping the definitions of spirituality and religion general allows personal health planning to remain inclusive. That is essential if Whole Health care of "Spirit and Soul" truly is to be personalized to the needs of any given patient.

As you consider how to explore this very broad topic with Veterans, it is once again important to keep scope of practice in mind. Many Whole Health team members are uncomfortable with talking about others' religious or spiritual beliefs. Chaplains are there to help. If someone needs a formal spiritual assessment that should of course be done by a chaplain. If issues of Spirit and Soul arise, it is always a good idea to bring in experts to be part of the Whole Health team. If you are a chaplain, keep doing all you can to educate other members of the team about what your role can be and what you can offer for Veterans. A more detailed description of chaplaincy is offered later in this chapter.

Figure 11-1 highlights some "subtopics" that can be considered when incorporating Spirit and Soul into a Veteran's Personal Health Plan (PHP). The subtopics were developed for skill-building courses for Veterans and are related to each of the eight self-care topics in the Circle of Health. Note that there is a "Make One Small Change" circle that leaves room for creativity in case Veterans do not see an option that interests them. This chapter explores several of these subtopics in more detail.

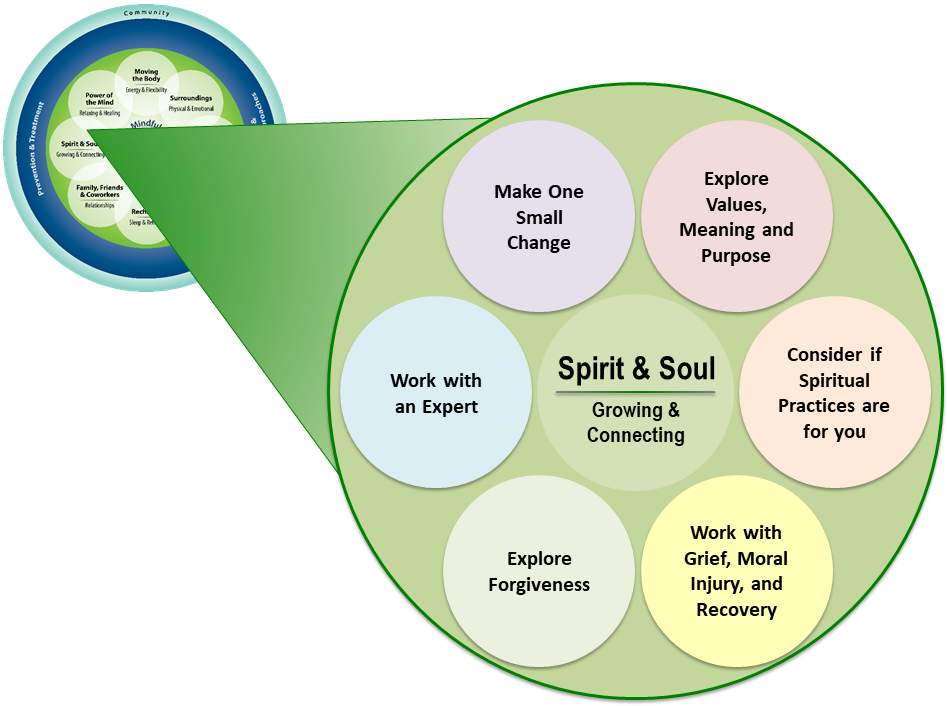


Figure 11-1. Subtopics within the Spirit and Soul Circle of Self-Care

Questions to Ask About Spirituality

If someone is discussing Spirit and Soul for the purposes of creating a PHP, it may be appropriate to do one or more of the following:[4]:

- Learn about their spiritual and religious beliefs and how they influence their mission, aspiration, purpose (MAP).
- Ask them if they are experiencing any spiritual distress (described below), and help them to draw upon their strengths and find the support they need.
- Discuss spiritual/religious beliefs that could affect their treatment preferences. Common examples would be wanting to fast in the hospital for religious reasons, or not wishing to receive blood transfusions.
- Consider if it is appropriate, based on their belief system, to use practices such as yoga and meditation, which have their origins in Eastern religious and spiritual traditions.
- Determine whether or not a person is struggling with grief, moral injury, or the need to forgive, and what resources are available to support them.
- If spiritual or religious concerns arise, know how to connect them with chaplains and other spiritual care providers as appropriate.

To guide clinicians with lines of inquiry regarding spirituality, dozens of assessment tools have been created. Note that these are only used to get general information; again, if a spiritual assessment is needed, connect them with a chaplain or official in their religious community. Commonly used tools include FICA,[5] HOPE,[6] FAITH,[7] and SPIRIT,[8] which were ranked among the best of 25 different assessment scales in a recent review.

Most of the mnemonics include variations on the following questions:

- Do you have a sense of meaning and purpose? What gives you that sense?
- What does spirituality mean to you?
- Describe your spiritual belief system.
- Were you ever a member of a faith community?
- What gives you strength during difficult times in your life?
- How much do you feel connected to nature, to living things?
- What is it that you love?
- What would your family and your friends say they find best about you?
- What is your personal gift that you bring to the world?
- What motivates you to fight for your health?
- What are your greatest challenges?
- Are there specific practices or restrictions I should know about in providing care?

I AM SECURE: Questions to Start a Conversation about Spirit and Soul.

The "I AM SECURE" questions, featured in Table 11-1, were developed specifically to gather general information from Veterans as part of a Whole Health assessment, when appropriate. Remember, you need not cover every topic in one visit.

Table 11-1. The I AM SECURE Mnemonic[9]

Item	Sample Questions
Impact of military service	Did your experiences in the military affect your spiritual or religious beliefs? If so, how?
Approach to this topic in a medical setting	How do you want members of your care team to approach this topic? Do you prefer that they bring it up, or would you rather they did not?
Meaning	What gives you a sense of meaning and purpose? What really matters to you?
Spirituality	What does spirituality mean to you? If spiritual practices are a part of your life, describe what those practices are.
Ease	What gives you ease? What helps you through when times are hard? What gives you hope and peace of mind?
Community	Do you belong to a specific faith community or religious group?
Understanding	What do you believe is the cause of your health problems? Why do you think this is happening?
Rituals and Ceremonies	Are there specific activities or ceremonies you would like to have arranged during hospital stays, or any beliefs that will affect how we take care of you? (Examples might include choosing not to receive blood transfusions, eating kosher, or wanting to fast for Ramadan.)
End of Life	What are your perspectives on death? How do your beliefs affect your decisions about end-of-life issues? (A discussion of code status might also be relevant here.)

If your time is limited and you only have time to ask one specific question about spirituality, consider one of the following:

- **Are you at peace?** This question has been found in the research to be a useful means for quickly determining if someone is in spiritual distress.[10]
- **What gives you your sense of meaning and purpose?** This is perhaps more widely used, but not as frequently studied.
- Or, as it is asked in the first question in the Personal Health Inventory (PHI), **What really matters to you in your life?**

Key Research about Spirituality and Religiosity

Spirituality and religiosity play an important part in health. Data from the Nurses' Health Study, which focused on over 74,000 participants over 16 years, found that mortality rate for those who attended weekly religious services was 845 deaths per 100,000 people per year, compared to 1,229 for those who had never attended.[11] This represents a hazard ratio of 0.74. There seems to be a dose response too; attending more than one service per week lowered mortality risk even more.

A 2011 meta-analysis reported an 18% reduction in mortality for people who report being religious and/or spiritual.[12] They noted the benefit of being religious/spiritual was equal in benefit to consuming fruits and vegetables in order to prevent cardiovascular events. It was also noted that having high levels of religiosity/spirituality had as much or more of an impact on health than having air bags in your car, taking angiotensin receptor blockers for heart failure, taking statin drugs for cholesterol in people without heart disease, or being revived by a defibrillator outside of a hospital. This is not to downplay the importance of those other interventions; rather, it is an acknowledgment that Spirit and Soul represents an important aspect of health and well-being.

Another study that followed nearly 5,300 adults for 28 years concluded that those who attended religious services one or more times weekly had, on average, a 23% lower mortality rate.[13] This was *after* correcting for age, sex, education, ethnicity, baseline health, body mass index, and *even social connection*, which is often thought to be one of the key elements of religious practices that contributes to health benefits. Similarly, a meta-analysis of nearly 126,000 people found that people who met criteria for being "highly religious" had rates of survival that were 30% higher as compared with those who rated themselves as less religious.[14]

Beyond attending religious services, having "a higher purpose in life" is also linked to better survival. A meta-analysis that included 10 studies with over 136,000 participants found that those with a sense of "higher purpose" had a relative risk of death or cardiovascular events of 0.83.[15]

Coping

Religiosity and spirituality have been found to help people cope with many problems, including the following[8,9]:

- Bereavement
- Cancer
- Chronic pain
- Dental problems
- Diabetes
- General medical illness
- Heart disease
- Irritable bowel syndrome (IBS)
- Lung disease
- Lupus
- Natural disasters
- Neurological disorders
- Overall stress
- Psychiatric illness
- Vision problems
- Effects of war

Pain

With respect to pain, prayer has been identified as the most frequently or second most frequently-used strategy; over 60% of chronic pain patients report that they use prayer to help them cope.[16] The 2010 Baylor Religion Survey reported that 87% of respondents had prayed for other people, 79% had prayed for themselves at some point, and 26% had tried laying on of hands.[17] In most prayer studies, it seems to be a positive resource for reducing pain and improving well-being and mood.[18] What form prayer takes will vary based on a person's religious/spiritual background.

Accessing religious and spiritual resources has been linked to decreased severity of arthritis pain, chronic pain, migraines, and acute pain.[18] Often, it seems that it is not that the pain level is decreased so much as that a person's ability to tolerate the pain is improved.[19]

Mental Health

Over 80% of studies of religion and spirituality focus on mental health-related topics.[8] A 2011 meta-analysis of psychotherapy that incorporated religious and spiritual perspectives found "enhanced psychological outcomes."[20] A 2016 review concluded the same.[21] The National Health and Resilience in Veterans Study reported in 2017 that high levels of religiosity and spirituality markedly decreased lifetime risk of posttraumatic stress, major depressive disorder, alcohol-related problems, and suicidal ideation.[22] Well-being, hope and optimism, volunteering and altruism, a lower incidence of depression, reduced anxiety, less substance use, and decreased suicide risk are all associated in the literature with higher levels of religiosity and spirituality.[9,23]

One valuable conclusion of such studies is that "the incorporation of religion and spirituality into psychotherapy should follow the desires and needs of the client."[24] Refer to Table 11-2, later in this chapter, for more information on research regarding religion and spirituality and mental/behavioral health issues.

Health Behaviors

Religion and spirituality also influence health behaviors.[10] Religious people smoke less and exercise more, and in a 2012 review, 13 out of 21 studies found a link between higher levels of religiosity/spirituality and a healthy diet. Of note, religious/spiritual people tend to be at higher risk for obesity, with the exception of people who are Amish, Jewish, or Buddhist. 42 of 50 good-quality studies found being religious strongly correlated with safer sexual practices as well.

Prayer May Help

Studying prayer is challenging, because there are different ways to pray, and a person may not be focused on something related to health when they are doing it. One study of a group of coronary care unit patients found that people who were prayed for did NOT have lower mortality rates, but they needed fewer antibiotics, did not require intubation (as did many people in the control group), and were less likely to develop pulmonary edema.[25] While this and other studies have had promising results, others have not, and further research is needed.

Other Benefits

A 2005 systematic review found that religious activity may improve rates of in vitro fertilization, decrease hospital length of stay, increase immune function, improve rheumatoid arthritis symptoms, and reduce anxiety.[26] Religiosity and spirituality improve quality of life in people with cardiovascular disease.[27] Addressing spirituality in both caregivers and patients during palliative cancer care can make care more effective.[28]

Prayer and meditation activate the prefrontal part of the brain, and they increase blood flow to the frontal cortex, the cingulate area, and the thalami.[24,29] Some spiritual practices increase flow to the superior parietal cortices, and this is linked to people having a sense of losing their physical boundaries. Higher dopamine levels correspond to higher levels of religiosity and spirituality. People whose dopamine levels decrease (e.g. with the progression of Parkinson's disease) become less religious and spiritual.[9]

Nine Tips for Working with Spirit & Soul in Personal Health Planning

Keep the following tips in mind as you consider how to incorporate Spirit and Soul into health plans.

1. Meet people where they are

Among all U.S. adults, 77% subscribe to a religious tradition. Roughly 71% of those are Christian, 5% are other religions (Jewish, Buddhist, Muslim, Hindu), and 23% are unaffiliated (atheist, agnostic, or "nothing in particular").[30] Of the unaffiliated people, 18% described themselves as religious, 37% said they were spiritual but not religious, and 43% said they were neither.[31] 94% regard their spiritual health to be as important to them as their physical health, and each year, at least 25% of patients use prayer for healing.[32]

In other words, patients are often spiritual and/or religious, and they want that to be reflected in their health care. In one survey, 83% of patients felt that physicians should consider their spiritual needs as a part of medical care.[33] In a survey of 177 outpatients in a pulmonary clinic, two thirds said they would welcome questions about spirituality in a medical history; 16% said that they would not.[34] In another study, 28% of people said they would want their physician to pray silently with them.[35] The sicker people are, the more they seem to want their physicians to discuss spirituality, and the interest increases if people are nearing the end of their lives.[35] A 2017 study found that 65% of physicians in a multispecialty referral center believe in God.[36] 45% reported praying regularly, and 21% had prayed with patients.

The Six Types of Spirituality—An Exercise[9]

As you consider spirituality as an element of self-care, it is especially important to appreciate how much variety there is when it comes to people's beliefs. Some clinicians find it helpful to frame this based on different forms that spirituality can take for people. Six are listed here, but the list is by no means all-inclusive. Note, too, that these are not mutually exclusive. For instance, a person can be very religious and through this, feel the close connection to people that might be called humanistic spirituality. Read about each type, and as you do, ask yourself which of them resonate the most for you personally.

1. **Religious spirituality**—closeness and connection to the sacred as described by a specific religion. It fosters a sense of closeness to a particular Higher Power. Note that the other elements of spirituality listed here are common to many different religious traditions.
2. **Humanistic spirituality**—closeness and connection to humankind. It may involve feelings of love, reflection, service, and altruism.
3. **Nature spirituality**—closeness and connection to nature or the environment, such as the wonder one feels when walking in the woods or watching a sunrise. This is an important focus for many traditional healing approaches.
4. **Experiential spirituality**—shaped by personal life events; it is influenced by our individual stories. Many Veterans' find their spirituality is profoundly influenced by their experiences during wartime.
5. **Cosmos spirituality**—closeness and connection to the whole of creation. It can arise when one contemplates the magnificence of creation or the vastness of the universe (e.g. while looking skyward on a starry night).
6. **Spirituality of the mysterious**—there is much that we simply cannot know or understand; it is not possible to fully grasp or know all the answers, and it is necessary to allow space for the unknowable.

2. Remember there can sometimes be negative aspects to spirituality and religion

For all the favorable data, keep in mind that not all religious and spiritual practices are without medical consequences. For some, spirituality and religiosity tie in with negative past (or present) experiences. In rare circumstances, because of their beliefs, people may:

- Fail to seek care altogether
- Ignore or promote child abuse or religious abuse
- Refuse blood transfusions
- Refuse prenatal care
- Replace much-needed mental health care with religious practices
- Stop potentially life-saving medications

Spiritual struggles and distress can be linked to poorer health outcomes (mental and physical), and therefore, addressing them is of great importance.[37] Some people may choose—or be forced—to join a group that is more cult-like in nature and likely to have negative effects on health. Once again, the key is to ask questions about this area and tailor the PHP based on each individual's unique responses. It goes without saying that a

clinician should NEVER attempt to impose his or her beliefs on a patient; proselytizing is not appropriate.6,38

3. Consider "pathologies" of the spirit and soul

> *Spiritual distress and spiritual crisis occur when individuals are unable to find sources of meaning, hope, love, peace, comfort, strength and connection in life, or when conflict occurs between their beliefs and what is happening in their life. This distress can have a detrimental effect on physical and mental health. Medical illness and impending death can often trigger spiritual distress in patients and family members.*[6]

The previous section described research regarding the health effects of spirituality for specific physical and mental health issues. In addition, there are many challenges—some refer to them as pathologies—that are specifically spiritual in nature. People experience issues that may not show up during a physical exam, lab testing, or on a standard health questionnaire, but they are no less important to address.

A review of 11 studies of people's spiritual needs in health-related situations concluded that there are six aspects of spiritual care that are most important to people and should be high priorities for clinicians (in this study, social workers)[39]:

- Meaning, purpose, and hope
- Relationship with God (or other Higher Power)
- Spiritual practices (and being able to follow them despite health issues)
- Religious obligations (and, again, being able to meet them despite health issues)
- Interpersonal connection
- Interactions with health care team members

Table 11-2 lists specific spiritual concerns that may arise for patients and questions they might lead them to ask.[40,41,42]

Table 11-2. Common Spiritual Concerns[40,41,42]

Concern	Examples of Patient Questions or Statements
Spiritual alienation	Why do I feel abandoned by my Higher Power? I feel disconnected from myself, from others.
Spiritual anxiety	Will I ever find forgiveness? There is so much that I don't know.
Spiritual guilt	Am I being punished? Did I not do something well enough or correctly in my life? I regret so much.
Spiritual anger	I am angry with God. I hate the Universe. I feel betrayed.

Concern	Examples of Patient Questions or Statements
Spiritual loss	I feel empty. Why don't I care anymore? I am not sure what matters anymore. My sorrow is overwhelming.
Spiritual despair	There is no way a Higher Power could ever care about me. I have lost my hope. Things feel meaningless.

Recognizing the presence of these concerns when they arise in a PHI or during a Whole Health conversation will guide what will be included in the PHP, including the decision to consult with a chaplain or other spiritual care expert.

4. Know when to bring in assistance

At some point during an illness, a person may reach a point where self-reflection and trying to come to terms with their values becomes central to their well-being.[43] When true spiritual distress arises, it can be important to involve others with additional expertise. It may be that a person's PHP will enlist someone from the clergy, a spiritual director, a traditional healer, or others with expertise in these matters, depending on the patient's background and preferences.

Chaplains. Chaplains can serve as important members of the team. There is an extensive chaplaincy network within the VA system. Chaplains are professionals—often members of the clergy—who have received advanced training working with people in health care settings. Board certification, while not completed by all chaplains, requires completion of 1,600 hours of supervised clinical pastoral education training in an accredited hospital-based program. Chaplain trainees must demonstrate competence in 29 different areas. In VA facilities, chaplain coverage is available every day, 24 hours a day.

Chaplains can offer many services, including the following[44]:

- Helping to integrate spiritual care with care of body and mind
- Assisting patients with making difficult decisions (primarily by being a sounding board rather than by telling them what to do)
- Contextualizing illness for a patient in terms of his/her personal spiritual practice or religious perspectives; helping someone explore the question, "Why is this happening to me?"
- Assisting with conflict resolution in patient care
- Supporting hospital staff and family members when they are in need

Important examples of situations when it would be helpful to ask for a chaplain's assistance include[44]:

- Someone requires additional assistance exploring the meaning of what is happening to them.
- A patient, family member, or care team member displays symptoms of spiritual distress. These include the following[44]:

  - Expressing a lack of meaning and purpose, peace, love, self-forgiveness, courage, hope, or serenity
  - Feeling strong feelings of anger or guilt
  - Displaying poor coping strategies
  - Struggling with moral injury. For example, profound ethical and moral challenges related to participation in war that can compromise psychosocial and spiritual health in Veterans.[45] Spirituality and religiosity can both exacerbate and ease struggles with moral injury.[46]
- A caregiver or family member needs support with coping with the illness or death of a loved one.
- A patient's care involves circumstances where ethical uncertainties or challenges have arisen.
- A patient (or family member, with the patient's permission) desires to connect with clergy from their religious group or wishes to have a particular ceremony, rite, or holiday observance performed.
- It might be helpful with a specific diagnosis, such as terminal cancer, severe depression, anxiety, or a chronic illness like type 1 diabetes, which can be life-altering.
- They are struggling with issues related to forgiveness.

A 2014 study involving a group of primary care centers in England found that, even after controlling for numerous variables, there was a significantly positive relationship between well-being scale scores and having had a consultation with a chaplain.[47] A 2013 survey of VA chaplains found that chaplains most commonly saw patients in the VA for anxiety, alcohol abuse, depression, guilt, anger, PTSD, and to help them as they struggled with understanding why loss or trauma happened in the first place.[45] The "Spirit and Soul" overview provides additional information and research related to chaplains.

5. Discuss forgiveness, if appropriate

This is discussed in more detail in Chapter 7, "Personal Development." Studies indicate that people who are more inclined to forgive have lower blood pressure, less muscle tension, a healthier heart rate, and lower overall numbers of diagnosed chronic conditions.[48,49] Of course, how forgiveness fits into a person's perspective will determine whether or not a clinician raises the topic during personal health planning or refers them to a chaplain or other expert in working with forgiveness. Certainly forgiveness receives different emphasis in different spiritual traditions. Forgiveness takes time, and clinicians who support the process should be very familiar with what it entails.

6. Ask if it would be helpful to add a spiritual practice

What this looks like will vary from person to person. It is extremely important that care team members separate their personal practices or beliefs from this discussion. Some people may choose to join a particular spiritual group or community, be it a church, a scripture study group, or even a 12-step program. Others may wish to find a teacher who will work with them individually, or they may choose a solo practice, such as praying or meditating quietly on their own on a regular basis. It may be helpful for clinicians to briefly describe a variety of spiritual practices that other Veterans they have worked with have

found helpful. Time in nature can be a rewarding spiritual practice in and of itself, as can various creative pursuits. Trust that patients will have insights into what works best if you simply bring up the topic.

7. Avoid pitfalls along the way

There are some actions it is best not to take when focusing on Spirit and Soul. Take care not to proselytize. It is not helpful to try to impose your perspectives on others. Do not try to resolve unanswerable questions—you do not need to have the answers to help someone else. It also is best *not* to say any of the following[50]:

- "It could be worse."
- "We are all out of options."
- "It's God will."
- "I understand how you feel."
- "We all die."

8. Work with Spiritual Anchors

A spiritual anchor is an object, a person, a practice, or some other item that serves as a trigger to remind you of what matters most. You, your colleagues, and your patients are encouraged to work through the "Spiritual Anchors" Whole Health tool, featured below.

9. Know about values

The straightforward act of asking "What really matters?" can often help you learn about another person's values. Sometimes, though, people freeze, or they feel overwhelmed by possible answers. It may help for them to do some exercises to help them explore what they value as reviewed in the "Values—Figuring Out What Matters Most" Whole Health tool, which is featured later in this chapter.

Whole Health Tool: Spiritual Anchors

As clinicians, we continually witness the highs and lows of human existence; we confront suffering, experience a great deal of stress, and are often pushed to the limits in terms of our emotional and physical stamina. Having spiritual anchors available is one way to ground ourselves in what really matters during challenging times. Spiritual anchors can also serve to bring our patients to bring themselves back to what really matters to them as well.

At the completion of the Healer's Art elective course, medical students are given a small item, perhaps a small plush heart sewn by a volunteer. This is their "anchor," something that they can carry with them on the wards to remind them of what matters most to them during challenging times. It can be helpful, as part of a Personal Health Plan (PHP), for a person to choose an anchor and carry it with them. The following are some tips for working with a spiritual anchor:

- **Choose an object** that reminds you of what gives you meaning and purpose. It should symbolize health and well-being for you in some way. Examples are:
    - A photograph of a loved one
    - A stone from a favorite place
    - A special piece of jewelry
    - A copy of a poem or piece of artwork
    - Something written by a loved one or teacher

- **Keep that object with you**. Wear it, carry it in your wallet or purse, put it in your pocket, or display it in a place at work where you spend a significant amount of time. Make a treasured photo into your screen saver. The key is to have it situated where you can bring your awareness to it as needed.

- **Tell others about your object, if appropriate.** A powerful group activity involves each member of a group sharing about their object with others, if they feel comfortable doing so. Sharing should be done in relatively small groups with a respect for confidentiality. If this is done, remind people not to interrupt the sharing, and designate a specific amount of time for each person to share. When people share, they can describe the history of their anchor (what it is, where they got it), why it matters to them, and how they keep it in their awareness (e.g. they may place a photo where they will always see it when they open a wallet, or keep something in their pocket where they frequently will notice it.)

- Consider other options, if you prefer. While many people find it is helpful to have a physical object as an anchor, there are other types of anchors as well. Examples include the following:
    - A **breathing exercise** that you can use when things become stressful.
    - A **gesture, hand movement or body position** that can serve as an anchor. In some mindful awareness practices, *mudras*—special hand positions—are

used. Placing one's hand over one's heart can also be a powerful reminder to bring the heart back into a given experience.

- A **mindful awareness practice** that can be done routinely. For example, during a difficult situation, a person might do a loving-kindness meditation or compassion practice, as described in Chapter 10. Another option is for clinicians to pause and ground themselves with a deep breath every time they cross a threshold into a new room.
- **Going to a specific location** can also be helpful. Every VA Hospital has a chapel or meditation room a person can visit from time to time. Many facilities also have gardens or lawns with benches.
- **Play a specific song**. In this era of smartphones and laptops that have music files, taking a few minutes to play a favorite piece of music can serve as an excellent anchor.
- **Pray, take a moment of silence, or simply be still**, when appropriate. How this is done is a matter of personal preference. Some clinicians set the intention to simply think "I wish you well," or "I wish you your highest good" every time they come into contact with a new patient or colleague.

Experiment with using an anchor yourself, and explore using them with your patients. Doing so can be a useful means of bringing what really matters into daily life.

Whole Health Tool: Values—Figuring Out What Matters Most

When you think about your Whole Health, one of the most important questions to ask yourself is, "What really matters to me?" In other words, what do you value the most?

Each of us has a unique answer to this question. One person might mention loved ones, while another person might mention a dream or goal they have. Some people answer that it is tied to their spiritual beliefs, while others may focus on something they want to do to help other people. The key is to find the best answer for you, and some people need some time to think about this. The exercises below were created to help you learn more about your values.[51] Choose one, and see what you learn.

Values Exercise 1: The "Sweet Spot"[52]

Think of a time when you had one the richest, most beautiful experiences of your life. As you remember, use all of your senses. What did things look like? What did you hear? What do you recall in terms of smell, taste and touch? Note what thoughts come up, and what feelings. Write down or say out loud what comes up, and talk about it like it is happening right now. "I am noticing…" "I see and hear…"

Ask yourself the following questions. It can help to jot down notes about the following:

- Why you chose that memory?
- What made it special?
- What did you do during this moment?
- What was it about you that helped make the moment so good?
- How were you treating other people, yourself, and the world around you at the time?

The answers that you write down can help you know more about your values, about what really matters to you.

Values Exercise 2: Happy 90th Birthday!

Picture yourself at your 90th birthday party. Everyone your life has ever touched is there. They are talking about you. If they shared a few statements that described the life you led, what would you want them to say? There are no limits. What would you want to be remembered for? Write down, type out, or record a few things you would want people to say about you. The things you make note of can give you some ideas about what really matters, what you value the most.

Values Exercise 3: Top Ten, Three[53]

This exercise takes a bit more time, but it can be very powerful. Below is a list of common values people have. If you don't know the meaning of a word, just skip to the next one. Start by circling the ten values that matter most to you in your life. Next, narrow it down to five, then three. Why did you choose those? Can you narrow it down to just one?

Important Personal Values

- Accomplishment, getting a lot done
- Accuracy, getting things right
- Adventure
- Beauty
- Calmness
- Caring about others
- Challenge
- Change
- Charity, giving to others
- Commitment
- Communication
- Community
- Competence, doing things with skill
- Competition
- Connection
- Cooperation
- Creativity
- Being decisive/ good at making decisions
- Determination, not giving up
- Discipline
- Discovery, learning new things
- Diversity, having a lot of variety
- Environment
- Equality
- Excellence, doing things very well
- Fairness
- Faith
- Family
- Flair
- Freedom, liberty
- Friends
- Fun
- Generosity, sharing with others
- Gentleness
- Giving
- Goodness
- Goodwill
- Gratitude, being thankful
- Happiness
- Hard work
- Harmony
- Health
- Honor
- Humor and laughter
- Improvement
- Improving, getting better
- Independence
- Individuality/ being myself
- Inner peace
- Integrity
- Intelligence, knowing a lot
- Intensity, life is never boring
- Joy
- Justice
- Kindness
- Knowledge
- Leadership
- Love
- Loving life
- Loyalty
- Marriage
- Meaning
- Merit
- Money
- Nature
- Neatness, cleanliness
- Obeying the law
- Openness
- Order
- Organization
- Partnership
- Patriotism, serving my country
- Peace
- Peace of mind
- Perfection
- Perseverance, not giving up
- Personal growth
- Pleasing others
- Pleasure
- Power
- Practicality/ being realistic
- Privacy
- Progress
- Prosperity, having a comfortable life
- Punctuality, being on time
- Quality of life
- Reliability, people can trust me
- Religion
- Resourcefulness, having good ideas
- Respect
- Routine, having things be the same from day to day
- Safety
- Security
- Seeing the big picture
- Sensitivity, being aware of how others are doing
- Service
- Simplicity, life makes sense
- Skill
- Solving problems
- Spirituality
- Stability; life doesn't change much
- Status
- Strength
- Success
- Teamwork
- Tolerance, accepting others
- Unity or oneness
- Wisdom
- Working well with others

Spirit & Soul Resources

Websites

VA Whole Health Website

- Components of Health and Well-Being Video Series, "A Patient Centered Approach to: Spirit and Soul."
  https://www.youtube.com/watch?v=pN1tespCmD4&feature=youtu.be
- Whole Health Veteran Handouts
  https://www.va.gov/WHOLEHEALTH/veteran-handouts/index.asp
  - An Introduction to Spirit and Soul for Whole Health
  - Deciding What You Need for Spiritual Health
  - How Do You Know That? Beliefs and Your Health
  - Spiritual Anchors
  - Chaplains

Whole Health Library Website

- "Spirit and Soul" overview
  https://wholehealth.wisc.edu/overviews/spirit-soul
- "Assessing Your Beliefs about Whole Health"
  https://wholehealth.wisc.edu/tools/assessing-your-beliefs-about-whole-health
- "How Do You Know That? Epistemology and Health"
  https://wholehealth.wisc.edu/tools/how-do-you-know-that
- "The Healing Benefits of Humor and Laughter"
  https://wholehealth.wisc.edu/tools/healing-benefits-humor-laughter
- "Creating a Gratitude Practice"
  https://wholehealth.wisc.edu/tools/creating-gratitude-practice
- "Forgiveness: The Gift We Give Ourselves"
  https://wholehealth.wisc.edu/tools/forgiveness-the-gift-we-give-ourselves/
- "Values"
  https://wholehealth.wisc.edu/tools/values
- Whole Health for Skill Building: Spirit & Soul
  https://wholehealth.wisc.edu/courses/whole-health-skill-building/
  - Faculty Guide
  - Veteran Handout
  - PowerPoints
  - Mindful Awareness Script: Using Writing in a Mindful Awareness Practice

Other Websites

- Duke Center for Spirituality and Health. http://www.spiritualityandhealth.duke.edu
- Spirituality and Health Magazine. www.spiritualityhealth.com
- Spirituality and Practice. http://www.spiritualityandpractice.com. Provides information on books, films, and other media that tie into spirituality
- University of Minnesota Center for Spirituality and Healing. www.csh.umn.edu
- VHA National Chaplain Center. http://www.va.gov/chaplain/.

- Spiritual Competency Resource Center. http://www.spiritualcompetency.com/. The organization also offers course and materials specific to the topic of forgiveness.

Books

- *A Path with Heart: A Guide Through the Perils and Promises of Spiritual Life*, Jack Kornfield (1993)
- *A Year to Live: How to Live This Year as if it Were Your Last*, Stephen Levine (1998)
- *Being Mortal: Medicine and What Matters in the End*, Atul Gawande (2014)
- *Care of the Soul: A Guide for Cultivating Depth and Sacredness in Everyday Life*, Thomas Moore (1994)
- *Dying Well: Peace and Possibilities at the End of Life*, Ira Byock (1998)
- *Essential Spirituality: 7 Essential Practices to Awaken Heart and Mind*, Roger Walsh (2000)
- *Final Gifts: Understanding the Special Awareness, Needs and Communications of the Dying*, Maggie Callanan (2012)
- *Healing Words: The Power of Prayer and the Practice of Medicine*, Larry Dossey (1997)
- *Messy Spirituality*, Mike Yaconelli (2007)
- *My Grandfathers Blessings: Stories of Strength, Refuge, and Belonging*, Rachel Remen (2001)
- *Nurturing Spirituality in Children*, Peggy Jenkins (2008)
- *Spirituality in Patient Care*, Harold Koenig (2013)
- *The Biology of Belief*, Bruce Lipton (2007)

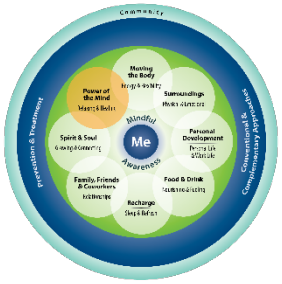
References

[1] VanderWeele TJ, Balboni TA, Koh HK. Health and spirituality. *JAMA.* 2017;318(6):519-520. doi: 10.1001/jama.2017.8136.
[2] Walsh RN. *Essential Spirituality: The 7 Central Practices to Awaken Heart and Mind*. New York: J. Wiley; 1999.
[3] Sierpina V, Sierpina M. Spirituality and Health. In: Kligler B, Lee RA, eds. *Integrative Medicine: Principles for Practice*. New York: McGraw-Hill, Medical Pub. Div.; 2004.
[4] Puchalski C, Ferrell B, Virani R, et al. Improving the quality of spiritual care as a dimension of palliative care: the report of the Consensus Conference. *J Palliat Med*. 2009;12(10):885-904. doi: 10.1089/jpm.2009.0142.
[5] The George Washington Institute for Spirituality and Health. FICA spiritual history tool. http://smhs.gwu.edu/gwish/clinical/fica/spiritual-history-tool. Accessed July 17, 2019.
[6] Anandarajah G, Hight E. Spirituality and medical practice: using the HOPE questions as a practical tool for spiritual assessment. *Am Fam Physician*. 2001;63(1):81-89.
[7] Neely D, Minford E. FAITH: spiritual history-taking made easy. *The Clinical Teacher*. 2009;6(3):181-185.
[8] Maugans TA. The SPIRITual history. *Arch Fam Med*. 1996;5(1):11-16.
[9] Rindfleisch A. Spirit and soul. Whole Health Library website. https://wholehealth.wisc.edu/overviews/spirit-soul. 2018. Accessed September 11, 2018.
[10] Koenig HG. Religion, spirituality, and health: the research and clinical implications. *ISRN Psychiatry*. 2012;2012:278730. doi: 10.5402/2012/278730.
[11] Li S, Stampfer MJ, Williams DR, VanderWeele TJ. Association of religious service attendance with mortality among women. *JAMA Intern Med.* 2016;176(6):777-85. doi: 10.1001/jamainternmed.2016.1615.
[12] Lucchetti G, Lucchetti AL, Koenig HG. Impact of spirituality/religiosity on mortality: comparison with other health interventions. *Explore (NY)*. 2011;7(4):234-238. doi: 10.1016/j.explore.2011.04.005.

[13] Strawbridge WJ, Cohen RD, Shema SJ, Kaplan GA. Frequent attendance at religious services and mortality over 28 years. *Am J Public Health*. 1997;87(6):957-961.
[14] Cohen R. Bavishi C, Rozanski A. Purpose in life and its relationship to all-cause mortality and cardiovascular events: a meta-analysis. *Psychosom Med.* 2016;78(2):122-33. doi: 10.1097/PSY.0000000000000274.
[15] Cohen R, Bavishi C, Rozanski A. Purpose in life and its relationship to all-cause mortality and cardiovascular events: a meta-analysis. *Psychosom Med.I* 2016;78(2):122-33. doi: 10.1097/PSY.0000000000000274.
[16] Koenig HG. Religion and medicine IV: religion, physical health, and clinical implications. *Int J Psychiatry Med*. 2001;31(3):321-336.
[17] Levin J. Prevalence and religious predictors of healing prayer use in the USA: findings from the Baylor religion survey. *J Relig Health.* 2016;55(4):1136-58. doi: 10.1007/s10943-016-0240-9.
[18] Bush EG, Rye MS, Brant CR, Emery E, Pargament KI, Riessinger CA. Religious coping with chronic pain. *Appl Psychophysiol Biofeedback*. 1999;24(4):249-260.
[19] Wachholtz AB, Pearce MJ. Does spirituality as a coping mechanism help or hinder coping with chronic pain? *Curr Pain Headache Rep*. 2009;13(2):127-132.
[20] Worthington EL, Jr., Hook JN, Davis DE, McDaniel MA. Religion and spirituality. *J Clin Psychol*. 2011;67(2):204-214. doi: 10.1002/jclp.20760.
[21] AbdAleati NS, Mohd Zaharim N, Mydin YO. Religiousness and mental health: systematic review study. *J Relig Health.* 2016;55(6): 1929-1937. doi: 10.1007/s10943-014-9896-1.
[22] Sharma V, Marin DB, Koenig HK, et al. Religion, spirituality, and mental health of U.S. military veterans: results from the national health and resilience in veterans study. *J Affect Disord.* 2017;217:197-204. doi: 10.1016/j.jad.2017.03.071. Epub 2017 Apr 11.
[23] Beraldo L, Gil F, Ventriglio A, et al. Spirituality, religiosity and addiction recovery: current perspectives. *Curr Drug Res Rev.* 2019;11(1):26-32.
[24] Seybold KS. Physiological mechanisms involved in religiosity/spirituality and health. *J Behav Med*. 2007;30(4):303-309. Epub 20007 Jun 5.
[25] Byrd RC. Positive therapeutic effects of intercessory prayer in a coronary care unit population. *South Med J*. 1988;81(7):826-829.
[26] Coruh B, Ayele H, Pugh M, Mulligan T. Does religious activity improve health outcomes? A critical review of the recent literature. *Explore (NY)*. 2005;1(3):186-191.
[27] Abu HO, Ulbricht C, Ding E, et al. Association of religiosity and spirituality with quality of life in patients with cardiovascular disease: a systematic review. *Qual Life Res.* 2018;27(11):2777-2797.
[28] Balducci L. Geriatric oncology, spirituality, and palliative care. *J Pain Symptom Manage.* 2019;57(1):171-175.
[29] Borg J, Andree B, Soderstrom H, Farde L. The serotonin system and spiritual experiences. *Am J Psychiatry*. 2003;160(11):1965-1969.
[30] America's Changing Religious Landscape. Pew Research Center website. http://www.pewforum.org/2015/05/12/americas-changing-religious-landscape/. Published May 12, 2015. Accessed July 17, 2019.
[31] "Nones" on the Rise: New Report Finds One-in-Fine Adults Have No Religious Affiliation. Pew Research Center website. http://www.pewforum.org/2012/10/09/nones-on-the-rise-new-report-finds-one-in-five-adults-have-no-religious-affiliation/. Published October 9, 2012. Accessed July 17, 2019.
[32] Eisenberg DM, Kessler RC, Foster C, Norlock FE, Calkins DR, Delbanco TL. Unconventional medicine in the United States. Prevalence, costs, and patterns of use. *N Engl J Med*. 1993;328(4):246-252.
[33] McCord G, Gilchrist VJ Grossman SD, et al. Discussing spirituality with patients: a rational and ethical approach. *Ann Fam Med.* 2004;2(4): 356-61.
[34] Ehman JW, Ott BB, Short TH, Ciampa RC, Hansen-Flaschen J. Do patients want physicians to inquire about their spiritual or religious beliefs if they become gravely ill? *Arch Intern Med*. 1999;159(15):1803-1806.
[35] MacLean CD, Susi B, Phifer N, et al. Patient preference for physician discussion and practice of spirituality. *J Gen Intern Med*. 2003;18(1):38-43.
[36] Robinson KA, Cheng MR, Hansen PD, Gray RJ. Religious and spiritual belifs of physicians. *J Relig Health.* 2017;56(1):205-225. doi: 10.1007/s10943-016-0233-8.
[37] Pargament KI, Koenig HG, Tarakeshwar N, Hahn J. Religious struggle as a predictor of mortality among medically ill elderly patients: a 2-year longitudinal study. *Arch Intern Med*. 2001;161(15):1881-1885.

[38] Sulmasy DP. Spirituality, religion, and clinical care. *Chest*. 2009;135(6):1634-1642. doi: 10.1378/chest.08-2241.
[39] Hodge DR, Horvath VE. Spiritual needs in health care settings: a qualitative meta-synthesis of clients' perspectives. *Soc Work*. 2011;56(4):306-316.
[40] Plotnikoff G, Wolpert D, Dandurand D. Integrating spiritual assessment and care. In: Rakel D, ed. *Integrative Medicine*. 4th ed. Philadelphia, PA: Elsevier Saunders; 2017:1058-1063.
[41] Fauser M, Lo K, Kelly R. Trainer certification program [manual]. Largo, FL: The Hospice Institute of the Florida Suncoast; 1996.
[42] The Joint Commission. Advancing effective communication, cultural competence, and patient- and family-centered care: a roadmap for hospitals. http://www.jointcommission.org/assets/1/6/aroadmapforhospitalsfinalversion727.pdf. 2010. Accessed July 17, 2019.
[43] Tu MS. Illness: an opportunity for spiritual growth. *J Altern Complement Med*. 2006;12(10):1029-1033.
[44] McClung E, Grossoehme DH, Jacobson AF. Collaborating with chaplains to meet spiritual needs. *Medsurg Nurs*. 2006;15(3):147-156.
[45] Nieuwsma JA, Rhodes JE, Jackson GL, et al. Chaplaincy and mental health in the department of Veterans Affairs and Department of Defense. *J Health Care Chaplain*. 2013;19(1):3-21. doi: 10.1080./08854726.2013.775820.
[46] Brémault-Phillips S, Pike A, Scarcella F, Cherwick T. Spirituality and moral injury among military personnel: a mini-review. *Front Psychiatry.* 2019;10(276).
[47] Kevern P, Hill L. 'Chaplains for well-being' in primary care: analysis of the results of a retrospective study. *Prim Health Care Res Dev*. 2015;16(1):87-99. doi: 10.1017/S1463423613000492. Epub 2014 Jan 22.
[48] Rindfleisch J. Forgiveness. In: Rakel D, ed. *Integrative Medicine*. 4th ed. Philadelphia, PA: Elsevier Saunders; 2017:940-944.
[49] Luskin F. *Forgive for Good: A Proven Prescription for Health and Happiness*. San Francisco: Harper SanFrancisco; 2002.
[50] Lo B, Ruston D, Kates LW, et al. Discussing religious and spiritual issues at the end of life: a practical guide for physicians. *JAMA*. 2002;287(6):749-754.
[51] Mirgain S, Singles J. Values. Whole Health Library website. https://wholehealth.wisc.edu/tools/values. 2018. Accessed July 17, 2019.
[52] Wilson KG, DuFrene T. *Mindfulness for Two: An Acceptance and Commitment Therapy Approach to Mindfulness in Psychotherapy*. Oakland, CA: New Harbinger Publications; 2009.
[53] Vowles KE, Sorrell JT. Life with chronic pain-an acceptance-based approach: therapist guide and patient workbook. http://contextualscience.org/files/CP_Acceptance_Manual_09.2008.pdf. 2008. Accessed July 17, 2019.

Chapter 12. Power of the Mind: Relaxing & Healing



Peace.
It does not mean to be in a place where there is
no noise, trouble, or hard work.
It means to be in the midst of those things
and still be calm in your heart.

—Unknown

Importance of the Power of the Mind

Some people have problems that are labeled as "incurable." Some injuries—physical, emotional, mental—cannot be undone or reversed. We cannot regrow a lost limb, or make it so that a traumatic brain injury never happened. We cannot make it so that bad past experiences never occurred. Most of the time, we cannot truly get rid of chronic diseases, either. However—and this is crucial—even if people are so sick as to be terminally ill, it is still possible for them to heal. They can be resilient, and they can move toward wholeness even with their diseases and disabilities. They can learn to cope with pain and move toward greater peace and joy, despite all that might be "wrong" or "broken." The Power of the Mind helps to make that possible.[1]

Figure 12-1 highlights some "subtopics" that could be covered when incorporating Power of the Mind into a Personal Health Plan (PHP). These subtopics were developed to encourage Veterans to think about a variety of options and help them zero in on ones that could be used for their PHP. There is a "Make One Small Change" circle that leaves room for creativity, if Veterans do not see an option that interests them. Note that there is also a circle that relates to asking for professional support. This chapter explores these options in more detail.

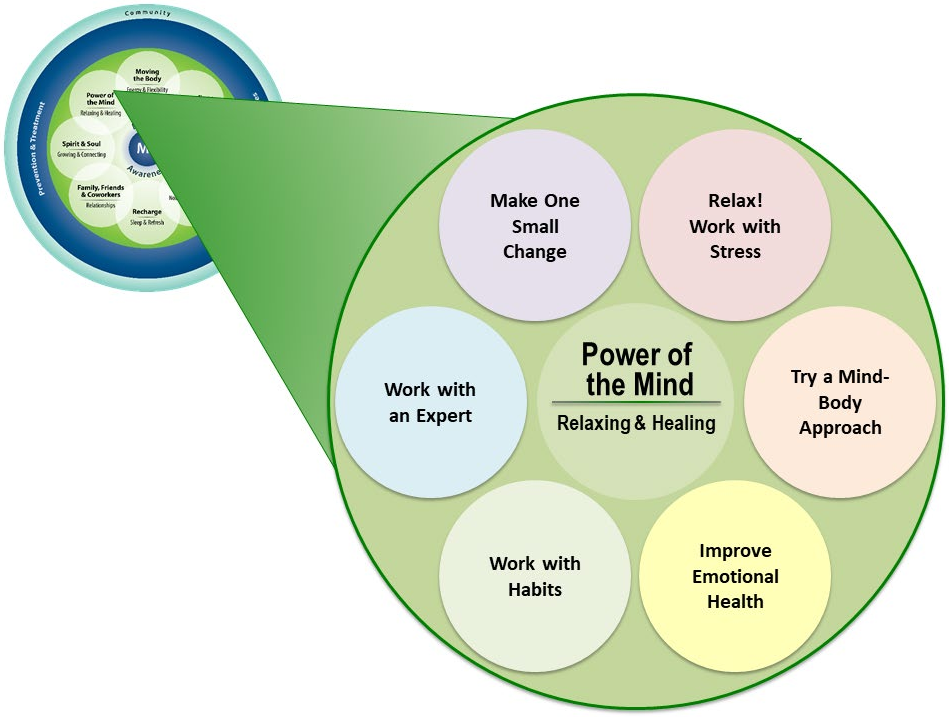


Figure 12-1. Subtopics within the Power of the Mind Circle of Self-Care

Historical Perspectives

The healing traditions of China and India have viewed the mind and body as an integrated whole for millennia, but only in recent decades has the mind-body relationship been the focus of Western medical research. The Cartesian concept of mind-body dualism treated the physical body as separate from mind and emotions. Only now are the two being reconnected in Western medicine, as research teaches us more about the complex interrelationship of the mental and the physical. Rather than trying to focus on the "physical" or the "mental," we are learning that perhaps it is best to focus attention on the whole person. After all, *Whole* Health is the goal.

Understanding of the Power of the Mind has slowly advanced in the West in the past few centuries.

- In the late 1800s people began to appreciate that one's mental life can have a significant impact on physical health. With the help of Freud, Jung, and others, **Psychology** was born.
- In the 1940s, Henry Beecher found that saline injections reduced pain for wounded soldiers, and he coined the term "**placebo effect**." We are only just beginning to understand how placebos can reduce pain, improve sleep, improve depression, and help with diagnoses like irritable bowel syndrome (IBS), asthma, heart problems, and headaches.[1] Even giving someone a placebo and telling them it is a placebo in advance still works in many studies.[2] For example, a 2016 study of 97 people with chronic low back pain found that they had an average of 1.5 points of improvement in their pain rating on a 10 point pain rating scale (versus 0.2 in controls) after being given an open-label placebo for three weeks. Knowing they were getting a

"sugar pill" did not stop the power of their minds from allowing for healing to occur.[3] Disability ratings also markedly improved. The bottom line is that we know that perceptions and beliefs have a powerful effect on health.

- In the 1970s, Herbert Benson began to study what he described as the "**relaxation response**," the body's natural state of relaxation.[4] As it happens, eliciting the relaxation response is what most mind-body approaches have in common.
- **Psychoneuroimmunology** looks at the relationship between our nervous system, our immune system, and our endocrine systems. We are discovering new ways thoughts and emotions have biochemical effects.[5] When we think or feel emotion, our body chemistry changes.
- **Neuroplasticity** research has taught us that the nervous system can change in response to the environment, our behaviors, and the natural world.[6] Once considered to be static, our brains are now understood to be undergoing constant changes. For example, parts of the brain can shrink in response to chronic pain (gray matter is lost),[7] and they can also regrow with the use of mind-body techniques like meditation[8] and Cognitive Behavioral Therapy (CBT).[9]
- **Epigenetics** has taught us that our genetic expression changes in response to our environment. Study participants who use mind-body practices experience genetic and molecular changes that are not experienced by people in control groups.[10]

Questions Related to Power of the Mind

Ask any mental health professional—there are many questions that can help you understand what is happening in terms of a person's mind. The following are some key examples, most of which are focused on stressors:

- What are the sources of stress in your life?
- Is money ever a source of stress?
- Is your physical health a source of stress?
- Is your mental health a source of stress?
- Do you have any habits or behaviors that cause you stress (e.g. smoking, alcohol, eating, gambling)?
- Is the health of one or more of the people you are close to a source of stress?
- Are there particular people who cause you stress?
- How well do you manage stress in your life?
- What are your coping strategies?
- How do you relax?
- Do you take time to recharge? How do you recharge?
- Do you meditate or have another sort of mindful awareness practice? How often do you use it?
- If your tears could speak, what would they say?
- What words would help me to know what you are feeling right now?
- If you could change one non-physical thing about your life, what would it be?
- How much do you feel you can control your life experience?
- What mind-body practices have you tried in the past?

As with all the areas of self-care, use these questions as a starting-off point as you consider which lines of inquiry are most helpful for you in your practice.

Ten Key Mind-Body Approaches

With greater understanding of the Power of the Mind has come the development of techniques that use the mind-body connection to enhance health and well-being. This chapter introduces a number of these approaches, describing what they are and what we know so far from the research about their safety and efficacy. For the purposes of personal health planning, there are several useful key mind-body approaches to know about. These include the following:

1. Psychotherapies (This chapter highlights several that are popular in the VA.)
2. Autogenic Training
3. Breathing Exercises
4. Creative Arts Therapies (These include music therapy, visual arts therapy, and dance therapy, among others.)
5. Journaling (and other forms of therapeutic disclosure)
6. Progressive Muscle Relaxation and Progressive Relaxation
7. Biofeedback
8. Guided Imagery
9. Clinical Hypnosis
10. Meditation

Note that all of these techniques share some common characteristics. Many of them can be introduced as part of a routine office visit or hospital stay. Many of them make use of the power of the relaxation response; if a person can move out of sympathetic activation (fight or flight mode), their physiology and emotional state change. Heart rate and blood pressure decrease, brain waves change, and stress hormone levels go down.[11] A simple way to put it is that all of these approaches reduce stress, which matters a great deal, since stress can contribute to any number of health issues.

In general, all of these techniques can be beneficial in that they give patients more control over improving their health and they tend to be cost-effective. They can be more effective for managing chronic conditions, they are effective approaches for mental health challenges, and they can foster resilience and enhance wellness.[12] Generally, mind-body approaches can be helpful for everything from heart disease, headaches, low back pain, and cancer-related symptoms, to postoperative outcomes, hypertension, arthritis, insomnia, incontinence, substance use disorders, and posttraumatic stress.[13,14] More specifically, eliciting the relaxation response (through whatever means is helpful) can be effective for those disorders too. Doing so also decreases anxiety, depression, anger and hostility, premenstrual problems, rheumatoid arthritis, and temporomandibular joint pain, to name just a few conditions.[15]

Note that as of 2018, meditation, clinical hypnosis, biofeedback, and guided imagery (all featured in more detail as Whole Health tools below) are on List I, the list of

complementary and integrative health (CIH) approaches that are now covered by the VA. It is still being determined how specifically these approaches will be offered, in terms of classes versus individual care, Telehealth versus live teaching, and overall decisions about what indications these approaches are best used for. This is discussed in more detail in Chapter 14.

For even more detail about these various tools, refer to "Power of the Mind" and related Whole Health tools on the Whole Health Library website.

1. Psychotherapies: Important Examples[1]

Psychotherapy is a general term for the treatment of mental health issues that involves some sort of conversation/exploration with a mental health professional. A person may be asked to do "homework" to explore what is discussed in greater depth. It is important to be familiar with the different types available, so that you can suggest whichever type of therapy will be most useful for a given individual's situation.

Evidence-based psychotherapy[16] is a high priority related to VA mental health care.[17] Listed below are some of the most commonly used (and effective) psychotherapies available to Veterans through the VA. The list is by no means exhaustive. Find out which ones are available locally in your area.

Acceptance and Commitment Therapy[18]

Acceptance and Commitment Therapy (ACT) focuses on the function of a person's thoughts, as opposed to trying to change their accuracy. Using mindful awareness and other techniques, people work to neutralize, or defuse, negative thoughts. The idea is to see a "…bad thought as a thought, no more, no less…"[19] ACT is popular in the VA for work with patients in pain and seems to be effective.[20] A 2015 review concluded that "…ACT is more effective than treatment as usual or placebo and...may be as effective in treating anxiety disorders, depression, addiction, and somatic health problems as established psychological interventions."[21,22] A 2017 review found ACT to be as effective as Cognitive Behavioral Therapy in the treatment of anxiety and depression.[22] More research is needed,[23] but ACT has also shown promise for seizure control, increasing psychological flexibility, and disease self-management, to name just a few areas of ACT research.[24] It is also showing promise for substance use disorders[25]and cancer care.[26]

Cognitive Behavioral Therapy

Cognitive Behavioral Therapy (CBT) is built on the principle that our feelings and behaviors are influenced by our thinking patterns, not just by external people and events. It focuses on analyzing one's thinking to identify thought patterns that cause harm and then modify them. Changing our thinking patterns can foster greater happiness and well-being.[27]

CBT uses a number of techniques. People might keep records of negative thoughts, feelings, and behaviors so that they can identify them and replace them. If they notice automatic thoughts about themselves, others, or life experiences, it is possible to begin to shift their responses. Negative thoughts are replaced with more adaptive thoughts. This is

called cognitive restructuring, and it can be helpful with many psychological disorders. Once unhelpful thinking patterns, or cognitive distortions, are brought into a person's awareness, a person can replace them with healthier patterns.

CBT is comparable with medications when it comes to depression treatment,[28] and it has been found to be helpful with preventing depression relapse.[29] It is also beneficial to people with PTSD, social anxiety, obsessive-compulsive disorder, panic disorder, generalized anxiety, and overall anxiety about their health.[1] Recent 2018 reviews found it is beneficial for subacute low back pain,[30] eating disorders,[31] treatment-resistant depression,[32] and insomnia.[33] It is also likely useful for addictions[34] and irritable bowel syndrome (IBS)[35] as well as numerous other indications. Cognitive Behavioral Therapy for Insomnia (CBT-I) is discussed in Chapter 9. There is also CBT-CP (for chronic pain) and CBT-SUD, which is specific for substance use disorders.

CBT practitioners watch for a variety of different cognitive distortions. Examples include the following[36]:

- All or nothing thinking
- Overgeneralization
- Filtering
- Disqualifying positive experiences
- Jumping to conclusions
- Magnification and minimization
- Emotional reasoning
- "Should" statements
- Labeling
- Personalization
- Blame

While CBT-informed apps may not be as effective as face-to-face encounters, they have shown benefit in recent reviews.[37] Internet-Assisted CBT has good evidence in its favor.[38]

Cognitive Processing Therapy and Prolonged Exposure Techniques

Cognitive Processing Therapy (CPT)[39] and Prolonged Exposure Techniques (PE)[40] have been found to produce clinically significant improvement in PTSD symptoms in multiple randomized controlled trials.[41,42] CPT focuses on changing maladaptive thoughts, while the main mechanism of PE is exposure exercises. Both CPT and PE are offered by the VHA, with CPT being the more widespread. The VA is actively studying the two for treatment of PTSD. Both have shown promise in research to date.[43,44] A review of 750 Veteran charts, belonging to a diverse array of Veterans, found those who completed either therapy had significant reductions on their PTSD Checklist scores.[45]

CPT typically involves 12 sessions. The focus is modifying unhelpful thought patterns that developed after a person experienced one or more traumas. These may include thoughts about safety, trust, control, self-esteem, other people, and relationships. Developing a more balanced and healthy understanding of the traumatic experience, oneself, and the external world helps to promote recovery. CPT is frequently used with people with PTSD.

PE typically involves 8-15 sessions. Patients talk through a traumatic memory and do exercises where they repeatedly imagine being exposed to the traumatic experience in a safe environment. The exercises call up the fear associated with the trauma and they learn

to change, or correct, what they experience. With time, the repeated exposures lead to the habituation and/or extinction of conditioned fear responses. The traumatic memories lose their power.

Dialectical Behavior Therapy

Initially developed in the 1990s as a treatment for borderline personality disorder, Dialectical Behavior Therapy (DBT) is now used for an array of diagnoses.[46] Therapists characterize a person's behaviors as a natural reaction to reinforcers in the environment and focuses on shaping and reinforcing more adaptive behaviors while also offering a validating environment. In addition to being an effective treatment for people with borderline personality disorder,[47] DBT has also been found to reduce self-inflicted violence in people who are suicidal,[48] though a trial specifically with high-risk suicidal Veterans did not find benefit.[49]

Eye Movement Desensitization and Reprocessing[50]

Developed in the 1980s specifically to help people with traumatic memories and PTSD, Eye Movement Desensitization and Reprocessing (EMDR) involves a series of therapy sessions. During those sessions, a person receives bilateral stimulation, typically in the form of eye movements, tapping, and/or sound. Many practitioners follow a protocol that includes having people recall distressing images while receiving sensory inputs such as moving the eyes from side to side. The goal is to process negative memories and cope more effectively. It is not clear why moving the eyes in specific ways while working with distressing memories can be helpful.

Research indicates that the eye movements in EMDR do indeed have a beneficial effect.[51] Research indicates that EMDR is beneficial for PTSD, and the level of benefit is similar to that for other types of psychotherapy. EMDR seems to be more effective than medication alone.[52] It has comparable benefits with CBT for the treatment of obsessive-compulsive disorder.[53]

Interpersonal Therapy

Developed in the 1970s, Interpersonal Therapy (IPT) is based on the idea that many psychological symptoms arise through interpersonal distress. Treatment usually is offered for 12-16 weeks and focuses on exploring relationships and how they influence—and are influenced by—one's behavior and mood. IPT's efficacy, particularly for depression, has been shown in randomized controlled trials.[54,55] It was found to be comparable to problem solving therapy and brief supportive psychotherapy in major depressive disorder for women with breast cancer.[56] It is one of several psychotherapies noted in a 2018 Cochrane review to be beneficial for treatment-resistant depression.[57]

Marital therapy

Marital therapy (MT), or couple's therapy, involves working with both an individual and his/her significant other. If relationship problems are present, this can be a powerful approach. Several reviews have found that marital therapy is effective for treating depressive symptoms and reducing risk of relapse.[58] Involving a Veteran's entire family in care can be helpful. Other examples of therapies that include loved ones include Behavioral

Family Therapy, Integrative Behavioral Couples Therapy, Cognitive Behavioral Conjoint Therapy for PTSD.

Positive Psychology[59]

Established in 1998 by Seligman and colleagues, positive psychology focuses on a person's skills and positive attributes, emphasizing how they can promote mental, physical, and emotional well-being. The focus is on strengths and positive qualities, rather than on what is wrong. Positive Psychology interventions have been found to lead to lasting increases in happiness and decreased depressive symptoms in numerous studies.[59]

Remember, when you are working with someone else, it is important to celebrate successes and focus on the positive in addition to looking at what might be "wrong" with them.

Problem-Solving Therapy

Problem-Solving Therapy (PST) is a brief intervention, done in 4 to 8 sessions. A therapist reviews the problems a person is experiencing in his or her life and then focuses on solving one or more of those problems to teach the patient more effective problem-solving techniques. PST has shown modest improvement in study participants with depressive symptoms; most studies have been done in geriatric populations.[60,61] It was also found in one trial to prolong survival in older adults who have had a stroke.[62]

Psychodynamic Therapy

Psychodynamic Therapy (PT) is defined differently in various studies. Also known as insight-oriented therapy, it focuses on gaining insight into unconscious processes and how they manifest in the way a person behaves.[63] PT has been used widely in clinical practice for the treatment of depressive disorders, and it seems to be effective.[64] Recent meta-analyses suggest that both short-term and long-term psychodynamic psychotherapy are effective for depressed patients. It also has benefit for people with personality disorders and anxiety disorders.[65]

2. Autogenic Training [66]

Autogenic Training (AT) was developed in 1932. Autogenic means "generated from within," and many consider AT a form of self-hypnosis. It involves a series of simple exercises people can do on their own to increase relaxation without having to rely on a trained hypnotherapist.

AT practice involves repeatedly thinking of several specific phrases, with the goal of producing feelings of warmth, heaviness, and calm throughout the body. The goal is to activate the parasympathetic nervous system (that is, to elicit the relaxation response). At the core of AT is a set of standard exercises which focus on six physical manifestations of relaxation in the body[1]:

1. Heaviness in the musculoskeletal system
2. Warmth in the circulatory system
3. Awareness of the heartbeat

4. Slowing down the breath
5. Relaxing the abdomen
6. Cooling the forehead

These exercises build on each other weekly. First, a person learns to relax the arms and legs. Next, they learn to regulate heart rate and breathing. Finally, relaxing the stomach, cooling the forehead, and feeling overall peace in the mind and body are added. Not everyone who does AT will experience all those sensations. In research studies, participants report overall effects of relaxation, such as reduced heart rate, lessening of muscular tension, and slower breathing, as well as reduced gastrointestinal activity, better concentration, less irritability, improved sleep, and other positive experiences.[67]

A Brief Autogenic Training Experience1

Try feeling each of the six AT manifestations as you read through this exercise. If you have difficulty, start by just focusing on one specific part of the body, like your hands.

1. **Musculoskeletal system**. Allow yourself to feel heaviness in the muscles and bones. Can you tune in to specific bones or muscles?
2. **Warmth**. Focus on blood flow. It might help to focus on your hands or feet at first. Can you make them warmer?
3. **Pulse**. Can you tune in to your pulse? Where do you feel it?
4. **Breathing**. Note your respiratory rate. Take a few slow deep breaths to slow it down, as you feel comfortable.
5. **Abdomen**. Imagine your abdomen softening, like melting snow. Feel the breath in the abdomen.
6. **Forehead**. Allow your forehead to cool down. You might imagine an ice cube melting on it, or a gentle breeze blowing across it.

A meta-analysis of 60 studies found significant positive effects of AT treatment for a number of diagnoses, including[68]:

- Anxiety
- Bronchial asthma
- Coronary heart disease
- Functional sleep disorders
- Migraine
- Mild-to-moderate depression
- Mild-to-moderate essential hypertension
- Raynaud's disease
- Somatoform pain disorder (unspecified type)
- Tension headache

For more information on AT, refer to the Resources section at the end of this chapter.

3. Breathing Exercises [69]

Breathing is essential to our survival, but most of the time we are not even aware we are doing it. Focusing on breath is an excellent way to bring our awareness into our bodies and into the present moment, and different breathing techniques can help us move out of a hyperaroused, fight-or-flight state into a more relaxed parasympathetic state. Breathwork is often combined with other mind-body approaches.

The qualities of relaxed breathing make up the acronym DASS: **D**eep, **A**bdominal, **S**low, and **S**mooth.[69] Abdominal (diaphragmatic) breathing involves expanding the abdomen (instead of the chest) first when a breath is taken. Placing a hand over the abdomen and feeling motion can indicate it is being done correctly. Breathing is rapid and shallow during stressful situations, anxiety, and panic attacks, but within just a few minutes a person can learn how to deepen and slow breathing. Start with taking up to 10 slow, deep breaths. Deep breathing typically involves breathing in through the nose and out through the mouth. Start by both inhaling and exhaling for a count of 10.

There are many variations on rhythmic breathing.[69] You can simply count to the same number (e.g. 10) on the inhale and the exhale, or you can count in for 4 and out for 6 (the 4-6 breath). The 4-7-8 breath has been used in Eastern practices for centuries. You breathe in for a count of 4, hold for a count of 7, and exhale for a count of 8. If you do it for more than a few breathing cycles when you are first learning, it may make you a bit light-headed. In general, however, breathing exercises are quite safe, and nearly everyone can learn to do them.

Slowing breathing rate can lower blood pressure.[70] A review of research on several specific breathing techniques found a trend toward improvement in asthma symptoms, noting more study is needed.[71] A review of trials involving hyperventilation also found a trend toward improvement.[72] Breathing exercises can also significantly improve pulmonary function and quality of life for lung cancer patients.[73]

For more breathing exercises and information, refer to the Resources section at the end of this chapter.

4. Creative Arts Therapies

Creative arts therapies (CATs), also known as expressive therapies, come in many forms.

- **Art therapy** is the therapeutic use of art making, with the support of a professional, by people dealing with illness, trauma, or other challenges. It can also be used by healthy people who seek personal development. Through creating art and reflecting on the experience, as well as on what they create, people can increase mindful awareness of themselves and others and learnt to cope better.
- **Music therapy** makes use of music to improve psychological, physical, cognitive, or social functioning.

- **Drama therapy** provides people the opportunity to tell their stories, set goals, solve problems, express feelings, and release pent-up emotions. Inner experience can be explored in greater depth, and social skills can be enhanced.
- **Dance therapy/movement therapy** is the psychotherapeutic use of movement to promote emotional, cognitive, social, and physical integration.

CATs during cancer treatment improve anxiety, depression, and overall quality of life.[74] Pain is significantly reduced as well, although fatigue is not, according to some studies. Art therapy leads to sustained improvement in cognitive function in elderly people.[75] Dance therapy improved gait and speed for Parkinson's patients and healthy elderly people.[76] It may also help people with schizophrenia to function better,[77] and it seems to have some benefits for people with heart failure.[78] Music therapy led to a mild reduction in post-operative pain[79] and depression,[80] and it improved performance during physical activity.[81] It seems to be beneficial in schizophrenia[82] and other mental health conditions,[83] as well as for disruptive behavior, depression, and anxiety in dementia patients.[84,85] Music therapy is beneficial in many ways to people at different stages of cancer care.[86] A 2018 systematic review did not find benefits of CATs for PTSD.[87]

5. Journaling and Therapeutic Disclosure[88]

Writing about stressful, upsetting and traumatic experiences has been found to improve physical and mental health. Even just writing about emotionally difficult events or feelings for just 20 minutes at a time over 4 consecutive days has been found to be associated with relaxation and improvements with various health problems. The key is to "vent" emotionally when you write; therapeutic journaling is not merely about listing facts.

In general, journaling has comparable effects with other psychological interventions, but it can easily be done outside of a clinical environment. It may be useful for people in need of mental health support who live in remote areas, or who are unwilling/unable to do other forms of psychotherapy.

Expressive writing has shown to benefit for the following health concerns[1,89,90,91]:

- Depression
- Overall immune system functioning and immune response in HIV infection
- IBS
- Lung functioning in asthma
- Numbers of hospitalizations for people with cystic fibrosis
- Pain intensity with chronic pelvic pain
- Pain level and overall physical health in cancer patients
- Post-operative complications
- PTSD
- Rheumatoid arthritis severity
- Time to fall asleep in poor sleepers
- Wound healing rates

For more information, refer to the Resources section at the end of this chapter.

6. Progressive Muscle Relaxation and Progressive Relaxation[92]

Progressive Muscle Relaxation (PMR) was developed in the 1920s. It involves tensing and then relaxing various muscle groups in a sequential way. As the muscles relax, a person is encouraged to notice what it feels like when tension drains away. Early on, people are encouraged to repeatedly create tension and relaxation in different muscle groups; tension decreases with each repetition. At the end, a person may return to areas that are still carrying tension and relax them further. This technique can easily be taught to patients, and it can be adapted when a person has areas of tenderness or pain.

Progressive Relaxation (PR) is similar to PMR, except it involves simply bringing awareness to muscle groups without increasing tension. It can be used by people who either cannot contract some of their muscles or find it uncomfortable to do so because of pain, recent surgery, or other reasons. PMR has been found to be useful with conditions such as chronic insomnia, migraines, cancer-related distress, IBS, and coping with inflammatory arthritis.[92,93]

7. Whole Health Tool: Biofeedback[94]

What Is It?

Biofeedback uses various devices to measure physiological activities, with the intent of improving health or performance by learning to consciously control those activities. Clinical biofeedback emerged as a discipline starting in the late 1950s, as increasing numbers of technologies were developed to measure different body functions. Since that time, it has expanded dramatically.

Any number of body functions can be monitored in biofeedback. Certain biofeedback devices work best for different conditions. For example, measuring muscle tension can help with tension headaches, while neurofeedback works well for ADHD. Important examples of biofeedback devices include the following:

- Hand temperature (thermal biofeedback therapy)
- Skin conductance (electrodermal response)
- Respiratory rate and chest wall expansion
- Cardiovascular measurements, including heart rate (pulse) and heart rate variability (HRV), which are the beat-to-beat differences noted on a heart monitor
- Electroencephalography (EEG). EEG biofeedback is typically referred to as neurofeedback
- Muscle tension (electromyelography)
- Number of steps, measured on a pedometer or other wearable device
- Body weight (even your scale is a biofeedback device of sorts)

A variety of qualified professionals can offer biofeedback, ranging from psychologists and physicians to dentists, nurses, social workers, occupational therapists, physical therapists, and social workers.

How It Works

Seeing how these measurements change in real time in response to different emotions, thoughts, or behaviors empowers a person to mentally control physical functions they may not have previously been aware they could control. The end goal is to learn how to change body functions to improve health and/or performance, in a way where ideally the changes will endure without continued use of an instrument.

In a clinical setting, a practitioner might combine biofeedback with other treatments, such as CBT or relaxation techniques. Biofeedback can provide one element of a multi-faceted intervention, enhancing the efficacy of other treatments by drawing a person's awareness to their own ability to consciously change their body functions.

How to Use It

Biofeedback is often offered by various mental health providers, particularly psychologists who have done additional certification. There are various products a person can use on their own to do biofeedback as well, but it is best to have support from a trained professional, especially early on.

When to Use It

Consider biofeedback for people who tend to be more technology-minded or like to see concrete data related to how their mental efforts affect them physically.

The evidence map of biofeedback, as created by VA Health Services Research & Development (HSR&D), is shown in Figure 12-2. This was based on comprehensive literature review up through March 2018.[95]

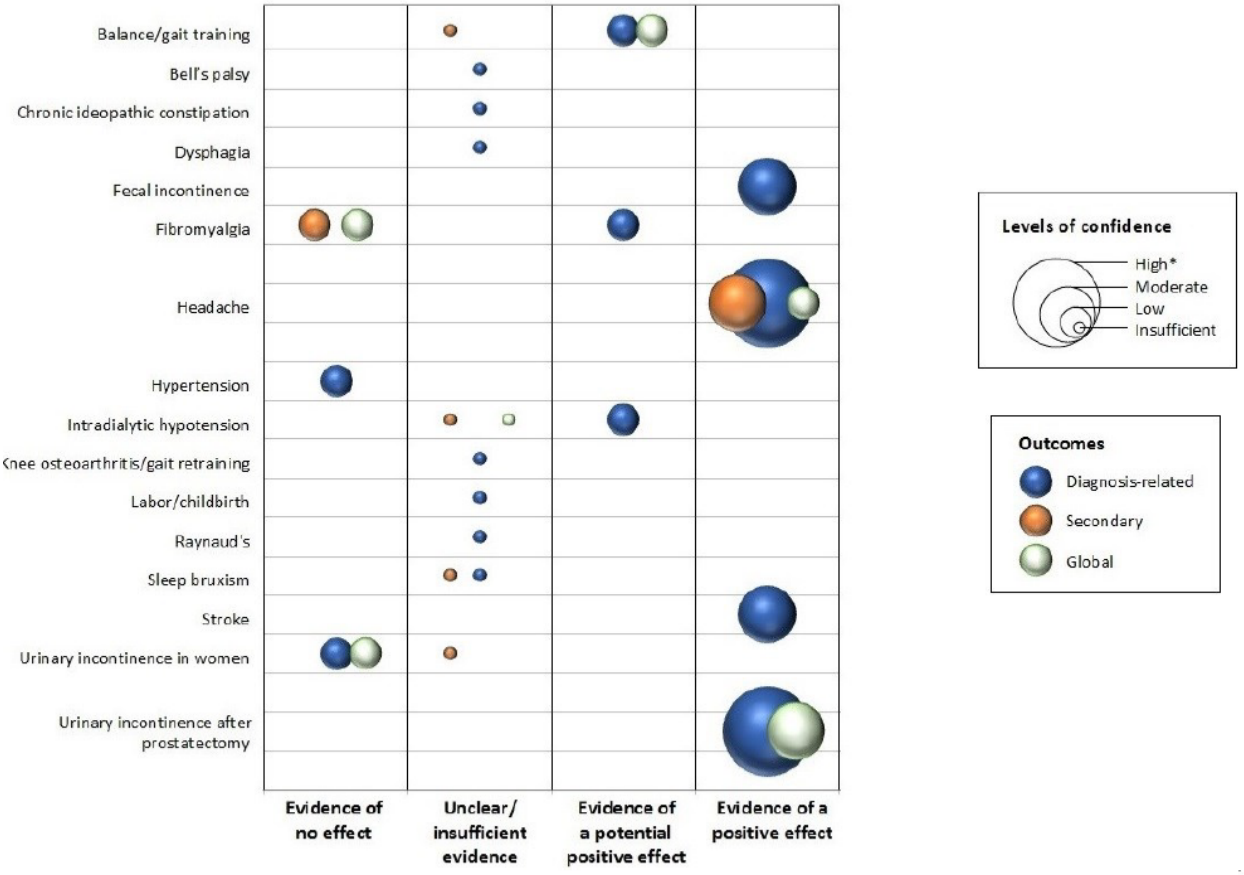


Figure 12-2. Evidence Map of Biofeedback[96]

Recent studies have been especially favorable regarding the potential for biofeedback to treat various types of chronic pain[97] and swallowing function.[98] HRV can be useful for enhancing sports performance[97] and improving pulmonary function during asthma attacks.[99] A recent, large-scale review and meta-analysis found no benefit for biofeedback for stress urinary incontinence in women.[100] A 2018 study found benefit of muscle tension biofeedback for stroke rehabilitation.[101] More studies are needed, but biofeedback shows potential benefit for treating OCD as well.[101] Neurofeedback was found to benefit people with uncontrolled seizures.[102] Biofeedback helps with various types of headaches and has been given a "Grade A" evidence rating by various national organizations.[103] A recent systematic review found support for visual biofeedback for balance in elderly populations.[104]

A 2017 meta-analysis found benefit for HRV training for stress and anxiety.[105] One study found benefit for chronic back pain,[97] another found it may help with reducing cravings in substance use disorders,[106] and still another found it reduced risk of admissions, emergency room visits, and depression in people with coronary artery disease.[107]

A rating system for efficacy for biofeedback is used by national and international groups. Some of their ratings, as featured on the website of the Association for Applied Psychophysiology and Biofeedback, Inc., are as follows[108]:

Biofeedback Research: A Summary

Level 5: Efficacious and Specific

- Urinary incontinence in females

Level 4: Efficacious

- Anxiety
- Attention deficit disorder
- Headache in adults
- Hypertension
- Temporomandibular disorders
- Urinary incontinence in males

Level 3: Probably efficacious

- Alcoholism/substance abuse
- Arthritis
- Chronic pain
- Epilepsy
- Fecal elimination disorders
- Insomnia
- Pediatric migraines
- Traumatic brain injury
- Vulvar vestibulitis

Level 2: Possibly efficacious

- Asthma
- Cancer and HIV, effect on immune function
- Cerebral palsy
- Chronic obstructive pulmonary disease
- Depressive disorders
- Diabetes mellitus
- Fibromyalgia
- Foot ulcers
- Hand dystonia
- Irritable bowel
- Mechanical ventilation
- Motion sickness
- Myocardial infarction
- PTSD
- Raynaud's disease
- Repetitive strain injury
- Stroke
- Tinnitus
- Urinary incontinence in children

Level 1: Not empirically supported

- Autism
- Eating disorders
- Multiple sclerosis
- Spinal cord injury

Biofeedback can enhance the effectiveness of other treatments by helping individuals become more aware of their own role in influencing health and disease; it can be quite empowering to patients.

What to Watch Out for (Harms)

Biofeedback is very safe, provided that instrumentation is operated correctly and practitioners are able to set reasonable and safe parameters and goals for a person to aim for in terms of various physiological measures.

Tips from Your Whole Health Colleagues

Most experts would agree that it is best to obtain biofeedback from a qualified health care professional. Get to know practitioners at your site and in your local community. To find biofeedback professionals who practice in a certain part of the country, use the following as resources:

- The Association for Applied Psychophysiology and Biofeedback (AAPB)
- Biofeedback Certification International Alliance. The BCIA was established to provide certification for biofeedback providers worldwide.
- International Society for Neurofeedback & Research (ISNR). Organization built around neurofeedback.

8. Whole Health Tool: Guided Imagery[109]

What Is It?[110]

Guided imagery is a mind-body approach that uses the "mind's eye"—one's internal processes—to support healing. It is closely related to hypnosis, psychotherapy, and biofeedback, which may also incorporate the use of images as part of therapy. Also known as guided visualization, this mind-body practice has been used throughout history to change behaviors, perspectives, and physiology.

How It Works

A typical session might start with a person being guided through relaxation exercises. After that, the clinician and the patient begin exploring visual images, as the clinician offers various cues. Initially, a positive image might be created to help the patient relax more; for example, they may be encouraged to visit a safe or beautiful place. Sometimes the patient comes up with the image, and sometimes the practitioner does. Most often, they collaborate. Ultimately, guided imagery is controlled by the person experiencing it. This allows for a sense of mastery and control, which can fuel self-directed change efforts.[111]

Guided imagery promotes an altered state of awareness. It is a means by which a person can communicate with their subconscious, or unconscious, mind. Images can distract from pain, as people work with and even alter imagery related to their discomfort; a person may visualize a change in the pain's color, or replace the pain with a different feeling, such as warmth. Imagery can also induce relaxation and help people cope more effectively with stress.

As they are working with an image, a person is encouraged to be very descriptive and to use all their senses. They are also encouraged to note emotions that arise. Different people gravitate more to focusing on senses.

Imagery can affect almost all major physiologic control systems of the body, including[112]:

- Respiration, heart rate and blood pressure
- Metabolic rate
- Digestive system motility and secretion
- Cortisol (stress hormone) levels
- Cholesterol levels
- Immune system activity
- Mood, including levels of anxiety and depression

How to Use It

Imagery can be taught one-on-one or in groups. A practitioner may record a session so that their patient/client will be able to do a given activity or exercise repeatedly.

Imagery can be used to bring about general stress reduction, to focus on a specific outcome, and to gain insight, particularly by interactively exploring imagery. A person might intentionally shift the imagery, and in so doing, shift what the imagery represents.

When to Use It

According to the VA HSR&D group, based on a large-scale review of all imagery related studies up to March 2018, "There is moderate-level confidence that guided imagery is effective in improving diagnosis-related outcomes in patients with arthritis or other rheumatic diseases. The levels of confidence of guided imagery's effectiveness for other conditions was generally low, due to heterogeneity among the intervention modalities, high risk of bias, lack of blinding, and limited generalizability in some studies."[95] Evidence from the VA HSR&D review is also shown in Figure 12-3.

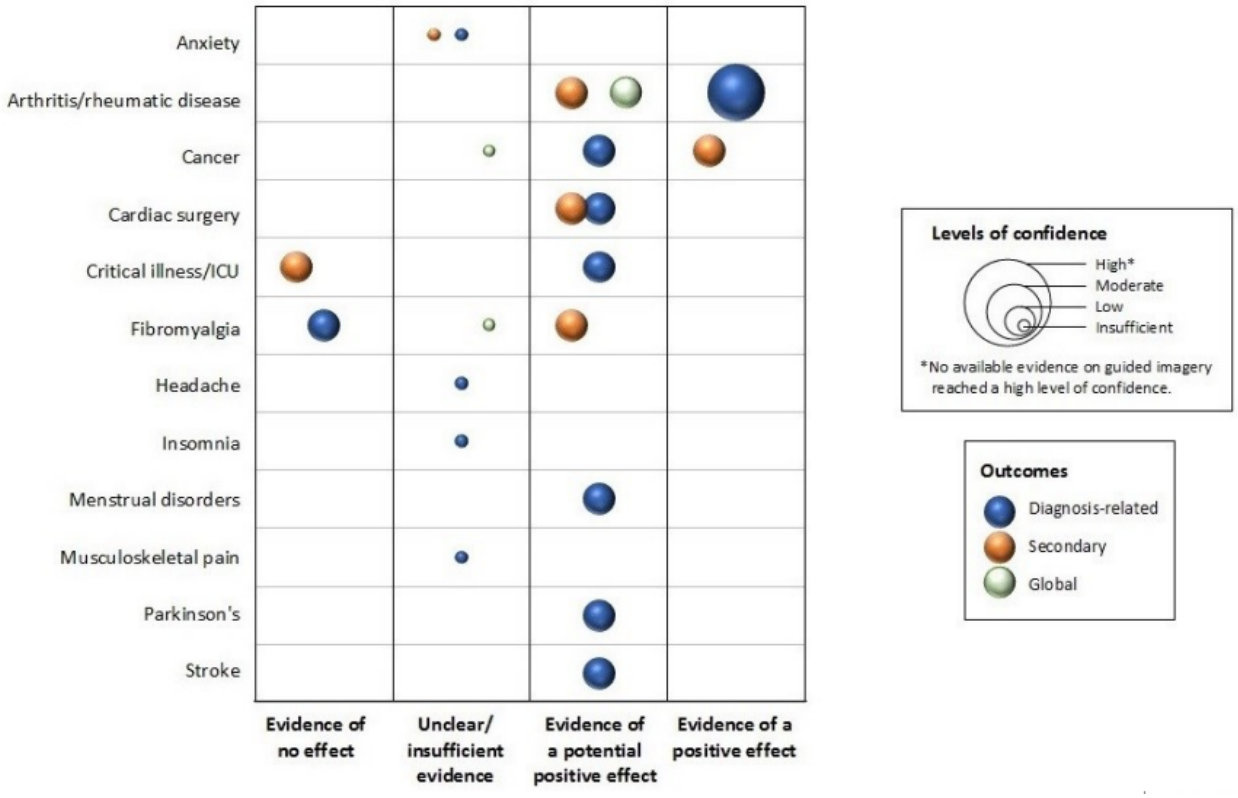


Figure 12-3. Evidence Map of Guided Imagery.[96]

While more study is clearly needed, guided imagery has shown particular promise with the following (noting that studies have their limitations)[113,114,115]:

- Anxiety (in multiple conditions)
- Cancer: Better outcomes with chemo- and radiotherapies
- Childbirth
- Depression
- Fatigue
- Improving athletic performance
- Reducing blood pressure, cholesterol, and A1c levels
- Managing chronic illness in general
- Nightmares
- Pain, including from arthritis and other rheumatic diseases
- Parkinson's disease tremors[116]
- Post-operative pain
- Preparation for surgery or procedures
- Speed up fracture and burn healing
- Stress management
- Tobacco abstinence
- Weight loss

A 2019 study found that a combination of PMR and Interactive Guided Imagery significantly reduced stress in cancer patients.[117]

It is possible for nearly anyone to use this technique. Some people prefer to work with a trained professional if they are using imagery to guide them through a physical or mental health issue. Professionals can teach patients to do ongoing work on their own. CDs and online downloads with imagery exercises are widely available. Refer to the Resources section at the end of this chapter for more information.

What to Watch Out for (Harms)

Guided imagery is not advised (or should be used with extreme care) for individuals who have psychosis, hallucinations, delusions, delirium, dementia, religious beliefs that might be in conflict with the use of imagery, or a history of unprocessed trauma that might come up during the session.

Tips from Your Whole Health Colleagues

A number of organizations offer certification in guided imagery, including the following:

- Health Journeys has a section on guided imagery, including blogs on different topics.
- Online imagery sessions are a good option, and there are some available at VA Whole Health for Life Mobile Apps and Online Tools

9. Whole Health Tool: Hypnosis[118]

What Is It?

Hypnosis has been used for thousands of years, but Western scientists first became familiar with it in the 1770s. It is derived from the Greek word *hypnos*, "to sleep." Hypnosis had its start in the eighteenth century with Franz Anton Mesmer, who used it to treat a variety of mental health disorders.[119] Most clinical hypnotherapists use approaches developed by Milton Erickson in the early 20th century. Erickson viewed hypnosis as a way to calm and quiet the conscious mind so that the subconscious could be accessed.

The goal of hypnosis is to trigger, strengthen, and then make use of a trance state. Trance is a naturally occurring state during which unconscious thought and symbolic logic are more dominant, while "higher" though and logic are less so. When a person is in a trance state, nonvoluntary and involuntary body process become more easily controlled and changeable.

How It Works

People are guided into the trance state through induction procedures which foster relaxation and an altered state of consciousness.[1,120] Attention becomes more focused, and distractions diminish. It is a similar state to being lost in thought, daydreaming, or being caught up in a good book.

Hypnosis uses two strategies while a person is in the trance-like state, in order to change sensations, perceptions, thoughts, feelings, and behaviors. First, mental imagery and symbolism are used. For example, a person may be asked to imagine what his/her pain looks like. If they describe it as a sharp red object, they might be encouraged to shift the imagery, so that colors represent a healthier state (e.g. soft and cool blue). A person may also envision certain desired behaviors or visualize a procedure or surgery going smoothly in advance.

The second of the two hypnotic strategies is the use of suggestions. Ideas and suggestions are brought up to support the goals of the session. They are most likely to be effective when a person is (1) relaxed, (2) open to suggestions, (3) able to experience sensations related to the suggestions, and (4) able to envision the suggestions leading to results.

People vary in terms of how well they can enter trance.

When to Use It

Hypnosis is most often used for improving sleep, changing habits, and reducing pain, anxiety, and IBS symptoms.[1] It has been found to provide non-pharmacological analgesia for invasive medical procedures,[121] and it reduced anesthesia needs, pain intensity, nausea, fatigue, and emotional upset in women undergoing breast surgery.[122] While it shows promise, more research is needed to support its use. In 2018, the VA HSR&D group concluded, "There is low-confidence evidence that hypnosis provides benefit over comparator interventions for anxiety in patients with cancer, breast cancer care (i.e., pain, distress, fatigue, nausea/vomiting, and hot flashes), and weight loss in obese participants.

Limitations to the body of evidence include small combined samples sizes, poor study quality, and inconsistencies among the studies that were included in the systematic reviews."[95] The evidence gathered by VA HSR&D is shown in Figure 12-4 as well.

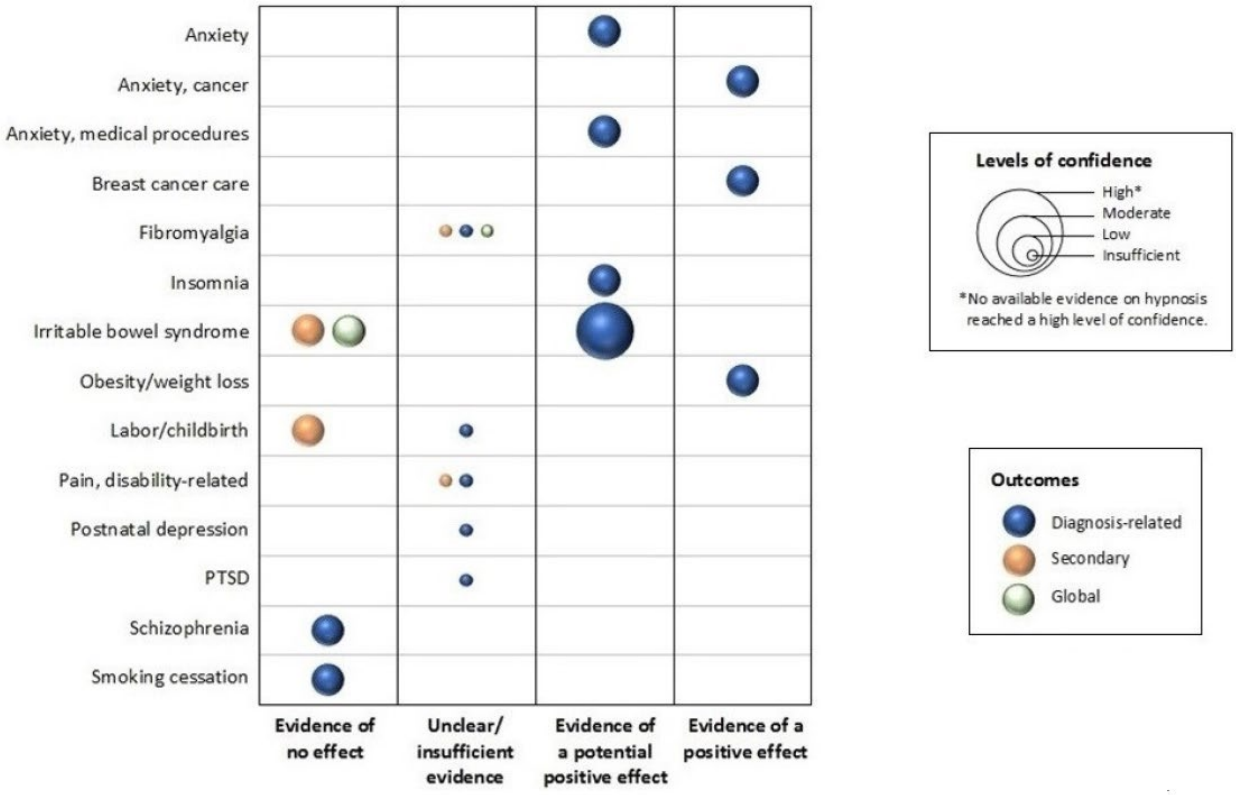


Figure 12-4. Evidence Map of Hypnosis.[96]

The American Society of Clinical Hypnosis compiles hypnotherapy research. In general, they conclude evidence is supportive for the following (and the list is by no means exhaustive)[123,124,125,126]:

- Acute and chronic pain (back pain, cancer pain, dental anesthesia, headaches, and arthritis)
- Allergies, asthma
- Anxiety and stress management
- Burn wound care
- Cancer care
- Childbirth
- Concentration difficulties, test anxiety, and learning disorders
- Depression
- Dermatologic disorders (eczema, herpes, neurodermatitis, itching, psoriasis, warts)
- Gastrointestinal disorders (ulcers, IBS, colitis, Crohn's disease)
- Hemophilia
- High blood pressure
- IBS[127]
- Nausea and vomiting associated with chemotherapy and pregnancy
- Obesity and weight control
- Raynaud's disease
- Smoking cessation
- Surgery/Anesthesiology
- Trauma
- Palliative care in severe chronic disease

- Fibromyalgia (especially combined with CBT or imagery)
- Sexual dysfunction
- Sleep disorders

Often, hypnosis sessions are recorded so a person can use them repeatedly. Self-hypnosis can be a powerful approach itself.[128]

What to Watch Out for (Harms)[129]

Hypnosis tends to be very safe, according to number of meta-analyses.[126,130] A 2018 review found no adverse event reports, noting that some studies did not report on safety at all.[131] Using hypnosis to work through events in one's past may lead to the creation of false memories and trigger strong emotional reactions. Rarely, it can cause drowsiness, headache, dizziness, and/or anxiety.

Clinical hypnosis is very different from stage hypnosis. People may joke about not wanting to "cluck like a chicken," and they can be gently reminded that people in trance never lose control.

Tips from Your Whole Health Colleagues

The ASCH and other groups offer certifications programs in hypnotherapy.

10. Whole Health Tool: Meditation

What Is It?

Throughout human history, different forms of meditation have been developed in many cultures worldwide, often in association with religious traditions. Meditation's broad scope makes defining and studying it challenging, because there are so many different types, with different styles, techniques, and goals. Some forms of meditation focus on mindful awareness, which is described in depth in Chapter 4. Others focus in different directions.

The word meditation derives from the Latin word "meditari" which means to engage in contemplation or reflection; the term is closely related to the word "measure," as in doing things according to proper measure. In modern health care, it typically refers to a practice in which the mind is trained to maintain focused attention for various reasons, including to cultivate positive states of mind or to increase concentration and focus. As one description put it, "through the active and intentional shaping of our brains (neuroplasticity), we can shape well-being."[132] There are meditations to foster awareness, and there are also meditations to enhance compassion and loving-kindness (as discussed in Chapter 10).

From the perspective of many contemplative traditions, meditation may be defined as spiritual practices intended to bring about enlightenment, self-actualization, or transcendence.[132] From the perspective of neuroscience, meditation is frequently defined by researchers as one or more techniques for training attention, concentration, and/or awareness of how one's own mind works, with the intent of enhancing self-regulation in some way.[133] Depending on their scientific background, spiritual or religious perspectives, and personal experience, people will resonate with different definitions, and it is important for meditation instructors (and clinical team members who discuss meditation with others) to be respectful of this.

Herbert Benson, who introduced the concept of the relaxation response, focused on the mental and physical effects of different forms of meditation, noting that many of them have certain features in common, in terms of their effect on the body.[134] They enlist a quiet environment, and many forms encourage people to settle down their bodies, decreasing muscle tone. People are encouraged to simply watch—but not get caught up in—distracting thoughts, and often they are encouraged to focus their attention on one specific thing, like a word (a *mantram*) or the breath. Of course, while appreciating these points of commonality, it is important to recognize that the variety and richness of different ways to meditate is born of thousands of years of human experience from around the world. As you discuss meditation as an option, remember that it is not simply a therapy, or a "one size fits all" approach to care. Different people will gravitate toward different approaches, and often, after meditation training, people tend to explore how it might fit into their overall worldview and, if relevant for them, their perspectives on spirituality and religion.

Meditation approaches have been classified in various ways. For example, practices may be based on one or more of the following overarching approaches[132]:

- Focused attention. The goal is to enhance concentration. Techniques use a single focus. Examples include breathing meditations, mantra meditation, and candle gazing.
- Open monitoring. Rather than one focus of concentration, these approaches encourage people to pay attention more broadly, noting what is happening with their thoughts, images, emotions, sensations, etc. Vipassana meditation, which informed the development of MBSR, is an example.
- Non-dual. These approaches attempt to remove the distinction between self and other, to move into a more unified understanding of experience. These are taught, especially in Eastern traditions, to reduce attachments.
- Loving-kindness and compassion. These approaches move focus to well-being, often using mental imagery techniques. They focus on manipulating thoughts and emotions. A growing body of research supports their use.[135]

How It Works

An entire multidisciplinary field has arisen in the past few decades related to the scientific study of various types of meditation. Research in contemplative neuroscience, which often involves the use of measurement devices to study the brain (and occasionally other parts of the body) when a person is meditating, has been taking us in new directions with our understanding of the brain and its function. As described in Chapter 4, "Mindful Awareness," various techniques can be used to alter brain activity in different areas

How to Use It

In developing a practice, here are some important considerations:

1. Type of meditation. Remember that meditation is not always the stereotypical sitting on a cushion chanting; there are many options. The more familiar a team member is with different types of meditation, the more effective they will be at discussing options. Try different meditations yourself so you can speak from experience. Ask meditation teachers (in VA, they are often mental health professionals) for guidance.
2. Whether or not to take a class. It can help for beginners to start out in a group environment.
3. Frequency (once a week, three times a week, daily)
4. How long? Many people start with a few minutes and build up. MBSR courses encourage people to meditate for 45 minutes six days a week

Several different types of meditation commonly used in VA are listed here:

Mindfulness-Based Stress Reduction (MBSR) is one of the most common meditation-based training approaches used in U.S. health care settings. Jon Kabat-Zinn, who developed the course based on Buddhist meditation practices for the purpose of providing a secular experience for people in a hospital setting, introduced MBSR in the 1980s as an 8-week course that introduces learners to a number of different methods for cultivating mindful awareness, including seated meditation, movement approaches (hatha yoga), compassion

meditation, and eating meditation, among others. It is taught in over 200 medical centers nationwide, and it is widely taught in the VA.

Mindfulness-Based Cognitive Therapy (MBCT) is an adaptation of the MBSR program for use in the treatment of depression. It features cognitive therapy-based exercises linking thinking and its result impact on feelings. It has been found to be beneficial for depression.[136,137] MBCT has also been found to help Veterans with PTSD.[138]

iRest® Yoga Nidra. "iRest" is short for Integrative Restoration. This practice was developed specifically for a military/Veteran population by Richard Miller in the early 2000s,[139] based on the ancient practice of Yoga Nidra. He developed a ten-step protocol for "meditative self-inquiry."[140] iRest Yoga Nidra is used regularly as part of weekly care at Walter Reed, and has been adopted in a number of VA medical centers too. Research indicates it is helpful with a variety of conditions, including depression, anxiety, quality of life, insomnia, pain, traumatic brain injury sequelae, low self esteem, and overall patient satisfaction.[141]

Transcendental Meditation® (TM) reduces blood pressure[142] and decreases need for anxiety and PTSD medications in active military personnel.[143] In fMRI studies, it has been found to increase blood flow to attentional system of the brain and decrease flow to arousal areas.[144]

Mantram Meditation (MM) was brought to the United States from India by Eknath Easwaran. A word, sound, or phrase is chanted repeatedly as a way to redirect thoughts, enhance concentration, and improve emotion. (If the person thinks the word/sound/phrase rather than speaking it aloud, it is called a "mantra" instead.) Mantram repetition elicits the relaxation response and helps with PTSD, insomnia, anxiety, and depression. It also improves quality of life. Several trainings for VA staff are available on TMS. Research indicates MM may work on certain areas of the brain differently from other forms of meditation, because of the use of language it requires.[132]

When to Use It

The number of studies of meditation has been increasing rapidly in recent years. The majority of the studies featured in Chapter 4, "Mindful Awareness," describe the effects of various types of meditation in the context of cultivating mindfulness. The VA HSR&D's Evidence-Based Synthesis Program created an evidence map of mindfulness to offer a quick overview of the state of the research up through early 2014[145] (which is also featured in Chapter 4). In general, it is clear that meditation has great potential to be beneficial for many health concerns, and more research is needed because the quality of some of the research to date is varied.

Recent meta-analyses and reviews have noted the following about meditation:

- Many of the benefits seen in the research to date are related to psychological health and functioning.[146] Meditation reduces stress and improves capacity to cope with any number of chronic disorders. Anxiety and depression benefit, for example, as

does chronic pain.[147,148] PTSD does as well.[149] Suicidal ideation decreases in Veterans.[150]

- Physical aspects of illnesses that are strongly influenced by emotions are also significantly affected. Sleep and chronic pain both benefit,[151,152] as do blood pressure, fatigue, and quality of life after stroke.[153] Meditation seems, in general, to enhance resilience to stress.[154]
- The American Heart Association noted that "studies of meditation suggest a possible benefit on cardiovascular risk" (though quality and quantity of data are limited).[155]
- Meditation, at least in part because it regulates the stress response, suppresses chronic inflammation, alters immune system function and favorably influences the gut microbiome.[156,157]
- It has been calculated, based on study data, that having people over 60 do TM regularly "...could avert nearly 200,000 stroke cases and 50,000 stroke-related deaths over the course of 15 years."[158]
- The VA has done pioneering research focusing on MM, which has shown promise for a number of conditions.[145]
- TM drops blood pressure and average of 4/2 mm Hg, which is comparable to other lifestyle interventions.[142]
- Going on meditation retreats also has benefit, including on depression, anxiety, stress, and quality of life.[159]

What to Watch Out for (Harms)

Meditation tends to be safe overall. If someone has severe mental illness, they might be best served by training in a group environment with a well-trained instructor. Hallucinations can make meditation a challenge. It should be used carefully in people with significant trauma histories, psychosis, or hallucinations.

Tips from Your Whole Health Colleagues

Keep in mind that meditation is not, in itself, intended to be a therapy for a specific health issue or issues. Rather, it is an overall approach to living and being in the world, and it can potentially be useful for everyone. Again, tailor the type of meditation used to the person. Some people prefer to be active, and tai chi and yoga (discussed in Chapter 5) are often referred to as movement-based meditations. Other activities can be meditative as well, but playing a sport, gardening, or other activities that involve focusing on the activity are not strictly types of meditation, based on the more specific sense of the term.

Research continues to confirm that even eight weeks of meditation training will lead to significant changes in brain function.[160]

Certification in meditation instruction is offered through a number of institutions, including the Oasis Institute Center for Mindfulness, University of Massachusetts Medical School, and the VA CALM program. See the Resources list at the end of this chapter.

Power of the Mind Resources

Websites

VA Whole Health Website

- Components of Health and Well-Being Video Series, "A Patient Centered Approach To: Power of the Mind."
  https://www.youtube.com/watch?v=dbPNgJ4YkpM&feature=youtu.be
- Whole Health Veteran Handouts.
  https://www.va.gov/WHOLEHEALTH/veteran-handouts/index.asp
  - An Introduction to the Power of the Mind
  - Breathing and Health
  - Progressive Muscle Relaxation and Progressive Relaxation
  - Seated Meditation
  - Biofeedback
  - Mantram Meditation
  - Autogenic Training
  - Hypnotherapy
- National CIH Subject Matter Experts
  - Biofeedback: David Gaffney. David.Gaffney@va.gov
  - Meditation: Kavitha Reddy or Alison Whitehead. Kavitha.Reddy@va.gov; Alison.Whitehead@va.gov

Whole Health Library Website

- "Power of the Mind" overview
  https://wholehealth.wisc.edu/overviews/power-of-the-mind
- "Meditation"
  https://wholehealth.wisc.edu/tools/meditation
- "Working with Our Thinking"
  https://wholehealth.wisc.edu/tools/working-with-our-thinking
- "Therapeutic Journaling"
  https://wholehealth.wisc.edu/tools/therapeutic-journaling
- "Clinical Hypnosis"
  https://wholehealth.wisc.edu/tools/clinical-hypnosis
- "Biofeedback"
  https://wholehealth.wisc.edu/tools/biofeedback
- "Guided Imagery"
  https://wholehealth.wisc.edu/tools/guided-imagery/
- "Autogenic Training"
  https://wholehealth.wisc.edu/tools/autogenic-training
- "Progressive Muscle Relaxation"
  https://wholehealth.wisc.edu/tools/progressive-muscle-relaxation
- "Progressive Relaxation"
  https://wholehealth.wisc.edu/tools/progressive-relaxation
- "Breathing (General)"
  https://wholehealth.wisc.edu/tools/breathing

- "The Power of Breath: Diaphragmatic Breathing" https://wholehealth.wisc.edu/tools/diaphragmatic-breathing/
- "Power of the Mind: Additional Resources." Refer to this link for an even more detailed list of resources related to different mind-body approaches https://wholehealth.wisc.edu/tools/power-of-the-mind
- "Balloon Self-Hypnosis Technique for IBS and Abdominal Pain" https://wholehealth.wisc.edu/tools/balloon-self-hypnosis-technique-ibs-abdominal-pain
- "Mind-Body Approaches and Depression" https://wholehealth.wisc.edu/tools/mind-body-approaches-depression
- "Coping with Grief" https://wholehealth.wisc.edu/overviews/coping-with-grief
- Whole Health for Skill Building: Power of the Mind https://wholehealth.wisc.edu/courses/whole-health-skill-building/
    - Faculty Guide
    - Veteran Handout
    - PowerPoints
    - Mindful Awareness Script: "Dropping In"

Other Websites

- StarWell Kit. http://www.warrelatedillness.va.gov/education/STAR/. Resources from the War-Related Injury and Illness Study Center. Materials related to Meditation include Richard Miller's "Guided Meditation" and James Gordon's "Soft Belly Breathing." Ben King, a Veteran, also describes his experience with breathing exercises.
- National Center for Prevention. http://www.prevention.va.gov/Healthy_Living/. Has a number of resources for stress management as part of the Healthy Living Messages.
- Academy for Guided Imagery. www.acadgi.com
- American Society of Clinical Hypnosis. www.asch.net
- Association for Applied Psychophysiology and Biofeedback. www.aapb.org. Check out the "Clinician's Resource Library"
- Gratefulness. www.gratefulness.org. Nice compilation of gratitude resources
- Biofeedback
    - BioZen. Created by DoD; look up at your App Store
    - Elite HRV. Offers free app. https://elitehrv.com
    - HeartMath (3 hour intro free for Veterans). See the FaceBook page. https://www.facebook.com/heartmathtroopsveteransfamilies/
- Meditation and Guided Imagery
    - Health Journeys Guided Imagery Audio Library. https://www.healthjourneys.com/

Books

- *A Whole New Mind: Why Right-Brainers Will Rule the Future*, Daniel Pink (2006)
- *Art as Medicine: Creating a Therapy of the Imagination*, Shaun McNif (1992)

- *Conscious Breathing: Breathwork for Health, Stress Release, and Personal Mastery*, Gay Hendricks (1995)
- *Evidence-Based Practice in Biofeedback and Neurofeedback* (3rd ed), Gabriel Tan (2017)
- *Guided Imagery for Groups*, Andrew Schwartz, (1997)
- *Guided Imagery for Self-Healing*, Martin Rossman,(2000)
- *How to Meditate: A Guide to Self-Discovery*, Lawrence Le Shan (1998)
- *In an Unspoken Voice: How the Body Releases Trauma and Restores Goodness*, Peter Levine (2010)
- *Open Up by Writing It Down*, James Pennebaker (2016)
- *Teaching Meditation to Children*, David Fontana (2007)
- *The Body Keeps the Score: Brain Mind, and Body in the Healing of Trauma*, Bessel van der Kolk (2015)
- *The Cure Within: A History of Mind-Body Medicine*, Anne Harrington (2009)
- *The Emotional Freedom Technique Manual*, Gary Craig, (2008)
- *The Highly Sensitive Person*, Elaine Aron (1997)
- *The Meditator's Atlas: A Roadmap of the Inner World*, Matthew Flickstein (2007)
- *The Relaxation Response*, Herbert Benson (2000)
- *When Things Fall Apart: Heart Advice for Difficult Times*, Pema Chodron (2000)
- *Why Zebras Don't Get Ulcers*, Robert Sapolsky (2004)
- *Writing to Heal*, James Pennebaker (2004)
- Books by Cheri Huber (focus on various aspects of Meditation)
    - *Perils and Pitfalls of Practice: Responses to Questions about Meditation*
    - *The Fear Book*
    - *The Depression Book*
    - *When You're Falling, Dive*

Other Resources

- CALM Program. This training course for mindfulness instructors is offered through the OPCC&CT. The course contact person is Dr. Greg Serpa, at John.Serpa@va.gov.
- Oasis Institute. https://www.umassmed.edu/cfm/training/
- University of Massachusetts Center for Mindfulness in Medicine, Health Care, and Society. https://www.umassmed.edu/cfm/

Special thanks to Shilagh Mirgain, PhD, and Janice Singles, PsyD, who wrote the original Whole Health Library materials on Power of the Mind that inspired content for much of this chapter.

References

[1] Mirgain S, Singles J. Power of the mind. Whole Health Library website. https://wholehealth.wisc.edu/overviews/power-of-the-mind. 2016. Accessed August 5, 2019.
[2] Petkovic G, Charlesworth JE, Kelley J, Miller F, Roberts N, Howick J. Effects of placebos without deception compared with no treatment: protocol for a systematic review and meta-analysis. *BMJ Open*. 2015;5(11):e009428. doi: 10.1136/bmjopen-2015-009428.
[3] Carvalho C, Caetano JM, Cunha L, Rebouta P, Kaptchuk TJ, Kirsch I. Open-label placebo treatment in chronic low back pain: a randomized controlled trail. *Pain.* 2016;157(12):2766-2772.
[4] Benson H. The relaxation response: its subjective and objective historical precedents and physiology. *Trends Neurosci.* 1983;6:281-284.
[5] Carr D, Blalock J. Neuropeptide hormones and receptors common to the immune and neuroendocrine systems: bi-directional pathway of intersystem communication. In: Ader R, Felten DL, Cohen N, eds. *Psychoneuroimmunology.* 2nd ed. New York: Academic Press; 1991:573-588.
[6] Pascual-Leone A, Freitas C, Oberman L, et al. Characterizing brain cortical plasticity and network dynamics across the age-span in health and disease with TMS-EEG and TMS-fMRI. *Brain Topogr.* 2011;24(3-4):302-315. doi: 10.1007/s10548-011-0196-8. Epub 2011 Aug 14.
[7] May A. Structural brain imaging: a window into chronic pain. *Neuroscientist*. 2011;17(2):209-220. doi: 10.1177/1073858410396220.
[8] Davidson RJ, Kabat-Zinn J, Schumacher J, et al. Alterations in brain and immune function produced by mindfulness meditation. *Psychosom Med.* 2003;65(4):564-570.
[9] Frewen PA, Dozois DJ, Lanius RA. Neuroimaging studies of psychological interventions for mood and anxiety disorders: empirical and methodological review. *Clin Psychol Rev;* 2008;28(2):228-246. Epub 2007 May 23.
[10] Kaliman P, Alvarez-Lopez MJ, Cosin-Tomas M, Rosenkranz MA, Lutz A, Davidson RJ. Rapid changes in histone deacetylases and inflammatory gene expression in expert meditators. *Psychoneuroendocrinology.* 2014;40:96-107. doi: 10.1016/j.psyneuen.2013.11.004. Epub 2013 Nov 15.
[11] National Institute of Health Consensus Development Program. Integration of behavioral and relaxation approaches into the treatment of chronic pain and insomnia: National Institutes of Health Technology Assessment Conference Statement. NIH Consensus Development Program website. http://consensus.nih.gov/1995/1995BehaviorRelaxPainInsomniata017html.htm. 1995. Accessed August 5, 2019.
[12] Levine JD, Gordon NC. Influence of the method of drug administration on analgesic response. *Nature.* 1984;312(5996):755-756.
[13] Astin JA, Shapiro SL, Eisenberg DM, Forys KL. Mind-body medicine: state of the science, implications for practice. *J Am Board Fam Pract.* 2003;16(2):131-147.
[14] Moore M, Brown D, Money N, Bates M. Mind-body skills for regulating the autonomic nervous system. Defense Centers of Excellence for Psychological Health and Traumatic Brain Injury. https://traumaprevention.com/wp-content/uploads/2015/06/DCoE.2011.pdf. 2011. Accessed August 2, 2019.
[15] Benson H, Klipper MZ. *The Relaxation Response.* New York, NY: HarperCollins; 2000.
[16] Cook SC, Schwartz AC, Kaslow NJ. Evidence-based psychotherapy: advantages and challenges. *Neurotherapeutics.* 2017;14(3):537-545.
[17] Sripada RK, Bohnert KM, Ganoczy D, Pfeiffer PN. Documentation of evidence-based psychotherapy and care quality for PTSD in the Department of Veterans Affairs. *Adm Policy Ment Health.* 2018;45(3):353-361.
[18] Dindo L, Van Liew JR, Arch JJ. Acceptance and commitment therapy: a transdiagnostic behavioral intervention for mental health and medical conditions. *Neurotherapeutics.* 2017;14(3):546-553.
[19] Hayes SC, Strosahl KD, Wilson KG. *Acceptance and Commitment Therapy: An Experiential Approach to Behavior Change.* New York, NY;London: Guilford Press; 1999.
[20] Hughes LS, Clark J, Colclough JA, Dale E, McMillan D. Acceptance and commitment therapy (ACT) for chronic pain: a systematic review and meta-analyses. *Clin J Pain.* 2017;33(6):552-568. doi: 10.1097/AJP.0000000000000425.
[21] A-Tjak JG, Davis ML, Morina N, Powers MB, Smits JA, Emmelkamp PM. A meta-analysis of the efficacy of acceptance and commitment therapy for clinically relevant mental and physical health problems. *Psychother Psychosom.* 2015;84(1):30-6. doi: 10.1159/000365764. Epub 2014 Dec 24.

[22] Twohig MP, Levin ME. Acceptance and commitment therapy as a treatment for anxiety and depression: a review. *Psychiatr Clin North Am.* 2017;40(4):751-770. doi: 10.1016/j.psc.2017.08.009.
[23] Hacker T, Stone P, Macbeth A. Acceptance and commitment therapy – Do we know enough? Cumulative and sequential meta-analyses of randomized controlled trials. *J Affect Disord.* 2016;190:551-565. doi: 10.1016/j.jad.2015.10.053. Epub 2015 Oct 30.
[24] Graham CD, Gouick J, Krahé C, Gillanders D. A systematic review of the use of Acceptance and Commitment Therapy (ACT) in chronic disease and long-term conditions. *Clin Psychol Rev.* 2016;46:46-58. doi: 10.1016/j.cpr.2016.04.009. Epub 2016 Apr 20.
[25] Lee EB, An w, Levin ME, Twohig MP. An initial meta-analysis of acceptance and commitment therapy for treating substance use disorders. *Drug Alcohol Depend.* 2015;155-:1-7. doi: 10.1016/j.drugalcdep.2015.08.004. Epub 2015 Aug 13.
[26] Fashler SR, Weinrib AZ, Azam MA, Katz J. The use of acceptance and commitment therapy in oncology settings: a narrative review. *Psychol Rep.* 2018;121(2):229-252.
[27] Wenzel A. Basic strategies of cognitive behavioral therapy. *Psychiatr Clin North Am.* 2017;40(4):597-609. doi: 10.1016/j.psc.2017.07.001. Epub 2017 Aug 18.
[28] Dozois DJ, Beck AT. Cognitive therapy. In: Herbert J, Forman EM, eds. *Acceptance and Mindfulness in Cognitive Behavior Therapy: Understanding and Applying the New Therapies*. Hoboken, NJ: John Wiley & Sons, Inc; 2011:26-56.
[29] Butler AC, Chapman JE, Forman EM, Beck AT. The empirical status of cognitive-behavioral therapy: a review of meta-analyses. *Clin Psychol Rev.* 2006;26(1):17-31. Epub 2005 Sep 30.
[30] Mariano TY, Urman RD, Hutchinson CA, Jamison RN, Edwards RR. Cognitive behavioral therapy (CBT) for subacute low back pain: a systematic review. *Curr Pain Headache Rep.* 2018;22(3):15. doi: 10.1007/s11916-018-0669-5.
[31]Linardon J, Messer M, Fuller-Tyszkiewicz M. Meta-analysis of the effects of cognitive-behavioral therapy for binge-eating-type disorders on abstinence rates in nonrandomized effectiveness studies: Comparable outcomes to randomized, controlled trials? *Int J Eat Disord*. 2018;51(12):1303-1311.
[32] Li JM, Zhang Y, Su WJ, et al. Cognitive behavioral therapy for treatment-resistant depression: a systematic review and meta-analysis. *Psychiatry Res.* 2018;268:243-250.
[33] Haynes J, Talbert M, Fox S, Close E. Cognitive behavioral therapy in the treatment of insomnia. *South Med.* 2018;111(2):75-80. doi: 10.14423/SMJ.0000000000000769.
[34] An H, He RH, Zheng YR, Tao R. Cognitive-behavioral therapy. *Adv Exp Med Biol.* 2017;1010:321-329. doi: 10.1007/978-981-10-5562-1_16.
[35] Radziwon CD, Lackner JM. Cognitive behavioral therapy for IBS: how useful, how often and how does it work? *Curr Gastroenterol Rep.* 2017;19(10):49. doi: 10.1007/s11894-017-0590-9.
[36] Burns DD. *The Feeling Good Handbook: Using the New Mood Therapy in Everyday Life.* William Morrow & Co; 1989.
[37] Rathbone AL, Clarry L, Prescott J. Assessing the efficacy of mobile health apps using the basic principles of cognitive behavioral therapy: systematic review. *J Med Internet Res.* 2017;19(11):e399. doi: 10.2196/jmir.8598.
[38] Andersson G, Carlbring P. Internet-assisted cognitive behavioral therapy. *Psychiatr Clin North Am.* 2017;40(4):689-700.
[39] Resick PA, Nishith P, Weaver TL, Astin MC, Feuer CA. A comparison of cognitive-processing therapy with prolonged exposure and a waiting condition for the treatment of chronic posttraumatic stress disorder in female rape victims. *J Consult Clin Psychol.* 2002;70(4):867-879.
[40] Foa E, Hembree E, Rothbaum BO. *Prolonged Exposure Therapy for PTSD: Emotional Processing of Traumatic Experiences Therapist Guide.* Oxford University Press; 2007.
[41] Foa EB, Hembree EA, Cahill SP, et al. Randomized trial of prolonged exposure for posttraumatic stress disorder with and without cognitive restructuring: outcome at academic and community clinics. *J Consult Clin Psychol.* 2005;73(5):953-964.
[42] Monson CM, Schnurr PP, Resick PA, Friedman MJ, Young-Xu Y, Stevens SP. Cognitive processing therapy for veterans with military-related posttraumatic stress disorder. *J Consul Clin Psychol.* 2006;74(5):898-907.
[43] Tran K, Moulton K, Santesso N, Rabb D. *Cognitive Processing Therapy for Post-Traumatic Stress Disorder: A Systematic Review and Meta-Analysis.* Ottawa (ON): Canadian Agency for Drugs and Technologies in Health; 2016.

[44] Morkved N, Hartmann K, Aarsheim LM, et al. A comparison of narrative exposure therapy and prolonged exposure therapy for PTSD. *Clin Psychol Rev.* 2014;34(6):453-67. doi: 10.1016/j.cpr.2014.06.005. Epub 2014 Jun 26.
[45] Rutt BT, Oehlert ME, Krieshok TS, Lichtenberg JW. Effectiveness of cognitive processing therapy and prolonged exposure in the Department of Veterans Affairs. *Psychol Rep*. 2018;121(2):282-302.
[46] Lynch TR, Trost WT, Salsman N, Linehan MM. Dialectical behavior therapy for borderline personality disorder. *Annu Rev Clin Psychol.* 2007;3:181-205.
[47] Cristea IA, Gentili C, Cotet CD, Palomba D, Barbui C, Cuijpers P. Efficacy of psychotherapies for borderline personality disorder: a systematic review and meta-analysis. *JAMA psychiatry.* 2017;74(4):319-328.
[48] DeCou CR, Comtois KA, Landes SJ. Dialectical behavior therapy is effective for the treatment of suicidal behavior: a meta-analysis. *Behav Ther.* 2019;50(1):60-72.
[49] Goodman M, Banthin D, Blair NJ, et al. A randomized trial of dialectical behavior therapy in high-risk suicidal veterans. *J Clin Psychiatry.* 2016;77(12):e1591-e1600.
[50] Novo Navarro P, Landin-Romero R, Guardiola-Wanden-Berghe R, et al. 25 years of eye movement desensitization and reprocessing (EMDR): the EMDR therapy protocol, hypotheses of its mechanism of action and a systematic review of its efficacy in the treatment of post-traumatic stress disorder. *Rev Psiquiatr Salud Ment.* 2018;11(2):101-114.
[51] Lee CW, Cuijpers P. A meta-analysis of the contribution of eye movements in processing emotional memories. *J. Behav Ther Exp Psychiatry.* 2013;44(2):231-239. doi: 10.1016/j.jbtep.2012.11.001. Epub 2012 Nov 20.
[52] Power K, McGoldrick T, Brown K, et al. A controlled comparison of eye movement desensitization and reprocessing versus exposure plus cognitive restructuring versus waiting list in the treatment of post-traumatic stress disorder. *Clin Psychol Psychother.* 2002;9(5):299-318. doi: 10.1002/cpp.341.
[53] Marsden Z, Lovell K, Blore D, Ali S, Delgadillo J. A randomized controlled trial comparing EMDR and CBT for obsessive-compulsive disorder. *Clin Psychol Psychother.* 2018;25(1):e10-e18.
[54] Hollon SD, Jarrett RB, Nierenberg AA, Thase ME, Trivedi M, Rush AJ. Psychotherapy and medication in the treatment of adult and geriatric depression: which monotherapy or combined treatment? *J Clin Psychiatry.* 2005;66(4):455-468.
[55] de Mello MF, de Jesus Mari J, Bacaltchuk J, Verdeli H, Neugebauer R. A systematic review of research findings on the efficacy of interpersonal therapy for depressive disorders. *Eur Arch Psychiatry Clin Neurosci.* 2005;255(2):75-82. Epub 2004 Nov 12.
[56] Blanco C, Markowitz JC, Hellerstein DJ, et al. A randomized trial of interpersonal psychotherapy, problem solving therapy, and supportive therapy for major depressive disorder in women with breast cancer. *Breast Cancer Res Treat.* 2019;173(2):353-364.
[57] Ijaz S, Davies P, Williams CJ, Kessler D, Lewis G, Wiles N. Psychological therapies for treatment-resistant depression in adults. *Cochrane Database Syst Rev.* 2018;5:Cd010558.
[58] Hahlweg K, Markman HJ. Effectiveness of behavioral marital therapy: empirical status of behavioral techniques in preventing and alleviating marital distress. *J Consult Clin Psychol.* 1988;56(3):440-447.
[59] Salguero M. Depression: overview. Whole Health Library website. https://wholehealth.wisc.edu/overviews/depression. 2014. Accessed August 5, 2019.
[60] Alexopoulos GS, Raue PJ, Kiosses DN, et al. Problem-solving therapy and supportive therapy in older adults with major depression and executive dysfunction: effect on disability. *Arch Gen Psychiatry.* 2011;68(1):33-41. doi: 10.1001/archgenpsychiary.2010.177.
[61] Kirkham JG, Choi N, Seitz DP. Meta-analysis of problem solving therapy for the treatment of major depressive disorder in older adults. *Int J Geriatr Psychiatry.* 2016;31(5):526-535.
[62] Robinson RG, Jorge RE, Long J. Prevention of poststroke mortality using problem-solving therapy or escitalopram. *Am J Geriatr Psychiatry.* 2017;25(5):512-519.
[63] Haggerty J. Psychodynamic therapy. Psych Central website. https://psychcentral.com/lib/psychodynamic-therapy/. 2018. Accessed September 21, 2016.
[64] Leichsenring F, Rabung S. Effectiveness of long-term psychodynamic psychotherapy: a meta-analysis. *JAMA.* 2008;300(13):1551-1565. doi: 10.1001/jama.300.13.1551.
[65] Lazar SG. The place for psychodynamic therapy and obstacles to its provision. *Psychiatr Clin North Am.* 2018;41(2):193-205.
[66] Mirgain S, Singles J. Autogenic training. Whole Health Library website. https://wholehealth.wisc.edu/tools/autogenic-training/. 2016. Accessed August 5, 2019.

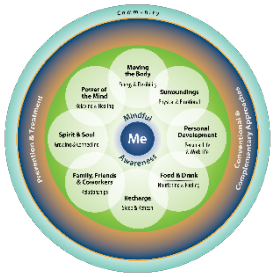
[67] Benor R. Autogenic training. *Complement Ther Nurs Midwifery.* 1996;2(5):134-138.
[68] Stetter F, Kupper S. Autogenic training: a meta-analysis of clinical outcome studies. *Appl Psychophysiol Biofeedback.* 2002;27(1):45-98.
[69] Mirgain S, Singles J. Breathing. Whole Health Library website. https://wholehealth.wisc.edu/tools/breathing. 2016. Accessed August 5, 2019.
[70] Schein MH, Gavish B, Herz M, et al. Treating hypertension with a device that slows and regularises breathing: a randomised, double-blind controlled study. *J Hum Hypertens.* 2001;15(4):271-278.
[71] Holloway E, Ram FS. Breathing exercises for asthma. *Cochrane Database Syst Rev.* 2004(1):CD001277.
[72] Krachman S, Criner GJ. Hypoventilation syndromes. *Clin Chest Med.* 1998;19(1):139-155.
[73] Liu W, Pan YL, Gao CX, Shang Z, Ning LJ, Liu X. Breathing exercises improve post-operative pulmonary function and quality of life in patients with lung cancer: a meta-analysis. *Exp Ther Med.* 2013;5(4):1194-1200. Epub 2013 Jan 25.
[74] Puetz TW, Morley CA, Herring MP. Effects of creative arts therapies on psychological symptoms and quality of life in patients with cancer. *JAMA Intern Med.* 2013;173(11):960-969. doi: 10.1001/jamainternmed.2013.836.
[75] Mahendran R, Gandhi M, Moorakonda RB, et al. Art therapy is associated with sustained improvement in cognitive function in the elderly with mild neurocognitive disorder: findings from a pilot randomized controlled trial for art therapy and music reminiscence activity versus usual care. *Trials.* 2018;19(1):615.
[76] Strassel JK, Cherkin DC, Steuten L, Sherman KJ, Vrijhoef HJ. A systematic review of the evidence for the effectiveness of dance therapy. *Altern Ther Health Med.* 2011;17(3):50-59.
[77] Mössler K, Chen X, Heldal TO, Gold C. Music therapy for people with schizophrenia and schizophrenia-like disorders. *Cochrane Database Syst Rev.* 2011(12):CD004025. doi: 10.1002/14651858.CD004025.pub3.
[78] Gomes Neto M, Menezes MA, Oliveira Carvalho V. Dance therapy in patients with chronic heart failure: a systematic review and a meta-analysis. *Clin Rehabil.* 2014;28(12):1172-1179.
[79] Cepeda MS, Carr DB, Lau J, Alvarez H. Music for pain relief. *Cochrane Database Syst Rev.* 2006(2):CD004843.
[80] Aalbers S, Fusar-Poli L, Freeman RE, et al. Music therapy for depression. *Cochrane Database Syst Rev.* 2017;11:Cd004517.
[81] Clark IN, Taylor NF, Baker F. Music interventions and physical activity in older adults: a systematic literature review and meta-analysis. *J Rehabil Med.* 2012;44(9):710-719. doi: 10.2340/16501977-1025.
[82] Geretsegger M, Mössler KA, Bieleninik Ł, Chen XL, Heldal TO, Gold C. Music therapy for people with schizophrenia and schizophrenia-like disorders. *Cochrane Database Syst Rev.* 2017;5:CD004025. doi: 10.1002/14651858.CD004025.pub4.
[83] Wang S, Agius M. The use of music therapy in the treatment of mental illness and the enhancement of societal wellbeing. *Psychiatria Danubina.* 2018;30(Suppl 7):595-600.
[84] Zhang Y, Cai J, An L, et al. Does music therapy enhance behavioral and cognitive function in elderly dementia patients? A systematic review and meta-analysis. *Ageing Res Rev.* 2017;35:1-11. doi: 10.1016/j.arr.2016.12.003. Epub 2016 Dec 23.
[85] van der Steen JT, van Soest-Poortvliet MC, van der Wouden JC, Bruinsma MS, Scholten RJ, Vink AC. Music-based therapeutic interventions for people with dementia. *Cochrane Database Syst Rev.* 2017;5:Cd003477.
[86] Gramaglia C, Gambaro E, Vecchi C, et al. Outcomes of music therapy interventions in cancer patients-A review of the literature. *Crit Rev Oncol Hematol.* 2019;138:241-254.
[87] Baker FA, Metcalf O, Varker T, O'Donnell M. A systematic review of the efficacy of creative arts therapies in the treatment of adults with PTSD. *Psychol Trauma.* 2018;10(6):643-651.
[88] Mirgain S, Singles J. Therapeutic journaling. Whole Health Library website. https://wholehealth.wisc.edu/tools/therapeutic-journaling/. 2016. Accessed August 5, 2019.
[89] Banburey C. Wounds heal more quickly if patients are relieved of stress: a review of research by Susanne Scott and colleagues from King's college. Paper presented at: Annual Conference of the British Psychological Society, London; 2003.
[90] Baikie KA, Wilhelm K. Emotional and physical health benefits of expressive writing. *Adv Psychiatr Treat.* 2005;11(5):338-346.
[91] Smyth JM. Written emotional expression: effect sizes, outcome types, and moderating variables. *J Consult Clin Psychol.* 1998;66(1):174-184.
[92] Mirgain S, Singles J. Progressive relaxation. Whole Health Library website. https://wholehealth.wisc.edu/tools/progressive-relaxation/. 2016. Accessed September 12, 2018.

[93] Pelekasis P, Matsouka I, Koumarianou A. Progressive muscle relaxation as a supportive intervention for cancer patients undergoing chemotherapy: a systematic review. *Palliat Support Care.* 2017;15(4):465-473. doi: 10.1017/S1478951516000870. Epub 2016 Nov 28.
[94] Mirgain S, Singles J. Biofeedback. Whole Health Library website. https://wholehealth.wisc.edu/tools/biofeedback/. 2016. Accessed August 5, 2019.
[95] U.S. Department of Veterans Affairs. Management eBrief no. 153. 2019; https://www.hsrd.research.va.gov/publications/management_briefs/default.cfm?ManagementBriefsMenu=eBrief-no153 Accessed July 23, 2019.
[96] Freeman M, Kondo K, Kligler B, et al. Guided imagery, biofeedback, hypnosis: a map of the evidence. VA Health Services Research & Development Cyberseminars website. https://www.hsrd.research.va.gov/for_researchers/cyber_seminars/archives/3631-notes.pdf. Accessed August 6, 2019.
[97] Sielski R, Rief W, Glombiewski JA. Efficacy of biofeedback in chronic back pain: a meta-analysis. *Int J Behav Med.* 2017;24(1):25-41. doi: 10.1007/s12529-016-9572-9.
[98] Albuquerque LCA, Pernambuco L, da Silva CM, Chateaubriand MM, da Silva HJ. Effects of electromyographic biofeedback as an adjunctive therapy in the treatment of swallowing disorders: a systematic review of the literature. *Eur Arch Otorhinolaryngol.* 2019;276(4):927-938.
[99] Taghizadeh N, Eslaminejad A, Raoufy MR. Protective effect of heart rate variability biofeedback on stress-induced lung function impairment in asthma. *Respir Physiol Neurobiol.* 2019;262:49-56.
[100] Nunes EFC, Sampaio LMM, Biasotto-Gonzalez DA, Nagano R, Lucareli PRG, Politti F. Biofeedback for pelvic floor muscle training in women with stress urinary incontinence: a systematic review with meta-analysis. *Physiotherapy.* 2019;105(1):10-23.
[101] Tsaih PL, Chiu MJ, Luh JJ, Yang YR, Lin JJ, Hu MH. Practice variability combined with task-oriented electromyographic biofeedback enhances strength and balance in people with chronic stroke. *Behav Neurol.* 2018;2018:7080218.
[102] Tan G, Thornby J, Hammond DC, et al. Meta-analysis of EEG biofeedback in treating epilepsy. *Clin EEG Neurosci.* 2009;40(3):173-179.
[103] Silberstein SD. Practice parameter: evidence-based guidelines for migraine headache (an evidence-based review): report of the Quality Standards Subcommittee of the American Academy of Neurology. *Neurology.* 2000;55(6):754-762.
[104] Alhasan H, Hood V, Mainwaring F. The effect of visual biofeedback on balance in elderly population: a systematic review. *Clin Interv Aging.* 2017;12:487-497. doi: 10.2147/CIA.S127023. eCollection 2017.
[105] Goessl VC, Curtiss JE, Hofmann SG. The effect of heart rate variability biofeedback training on stress and anxiety: a meta-analysis. *Psychol Med.* 2017;47(15):2578-2586. doi: 10.1017/S0033291717001003. Epub 2017 May 8.
[106] Alayan N, Eller L, Bates ME, Carmody DP. Current evidence on heart rate variability biofeedback as a complementary anticraving intervention. *J Altern Complement Med. 2*018;24(11):1039-1050.
[107] Yu LC, Lin IM, Fan SY, Chien CL, Lin TH. One-year cardiovascular prognosis of the randomized, controlled, short-term heart rate variability biofeedback among patients with coronary artery disease. *Int J Behav Med.* 2018;25(3):271-282.
[108] Association for Applied Psychophysiology and Biofeedback Inc., https://www.aapb.org/i4a/pages/index.cfm?pageID=3404. Accessed August 5, 2019.
[109] Mirgain S, Singles J. Imagery. Whole Health Library website. https://wholehealth.wisc.edu/tools/guided-imagery/. 2016. Accessed August 5, 2019.
[110] Micozzi M. *Fundamentals of Complementary and Alternative Medicine.* 5th ed. St. Louis, MO: Saunders;2015.
[111] Naperstek B. Healthjourneys. http://www.healthjourneys.com. Accessed August 5, 2019.
[112] Trakhtenberg EC. The effects of guided imagery on the immune system: a critical review. *Int J Neurosci*. 2008;118(6):839-855.
[113] Giacobbi PR Jr, Stabler ME, Stewart J, Jaeschke AM, Siebert JL, Kelley GA. Guided imagery for arthritis and other rheumatic diseases: a systematic review of randomized controlled trials. *Pain Manag Nurs.* 2015;16(5):792-803. doi: 10.1016/j.pmn.2015.01.003. Epub 2015 Jul 11.
[114] McKinney CH, Honig TJ. Health outcomes of a series of bonny method of guided imagery and music sessions: a systematic review. *J Music Ther.* 2017;54(1):1-34. doi: 10.1093/jmt/thw016.
[115] Naparstek B. Invisible Heroes: Survivors of Trauma and How They Heal. New York, NY: Bantam; 2005.

[116] Schlesinger I, Benyakov O, Erikh I, Suraiya S, Schiller Y. Parkinson's disease tremor is diminished with relaxation guided imagery. *Mov Disord*. 2009;24(14):2059-2062.
[117] De Paolis G, Naccarato A, Cibelli F, et al. The effectiveness of progressive muscle relaxation and interactive guided imagery as a pain-reducing intervention in advanced cancer patients: a multicentre randomised controlled non-pharmacological trial. *Complement Ther Clin Pract.* 2019;34:280-287.
[118] Mirgain S, Singles J. Clinical hypnosis. Whole Health Library website. https://wholehealth.wisc.edu/tools/clinical-hypnosis/. 2016. Accessed August 5, 2019.
[119] Micozzi M, Jawer M. Mind-body therapies, stress, and psychometrics. In Micozzi M, ed. *Fundamentals of Comlementary and Alternative Meditince.* 4th ed. St. Louis, MO: Saunders; 2014.
[120] American Society of Clinical Hypnosis (ASCH). American Society of Clinical Hypnosis website. http://www.asch.net. Accessed August 5, 2019.
[121] Lang EV, Benotsch EG, Fick LJ, et al. Adjunctive non-pharmacological analgesia for invasive medical procedures: a randomised trial. *Lancet.* 2000;355(9214):1486-1490.
[122] Montgomery GH, Bovbjerg DH, Schnur JB, et al. A randomized clinical trial of a brief hypnosis intervention to control side effects in breast surgery patients. *J Natl Cancer Inst.* 2007;99(17):1304-1312.
[123] Kirsch I. Cognitive-behavioral hypnotherapy. In: Rhue JW, Lynn SJ, Kirsch I, eds. *Handbook of Clinical Hypnosis*. Washington, DC: American Psychological Association; 1993:151-171.
[124] Brugnoli MP. Clinical hypnosis for palliative care in severe chronic diseases: a review and the procedures for relieving physical, psychological and spiritual symptoms. *Ann Palliat Med.* 2016;(4):280-297. doi: 10.21037/apm.2016.09.04.
[125] Wortzel J, Spiegel D. Hypnosis in cancer care. *Am J Clin Hypn.* 2017;60(1):4-17. doi: 10.1080/00029157.2017.1290577.
[126] Zech N, Hansen E, Bernardy K, Hauser W. Efficacy, acceptability and safety of guided imagery/hypnosis in fibromyalgia – a systematic review and meta-analysis of randomized controlled trials. *Eur J Pain.* 2017;21(2):217-227. doi: 10.1002/ejp.933. Epub 2016 Nov 29.
[127] Schaefert R, Klose P, Moser G, Hauser W. Efficacy, tolerability, and safety of hypnosis in adult irritable bowel syndrome: systematic review and meta-analysis. *Psychosom Med*. 2014;76(5):389-398.
[128] Brugnoli MP, Pesce G, Pasin E, Basile MF, Tamburin S, Polati E. The role of clinical hypnosis and self-hypnosis to relief pain and anxiety in severe chronic diseases in palliative care: a 2-year long-term follow-up of treatment in a nonrandomized clinical trial. *Ann Palliat Med*. 2018;7(1):17-31.
[129] Sifferlin A. How Safe is Hypnosis? 2015; https://time.com/4068201/how-safe-is-hypnosis/. Accessed July 23, 2019.
[130] Hauser W, Hagl M, Schmierer A, Hansen E. The efficacy, safety and applications of medical hypnosis. *Dtsch Arztebl Int.* 2016;113(17):289-296.
[131] Bollinger JW. The rate of adverse events related to hypnosis during clinical trials. *Am J Clin Hypn.* 2018;60(4):357-366.
[132] Brandmeyer T, Delorme A, Wahbeh H. The neuroscience of meditation: classification, phenomenology, correlates, and mechanisms. *Prog Brain Res.* 2019;244:1-29.
[133] Cahn BR, Polich J. Meditation (Vipassana) and the P3a event-related brain potential. *Int J Psychophysiol.* 2009;72(1):51-60. doi: 10.1016/j.ijpsycho.2008.03.013. Epub 2008 Sep 23.
[134] Benson H, Kotch JB, Crassweller KD. The relaxation response: a bridge between psychiatry and medicine. *Med Clin North Am.* 1977;61(4):929-938.
[135] Graser J, Stangier U. Compassion and loving-kindness meditation: an overview and prospects for the application in clinical samples. *Harv Rev Psychiatry.* 2018;26(4):201-215.
[136] Piet J, Hougaard E. The effect of mindfulness-based cognitive therapy for prevention of relapse in recurrent major depressive disorder: a systematic review and meta-analysis. *Clin Psychol Rev.* 2011;31(6):1032-1040. doi: 10.1016/jcpr.2011.05.002. Epub 2011 May 15.
[137] Teasdale JD, Moore RG, Hayhurst H, Pope M, Williams S, Segal ZV. Metacognitive awareness and prevention of relapse in depression: empirical evidence. *J Consult Clin Psychol.* 2002;70(2):275-287.
[138] King AP, Erickson TM, Giardino ND, et al. A pilot study of group mindfulness-based cognitive therapy (MBCT) for combat veterans with posttraumatic stress disorder (PTSD). *Depress Anxiety.* 2013;30(7):638-645. doi. 10.1002/da.22104. Epub 2013 Apr 17.
[139] iRest. About iRest. 2019; https://www.irest.org/about-irest. Accessed July 23, 2019.
[140] iRest. The 10 Step iRest Protocol. https://www.irest.org/irest-10-step-protocol. Accessed July 23, 2019.
[141] iRest. iRest Yoga Nidra Research. 2019; https://www.irest.org/irest-research Accessed July 23, 2019.

[142] Ooi SL, Giovino M, Pak SC. Transcendental meditation for lowering blood pressure: an overview of systematic reviews and meta-analyses. *Complement Ther Med.* 2017;34:26-34. doi: 10.1016/j.ctim.2017.07.008. Epub 2017 Jul 24.
[143] Barnes VA, Monto A, Williams JJ, Rigg JL. Impact of transcendental meditation on psychotropic medication use among active duty military service members with anxiety and PTSD. *Mil Med.* 2016;181(1):56-63.
[144] Mahone MC, Travis F, Gevirtz R, Hubbard D. fMRI during transcendental meditation practice. *Brain Cogn.* 2018;123:30-33.
[145] Hempel, S, Taylor, SL, Marshall, et al. Evidence map of mindfulness. VA-ESP Project #05-226; http://www.hsrd.research.va.gov/publications/esp/cam_mindfulness-REPORT.pdf. 2014. Accessed August 5, 2019.
[146] Arias AJ, Steinberg K, Banga A, Trestman RL. Systematic review of the efficacy of meditation techniques as treatments for medical illness. *J Altern Complement Med.* 2006;12(8):817-832.
[147] Ball EF, Nur Shafina Muhammad Sharizan E, Franklin G, Rogozinska E. Does mindfulness meditation improve chronic pain? A systematic review. *Curr Opin Obstet Gynecol.* 2017;29(6):359-366. doi: 10.1097/GCO.0000000000000417.
[148] Goldberg SB, Tucker RP, Greene PA, et al. Mindfulness-based interventions for psychiatric disorders: a systematic review and meta-analysis. *Clin Psychol Rev.* 2018;59:52-60. doi: 10.1016/j.cpr.2017.10.011. Epub 2017 Nov 8.
[149] Hilton L, Maher AR, Colaiaco B, et al. Meditation for posttraumatic stress: systematic review and meta-analysis. *Psychol Trauma*. 2017;9(4):453-460.
[150] Serpa JG, Taylor SL, Tillisch K. Mindfulness-based stress reduction (MBSR) reduces anxiety, depression, and suicidal ideation in veterans. *Med Care.* 2014;52: S19–S24. doi: 10.1097/MLR. 0000000000000202.
[151] Smith JE, Richardson J, Hoffman C, Pilkington K. Mindfulness-based stress reduction as supportive therapy in cancer care: systematic review. *J Adv Nurs.* 2005;52(3):315-327.
[152] Cherkin DC, Sherman KJ, Balderson BH, et al. Effect of mindfulness-based stress reduction vs cognitive behavioral therapy or usual care on back pain and functional limitations in adults with chronic low back pain: a randomized clinical trial. *JAMA.* 2016;315(12):1240-1249.
[153] Lawrence M, Booth J, Mercer S, Crawford E. A systematic review of the benefits of mindfulness-based interventions following transient ischemic attack and stroke. *Int J Stroke.* 2013;8(6):465-474. doi: 10.111/ijs.12135.
[154] Hoge EA, Bui E, Palitz SA, et al. The effect of mindfulness meditation training on biological acute stress responses in generalized anxiety disorder. *Psychiatry Res.* 2018;262:328-332.
[155] Levine GN, Lange RA, Bairey-Merz CN. Meditation and cardiovascular risk reduction: a scientific statement from the American heart association. *J Am Heart Assoc.* 2017;6(10). pii: e002218. doi: 10.1161/JAHA.117.002218.
[156] Household AM, Peterson CT, Mills PJ, Chopra D. The effects of stress and meditation on the immune system, human microbiota and epigenetics. *Adv Mind Body Med.* 2017 Fall;31(4):10-25.
[157] Black DS, Slavich GM. Mindfulness meditation and the immune system: a systematic review of randomized controlled trials. *Ann N Y Acad Sci.* 2016;1373(1):13-24. doi: 10.1111/nyas.12998. Epub 2016 Jan 21.
[158] Ambavane RA, Khademi A, Zhang D, Shi L. Modeling the impact of transcendental meditation on stroke incidence and mortality. *J Stroke Cerebrovasc Dis.* 2019;28(3):577-586.
[159] Khoury B, Knauper B, Schlosser M, Carriere K, Chiesa A. Effectiveness of traditional meditation retreats: a systematic review and meta-analysis. *J Psychosom Res.* 2017;92:16-25.
[160] Gotink R, Meijboom R, Smits M, W Vernooij M, Hunink M. 8-week mindfulness based stress reduction induces brain changes similar to traditional long-term meditation practice – a systematic review. *Brain Cogn.* 2016;108:32-41.

Chapter 13. Prevention: Being Proactive



Treatment without prevention is simply unsustainable.
—Bill Gates

Chapters 5-12 emphasize the importance self-care as part of Whole Health. In this chapter and the remaining ones, we transition outward to the other parts of the circle. The next circle is Professional Care. While Veteran (and team member) self-care is fundamental to Whole Health approach, it is complemented—and shored up—by professional care. Veterans need people to empower and equip them with what they need to succeed, be it education, skill building, resources, or support.

The Professional Care circle represents all the ways a person might receive help from others, be they conventional or complementary health practitioners. Whether it is called "conventional medicine," "biomedicine," or "Western medicine," the interventions offered within mainstream medicine have many potential benefits, and they are as much a part of Whole Health as the other Circle components. It is important to remember, too, that prevention is of central importance. Whole Health care must be proactive.

The "one pill, one ill" or "find-it, fix-it" models of care have their place, but they do not work well for people with chronic disease. These frameworks become particularly limited if a person is dealing with more than one chronic illness. It simply does not work to assume a treatment protocol for a given health problem will work for every person who has that problem. Treating someone with a combination of diagnoses, such as fibromyalgia, irritable bowel syndrome (IBS), headaches, depression, psoriasis, diabetes, obesity, and hypertension (or sometimes even just one of those issue) can often be challenging. Ideally, it is helpful to have as many tools as you can. Prevention, keeping the problems from ever happening in the first place, is the focus of this chapter. Complementary and integrative health (CIH) is the focus of Chapters 14-18.

Proactive Care: Considering Prevention

The majority of life-threatening disease around the globe is now chronic and linked to health behaviors.[1]

It does not work to simply play a defensive game, to be in the mindset of responding only when problems arise. Prevention matters greatly. Consider the following:

- Eliminating unhealthy behaviors would prevent 80% of cases of stroke, heart disease, and type 2 diabetes, and it would prevent 40% of cancers.[1]
- A 2018 review of data from the Nurses' Health Study and the Health Professionals Follow-up Study focused on the effects of five healthy behaviors: never smoking, body mass index of 18.5-24.9, moderate alcohol intake, high diet quality score, and ≥30 minutes daily of moderate to vigorous physical activity.[2] Hazard ratios for people doing all five behaviors versus none of them were as follows: 0.26 for all-

cause mortality, 0.35 for cancer mortality, and 0.18 for cardiovascular mortality. Women who had none of the positive behaviors would be expected, at age 50, to live another 29 years; for men, that would be 25 ½ years. People who practice all five behaviors would increase their years of life beyond age 50 by an average of 43 more years for women and 38 more for men.

- A 2009 study followed over 23,000 people, noting the correlations between chronic diseases and the following four behavioral factors[2]: 1) more than 210 minutes a week of physical activity; 2) adhering to healthy diet principles; 3) never having smoked; and 4) having a body mass index less than 30. After adjusting for age, sex, occupation, and educational status, people who met all four criteria had:
  - 78% lower risk of developing diabetes
  - 81% lower risk of heart attack
  - 50% lower risk of stroke
  - 36% lower risk of cancer
- A Centers for Disease Control (CDC) analysis of statistics for Americans collected from 2008-2010 concluded that "…when considered separately, 91,757 deaths from diseases of the heart, 84,443 from cancer, 28,831 from chronic lower respiratory diseases, 16,973 from cerebrovascular diseases (stroke), and 36,836 from unintentional injuries potentially could be prevented each year."[3]
- 1/5 or 1/6 of all deaths in the U.S. are linked to tobacco smoking and hypertension.[4] 1/10 of deaths are due to being overweight or physically inactive. Low fruit and vegetable intake is estimated to have led to 58,000 deaths in 2005.[4]
- Exercise seems to be comparable to medical treatment for secondary prevention of coronary heart disease, prevention of post-stroke rehabilitation, and prevention of heart failure.[5]
- In 2014, the CDC estimated that, in the U.S., "vaccinations will prevent more than 21 million hospitalizations and 732,000 deaths among children born in the last 20 years."[6] Measles vaccinations, given in 73 countries, will prevent 13.4 million deaths. Providing nine other vaccinations in those countries will save another 9.9 million lives.[7]
- 130 Americans die each day from opioid overdoses.[8]

Prevention "Commandments"[9,10]

These suggestions are just a few of the prevention tips to consider during personal health planning. Some of them might tie in with various self-care circles on the Circle of Health as well. Each item on the following list can have marked long-term benefits for Whole Health, and many of them come from the VHA National Center for Health Promotion and Disease Prevention's Healthy Living Messages (NCP) which are described in detail at the website.[9,10]

- Maintain a healthy weight.
- Avoid excessive alcohol.
- Be careful about fall risk, especially if you are over 65.

- Brush and floss your teeth (prevents gum disease, which can be related to chronic inflammation in the body).
- Do not operate motor vehicles when under the influence of any substances.
- Do not take recreational/illegal drugs.
- Don't smoke or use tobacco in other ways.
- Keep firearms unloaded and locked away.
- Put carbon monoxide detectors and smoke detectors in your home.
- Use safe sex practices.
- Wear helmets when appropriate.
- Wear your seatbelt.
- Follow up with appropriate screening tests.
    - This includes cancer screening via mammograms, colonoscopy, Pap smears or other tests.
    - Review screening recommendations for your age with your care clinician during wellness visits, including any that are specific to you because of your family history.
    - Screening may include lab tests like blood sugar, cholesterol, blood counts, or other measures your care clinician feels appropriate.
    - Remember to have vision and dental screens as well.
- Stay up to date on your shots.
- Take your medications appropriately.

Another way to favorably affect the progression of chronic disease is through well-being interventions. A 2019 study reviewed 34 articles (1,635 participants) and concluded that for type 1 or type 2 diabetes, an array of well-being interventions can have benefit for health outcomes; the challenge is that it is not yet possible to say whether any particular well-being approach is superior to others.[11] A 2014 systematic review of 10 trials concluded that engagement itself "...should be quantified as part of a comprehensive risk appraisal given its apparent value in helping individuals to effectively self-manage chronic disease."[12] The review of 10 trials found that people with multiple chronic disease responded favorably to a variety of interventions to enhance engagement, with improved outcomes such as hemoglobin A1c, blood pressure, cholesterol measures, depression scores, and overall quality of life. A 2017 review of 722 articles identified four key elements that are key to a person being engaged: 1) Personalization, 2) Access, 3) Commitment, and 4) Therapeutic Alliance.[13] A healing environment also contributes. Whole Health leaves room for care teams to offer all of these aspects of care. In fact, caring for patients through more global models, with engagement as a focus, is central to the Whole Health approach.

The NCP has links to recommended screening tests and immunizations for men and women (Refer to the Resources section at the end of this chapter for more information.) On My Health*e*Vet, people can enter data about their behavior practices and risk factors to get an estimate of their health age (their age based on how much their health behaviors add to or take away from their life expectancy, in comparison with their actual age).

Remember, proactive care is fundamental to Whole Health. Do all you can to keep people from developing problems in the first place. It is all about primary prevention. How often do you consider preventive mental health? Or taking steps to preventing the development of chronic pain? A preventive mindset can be useful, even when working with people who have a number of chronic illnesses. And remember, all of this applies to your own self-care as well. Are you optimizing preventive care for yourself?

Prevention Resources

Websites

VA Whole Health Website

- Components of Health and Well-Being Video Series, "A Patient Centered Approach To: Professional Care." https://www.youtube.com/watch?v=Eq8kluiQnUo&feature=youtu.be

Whole Health Library Website

- "Hypertension" https://wholehealth.wisc.edu/tools/hypertension
- "Lipids" https://wholehealth.wisc.edu/tools/lipids

Other Websites

- My Health*e*Vet. https://www.myhealth.va.gov/
- National Center for Health Promotion and Disease Prevention. http://www.prevention.va.gov.
    - Offers great information on 9 Healthy Living Messages at https://vaww.prevention.va.gov/Healthy_Living_Messages.asp
    - A nice list of screening recommendations for men is available at http://www.prevention.va.gov/Healthy_Living/Get_Recommended_Screening_Tests_and_Immunizations_for_Men.asp.
    - Also a list of all screening recommendations for women at http://www.prevention.va.gov/Healthy_Living/Get_Recommended_Screening_Tests_and_Immunizations_for_Women.asp.
- VA Public Health, Health and Wellness section. http://www.publichealth.va.gov/health-wellness.asp. Features a number of prevention resources for Veterans
- VA's Health Topics A-Z. http://www.va.gov/health/topics/. Resources related to a large number of different diagnoses
- StarWell Kit. http://www.warrelatedillness.va.gov/education/STAR/. Resources from the War-Related Injury and Illness Study Center. Materials related to complementary and integrative health (CIH) include
    - Introduction, Part 1: The Role of Integrative Medicine for Improving Veteran Health and Wellness
    - Views from the Provider Community
- U.S. Preventive Services Task Force (USPSTF), updated Guide to Clinical Preventive Services.

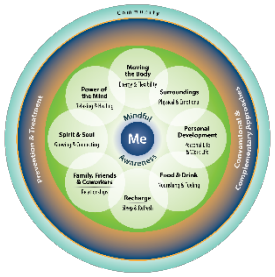
https://www.uspreventiveservicestaskforce.org/Page/Name/recommendations
Their pocket guide is available at https://www.ahrq.gov/professionals/clinicians-providers/guidelines-recommendations/guide/index.html

- Institute of Lifestyle Medicine, Tools and Resources page. https://www.instituteoflifestylemedicine.org/?page_id=12

References

[1] Spring B, Moller AC, Coons MJ. Multiple health behaviours: overview and implications. *J Public Health (Oxf).* 2012;34 Suppl 1:i3-10.
[2] Li Y, Pan A, Wang DD, et al. Impact of healthy lifestyle factors on life expectancies in the US Population. *Circulation.* 2018. pii: CIRCULATIONAHA.117.032047. doi: 10.1161/CIRCULATIONAHA.117.032047.
[3] Yoon PW, Bastian B, Anderson RN, Collins JL, Jaffe HW, Center for Disease Control and Prevention (CDC). Potentially preventable deaths from the five leading causes of death—United States 2008-2010. *MMWR Morb Mortal Wkly Rep*. 2014;63(17):369-374.
[4] Danaei G, Ding EL, Mozaffarian D, et al. The preventable causes of death in the United States: comparative risk assessment of dietary, lifestyle, and metabolic risk factors. *PLoS Med*. 2009;6(4):e1000058. doi: 10.1371/journal.pmed.1000058. Epub 2009 Apr 28.
[5] Naci H, Ioannidis JP. Comparative effectiveness of exercise and drug interventions on mortality outcomes: metaepidemiological study. *Br J Sports Med*. 2015;49(21):1414-1422. doi: 10.1136/bjsports-2015-f5577rep.
[6] Report shows 20-year US immunization program spares millions of children from diseases. Centers for Disease Control and Prevention website. http://www.cdc.gov/media/releases/2014/p0424-immunization-program.html. 2014. Accessed July 30, 2019
[7] Lee LA, Franzel L, Atwell J, et al. The estimated mortality impact of vaccinations forecast to be administered during 2011-2020 in 73 countries supported by the GAVI Alliance. *Vaccine*. 2013;31 Suppl 2:B61-72. doi: 10.1016/j.vaccine.2012.11.035.
[8] Hedegaard H, Miniño AM, Warner M. *Drug overdose deaths in the United States*, 1999–2017. NCHS Data Brief, no 329. Hyattsville, MD: National Center for Health Statistics. 2018.
[9] Duke Integrative Medicine. *Personalized Health Plan Manual.* Duke University, August 2011.
[10] National Center for Health Promotion and Disease Prevention. 9 Healthy Living Messages. Veterans Health Administration website. https://vaww.prevention.va.gov/Healthy_Living_Messages.asp. Accessed July 30, 2019.
[11] Massey et al. Well-being interventions for individuals with diabetes – A systematic review. *Diab Res Clin Pract,* 2019;147:118-33.
[12] Simmons LA, Wolever RQ, Bechard EM, Snyderman R. Patient engagement as a risk factor in personalized health care: a systematic review of the literature on chronic disease. *Genome Med.* 2014;6(2):16.
[13] Higgins T, Larson E, Schnall R. Unraveling the meaning of patient engagement: a concept analysis. *Patient Educ Couns.* 2017;100(1):30-36.

Chapter 14. Introduction to Complementary and Integrative Health Approaches



For many Americans, alternative therapies represent a new discovery, but in truth, many of these traditions are hundreds or thousands of years old and have been used by millions of people worldwide. One must realize that while treatments may look like alternatives to us, they have long been a part of the medical mainstream in their culture of origin.

—C. Everett Koop, former U.S. Surgeon General

Complementary and Integrative Health in the VA

In addition to conventional clinical treatments, self-care strategies, and prevention, Whole Health is inclusive of complementary and integrative health (CIH) approaches. CIH approaches are specifically mentioned in the Professional Care circle in the Circle of Health because of their importance in patient centered care. Data from the National Health Interview Survey suggests that 59 million Americans aged over four years had at least one expenditure related to CIH, with out-of-pocket expenditures of $30.2 billion in 2012.[1] A 2014 review of population surveys of Reservists found that use of complementary approaches ranged between 37-46%,[2] and rates of use are likely to be similar for Veterans. In a survey of 401 Veterans with chronic, non-cancer pain, 82% had used a complementary approach (this included chiropractic, herbals, massage, or acupuncture) at least once before.[3]

Some CIH approaches are controversial, while others are gaining greater acceptance and are being used in hospitals and medical clinics. With new mandates requiring that certain approaches be made available at all VA facilities (described below), availability of these approaches is increasing.[4]

Definitions

Originally, people used the term "Alternative Medicine" and later "Complementary and Alternative Medicine (CAM)" to describe practices that were not usually part of the medical mainstream. Other terms used over the years have included "Holistic Health" and simply "Complementary Medicine." The term "Integrative Medicine" came into use in the 1990s, as increasing numbers of clinicians, researchers, policymakers, and patients explored the roles that various approaches might play as a part of integrated Personal Health Plans (PHPs) for patients. The idea is that multiple therapeutic approaches may synergize to optimize health. CIH approaches do particularly well at empowering patients,[5] giving them a sense of control over their health,[6] and personalizing care.[7]

According to the Academic Consortium for Integrative Medicine and Health,

> Integrative medicine and health reaffirms the importance of the relationship between practitioner and patient, focuses on the whole person, is informed by the evidence, and makes use of all appropriate therapeutic and lifestyle approaches, health care professionals, and disciplines to achieve optimal health and healing.[8]

In January 2015, the National Institutes of Health changed the name of the National Center for Complementary and Alternative Medicine (NCCAM) to the National Center for Complementary and Integrative Health (NCCIH). With this change, the term "complementary and integrative health" has become increasingly commonplace. An important example is the use of CIH in section 932 of the Comprehensive Addiction and Recovery Act (CARA), passed by Congress in July 2016. Section 932, entitled "Complementary and Integrative Health," directed the Department of Veterans Affairs to report on plans for expanding CIH, particularly for substance abuse and pain management.[9]

There are disagreements about which therapies should or should not be classified as "complementary."[10] For example, in many research studies, chiropractic is considered complementary, but in the VA, it is frequently classed as mainstream and has not always been discussed in surveys related to VA's CIH offerings. Furthermore, many mind-body approaches are widely used and not considered to be outside the mainstream by clinicians, but they are nevertheless classified as CIH approaches by researchers.[11]

What Are These Approaches Used for?

According to the Healthcare Analysis Information Group (HAIG) survey of 2015, which surveyed sites about use of an array of different CIH practices, the five main conditions for which CIH approaches are used in the VA include[11]:

- Anxiety disorders
- Depression
- PTSD
- Stress management
- Musculoskeletal pain

In short, the conditions for which people most commonly seek CIH approaches are related to pain and mental health. In general, people are more likely to seek the approaches for conditions that are chronic, complex, and/or not easily treated within the conventional medical model.

The Integrative Health Coordinating Center

Established within the VHA Office of Patient Centered Care and Cultural Transformation (OPCC&CT) in 2014, the VA's national Integrative Health Coordinating Center (IHCC) focuses its efforts on introducing safe and effective CIH approaches into VA facilities. The IHCC has two major functions:

1. Identify and remove barriers to CIH provision in the VHA System.
2. Serve as a clinical, educational, and research resource for Veterans, clinicians, and VA leadership.

Focus areas of the IHCC include:

- Working with the VA Office of Regulatory and Administrative Affairs to **modify the standard medical Benefits Package** as appropriate to offer CIH Services. This includes the 2017 directive to advance CIH,[12] current work on proposed regulation change, and exemption of co-payment for well-being approaches.
- Defining **new occupations related to CIH.** For instance, VHA has finalized the new qualification standards for the occupation of licensed acupuncturist, which is officially a VHA profession. The Massage Therapist Qualification Standard was released in March 2019.[13] Position descriptions have also been created for yoga and tai chi instructors as well as Whole Health Partners and Coaches.
- Outlining **business processes.** The IHCC has created "stop codes" to track the utilization of CIH approaches. These include codes 159, a CIH Treatment Stop Code, and 139, a Well-Being Stop Code. 139 is non-billable in the primary position. 159 carries a $15 co-pay, but only for category 7-8 Veterans. Both can be in either the primary or secondary position. There are also now multiple CHAR 4 codes for an array of CIH approaches, as well as Whole Health Coaching and working as a Whole Health Partner. Of note, Whole Health is in price category 4 in the Veterans Equitable Resources Allocation (VERA). Ten days of care will allow a Veteran to qualify for that category, and care can include CIH approaches as well as many other self-management, stress-reduction, educational, rehabilitation, and psychology CPTs. Clarification around what the nature of those visits would need to be is ongoing, in coordination with the Allocation Resource Center (ARC). Refer to the resource list at the end of this chapter for Coding Guidance resources.
- **Preparing the current workforce for changes** related to CIH provision. IHCC collaborates closely with the developers and faculty for the various Whole Health clinical and non-clinical courses sponsored by OPCC&CT. Online offerings also include various TMS and TRAIN courses that provide continuing education credits, including *Introduction to Complementary Approaches, Clinician Self-Care: You in the Center of the Circle of Health*, *Eating for Whole Health: Introduction to Functional Nutrition*, and *Mindful Awareness*. Refer to Chapter 3 for more information on these various courses. In addition, IHCC is working with subject matter experts to explore internal trainings on various CIH approaches (e.g. Clinical Hypnosis, Guided Imagery).
- Expanding access to CIH services through use of **Telehealth modalities** (TeleWholeHealth, discussed in Chapter 3) and volunteer providers.
- **Building a CIH research portfolio**, in coordination with VA research partners. Examples of their research findings include the HSR&D evidence maps, many of which are featured or cited in this reference guide. A large initiative including NIH, VA, and DoD is focusing on CIH and pain. Another study focusing on CIH in mental health care is also under way.
- **Partnering with groups outside of the VA**, including the DoD, various VA Program offices, and NCCIH.
- Working closely with the Office of Community Care to **inform delivery of CIH approaches in the community**. As part of MISSION Act, CIH approaches provided through Directive 1137 List I (see below), are a part of the Veterans' Medical

Benefits Package. CIH providers will be a part of the new community care network contract (excluding guided imagery and yoga).
- **Partnering with workgroups for the new electronic health record** within VHA in order to include necessary elements for scheduling and documenting CIH encounters.

The IHCC serves as the principal advisor to the Under Secretary for Health on CIH-related strategy and operations, to include analysis of any legislation or proposals that would impact or pertain to the delivery of CIH practices within VHA. At the direction of the VA Under Secretary for Health, in 2016 IHCC formed an Advisory Group to plan for the introduction of CIH formally into VHA. The IHCC Advisory Workgroup (IHCCAW) is made up of subject matter experts and leaders from various VA Program Offices.

The role of the IHCCAW is to evaluate and advise on which CIH approaches should be moved forward in VHA and in what timeframe. The IHCAW serves in part as a national consult service for the field and reviews CIH approach approval requests (from VISN Directors, Facility Directors, or VA practitioners). Based on complete review, the workgroup makes its clinical recommendations to IHCC. IHCC forwards positive recommendations from the IHCCAW to the VHA National Leadership Council's (NLC) Whole Health Experience Committee (WHEC), and then to the Under Secretary for Health (USH), for final approval.

VHA Directive 1137—Provision of Complementary and Integrative Health (CIH) was approved by the Acting Under Secretary for Health on May 19, 2017. The CIH Directive establishes internal policy regarding the provision of CIH approaches in VHA, and features two lists of CIH approaches.

LIST I currently includes:
- Acupuncture
- Biofeedback
- Clinical Hypnosis
- Guided Imagery
- Massage Therapy
- Meditation
- Tai Chi/Qi Gong
- Yoga

The eight complementary approaches featured on List I are subject to the clinical caveats 1 and 2 below. Given the level of evidence supporting their use, they ***must*** be made available to Veterans across the system, either within a VA medical facility or in the community. Note: chiropractic care is not included in this list as it is covered under earlier policy.

Clinical Caveat 1: Adequate evidence exists to support the use of the above-subject practices together with conventional care, reflecting current opinion and practice in the medical community. This listing serves, however, as only guidance. Whether any of these CIH approaches is in fact appropriate for a particular Veteran (or other person) must still

be determined by the practitioner (together with the responsible treating provider if the practitioner is not also that) in the exercise of their joint clinical judgment and accounting for the patient's individual clinical factors. In instances when there is no consensus, practitioners will defer to the responsible treating provider. Care will account for the Veteran's preference, if known, as well as any contraindications to treatment.

Clinical Caveat 2: Some CIH approaches evolve into conventional care modalities over time, and some may end up being pulled from practice. Identifying CIH approaches for use in Veterans' personalized health plans is a fluid and dynamic process. VHA practitioners need to verify on the VHA's Intranet SharePoint site that a CIH approach they wish to practice is still on either List I or List II. These listings will be up-to-date and should be given priority over the listings below, which must await formal policy revisions to be updated

To learn more about the List I CIH approaches, go to the following chapters of this reference guide:

- Chapter 5: Tai Chi/Qi Gong and Yoga
- Chapter 12: Biofeedback, Clinical Hypnosis, Guided Imagery, and Meditation
- Chapter 16: Massage Therapy
- Chapter 18: Acupuncture

Evaluation data from 2018 indicates that use has markedly increased in recent years (Table 14-1). All sites are providing CIH; different sites are at different phases of implementation.

Table 14-1 Percentage of VA Sites Using List I Approaches*

Approach	Percentage of 141 Sites Offering
Acupuncture/Battlefield Acupuncture	99% / 26%
Biofeedback	78%
Clinical Hypnosis	18%
Guided Imagery**	4%**
Massage Therapy	100% (includes manual therapies done by PT's
Meditation/MBSR*	26% / 16%
Tai Chi / Qi Gong	44% / 8%
Yoga	59%

**Data from FY18. 141 sites surveyed. Information is based on CHAR 4 code use, which may not be fully accurate due to coding limitations.*
***Guided Imagery data is likely falsely low due to tracking limitations.*

LIST II includes ***optional*** CIH approaches**.** Subject to caveats 1 and 2 (outlined above), the Under Secretary for Health, acting through the IHCC under OPCC&CT, sanctions the optional use of the CIH approaches on this list. CIH approaches are included because they are generally considered by those in the medical community to be safe when delivered as intended, by an appropriate VHA practitioner or instructor. They may be made available to enrolled Veterans, within the limits of VA medical facilities.

List II includes the following:

Acupressure	Reflexology
Alexander Technique	Reiki
Animal-Assisted Therapy	Rolfing
Aromatherapy	Somatic Experiencing
Biofield Therapies	Therapeutic Touch
Emotional Freedom Technique	Zero Balancing
Healing Touch	

Note that some of the approaches previously classified as CIH approaches in past VA site surveys, such as the HAIG report,[11] are already integrated into VA services. These include chiropractic as well as art and music therapy (which are classed under recreation therapy).

If you are providing an approach that is not on List I or II and would like the IHCCAW to review, please send your request to vhaopcctintegrativehealth@va.gov. Resources for additional information on the work of the IHCC and regulatory efforts surrounding CIH are provided at the end of this chapter.

Perspectives on Complementary and Integrative Health

Everyone who works with Veterans can benefit from taking a moment to consider the following questions:

- How often do patients, colleagues, or family members bring up the topic of CIH approaches with you?
- Do you ever find that people do not disclose their use of CIH to you as a member of their care team?
- How do you feel when they do share? Angry? Uncertain? Frustrated? Enthused? Interested? Does this vary depending on which therapy is being discussed? Which CIH approaches are you comfortable with, and which ones elicit concern?
- Pick a CIH approach you have recently discussed with someone. Where would you place yourself on the "Spectrum of Complementary Integrative Health" (Figure 14-1), and why? It might be instructive to compare your responses with those of your colleagues. Do you feel differently depending on which approaches are being discussed?

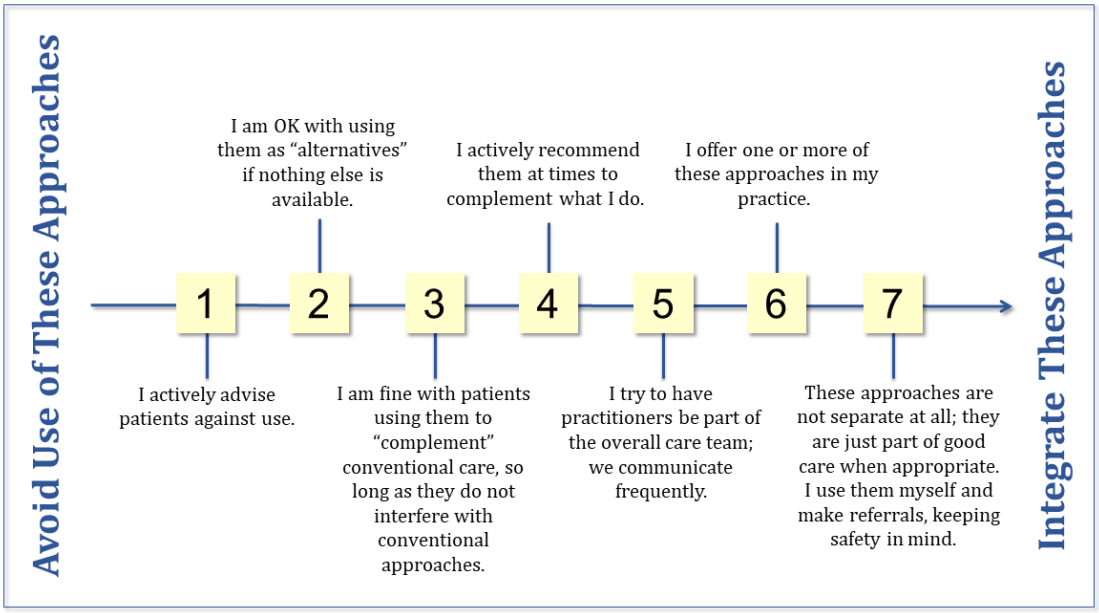


Figure 14-1. The Spectrum of Complementary and Integrative Health

Whole Health Tool: The ECHO Mnemonic

How do you decide if a complementary and integrative health (CIH) approach would be worth recommending or using in your practice? One simple tool you might use is the ECHO mnemonic. The four letters in the word ECHO stand for Efficacy, Cost, Harms, and Opinions. All four components of ECHO are equally important; they are simply arranged in the order that they are to spell a memorable word.

Efficacy

What does the research tell us about how well something works? Where are there gaps in the research? What do we (and our patients) know from our past experiences with using these approaches?

It is always worthwhile to know the state of the research on a given therapy, be it CIH or otherwise, recognizing that there is not the same financial impetus to study various CIH approaches as there is to study pharmaceuticals or devices used in medical procedures. Fortunately, the NCCIH has done much to advance CIH research.

Research in CIH may be difficult because mechanism of action does not correlate with scientific principles as currently understood, or because aspects or concepts of a treatment or desired outcome are difficult to measure, define, or manipulate. Some therapies are highly individualized, and skills may vary greatly from one practitioner to the next. Blinding and placebo control can be a challenge for some therapies, and when an entire medical system, like Ayurveda or naturopathy is being used, multiple different therapeutic approaches might be used simultaneously.[10]

It can be helpful to review the Evidence Maps, created by VA's Health Services Research & Development (HSR&D). These are featured in the Resources section at the end of this chapter and throughout this reference manual.

Costs

Is the therapy cost effective? How much would a patient have to pay out of pocket for this therapy? Would services be covered at all by insurance or other social programs? How challenging is it for a person to access this therapy, in terms of wait times or transportation? Some people will pay thousands of dollars out of pocket for CIH approaches.

Harms

What does the research tell us about the potential for harm? How well can a given therapy mesh with other therapies a patient is currently receiving? Are there any possible interactions between different therapies, such as between medications and dietary supplements?

In 2000, a group of female researchers posed as being eight weeks pregnant with nausea.[14] They asked health food store clerks for advice and found that 89% of the time, clerks were willing to offer advice, but 15% of the time, products suggested were *contraindicated* in

pregnancy. When ginger was recommended as an antiemetic, the suggested dosing was not what was supported by latest research. The more you can help people make informed decisions, and the more you are aware of potential risks, the better.

The List I therapies tend to be quite safe overall, but it is still important to be able to know when they are or are not indicated. It helps to know which providers in your community are the most skilled with different approaches. If something is relatively safe, it is easier to feel justified in trying it, even if there is limited information available about efficacy. Make certain that taking time to try a given CIH approach will not inappropriately delay use of a proven conventional treatment.

Opinions

Does the therapy match the personal opinions, beliefs, and culture of the person who will be using it? Where are they getting the information that is informing their opinions?

People have strong beliefs about the CIH approaches they have chosen, often based on positive personal experiences. We know that a therapy's success is linked to how strongly a patient believes in it.[15] Matching treatments to people's belief systems increases their likelihood of being engaged in their care.[16,17]

Tips for Bringing Complementary and Integrative Health Into Your Work[18]

As clinicians explore bringing Whole Health approaches into their practices, they often ask about CIH approaches and how they can incorporate them. Here are five steps you can consider if you want to build your skills around CIH.

1. **Learn about different complementary approaches.** Ask your patients about the benefits of these approaches; they are often one your best sources of information about CIH. Why did they choose a particular therapy? What has their experience been? This is not to say that you must agree with them using these therapies. However, being able to offer advice could mean that your patients will be less likely to seek it from less reliable sources, such as various internet sites. It may be most helpful to direct your learning by beginning with the CIH approaches on List I, since these will all be available in the VHA in some form in the near future. (See the IHCC section earlier in this chapter). The Resources section at the end of this chapter has additional information.
2. **Know what CIH approaches are offered locally.** Meet the chiropractors at your clinic/hospital if you have not done so. Is anyone offering acupuncture or Battlefield Acupuncture (BFA)? Are there tai chi or yoga classes available? Is there a mindfulness instructor at your site? What qualifications do local practitioners have? Which practitioners in your community are your patients seeing, and why?
3. **Build a referral network.** As you learn more about complementary approaches and get to know various practitioners, consider taking it a step further and building a network of potential clinicians to whom you would refer. Your facility may have an existing environmental scan or Whole Health directory that lists resources at your site or in your community. Reach out to your Patient Centered Care Point of Contact. Be clear about whether or not your facility allows for referrals to non-VA personnel. Any communication with out-of-system clinicians must be done without any possibility for real or even perceivable gain on the VA clinician's part, and confidentiality must be respected.
4. **Receive treatments yourself.** In university settings where fellows are trained in Integrative Health, they are expected as part of their learning to have firsthand experience with various therapies. Want to recommend therapeutic massage to your patients? Try receiving a few different kinds yourself so that you can offer a more informed opinion. Want to be able to knowledgeably discuss acupuncture? See an acupuncturist yourself.
5. If you feel comfortable doing so, **learn some CIH approaches to weave into your practice.** Many Integrative Health practitioners do this. Some clinicians go so far as to acquire additional certification, but it may just mean that you pick up a few simple techniques you can offer in a short period of time, such as teaching abdominal breathing or leading mindful awareness experiences. Make strategic use of patient handouts to save time. Of course, honor scope of practice requirements for your particular profession. Also, be respectful of the fact that it can take time and effort to learn them well.

Classifying Complementary and Integrative Health Approaches[16]

There are many ways of classifying CIH approaches. These classification systems have been referred to in the past as "CAM taxonomies." Sections in the Whole Health Library website draw upon the same taxonomy as was used in the VA's 2015 HAIG survey.[11] This classification scheme is based on one created in the 1990s by the National Center for Complementary Alternative Medicine (NCCAM), which recently changed its name to the National Center for Complementary and Integrative Health (NCCIH). NCCIH's original scheme assigned complementary therapies into five different classes (it has since been changed to just three categories, but to stay consistent with past VA documents, and to be more inclusive, the five-category system will be used here):

1. **Mind-body medicine**. These approaches are covered in Chapter 12, "Power of the Mind."
2. **Biologically-based approaches**. These can include nutritional approaches (covered in Chapter 8, "Food & Drink") as well as dietary supplements, which are discussed in Chapter 15.
3. **Manipulative and body-based therapies**. Examples of manipulative therapies include chiropractic, osteopathy, and massage (discussed in Chapter 16). Movement therapies in this category (covered in Chapter 5, "Moving the Body") include yoga, tai chi, and qi gong.
4. **Energy medicine** therapies (also known as biofield therapies) include Reiki, Healing Touch, and Therapeutic Touch. Biofield therapies are discussed in more detail in Chapter 17.
5. **Whole systems of medicine**. Ayurveda, Chinese medicine (of which acupuncture is one component) and naturopathy are examples of healing systems. They have their own unique methods of diagnosis and treatment, based on entirely different concepts of the nature of illness. For more information, refer to Chapter 18.

Just as it can be helpful to consider the self-care circles one-by-one when you are creating a PHP, it can also help to consider each of these CIH categories, one at a time. Which ones, if any, do you think would be useful to a given Veteran? Even if you would not recommend a particular therapy yourself, it is useful to be able to have an informed discussion about them with your patients.

Some of the approaches most commonly used in the VA, or in the U.S. in general, are described in the next four chapters. For biologically-based approaches, the focus will be on supplements. For manipulation and body-based therapies, massage, chiropractic, and osteopathy will be given focus. Energy medicine approaches will be considered as a group, and the whole systems of medicine receiving additional focus will include Chinese medicine and naturopathy, along with a brief mention of Ayurveda and homeopathy. To learn even more about these CIH approaches and a wide variety of others, refer to the Resources section at the end of each chapter. Again, mind-body approaches are featured in Chapter 12. For an even more detailed look at incorporating CIH into practice, refer to "Implementing Whole Health in Your Practice, Part III: Complementary and Integrative Health for Veterans" on the Whole Health Library website.

Some Key Complementary and Integrative Health Research Findings By Condition

Table 14-2 lists a variety of health conditions and the non-pharmacologic approaches (in alphabetical order) with the strongest research support.

Table 14-2. Conditions for Which Non-Pharmacologic Approaches Have Particularly Strong Research Support

Diagnosis	CIH Approaches with strong evidence supporting use
Anxiety	CBT, MBCT, MBSR, Meditation, Music Therapy, Yoga
Cardiovascular Disease	Meditation, Relaxation Therapies
Depression	ACT, acupuncture (potentially effective), CBT, Massage Therapy (people with cancer), Meditation, MBSR, Yoga
Fall Prevention	Tai Chi
Fibromyalgia	Acupuncture, CBT, Exercise, Hydrotherapy, Mindfulness Meditation, Tai Chi, Myofascial Release
Hypertension	Biofeedback, Mediation, Tai Chi, Yoga
Insomnia	CBT-Insomnia, MBSR
Irritable Bowel Syndrome	Clinical Hypnosis, CBT, Relaxation Exercises
Low Back Pain	Acupuncture, Exercise, CBT, Massage Therapy, MBSR, Spinal Manipulation, Tai Chi, Yoga
Migraine	Acupuncture, Biofeedback (including EMG), CBT, Relaxation Therapies, Spinal Manipulation (if tension headache)
Nausea and Vomiting	Acupuncture
Obesity	Mindfulness/Meditation, Yoga
Pain, Including Post-Operative	ACT, Acupuncture (moderate to strong for knee, TMJ, neck), Alexander Technique (neck), Biofeedback Clinical Hypnosis, CBT, exercise, Guided Imagery, Massage Therapy, Mindfulness/Meditation, Spinal Manipulation (neck), Tai Chi, Dry Needling
PTSD	CBT, EMDR, Mindfulness/Meditation, Yoga
Substance Use Disorder	CBT, Mindfulness-Based Relapse Prevention (affects withdrawals and cravings)
Tobacco Dependence	Acupuncture (possible positive effect), CBT, Mindfulness

ACT = Acceptance and Commitment Therapy; CBT = Cognitive Behavioral Therapy; EMDR = Eye Movement Desensitization and Reprocessing; EMG = Electromyogram; MBSR = Mindfulness-Based Stress Reduction, MBCT = Mindfulness-Based Cognitive Therapy;
This table and its full bibliography can be found on Non-Pharmacologic Approaches to Clinical Conditions

Complementary and Integrative Health Resources

Websites

VA Whole Health Website and IHCC Resources

- IHCC email. vhaopcctintegrativehealth@va.gov
- "A Glimpse Into Integrative Health" Video https://www.youtube.com/watch?v=zl9p27Ih_DY&index=5&list=UUaW28mX6gCpTuWYJyPfWd-Q
- IHCC SharePoint (and various sub-files). Has document libraries for all of the different CIH approaches, with the exception of guided imagery (coming soon)
    - Main Site. https://dvagov.sharepoint.com/sites/VHAOPCC/SitePages/IHCC-home.aspx
    - CIH Resource Guide https://dvagov.sharepoint.com/sites/VHAOPCC/Shared%20Documents/Forms/AllItems.aspx?RootFolder=/sites/VHAOPCC/Shared%20Documents/CIH%20Resource%20Guide&FolderCTID=0x01200092D5EAC253479641B8D0A20FE4165E94&View=%7b4AD754A9-57D5-4A13-A317-D62DAB4881EB%7d
    - Policy Folder https://dvagov.sharepoint.com/sites/VHAOPCC/Shared%20Documents/Forms/AllItems.aspx?RootFolder=%2Fsites%2FVHAOPCC%2FShared%20Documents%2FIHCC%20Policy&FolderCTID=0x012000965D235B81AE9A40B070A146F202ECC1
    - Position Descriptions https://dvagov.sharepoint.com/sites/VHAOPCC/Shared%20Documents/Forms/AllItems.aspx?RootFolder=/sites/VHAOPCC/Shared%20Documents/CIH%20Position%20Descriptions%20and%20Functional%20Statements&FolderCTID=0x01200092D5EAC253479641B8D0A20FE4165E94&View=%7b4AD754A9-57D5-4A13-A317-D62DAB4881EB%7d
    - Coding Guidance https://dvagov.sharepoint.com/sites/VHAOPCC/Shared%20Documents/Forms/AllItems.aspx?RootFolder=%2Fsites%2FVHAOPCC%2FShared%20Documents%2FCIH%20Coding%20Guidance&FolderCTID=0x012000965D235B81AE9A40B070A146F202ECC1
    - Standard Episodes of Care (SEOCs) for various CIH approaches in VA: https://seoc.va.gov/
- TeleWholeHealth Resource Center. http://vaww.telehealth.va.gov/pgm/twhlt/
- CIH Listservs: email Lana Frankenfield to be added to any of the listservs (Lana.Frankenfield@va.gov)
    - Acupuncture: VHAOPCC&CTAcupuncture@va.gov
    - Biofeedback: VHAOPCC&CTBiofeedback@va.gov
    - Clinical Hypnosis: VHAOPCC&CTClinicalHypnosis@va.gov
    - Guided Imagery: VHAOPCC&CTGuidedImagery@va.gov
    - Massage Therapy: VHAOPCC&CTMassageTherapy@va.gov

  - Meditation: VHAOPCC&CTMeditation@va.gov
  - Tai Chi and Qi Gong: VHAOPCC&CTTaiChiQiGong@va.gov
  - Yoga: VHAOPCC&CTYoga@va.gov
- National CIH Subject Matter Experts, as of FY 2020
  - Acupuncture: Juli Olson. Juli.Olson@va.gov; VHABFASUPPORT@va.gov
  - Biofeedback: David Gaffney. David.Gaffney@va.gov
  - Chiropractic: Anthony Lisi. Anthony.Lisi@va.gov
  - Clinical Hypnosis: David.Gaffney@va.gov
  - Guided Imagery: David.Gaffney@va.gov
  - Massage Therapy: Sharon Weinstein. Sharon.Weinstein@va.gov
  - Meditation: Kavitha Reddy or Alison Whitehead. Kavitha.Reddy@va.gov; Alison.Whitehead@va.gov
  - Tai Chi/Qi Gong: Kavitha Reddy or Alison Whitehead. Kavitha.Reddy@va.gov; Alison.Whitehead@va.gov
  - Yoga: Alison Whitehead. Alison.Whitehead@va.gov
- Other Important Email Addresses
  - For national CIH program/policy questions contact VHAOPCCTINTEGRATIVEHEALTH@va.gov
  - Course related questions to WH Education Team Email: OPCCCTEducationTeam@va.gov
  - For CIH Field Implementation Questions Contact: VHAOPCCCTCIHSpecialtyTeam@va.gov
  - For Whole Health and CIH Tracking and Coding Questions Contact VHA OPCC&CT WHS Tracking Team VHAOPCC&CTWHSTrackingTeam@va.gov
- HSR&D Evidence Maps. https://www.hsrd.research.va.gov/publications/esp/reports.cfm
  - Acupuncture. https://www.hsrd.research.va.gov/publications/esp/acupuncture.cfm
  - Guided Imagery, Biofeedback, and Hypnosis (Intranet Only). https://www.hsrd.research.va.gov/publications/management_briefs/default.cfm?ManagementBriefsMenu=eBrief-no153&eBriefTitle=Guided+Imagery%2C+Biofeedback%2C+and+Hypnosis
  - Massage. https://www.hsrd.research.va.gov/publications/esp/massage.cfm
  - Mindfulness. https://www.hsrd.research.va.gov/publications/esp/cam_mindfulness.cfm
  - Tai Chi. https://www.hsrd.research.va.gov/publications/esp/taichi.cfm
  - Yoga. https://www.hsrd.research.va.gov/publications/esp/yoga.cfm
  - In process: Aromatherapy and Essential Oils, Arts and Humanities Programs
- VHA Directive 1137: Provision of Complementary and Integrative Health. VA Publications. https://vaww.va.gov/vhapublications/ViewPublication.asp?pub_ID=5401
- Courses that offer continuing education credits are available through TMS and TRAIN. Courses include: *Clinician Self-Care: You in the Center of the Circle of Health* (VA TMS Item Number: 29697); *An Introduction to Complementary Approaches* (VA

TMS Item Number: 29890); *Eating for Whole Health: Introduction to Functional Nutrition* (VA TMS Item Number 34592); and *Mindful Awareness* (VA TMS Item Number: 31300). Please refer to the complete description of these courses as well as the TMS and TRAIN ID Numbers at https://dvagov.sharepoint.com/sites/VHAOPCC/Whole%20Health%20Online%20Modules/Forms/AllItems.aspx

Whole Health Library Website

- "Complementary Approaches in the VA: A Glossary of Therapies and Related Whole Health Resources Where You Can learn More" https://wholehealth.wisc.edu/tools/complementary-approaches-glossary/
- "Implementing Whole Health in Your Practice, Part III: Complementary and Integrative Health for Veterans" https://wholehealth.wisc.edu/overviews/part-iii-complementary-integrative-health/
- "Savvy about Complementary and Integrative Health: The "CIH" Quiz" https://wholehealth.wisc.edu/tools/savvy-about-complementary-integrative-health
- "Integrative Health Pain Management 101 Series" https://wholehealth.wisc.edu/wp-content/uploads/sites/414/2018/09/Integrative-Health-Pain-Management.pdf
- Whole Health courses
    - *Whole Health Partner* https://wholehealth.wisc.edu/courses-training/whole-health-partner/
    - *Whole Health in Your Practice* https://wholehealth.wisc.edu/courses-training/whole-health-in-your-practice/
    - *Whole Health for Pain and Suffering* https://wholehealth.wisc.edu/courses-training/whole-health-for-pain-and-suffering/
    - *Eating for Whole Health* https://wholehealth.wisc.edu/courses-training/eating-for-whole-health/
    - *Taking Charge of My Life and Health* https://wholehealth.wisc.edu/courses-training/whole-health-facilitated-groups/
    - *Whole Health Coaching* https://wholehealth.wisc.edu/courses-training/whole-health-coaching/

Other Websites

- National Center for Complementary and Integrative Health (NCCIH). https://nccih.nih.gov
- Academic Consortium for Integrative Medicine and Health (ACIMH). https://www.imconsortium.org
- American Board of Integrative Medicine. http://www.abpsus.org/integrative-medicine-requirements
- University of Arizona Integrative Medicine health resources. https://integrativemedicine.arizona.edu/resources.html
- University of Wisconsin Department of Family Medicine and Community Health Integrative Medicine Resources. www.fammed.wisc.edu/integrative

Books

- *Integrative Medicine*, 4th edition, David Rakel (2017)
- Weil Integrative Medicine Library. There are multiple titles, including:
  - *Integrative Addiction and Recovery,* Shahla Modir (2018)
  - *Integrative Cardiology*, Stephen Devries, (2010)
  - *Integrative Dermatology*, Robert Norman (2014)
  - *Integrative Environmental Medicine,* Aly Cohen, (2017)
  - *Integrative Gastroenterology*, Gerard Mullin (2011)
  - *Integrative Geriatric Medicine*, Mikhail Kogan (2017)
  - *Integrative Men's Health*, Myles Spar (2014)
  - *Integrative Nursing*, Mary Jo Kreitzer (2014)
  - *Integrative Oncology*, 2nd edition, Donald Abrams (2014)
  - *Integrative Pain Management*, Robert Bonakdar (2016)
  - *Integrative Pediatrics*, Timothy Culbert (2009)
  - *Integrative Preventive Medicine*, Richard Carmona (2017)
  - *Integrative Psychiatry and Brain Health*, Daniel Monti (2018)
  - *Integrative Rheumatology*, Randy Horowitz (2010)
  - *Integrative Sexual Health*, Barbara Bartlik (2018)
  - *Integrative Women's Health*, 2nd edition, Victoria Maizes (2015)
- *A Guide to Evidence-Based Integrative and Complementary Medicine,* Vicki Kotsirilos (2011)
- *Complementary and Alternative Medicine: Legal Boundaries and Regulatory Perspectives*, Michael Cohen (2008)
- *Complementary and Integrative Medicine in Pain Management*, Michael Weintraub (2008)
- *Essentials of Complementary and Alternative Medicine*, Marc Micozzi (2015)
- *General Practice: The Integrative Approach*, Karryn Phelps (2011)
- *Integrative Cardiology*, John Vogel (2007)
- *Integrative Oncology*, Maurie Markman (2008)
- *Integrative Pain Medicine*, Joseph Audette (2008)
- *Textbook of Integrative Mental Health Care*, James Lake (2006)
- *The Duke Encyclopedia of New Medicine,* Duke Integrative Medicine (2006)

Journals (not an exhaustive list)

- *Alternative Therapies in Health and Medicine*
- *BMC Complementary and Alternative Medicine*
- *Complementary Therapies in Clinical Practice*
- *Complementary Therapies in Medicine*
- *Explore: The Journal of Science and Healing*
- *Global Advances in Health and Medicine*
- *Integrative Cancer Therapies*
- *Integrative Medicine: A Clinician's Journal*
- *Journal of Alternative and Complementary Medicine*
- *Journal of Complementary and Integrative Medicine*

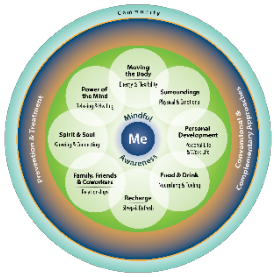
Special thanks to Kavitha Reddy, MD and Alison Whitehead, MPH, RYT, PMP, who provided content for this chapter based on their work for the VA IHCC.

References

[1] Nahin RL, Barnes PM, Stussman BJ. Expenditures on complementary health approaches: United States, 2012. *Natl Health Stat Report*. 2016;(95):1-11.
[2] Davis MT, Mulvaney-Day N, Larson MJ, Hoover R, Mauch D. Complementary and alternative medicine among veterans and military personnel: a synthesis of population surveys. *Med Care.* 2014;52(12 Suppl 5):S83-90. doi: 10.1097/MLR.0000000000000227.
[3] Denneson LM, Corson K, Dobscha SK. Complementary and alternative medicine use among veterans with chronic noncancer pain*. J Rehab Res Dev*, 2011;48(9):1119-28.
[4] Kligler B. Integrative health in the veterans health administration. *Med Acupunct.* 2017;29(4):187-188. doi: 10.1089/acu.2017.29055.bkl.
[5] Barrett B, Marchand L, Scheder J, et al. Themes of holism, empowerment, access, and legitimacy define complementary, alternative, and integrative medicine in relation to conventional biomedicine. *J Altern Complement Med.* 2003;9(6): 937-947.
[6] Cartwright T. 'Getting on with life': the experience of older people using complementary health care. *Soc Sci Med.* 2007;64(8):1692-1703. Epub 2007 Jan 31.
[7] Barrett B. Complementary and alternative medicine: what's it all about? *WMJ*. 2001;100(7):20-26.
[8] Academic Consortium for Integrative Medicine & Health website. https://imconsortium.org/about/introduction/. 2018. Accessed July 31, 2019.
[9] S.524 – Comprehensive Addiction and Recovery Act of 2016. Congress.gov website. https://www.congress.gov/bill/114th-congress/senate-bill/524/text. 2016. Accessed July 30, 2019.
[10] Jacobs B, Gundling K. Fundamentals of complementary and alternative medicine. In: Jacobs B, Gundling K, eds. *The American College of Physicians Evidence-Based Guide to Complementary and Alternative Medicine*. Philadelphia, PA: American College of Physicians; 2009:1-22.
[11] Healthcare Analysis and Information Group (HAIG). FY 2015 VHA Complementary and Integrative Health (CIH) Services (formerly CAM). https://sciencebasedmedicine.org/wp-content/uploads/2016/07/FY2015_VHA_CIH_signedReport.pdf. Accessed July 30, 2019.
[12] VHA Directive 1137: Provision of Complementaryand Integrative Health (CIH). May 18, 2017. https://www.va.gov/vhapublications/ViewPublication.asp?pub_id=5401. Accessed July 30, 2019.
[13] Health Technician (Massage Therapy) Qualification Standard. GS-0640. VA Handbook 5005/108. VA Pulications Handbooks website. https://www.va.gov/vapubs/search_action.cfm?dType=2. Accessed August 1, 2019.
[14] Bucknew KD, Chavez ML, Raney EC, Stoehr JD. Health food stores' recommendations for nausea and migraines during pregnancy. *Ann Pharmacother.* 2005;39(2):274-279. Epub 2005 Jan 11.

[15] Bingel U, Wanigasekera V, Wiech K, et al. The effect of treatment expectation on drug efficacy: imaging the analgesic benefit of the opioid remifentanil. *Sci Transl Med.* 2011;3(70):70ra14. doi: 10.1126/scitranslmed.3001244.
[16] Lussier MT, Richard C. The motivational interview: in practice. *Can Fam Physician.* 2007;53(12):2117-2118.
[17] Waters D, Sierpina VS. Goal-directed health care and the chronic pain patient: a new vision of the healing encounter. *Pain Physician.* 2006;9(4):353-360.
[18] Rindfleisch A. Implementing whole health in your practice, part III: complementary and integrative health. Whole Health Library website. https://wholehealth.wisc.edu/overviews/part-iii-complementary-integrative-health/. 2018. Accessed July 30, 2019.

Chapter 15. Biologically-Based Approaches: Dietary Supplements



The History of Medicine:
2000 BC—Here, eat this root
1000 BC—That root is heathen; say this prayer
1850 AD—That prayer is superstition, drink this potion
1940 AD—That potion is snake oil, swallow this pill
1985 AD—That pill is ineffective, take this antibiotic
2000 AD—That antibiotic is artificial. Here, eat this root
—Anonymous

Dietary supplements are compounds that people take orally in addition to what they eat, including vitamins, minerals, herbals, amino acids, and a variety of other products.[1] 52% of adult Americans reported taking a dietary supplement in the past month, according to the 2012 National Health and Nutrition Examination Survey (NHANES).[2] This number was consistent with 2007 data. Supplement sales showed a 6% overall sales growth in 2018, better even than 2017. The industry is expected to surpass more than $50 billion annually by 2020.[3]

At least 21% of the U.S. population regularly uses non-vitamin, non-mineral dietary supplements.2,[4] 34% of all U.S. adults simultaneously take dietary supplements and prescription medications,[5] but as many as 42% of people who take dietary supplements do not report their use to their health care providers.[6] Use rates are higher in certain groups. A 2016 study of data from 2005 versus 2011 found that supplement use among adults aged 62 to 85 increased from 52% to 64%.[7] Women who are highly educated are the most likely to take supplements.2

A survey of primary care patients in the Philadelphia VA Medical Center found that 75% of patients used supplements, and 18% of those used them as substitutes for medications, largely due to medication costs.[8] 74% of service members use supplements at least once per month, and 49% use them daily.[9] In a 2015 survey of 131 VA sites, nine reported offering herbal remedies to Veterans in some fashion, and 44 said they provided "dietary and nutritional supplements" in general.[10]

What Are People Taking and Why?

Multivitamin, Multimineral Supplements. 31% of American adults take MVMMs, but this number may have dropped in light of recent research findings that have failed to show that MVMMs have significant benefits for all-cause mortality, cancer prevention, or other health concerns.[11,12,13]

Herbal Supplements. Herbal supplement (botanical) sales have risen steadily in recent years. Total sales increasing by 8.5% to over $8 billion in 2017, one of the highest yearly increases in over a decade.[14] Some of the biggest growth has been for Cannabidiol (CBD) oil, ashwagandha (an adaptogen), mushrooms, and turmeric.[3]

If you are unfamiliar with herbal remedies, it is helpful to first focus your attention on supplements that are most popular. "Popular" is not necessarily synonymous with "proven effective," but the best-sellers are more likely to come up during patient visits. The lists below include popular supplements and some of the main reasons people take them, but this is not to say that all of these uses are supported by research (though some are). More information on specific supplements can be found using the Resources section at the end of this chapter.

The following list notes the top-selling herbal supplements in the U.S. for mainstream markets (grocery stores, mass merchandise, Walmart, Costco, etc.) as well as some of the main reasons people take them[14]:

1. Horehound—member of the mint family that is the main ingredient of many cough drops and lozenges
2. Echinacea—prevention and treatment of colds
3. Cranberry—prevention of urinary tract infection
4. Ivy leaf—chronic inflammatory bronchial conditions
5. Turmeric—a popular and safe herbal anti-inflammatory
6. Black cohosh—hot flashes in menopause
7. Garcinia— a fruit used for weight loss and exercise performance
8. Green tea—stimulant, cancer preventative
9. Ginger—anti-inflammatory, anti-emetic
10. Fenugreek—herb popular in India for digestive function, improving lactation
11. Flaxseed/Flax oil—seed used as a fiber source and for cholesterol management; oil is a source of small amounts of omega-3 fatty acids
12. Aloe—skin burns and digestive health, depending on which part of the plant is used
13. Yohimbe—male sexual function
14. Saw palmetto—prostate health
15. Elderberry—respiratory infections and sore throats
16. Valerian—sleep remedy
17. Milk thistle—liver concerns
18. Garlic—blood pressure, infection prevention
19. Boswellia (Indian frankincense)– herbal anti-inflammatory
20. Senna –over the counter laxative

Natural products markets, which include supplement retail outlets such as Whole Foods, GNC, and sports nutrition stores, sold the following as the top 20 herbal supplements (note that *starred items were also on the preceding list for mainstream markets):

1. *Turmeric
2. Wheatgrass/Barley—used as overall tonics, as well as for digestive support and/or cardiovascular health
3. *Flaxseed/Flax oil
4. *Aloe
5. *Elderberry

6. Ashwagandha—adaptogen used to boost energy levels, immunity, and overall function. An Ayurvedic remedy.
7. *Milk thistle
8. Maca—adaptogen used to support energy levels, immunity, and overall function
9. *Echinacea
10. Oregano—anti-infective
11. *Saw palmetto
12. Cannabidiol (CBD) — pain, other inflammation, mood. This supplement is very popular, but marketing has far outpaced any research showing benefits.[15]
13. *Cranberry
14. *Garlic
15. *Valerian
16. Echinacea/Goldenseal combo—prevention and treatment of colds
17. Mushrooms —adaptogens, immune support
18. Chlorphyll/Chlorella — green algae; adaptogen and nutrient-dense
19. Coconut oil —healthy fat alternative
20. Garcinia

The 2012 NHANES data indicated a decrease in the use of echinacea, garlic, ginkgo, ginseng, and para-aminobenzoic acid (PABA, used topically and orally for skin conditions). Other supplements have seen increasing use. Lycopene-containing supplements have been taken more frequently since 2006, after data indicated this carotenoid reduces prostate cancer risk. Supplements made of cranberry and green tea have also become more popular. The following non-herbal, non-vitamin and non-mineral supplements have also become more popular in the past 5 years[2,4]:

- Omega-3s (fish oil, alpha linolenic acid from flaxseed)—anti-inflammatory, source of essential fatty acids, mood disorders
- Omega-6 fatty acids—some omega 6s, like gamma linolenic acid (GLA) may have benefits for conditions such as eczema[16] and rheumatoid arthritis,[17] while conjugated linoleic acid seems to modestly reduce body fat mass[18]
- Omega-9 fatty acids—monounsaturated fatty acids like oleic acid seem to improve insulin sensitivity and decrease inflammation[19]
- Coenzyme Q10—used to boost energy, as well as to prevent or treat high blood pressure, heart failure, and migraines[20,21]
- Probiotics—beneficial microbes that are ingested to influence the microbiome (bacteria and other microorganism population) of the gut. For more on probiotics, see Chapter 8, "Food & Drink.")
- Methysulfonylmethane (MSM)—anti-inflammatory, used for joint and muscle pain[22]

Use of other supplements, including glucosamine and chondroitin sulfate (used for joint health), fiber, grape seed (antioxidant, used for poor vein function), quercetin (used as an antihistamine, to lower cholesterol, and to help with prostate issues), and soy (used for menopausal symptoms) remained stable over the past several years. While not mentioned in the NHANES 2012 data, melatonin, which is now on the VA formulary, is quite popular for sleep-related concerns.

Why People Take Supplements. According to a 2011 survey of 1579 adults, people most commonly take supplements in order to[23]:

1. Feel better overall (41%)
2. Improve energy levels (41%)
3. Boost immune function (36%)
4. Improve digestion (28%)
5. Prevent heart disease (28%)
6. Relieve pain (26%)
7. Improve mental functioning (25%)
8. Help with sleep (24%)
9. Help with staying awake or getting a quick energy boost (24%)
10. Lower cholesterol (21%)
11. Manage weight (20%)
12. Prevent cancer (19%)
13. Address menstrual or menopausal issues (18%)
14. Manage blood pressure (16%)
15. Build muscle (14%)
16. Treat arthritis (13%)
17. Improve mood (12%)
18. Improve athletic performance (11%)
19. Slow aging (11%)
20. Improve appearance (11%)
21. Manage blood sugars (9%)
22. Treat skin problems (5%)
23. Improve sexual function and drive (5%)
24. Reduce effects of altitude (1%)

The VA's Integrative Health Coordinating Center (IHCC) has a nutraceuticals working group that continues to explore which dietary supplements would be appropriate for the VA formulary.

Choosing Supplements

As with all complementary and integrative health (CIH) approaches, you can choose whether or not to take a given supplement based on the ECHO criteria (Efficacy, Costs, Harms, Opinions) as outlined in Chapter 14. Here are a few general tips to keep in mind:

- **Know what has specifically been studied.** Search PubMed for trials. When you review research, make sure it gives appropriate details. For example, does a study of an herbal tell you the Latin name of the plant used, the parts of the plant used, and the solvent those parts were dissolved in? If alcohol is used (e.g. in a tincture) different substances will be dissolved than if water is the solvent (e.g. in a tea or decoction).
- **Be familiar with different supplement information sources.** Always ask people where they get their supplement information. Check out those sources yourself, so

you have a sense of how reliable they are. It can help to build up your own favorite resource list, to guide patients. (Refer to the Resources section at the end of this chapter for some suggestions.)

- **Consider costs and insurance coverage.** Most supplements are not in the VA formulary. Some exceptions include various vitamins and minerals (e.g. vitamin D3), melatonin, and omega-3s. There are various wholesale sites online which may be cheaper than local stores and allow for people in rural areas to access supplements.
- **Ask your patients about their experiences.** Why do they take what they do?

Supplement Safety

It is important to be able to discuss supplements' efficacy, and it is just as important to discuss safety. In general, supplements seem to be comparable to, if not much better than, medications when it comes to safety profile. However, safety regulations are much more stringent for medications. This was the case with the removal of the weight loss supplement ingredient Ephedra in 2004, years after problems had begun to be reported. There can be a lag between the appearance of adverse effects and the removal of a harmful product.

There are tens of thousands of different supplements on the market. They are marketed as capsules, softgels, liquids, and powders; even food bars and drinks might be considered supplements depending on their ingredient lists. Part of the challenge of advising patients about them—and studying them—is that there is a great deal of variation in the forms they take. This is particularly true for herbals. Plants can be dissolved in water to make infusions, and more woody parts can be gradually boiled in water over time to create decoctions. In addition to being dissolved in water, a plant can also be dissolved in alcohol or glycerin to make a tincture. Tinctures and infusions of the same botanical can contain different chemical compounds. Essential oils (used in aromatherapy) are processed in an entirely different way as well. Chemical contents of supplements made from the same plant can end up being very different depending on how they are processed.

Supplements can also end up being quite different from one another for other reasons. For herbal remedies, there can be differences in biological effects because of the part of the plant used. For example, some echinacea supplements will use the plant's roots, while others will use the above-ground parts. Even more challenging is that more than one species or subspecies of a plant may be referred to by the same name, even though they may be very different in terms of their biochemical effects. For example, "ginseng" can refer to Chinese ginseng or American ginseng, which are different species in the *Panax* genus, or it can refer to Siberian ginseng (Eleuthero) or other plants informally called "ginseng" which are not related to one another at all and contain totally different chemical compounds.

Dietary supplements can be harmful because they contain compounds that are unsafe. For example, butterbur (used for allergies and migraines) and comfrey (used for inflammation) contain pyrrolizidine alkaloids, which can be carcinogenic and hepatotoxic if not removed.

Supplements may also be unsafe because of the way they interact with foods, medications, or other supplements.[24] For example, St. John's wort, which is beneficial in the treatment of depression, interacts with the cytochrome P450 system in the liver, altering the potency of many medications. Similarly, when certain supplements are taken with warfarin or other blood thinners, risk of complications from bleeding can increase. Some supplements that may rarely contribute to increased bleeding risk—according to case reports or based upon theoretical concerns—include omega-3s, ginkgo, ginseng, ginger, and garlic. It is typically suggested that they be stopped at least 7-10 days before surgery, just like nonsteroidal anti-inflammatory medications. Fiber and calcium supplements can decrease absorption of medications and other supplements if taken at the same time.

As a result of the Dietary Supplement Health and Education Act (DSHEA, often pronounced "de shay"), supplements are treated as foods from a legal standpoint, not as pharmaceuticals.[25] Manufacturers must prove that they meet Good Manufacturing Practices (GMPs), and they cannot make inaccurate claims about what their products can do. However, they do *not* need to prove that their supplement is efficacious; the burden of proof of safety is put on consumers and researchers. It is usually after products appear in the marketplace that they are monitored for safety and false label claims, as compared to pharmaceuticals, for which regulation is much more strict.

Just as providers should ensure that a given supplement has a low likelihood for adverse effects or interactions, they should also ensure the quality of products being used. Does a product contain the compounds their labeling claims they do? Third-party certification, or evaluation of supplement content by a group with no financial ties to supplement manufacturers, can be helpful. These groups use laboratory analyses independent of Dietary Supplement companies to determine the accuracy of label claims, and to assess for the presence of adulterants or contaminants.[26] Examples include the following[27]:

- National Sanitation Foundation International
- Natural Products Association
- ConsumerLab
- The U.S. Pharmacopeia (USP)

Tips for Reducing Risks from Supplements

1. Most importantly, **ensure that patients are telling their health care team** about what they are taking. Simply remembering to ask can make a big difference.
2. **Learn about supplements** yourself, so that you can offer good advice. Start with those that are most commonly used, as listed at the beginning of this chapter. See the resources section at the end of this chapter as well.
3. **Remember that products vary**. Just because products contain the same compounds, plants, etc., they are not necessarily equivalent in terms of quality or biochemistry.
4. **Use caution with imported supplements**, particularly from China or India; risk of contamination is higher with supplements from these areas.

5. While it may mean more work from the clinical end, it is not enough just to know specific compounds or plants and their effects. Safe supplement use also requires a **familiarity with manufacturers and specific products**.
6. A good rule of thumb is to **use the specific products that were used in research studies**. It is reasonable to support companies that have actually invested in doing supplement research, as this is, unfortunately, somewhat rare.
7. **Keep interactions in mind**. These might be between drugs and supplements or even supplement-supplement interactions. "Polyherbacy" is a possibility, just like polypharmacy. Supplements may have hundreds of different chemical components. Always consider effects on coagulation. Work with an online interaction checker that is able to check supplement safety as well; examples are listed at the end of this chapter.
8. **Make sure your patients are getting good information**. The Internet and health food store clerks are not always reliable sources of information.
9. **Pay attention with specific patient populations**. Supplements may or may not be contraindicated in pregnancy or lactation, or in children and people with liver or kidney failure. Always be cautious when a person is taking medications with an anticoagulant effect.
10. **Talk to your local colleagues**. Pharmacists can be excellent sources of information, as can clinicians who have received additional Integrative Health training. Find out if there are any herbalists or naturopaths in your area as well. What are their perspectives? What resources do they use?

Throughout the materials on the Whole Health Library website, whenever supplements are mentioned, you will see the following reminder, referring you back to this chapter:

Note: *Please refer to the Passport to Whole Health, Chapter 15 on Dietary Supplements for more information about how to determine whether or not a specific supplement is appropriate for a given individual. Supplements are not regulated with the same degree of oversight as medications, and it is important that clinicians keep this in mind. Products vary greatly in terms of accuracy of labeling, presence of adulterants, and the legitimacy of claims made by the manufacturer.*

For more on dietary supplements, especially as they relate to Whole Health care of specific patients, refer to "Implementing Whole Health in Your Practice, Part III: Complementary and Integrative Health" on the Whole Health Library website.

Whole Health Tool: Reading Supplement Labels

If someone asks you about a supplement, look at the container or go online to review the label. If the label isn't meeting the requirements below, it may be that the supplement itself is not either. Use the following checklist to evaluate a supplement's quality:

For all supplements, check for the following:

- ❒ The manufacturer's name and address are on the label.
- ❒ There is an expiration date.
- ❒ The product is not expired.
- ❒ The lot number and manufacturer's contact information are clearly visible.
- ❒ The font is such that a person with poor eyesight can read it.
- ❒ The label makes an appropriate structure/function claim (and it should *not* claim to cure, treat, or prevent disease). Examples include "Promotes immune function" or "Supports digestive health."
- ❒ It is clear what ingredients are in the product. Some labels may be in another language, which can be a challenge. Be cautious when a label simply reads "Proprietary blend" and does not break down the amounts of individual ingredients.
- ❒ The label makes it clear what type of formulation (tincture, infusion, extract, pills, capsules) the product is.
- ❒ The numbers of tabs or capsules, or the volume, is clear.
- ❒ This item does not mislead the buyer by requiring multiple pills to get a full 'serving.'
- ❒ There is a "Supplement Facts" section that makes it is clear how much of each ingredient is in the product, both in terms of active ingredients and excipients (additives). These might include corn, soy, and wheat, which some people must avoid.
- ❒ What is in the supplement is actually the same as what has been studied (both in terms of dose and chemical form).
- ❒ There is a symbol on the package indicating third-party certification from groups like the United States Pharmacopeia that indicates more rigorous quality testing was done. (This is rare.)
- ❒ The price of this supplement is reasonable.

For herbal remedies, also check the following criteria:

- ❒ Latin names (Genus, species, and subspecies as appropriate) are given for the plants used. This is especially important for Chinese and Ayurvedic remedies.
- ❒ It is possible to tell how the ingredients were standardized (e.g. St. John's wort "standardized to 3-5% hyperforin").
- ❒ One can tell which part(s) of plants were used (e.g. leaves, roots/rhizomes, flowers).
- ❒ The herbs being used make sense in terms of what the supplement is supposed to do.
- ❒ For tinctures (liquid solutions), labels should contain a ratio of how many kg of herb there are per liter of solvent (or ounce to ounce). Most are between 1:2 and 1:5.
- ❒ For extracts (solutions where some or all of the solvent is evaporated off) the label should include the marker compound and the percentage standardization. (E.g. "Gingko biloba, 50:1 standardized extract with 6% terpene lactones." 50:1 means 50 grams of the original plant material has been concentrated into 1 gram of solid extract.)

Dietary Supplement Resources

Websites

Whole Health Library Website

- "Implementing Whole Health in Your Practice, Part III: Complementary and Integrative Health for Veterans" overview https://wholehealth.wisc.edu/overviews/part-iii-complementary-integrative-health/
- "Supplement/Botanical Interactions with Chemotherapy and Radiation" https://wholehealth.wisc.edu/tools/supplement-botanical-interactions-with-chemotherapy-radiation
- "Adaptogens" https://wholehealth.wisc.edu/tools/adaptogens
- "Supplements for Skin Health" https://wholehealth.wisc.edu/tools/supplements-for-skin-health
- "Supplements for Pain" https://wholehealth.wisc.edu/tools/supplements-for-pain
- "Dietary Supplements and Mood" https://wholehealth.wisc.edu/tools/dietary-supplements-and-mood
- "Phytoestrogens" https://wholehealth.wisc.edu/tools/phytoestrogens
- "Supplements to Lower Blood Sugar" https://wholehealth.wisc.edu/tools/supplements-to-lower-blood-sugar

Other Websites

- Free databases
  - University of Wisconsin Department of Family Medicine and Community Health Integrative Health, Supplement Guides. https://www.fammed.wisc.edu/integrative/resources/supplement-samplers/
- Government resources
  - National Center for Complementary and Integrative Health (NCCIH), Herbs at a Glance. https://nccih.nih.gov/health/herbsataglance.htm. Nice summaries related to a number of different botanicals
  - National Institutes of Health Office of Dietary Supplements. https://ods.od.nih.gov. Check out their vitamin and mineral fact sheets.
  - NIH Dietary Supplement Label Database. http://www.dsld.nlm.nih.gov/dsld/
  - Natural Medicines. https://naturalmedicines.therapeuticresearch.com. Subscription site, available to VA facilities
  - U.S. Food and Drug Administration. Information for consumers related to dietary supplements. https://www.fda.gov/Food/DietarySupplements/UsingDietarySupplements/default.htm.

- Other services (Some free resources, but may require a subscription to access all information).
    - HerbMed Pro. http://cms.herbalgram.org/herbmedpro/index.html
    - Natural Medicines Comprehensive Database. http://www.naturaldatabase.com. The VA libraries all offer this to VA employees.
    - Consumer Lab. www.consumerlab.com. Subscription required. This group evaluates supplements to verify they contain what they claim they do
    - American Botanical Council. http://abc.herbalgram.org
- Free supplement-drug interaction checkers can be found at
    - WebMD. https://www.webmd.com/interaction-checker/default.htm
    - Natural Medicines Database. http://naturaldatabase.therapeuticresearch.com/nd/search.aspx?s=nd&pt=7&AspxAutoDetectCookieSupport=1 (requires login, but is available through the VA library)
    - Drugs.com. http://www.drugs.com/drug_interactions.html

Books

- *An Evidence Based Approach to Phytochemicals and Other Dietary Factors*, Jane Higdon (2012)
- *An Evidence Based Approach to Vitamins and Minerals: Health Benefits and Intake Recommendations*, Jane Higdon (2011)
- *Clinical Botanical Medicine: Revised & Expanded*, Eric Yarnell & Kathy Abascal (2009)
- *Clinical Natural Medicines Handbook*, Chris Meletis (2008)
- *Dietary Supplements*, 4th edition, Pamela Mason (2011)
- *Herb Contraindications and Drug Interactions*, Francis Brinker (2010)
- *Herb, Nutrient, and Drug Interactions: Clinical Implications and Therapeutic Strategies*, Mitchell Stargrove, et al. (2008)
- *National Geographic Guide to Medicinal Herbs*, Tieraona Low Dog, et al. (2010)
- *Principles and Practice of Phytotherapy: Modern Herbal Medicine*, 2nd edition, Kerry Bone & Simon Mills (2013)
- *Rational Phytotherapy*, Volker Schulz, et al. (2004)
- *The H.E.R.B.A.L. Guide: Dietary Supplement Resources for the Clinician*, Robert Bonakdar (2010)
- *The Supplement Handbook: A Trusted Expert's Guide to What Works & What's Worthless for More than 100 Conditions*, Mark Moyad & Janet Lee (2014)

Journals

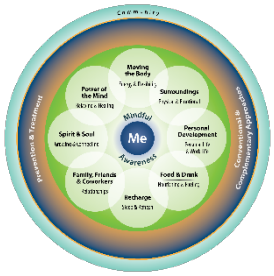
- *Economic Botany*
- *HerbalGram*
- *Journal of Ethnopharmacology*
- *Journal of Herbal Pharmacotherapy*
- *Phytomedicine*

References

[1] Dietary supplements: what you need to know. National Institutes of Health website. https://ods.od.nih.gov/HealthInformation/DS_WhatYouNeedToKnow.aspx. Published June 17, 2011. Accessed July 19, 2019.
[2] Kantor ED, Rehm CD, Du M, White E, Giovannucci EL. Trends in dietary supplement use among US adults from 1999-2012. *JAMA.* 2016;316(14):1464-1474. doi: 10.1001/jama.2016.14403.
[3] Morton C. The Analyst's Take: Dietary supplement sales growth rebounds to 6% in 2018. https://www.newhope.com/market-data-and-analysis/analysts-take-dietary-supplement-sales-growth-rebounds-6-2018. Updated May 23, 2019. Accessed July 30, 2019.
[4] Barnes PM, Bloom B, Nahin RL. Complementary and alternative medicine use among adults and children: United States, 2007. *Natl Health Stat Report*. 2008;(12):1-23.
[5] Farina EK, Austin KG, Lieberman HR. Concomitant dietary supplement and prescription mediation use is prevalent among US adults with doctor-informed medical conditions. *J Acad Nutr Diet.* 2014;114(11):1784-90.e2. doi: 10.1016/j.jand.2014.01.016. Epub 2014 Apr 4.
[6] Jou J, Johnson PJ. Nondisclosure of complementary and alternative medicine use to primary care physicians: findings from the 2012 National Health Interview Survey. *JAMA Intern Med*. 2016;176(4):545-546. doi: 10.jamainternmed.2015.8593.
[7] Qato DM, Wilder J, Schumm LP, Gillet V, Alexander GC. Changes in prescription and over-the-counter medication and dietary supplement use among older adults in the United States, 2005 vs 2011. *JAMA Intern Med.* 2016;176(4):473-82. doi: 10.1001/jamainternmed.2015.8581.
[8] Goldstein JN, Long JA, Arevalo D, Ibrahim SA, Mao JJ. US veterans use vitamins and supplements as substitutes for prescription medication. *Med Care.* 2014;52(12 Suppl 5):S65-9. doi: 10.1097/MLR.0000000000000199.
[9] Deuster PA, Lieberman HR. Protecting military personnel from high risk dietary supplements. *Drug Test Anal.* 2016;8(3-4):431-433.
[10] Healthcare Analysis and Information Group (HAIG). *FY 2015 VHA Complementary and Integrative Health (CIH) Services (formerly CAM).* Department of Veterans Affairs, Veterans Health Administration. https://sciencebasedmedicine.org/wp-content/uploads/2016/07/FY2015_VHA_CIH_signedReport.pdf. Accessed July 30, 2019.
[11] Huang HY, Caballero B, Chang S, et al. The efficacy and safety of multivitamin and mineral supplement use to prevent cancer and chronic disease in adults: a systematic review for the National Institutes of Health state-of-the-science conference. *Ann Intern Med.* 2006;145(5):372-85. Epub 2006 Jul 31.
[12] Marra MV, Boyar AP. Position of the American Dietetic Association: nutrient supplementation. *J Am Diet Assoc.* 2009;109(12):2073-2085.
[13] Gaziano JM, Sesso HD, Christen WG, et al. Multivitamins in the prevention of cancer in men: the Physicians' Health Study II randomized controlled trial. *JAMA.* 2012;308(18):1871-1880.
[14] Smith T, Kawa K, Eckl V, Morton C, Stredney R. Herbal supplement sales in US increase 8.5% in 2017. *HerbalGram*. 2018:119:62-71. http://cms.herbalgram.org/herbalgram/issue119/hg119-herbmktrpt.html. Accessed July 30, 2019.
[15] Cogan PS. On healthcare by popular appeal: critical assessment of benefit and risk in cannabidiol based dietary supplements. *Expert Rev Clin Pharmacol*. 2019;12(6):501-511.
[16] Simon D, Eng PA, Borelli S, et al. Gamma-linolenic acid levels correlate with clinical efficacy of evening primrose oil in patients with atopic dermatitis. *Adv Ther.* 2014;31(2):180-8. doi: 10.1007/s12325-014-0093-0. Epub 2014 Jan 17.
[17] Zurier RB, Rossetti RG, Jacobson EW, et al. Gamma-linolenic acid treatment of rheumatoid arthritis. a randomized, placebo-controlled trial. *Arthritis Rheum.* 1996;39(11):1808-1817.
[18] Whigham LD, Watras AC, Schoeller DA. Efficacy of conjugated linoleic acid for reducing fat mass: a meta-analysis in humans. *Am J Clin Nutr.* 2007;85(5):1203-1211.
[19] Finucane OM, Lyons CL, Murphy AM, et al. Monounsaturated fatty acid-enriched high-fat diets impede adipose NLRP3 inflammasome-mediated IL-1β secretion and insulin resistance despite obesity. *Diabetes.* 2015;64(6):2116-28. doi: 10.2337/db14-1098. Epub 2015 Jan 27.

[20] Tabrizi R, Akbari M, Sharifi N, et al. The effect of coenzyme Q10 supplementation on blood pressure among patients with metabolic diseases: a systematic review and meta-analysis of randomized controlled trials. *High Blood Press Cardiovasc Prev.* 2018;25(1):41-50. doi: 10.1007/s40292-018-0247-2. Epub 2018 Jan 12.
[21] Saha SP, Whayne TF Jr. Coenzyme Q-10 in human health: supporting evidence? *South Med J.* 2016;109(1):17-21. doi: 10.14423/SMJ.0000000000000393.
[22] Butawan M, Benjamin RL, Bloomer RJ. Methylsulfonylmethane: applications and safety of a novel dietary supplement. *Nutrients.* 2017;9(3). Pii: E290. doi: 10.3390/nu9030290.
[23] Blendon RJ, Benson JM, Botta MD, Weldon KJ. Users' views of dietary supplements. *JAMA Intern Med.* 2013;173(1):74-6. doi: 10.1001/2013.jamainternmed.311.
[24] Sood A, Sood R, Brinker FJ, Mann R, Loehrer LL, Wahner-Roedler DL. Potential for interactions between dietary supplements and prescription medications. *Am J Med*. 2008;121(3):207-211. doi: 10.1016.j.amjmed.2007.11.014.
[25] U.S. Food and Drug Administration. Dietary Supplement Health and Education Act of 1994. U.S. Food and Drug Administration website. https://ods.od.nih.gov/About/DSHEA_Wording.aspx. Accessed August 1, 2019.
[26] Whybark M. Third-party evaluation programs for the quality of dietary supplements. *HerbalGram.* 2004(64):30-33.
[27] Blumenthal M. *Identifying High Quality Herbal Dietary Supplements: A Discussion of Issues About Quality and Clinical Reliability*. Scripps Conference on Dietary Supplements; 2006.

Chapter 16. Manipulative and Body-Based Practices



Tension is who you think you should be. Relaxation is who you are.
—Chinese proverb

Examples of Manipulation and Body-Based Approaches

This category of complementary and integrative health (CIH) approaches includes a number of widely-used therapies. Often, yoga, tai chi, and qi gong (which were discussed in Chapter 5, "Moving the Body") are included in this category. So are manipulative therapies such as chiropractic (which is considered mainstream in the VA Health System), osteopathy, and massage, which are described in more detail in this chapter. Some less familiar therapies in this group that are important to know about include:

Alexander Technique

Developed by an Australian actor of that name, Alexander Technique (AT) was developed in the late 19th century.[1] It is widely used by performing artists and has been found to assist with performance anxiety, though it is not clear that it helps with posture, respiratory function, or performance.[2] It focuses on developing proper body mechanics to minimize poor posture and excess tension in various parts of the body. This technique is quite safe.

A 2012 systematic review of 18 studies found strong evidence of benefit for chronic back pain and moderate evidence for Parkinson's-associated disability.[3] The need for more study was needed, but there was a suggestion of benefit for general chronic pain, stuttering, respiratory function, and posture. A 2017 trial comparing acupuncture and AT found that both led to significant reductions in pain and disability at 12 months, compared to usual care.[4] A small 2018 trial found that group AT classes were beneficial for neck pain[5] confirming findings of a 2015 trial.[6]

Feldenkrais

Feldenkrais, more formally known as Feldenkrais Method (FM), was developed by physicist Moshe Feldenkrais in the 20th century.[7] It may be offered in classes or one-on-one sessions. People explore their body's movement patterns and learn exercises that teach their bodies to more effectively carry themselves in space (enhance proprioception) in ways that minimize pain or unhealthy body positioning.

A 2015 systematic review including seven studies found favorable effects of FM for balance and preventing falls in aging populations, dexterity, body image perception, and comfort.[8] It was noted that risk of bias in reviewed studies was high. Authors noted that FM "...is not a healing or disease-specific mechanism of action but rather one based on more generic learning and self-improvement." While few studies have been done, a 2015 trial found improvement in quality of life in people with Parkinson's disease,[9] and a 2017 study of 53 people found that FM was comparable with "back school" for treatment of chronic

nonspecific low back pain.[10] FM has few adverse effects when taught by a knowledgeable instructor.

The Resources section at the end of this chapter has additional information on FM and AT, as well as other approaches.

Osteopathy

Osteopathic medicine is widely used by doctors of osteopathy (DOs) throughout the United States. It was developed in 1872 by Dr. Andrew Taylor Still. His focus was on developing a system of medical care that would promote the body's innate ability to heal itself.[11] He called this system of medicine osteopathy.[11] As of 2018, there were 34 U.S. osteopathic medical schools.[12] Their curriculum involves 4 years of academic study, similar to what their MD colleagues receive, in addition to 150 to 200 hours of training in Osteopathic Manual Therapy (OMT), which may also be referred to as osteopathic manipulative medicine (OMM). OMT might be thought of as being related to specific treatments or interventions, while OMM is more the overarching philosophy of osteopathic care.

Osteopathic physicians subscribe to the practice of treating the whole person, and trainees receive extensive training in structure and function of the musculoskeletal system. As of 2017, there were just over 108,000 DOs in the United States.[13] Approximately 50% of all osteopathic physicians go on to utilize OMT in their practice.[14] 56% of DOs are primary care physicians.[15]

The 4 tenets of osteopathic medicine include the following[16]:

1. The body is a unit.
2. The body possesses self-regulatory mechanisms.
3. Structure and function are reciprocally interrelated.
4. Rational treatment is based on an understanding of body unity, self-regulatory mechanisms, and the interrelationship of structure and function.

During OMT, clinicians look for "somatic dysfunctions," which are improperly functioning components of the body's framework. These components include skeletal and myofascial structures and related vascular, lymphatic, and neural elements. Evaluation is accomplished through palpation of tender spots, identification of asymmetric bony landmarks, watching for restricted joint motion, and noting abnormal tissue texture.

Osteopathic (and General Spinal Manual Therapy) Techniques

Osteopathy is one of several types of manipulative therapy. Many of the techniques it enlists are used by chiropractors as well. Once a somatic dysfunction has been identified, osteopathic physicians and others will use various techniques, including[17]:

1. **High-velocity low-amplitude (HVLA)**. The practitioner uses HVLA thrust techniques to push through a joint restriction and restore the range of motion of a joint.

2. **Springing techniques**. The person doing OMT repetitively and gently rocks or pulses movement against the restriction of a joint to restore the range of motion of that joint.
3. **Muscle energy technique**. The osteopath creates resistance and asks the patient to push against it to rebalance the tension of the muscles around a dysfunctional joint.
4. **Soft tissue techniques**. The physician kneads, stretches, or applies inhibitory pressure to relax soft tissues.
5. **Strain-counterstrain techniques**. These techniques involve palpating tender points and then moving joints and muscles into positions where the pain is least. The position is held until the restriction releases (usually within approximately 90 seconds). This technique retrains the nervous system to relax the muscle via the Golgi tendon reflex.
6. **Facilitated positional release**. In these techniques, the joint or tissue is taken to the position of most comfort. Traction or compression is applied to facilitate the release of tissue tension.
7. **Still technique**. This technique is set up like facilitated positional release, but after traction or compression is applied, the joint is moved through its restrictive barrier.
8. **Cranial osteopathy**. This gentle manual technique emphasizes balancing the tension of the dura mater of the brain and working with subtle rhythmic pulsations of the cerebrospinal fluid to correct disturbances in the neuromuscular system. There are practitioners whose entire practices are based on craniosacral therapy.
9. **Lymphatic techniques**. These approaches promote the movement of the lymphatic fluid to promote healing. They are often used for lymphedema.

It can be helpful to watch demonstrations of the various OMT techniques on YouTube to get a better feel for them. There is an ongoing effort to fully describe mechanisms of manual therapy; there is a great deal still to learn.[18] Manipulation-induced hypoalgesia seems to happen at a systemic level for people, but how much that makes a difference is unclear.[19]

Efficacy of Osteopathy

Some of the studies described below focused on spinal manipulative therapy (SMT) in general, meaning they also apply to other manipulative therapies, such as chiropractic. There are many theories about how SMTs work, including by complex effects on the fascial system. A 2017 study of various lab measures in healthy men found that thoracic manipulation leads to immediate sympathetic activation and reduction in salivary cortisol and a reduced testosterone to cortisol ratio 6 hours after treatment.[20] Vasodilation seems to occur in areas beyond those manipulated after treatment.[21]

Low Back Pain (LBP). All major international guidelines for LBP (e.g. the British National Institute for Health and Care Excellence, the American College of Physicians, the American Pain Society, European Guidelines, the Italian Clinical Guidelines, and the Belgian Health Care Knowledge Centre) recommend SMT as a treatment option for acute and chronic symptoms. Patients most likely to respond to SMT include those with[22]:

- Pain present for less than 16 days
- Symptoms in the legs that do not go below the knees

- Low likelihood of avoiding activity due to fear of pain
- One or more hypomobile lumbar segments noted on palpation
- Internal rotation of one or both hips greater than 35 degrees

In the past few years, several large-scale reviews have found SMT to be beneficial for treating various types of low back pain:

- A 2019 review of 47 trials including 9,211 people found that SMT produces similar effects to other recommended therapies for chronid low back pain.[23]
- A 2017 review featured in JAMA reported that 15 studies (1711 patients) offered moderate-quality evidence for benefit of SMT for acute back pain, noting that there was substantial heterogeneity to results.[24]
- Similarly, a 2017 review of nonpharmacologic therapies for back pain notes that evidence continues to support effectiveness of SMT for *chronic* low back pain as well.[25]
- SMT is suggested as one of several nonpharmacologic options for treating acute and chronic low back pain in a recent clinical practice guideline form the American College of Physicians (strong recommendation, low-quality evidence).[26]
- A 2016 comparative effectiveness review by the Agency for Healthcare Research and Quality concluded there is moderately strong evidence spinal manipulation was as effective for back pain as other active interventions.[27]
- A 2014 review also concluded that OMT reduces pain and improves function in both acute and chronic nonspecific low back pain.[28]
- A 2016 review found that chiropractic care, specifically, was equally effective as physical therapy for low back pain, based on findings from 6 trials.[29]

Neck Pain. A randomized, controlled trial (RCT) of 41 patients receiving OMT for chronic neck pain found significant reduction in pain intensity at 12 weeks compared to sham treatment,[30] and another RCT of 201 patients found improved short-term physical and long-term psychological outcomes with OMT compared to usual care.[31] Yet another RCT found SMT was more effective than medication in subacute and acute neck pain.[32]

Headaches. A 2010 study of 80 patients found that, compared with those receiving massage therapy, the group receiving SMT had greater improvements in pain and disability.[33] Craniosacral therapy, a very gentle form of manipulation of the skull bones and the sacrum, is also thought to be effective for headaches.[34] One systematic review concluded that massage therapy, physical therapy, relaxation, and chiropractic SMT might be as effective as the drugs propranolol and topiramate for migraine prevention.[35]

Guidelines developed after a 2009 review of 21 articles concluded that spinal manipulation and massage are recommended for episodic or chronic migraines, but was not clearly beneficial for episodic or chronic tension-type headaches.[36] One OMT-specific trial involving 63 patients found that direct and indirect myofascial release techniques were more effective than the control intervention for tension headache.[37] Another OMT-specific RCT of 29 patients found that participants who did relaxation exercises and received three osteopathic treatments had significantly fewer days per week with headaches than those

who relied on relaxation exercises alone.[38] A retrospective review of the medical records of 631 patients between 2002 and 2007 found that patients treated with OMT at an osteopathic clinic had a 50% reduction in cost compared to those who received conventional hospital care.[39]

Other Diagnoses. For other conditions, research indicates the following:

- **Heart surgery recovery**. OMT is effective in reducing pain and speeding up functional recovery in people who have had heart surgery with sternotomy.[40]
- **Pneumonia**. Thoracic and abdominal lymphatic pump therapy is used to facilitate flow through the lymphatics and activate the immune system.[41] The Multicenter Osteopathic Pneumonia Study in the Elderly evaluated 406 patients over age 50 with pneumonia. Protocol analysis found decreased mortality rates and duration of antibiotics treatment in the OMT group as compared to the group that received conventional care.[17]
- **Pregnancy**. Two RCTs have found that OMT has "medium to large" treatment effects in preventing progressive, back-specific dysfunction during the third trimester of pregnancy.[42,43] A 2003 RCT compared 160 women who received OMT throughout pregnancy to 161 women who did not and found decreased frequency of meconium-stained amniotic fluid and decreased occurrence of preterm delivery in the OMT group.[44]
- **Fibromyalgia**. A small study favored OMT for lowering pain threshold, perceived pain, chronic pain, and ability to perform activities of daily living.[45]

Osteopathy and Other Forms of SMT: Safety

Most studies of the risk of spinal manipulation do not distinguish between which practitioners do the manipulation, be it osteopaths, chiropractors, physical therapists, or others. Common transient effects after treatments include local pain, headache, tiredness or fatigue, and radiating pain. These occur in 30% to 61% of patients.[46] These symptoms begin within four hours and usually resolve within 24 hours. One systematic review found that worsening disk disease occurs in less than 1 in 3.7 million patients.[47] One study found that 4.3% of subjects experienced neck stiffness after initial spinal manipulation, and it disappeared for all cases after 2 weeks.[48] Spinal manipulation was noted to have a low risk of stroke ranging from 1.46 to 5 strokes per 100,000 manipulations.[49] A 2017 review of 118 studies found that the range of complications of manipulation ranged from 1 in 20,000 to 1 in 250 million manipulations.[50] A 2019 review in the British Medical Journal also noted that safety data is reassuring overall.[23]

Chiropractic Care

Chiropractic care was originally developed in the late 1800s as a drug-free approach to health care, which was very appealing at that time, since many of the drugs in use had some serious side effects. The word "chiropractic" combines the Greek words cheir (hand) and praxis (practice) to describe a treatment done by hand. Hands-on therapy—especially spinal manipulation and other manual treatments—is central to chiropractic care.

In the U.S., chiropractic care has historically been one of the most commonly used CIH approaches.[51] Approximately 14% of the general U.S. population will see a chiropractor in a given year,[52] and in patients with chronic pain the rate is as high as 40%.[53] Chiropractic care is covered by Medicare and most U.S. insurance carriers. It has been provided in the DoD health care system since 1995 and in the Department of Veterans Affairs health care system since 2004.[54] In 2015 the Joint Commission added chiropractic care to its pain management standards for health care facilities.[55] With these and other advancements and integration, today's chiropractic profession is often thought of as being "at the crossroads" between complementary and conventional medicine.[56]

Training and Practice

Doctors of chiropractic (DCs)—also known as chiropractic physicians or simply chiropractors—are licensed and regulated in every U.S. state and the District of Columbia. There are 15 U.S. chiropractic schools, each accredited by the Council on Chiropractic Education,[57] with a curriculum of four academic years covering the biomedical sciences, public health, and other areas similar to medical school. Residency training is optional for chiropractors, but those seeking advanced training may complete a one-year residency program and/or fellowship programs of another 1-2 years.

Chiropractors are typically trained and licensed to diagnose and manage a broad range of conditions using many treatments except prescription drugs and surgery. Most commonly this includes musculoskeletal problems like low back pain, arthritis, sports injuries, or other problems involving joints and muscles. An analysis of the use of complementary health approaches for back pain, based on data from the 2002 NHIS, found that chiropractic was by far the most commonly used therapy. Among survey respondents who had used any of these therapies for their back pain, 74% (approximately 4 million Americans) had used chiropractic. Among those who had used chiropractic for back pain, 66% perceived "great benefit" from their treatments.[58]

History of Chiropractic Care in the VA

In response to Veteran demand, Congress authorized VA to begin providing chiropractic services in 1999. Since late 2004, chiropractic services have been included as part of the standard Medical Benefits Package available to all enrolled Veterans.[59] VA provides these services on-station and/or by community care mechanisms at all medical centers. In VA, DCs are physician-level licensed independent practitioners similar in level to optometrists and podiatrists.

VA chiropractic services are used by Veterans across the continuum of care, yet there is particular value in populations with a high prevalence of musculoskeletal conditions such as OEF/OIF/OND Veterans, chronic pain populations, women Veterans, older adults, and spinal cord injury/illness. From fiscal years 2005 through 2015 the number of VA chiropractic clinics increased from 27 to 65, and the number of Veterans receiving care at these clinics increased from over 4,000 to over 37,000. The number of Veterans receiving community chiropractic services during this time increased from over 1,000 to over 15,000.[60]

Components of Chiropractic Care

A visit to a chiropractor starts with a history in which the patient discusses their current problem, overall health, and specific goals for care. The chiropractor will review any medical records, images, or other studies related to the patient's health, and perform a standard physical examination of the area in question. This includes standard medical orthopedic and neurological examination procedures, along with some specialized hands-on assessment of the muscles and joints. It is rare that new x-rays or other studies will be needed, but if so, the chiropractor will order the applicable tests. Once a diagnosis is made and it is determined that chiropractic treatment is appropriate, the chiropractor will work with the patient to formulate an individualized treatment plan that may include the following:

- Education and instruction on self-care, prevention, ergonomics, and how to best manage the problem from the patient's perspective
- Appropriate home exercises to improve flexibility, strength, and/or balance
- Manual therapies for the joints, such as manipulation or mobilization (explained in more detail below)
- Manual therapies for the muscles, such as stretching, massage, and myofascial techniques
- Various mind-body approaches, such as progressive muscle relaxation or stress reduction
- Nutrition and dietary advice
- Acupuncture

Some problems respond to chiropractic care more quickly than others, and some may not respond at all. In general, newer (acute) problems begin to improve within the first 1-2 visits, whereas older (chronic) problems might take 4-5 visits to show any response. A typical rule of thumb is to plan an initial trial of 4-6 visits. If there is no improvement, and no reasonable change in course that the chiropractor can provide, then the trial should be stopped and other treatment options considered. On the other hand, most patients do report some good benefit within the initial 4-6 sessions. Some may be fully improved and will be discharged from care with appropriate home instructions. Others may have partial benefit, and another few sessions could be provided to attempt to reach additional improvement. Even in longstanding, difficult problems, most patients tend to reach their plateau of improvement with chiropractic care within 8-12 visits. For chronic pain conditions that improve after the initial trial and then worsen sometime afterward, it can be appropriate to use additional chiropractic treatment from time to time to assist with flare-ups.

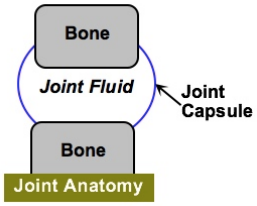
Important Facts About Spinal Manipulation

As mentioned above, various manual (hands-on) treatments are the mainstay of chiropractic practice. Although there are many names for various techniques, from a biomechanical perspective manual therapies can be classified into two groups: mobilization and manipulation. In each of those, the patient's joints are being moved by a doctor or other clinician. In mobilization techniques, the joint is moved by applying lower amounts of force using slower and typically repetitive movements. In manipulation

techniques, the joint receives a quicker, single thrust which aims to "pop" the joint. Following are the most common FAQs about manipulation.

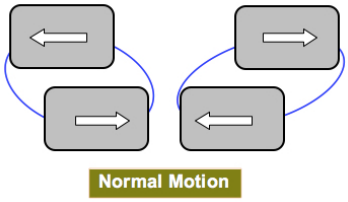
What Causes The Popping Sound? Are My Bones Cracking?

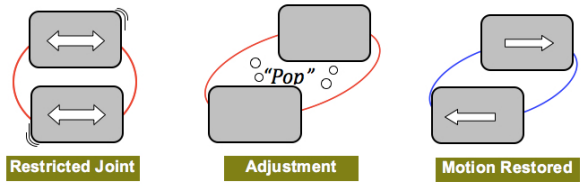
Your bones are not cracking! The popping sound is caused by movement of the joint surfaces and the joint's lubricating fluid. To understand this better, you need to know a little bit more about the spinal joints.



A joint is made up of the surfaces of two bones that must slide over or pivot around each other for normal movement. These surfaces are lined with smooth cartilage and enclosed in an elastic tissue called the joint capsule. This capsule is filled with a fluid which lubricates and nourishes the cartilage.

The fluid is pressurized and has gasses dissolved inside, similar to carbonated soda. When a joint is injured or too stiff, the joint capsule becomes painful (left image below). During spinal manipulation, the joint capsule is stretched and some gas bubbles are released inside the capsule—similar to the bubbles that are released when a soda bottle is opened. And *that* is what causes the popping sound.





Many times, back and neck pain is the result of joints that are not moving properly. Imagine a door that only opens halfway because of a stiff hinge. You could still use it, but it is more troublesome than a door that opens fully. Tight spinal joints can be thought of in the same way as stiff hinges. When a proper force is applied to a "stuck" joint, its motion can be improved. Also, through a nervous system reflex, manipulation decreases muscle spasm or tension, and decreases pain sensation.

Does It Hurt?

A carefully-administered adjustment usually does not hurt. Many people feel a great deal of relief right afterward. But if your joints are very stiff, there could be some temporary increased soreness that typically goes away quickly and leads to improvement.

Is Spinal Manipulation Safe and Effective?

Spinal manipulation is very safe. There is a large amount of scientific evidence on the safety and effectiveness of spinal manipulation, so much so that it is included in widely recognized medical guidelines for the treatment of most low back and neck pain

complaints.[26,27,61,62] The risk of injury occurring as a side effect of manipulation is extremely low, especially when compared to other common treatments for back and neck pain. However, as with all medical procedures, there is some inherent risk. VA chiropractors are well-trained and experienced to determine the safety of manipulation in your particular case. General research findings related to spinal manual therapies are summarized in the "Osteopathy" section of this chapter.

What Clinicians Deliver Spinal Manipulation?

Spinal manipulation can be delivered by MDs (although this is very rare) and sometimes by DOs. In some states manipulation is being added to the scope of practice for physical therapists. However, manipulation is typically associated with the chiropractic profession. Chiropractic education requires extensive classroom work and hundreds of supervised patient encounters involving manipulation. Previous reports estimate that chiropractors provide over 94% of the spinal manipulation treatments in the U.S.[63]

Relationship between Chiropractic Care, Opioids and Other Interventions

One important reason to consider chiropractic care is that it may prevent patients from receiving other types of treatments that have greater risk and higher cost. Studies have shown that patients with spinal pain conditions who receive chiropractic care are less likely to receive opioids.[64,65,66] For spine-related conditions, early access to chiropractic services correlates with decreased chronic work disability, advanced imaging, spinal injections, elective lumbar surgery, and overall health care expenditures.[67,68,69,70,71] Data from United Healthcare on over 4 million episodes of care for non-surgical spine conditions shows that patients who never see a DC have double the total episode cost ($1,309 vs. $654) and are much more likely to receive an opioid prescription (13.3% vs. 4.8%) or an unnecessary MRI (48.7% vs. 26.2%) than patients who see a DC as the initial clinician for that problem.

Whole Health Tool: Massage

What Is It?

Massage has been used since before recorded history, and it remains a popular CIH approach. Therapeutic massage (massage to help with specific indications) is on the VA Integrative Health Coordinating Center's (IHCC) List I (see Chapter 14). It is mandated that therapeutic massage will be available in all VA facilities, and sites continue to explore how it will be made available and under what circumstances. The Massage Therapist Qualification Standard was released in March 2019.[72]

In 2012, 6.9% of Americans had experienced some form of massage in the past year.[73] Use in people with pain is much higher; a Canadian study reported that 56% of patients with nonspecific chronic back pain and 48% with arthritis or other musculoskeletal disorders had used it over the last 12 months.[74] Aside from mind-body approaches and animal-assisted therapies, massage is currently one of the most widely available complementary approaches used in the VA. In 2015, 52 of 131 (40%) of sites surveyed reported offering some form of massage therapy to their Veterans.[15]

Massage therapist training and licensing standards vary greatly from state to state.[75] There is also variability from school to school. Common certifications you will see after a therapist's name include CMT (certified massage therapist) and LMT (licensed massage therapist). CAMT stands for "certified acupressure massage therapist."

Types of Massage Therapy

Massage therapy has been defined as "the systematic manipulation of soft tissue with the hands that positively affects and promotes healing, reduces stress, enhances muscle relaxation, improves local circulation, and creates a sense of well-being." Types of massage therapy include the following[76,77,78]:

- **Swedish massage (and similar schools)** involves stroking and kneading the body using various methods. 5 basic massage techniques are used, including:
    - **Effleurage**—stroking with various degrees of pressure. This is what most people think of when they think of a massage.
    - **Petrissage**—a kneading motion, done with the fingers and thumbs in a circular pattern
    - **Tapotement**—rhythmic, vigorous tapping or slapping done to stimulate deep tissues
    - **Friction**—use of the palm, forearm, heel of the hand, or even the elbows to roll, ring, and compress tissue
    - **Vibration**—can be done using hands or using a machine
- **Shiatsu** is based on massaging over trigger points and pressure points. Therapists most commonly use the balls of their thumbs and follow points called tsubos, which are often pressed or held, and correlate with acupuncture points.
- **Neuromuscular massage** involves applying pressure throughout the body, not just in areas that are sore. Pressure is usually much higher than other forms of massage therapy. Neuromuscular therapy (or neuromuscular technique) involves a careful

examination and manipulation of the soft tissues of a specific area of the body. It is often used to treat chronic pain.
- **Visceral massage** involves the gentle manipulation of the visceral organs of the abdomen and pelvis. Mayan abdominal massage, which has been passed down for centuries, is one example.

How Massage Works

Massage is thought to reduce the effects of stress on the muscles and to ease tension and correct unhealthy postures, all of which can contribute to chronic disease in various ways. Massage therapy's healing benefits are thought by many to occur, at least in part, through the movement of the fascia, the net of connective tissue that surrounds the muscles and other tissues. When the fascial network is subjected to an injury or stress, resultant adaptations by the body (shifts in how the body carries itself, for example) can have widespread health consequences. Massage therapy and other touch therapies are thought to restore fascial balance.[16]

Even back as 2004, a meta-analysis of 37 studies found that a single massage therapy session led to the following[79]:

- Reduced anxiety and depression (multiple sessions were actually found to have comparable benefits to psychotherapy)
- Lowered blood pressure
- Decreased heart rate

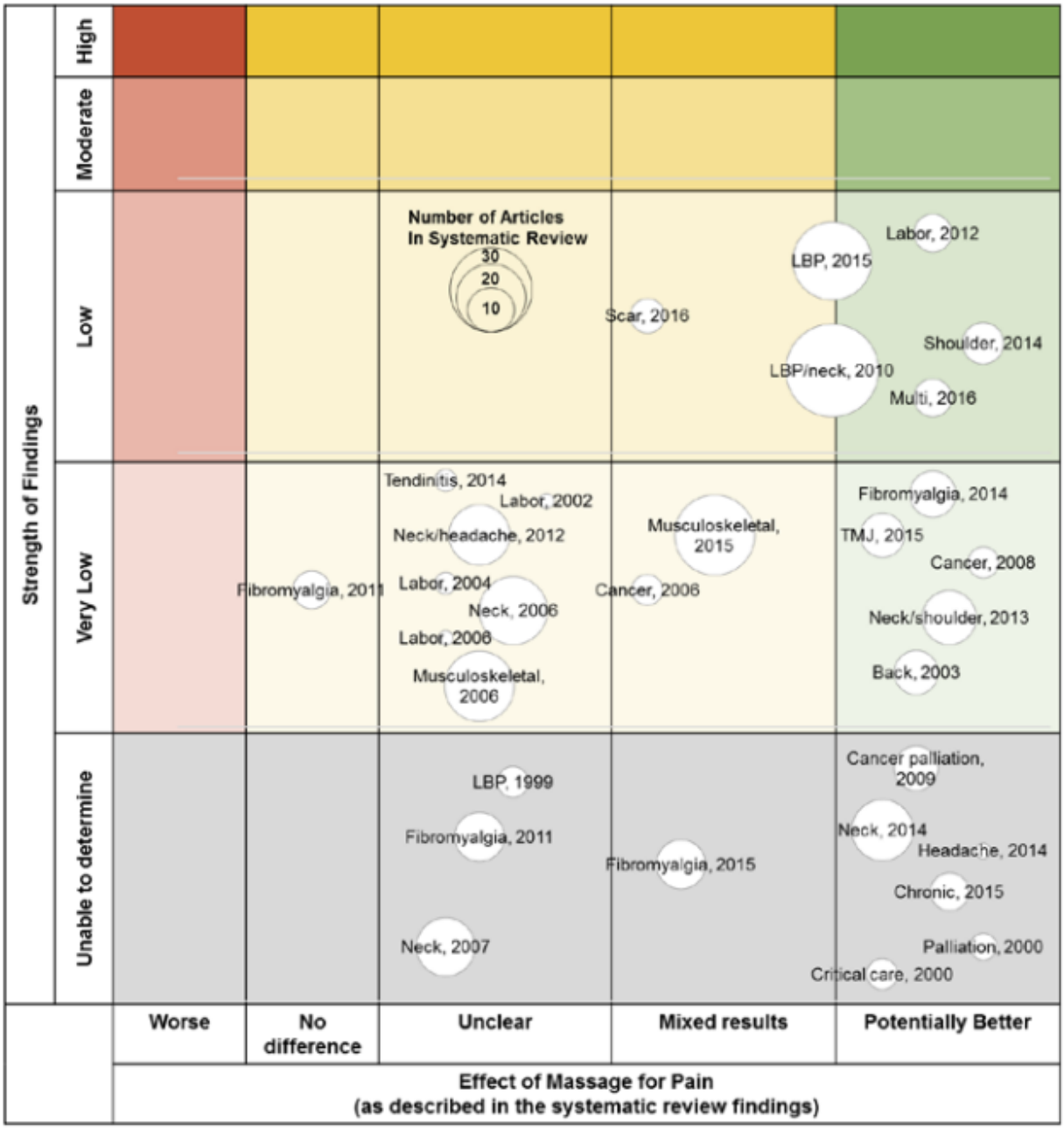
Single sessions were not found to immediately reduce pain, improve mood, or lower cortisol levels, but repeated sessions were noted to reduce pain.

When to Use It

Figure 16-1 demonstrates the QUERI evidence map on massage therapy, which covers research through February 2016.[80] Note that the farther up and to the right a given condition's circle is, the more favorable the literature is for massage for being beneficial. Note the following:

- The best support is for lower back pain, neck pain, shoulder pain, labor, and pain in multiple areas
- There are weaker findings supporting potential benefits for TMK, fibromyalgia, cancer pain, and neck/shoulder pain.

Figure 2. Evidence Map of Systematic Reviews Describing the Effect of Massage for Pain



LBP = low back pain, TMJ = temporomandibular disorder; Multi = multiple conditions described

Figure 16-1. Evidence Map of Massage Therapy[80]

It can be helpful to go into more detail as far as research findings.

Pain. Pain is one of the main reasons people use massage, and research favors massage for many aspects of pain control.

- **General pain**. A 2016 review of 60 high- and 7 low-quality studies concluded that massage therapy should be strongly recommended as a pain management option, compared to no treatment. It also "weakly recommended" massage for improving mood and health-care related quality of life.[75] A review of 26 trials found that massage therapy, as a stand-alone treatment, reduces pain and improves function in some musculoskeletal conditions (back pain, knee arthritis, shoulder pain), but did not show a clear benefit when compared to other active treatments.[81] Another 2016 review of 16 studies found weak evidence of benefit for pain and
- **Back pain**. A 2015 Cochrane review of 25 trials did not find massage to be an effective low back pain treatment, though in the short term people reported benefits.[82]
- **Neck pain**. A 2014 meta-analysis concluded that there is moderate evidence supporting that massage therapy improves neck pain, but not dysfunction (e.g. limited range of motion).[83]
- **Post-surgical pain**. A 2016 review of 12 high- and 4 low-quality studies found enough data to "weakly recommend" massage for reducing pain and anxiety in patients undergoing surgical procedures.[84] A 2017 review of 10 studies including 1,157 patients found that massage therapy may alleviate post-operative pain, though methodological quality of studies was low.[85] Another review found it serves as a useful adjunct to medications for reducing post-cardiac surgery pain intensity.[86]
- **Cancer pain**. A 2016 review of 16 studies found that "...weak recommendations are suggested for massage therapy, compared to an active comparator, for the treatment of pain, fatigue, and anxiety."[84] A 2105 meta-analysis of 12 studies with 559 participants concluded, "massage significantly reduces cancer pain compared to no massage or conventional care."[87] Reflexology, which includes foot massage, was found to have more of an effect than aromatherapy or body massage. In contrast to these results, a Cochrane review concluded that overall, studies were too small to draw a conclusion.[88]
- **Arthritis**. A 2017 review found seven small trials involving 352 people which concluded there is low- to moderate-quality evidence supporting massage over non-active therapies for improving osteoarthritis or rheumatoid arthritis outcomes.[89]
- **Fibromyalgia**. A unique 2015 study looked at which types of massage therapy were most helpful in fibromyalgia.[90] (Many studies do not differentiate the types of massage used when data is compiled.) It was found that "myofascial release had large, positive effects on pain and medium effects on anxiety and depression." Shiatsu and connective tissue massage also improved several outcomes, but Swedish massage was not found to do so. Another 2014 meta-analysis of nine trials involving 404 patients with fibromyalgia found that treatment with massage therapy for five weeks or longer led to immediate and lasting improvements in pain, depression, and anxiety.[91]

Blood Pressure. A 2014 systematic review concluded that massage therapy combined with anti-hypertensives was more effective than the drugs alone for lowering blood pressure.[92] Reduction of systolic pressure averaged about 7 points, and 3.6 points for diastolic pressures. However, overall quality of the studies was poor. There are a number of theories surrounding how massage affects blood pressure, including that it may decrease sympathetic nervous system activity and alter adrenal cortex activity.[93]

Other Indications. While more research is needed, massage therapy's overall safety and broad availability make it a worthwhile approach to consider. Natural Medicines, which summarizes research for given therapeutic approaches, rates massage as "Likely Effective" for back pain and cancer related pain and "Possibly Effective for ADHD, fibromyalgia, labor pain, low birth weight, and stress. The verdict is still out for many other conditions, including alcoholism, asthma, carpal tunnel syndrome, dementia, diabetes, headache, multiple sclerosis, osteoarthritis, Parkinson's, premenstrual dysphoric disorder, rheumatoid arthritis, and other types of pain.[94]

A wide-ranging 2016 review concluded that massage therapy "...has been shown to have beneficial effects on varying conditions including prenatal depression, preterm infants, full-term infants, autism, skin conditions, pain syndromes including arthritis and fibromyalgia, hypertension, autoimmune conditions including asthma and multiple sclerosis, immune conditions including HIV, and breast cancer and aging problems including Parkinson's and dementia."[95] A 2018 review of 8 trials with 657 participants found that acupoint massage likely maintains cognitive function in older adults.[96]

What to Watch Out for (Harms)

When done by a skilled therapist, massage therapy is quite safe.[82] Contraindications to massage, according to some therapists, include the following[76]:

- Infectious or contagious skin conditions
- Acute inflammation (e.g. rheumatoid arthritis, appendicitis)
- Massage near open skin wounds, burns, or other friable tissues
- Varicose veins and venous inflammation (thrombophlebitis)
- Sites of tumors or metastases. Even though it is unlikely that massaging an area with cancer would be any more likely to cause metastases to split off than exercise would, many practitioners recommend avoiding direct massage of cancerous areas
- Low bone density (for techniques that use high pressure)
- Coagulopathies that would result in massage therapy causing severe bruising
- Risk of recurrent bleeding at a site that has recently been injured or traumatized

A good therapist will always clarify whether there are any particularly vulnerable places, or places where a person simply prefers not to be touched. Appropriate draping should always be practiced.

In conclusion, when you are helping Veterans to create Personal Health Plans (PHPs), keep body-based therapies in mind. They can be useful for many different patient issues.

Manipulative and Body-Based Therapy Resources

Websites

VA Whole Health Website

- National CIH Subject Matter Experts
  - Chiropractic: Anthony Lisi. Anthony.Lisi@va.gov
  - Massage Therapy: Sharon Weinstein. Sharon.Weinstein@va.gov
- Chiropractic Care. http://vaww.rehab.va.gov/CS/index.asp

Other Websites

- The Complete Guide to the Alexander Technique. https://www.alexandertechnique.com/at.htm
- Feldenkrais Guild of North America. www.feldenkrais.com
- Massage
  - National Certification Board for Therapeutic Massage and Bodywork. http://www.ncbtmb.org
  - American Massage Therapy Association (AMTA) Research Roundup. http://www.amtamassage.org/research/Massage-Therapy-Research-Roundup.html?src=navdropdown
  - Associated Bodywork and Massage Professionals. https://www.abmp.com/.
  - National Institutes of Health, National Center for Complementary and Integrative Health (NCCIH). Massage therapy info for patients. https://nccih.nih.gov/health/massage/massageintroduction.htm
- NCCIH, Chiropractic and Spinal Manipulation https://nccih.nih.gov/health/chiropractic
- American Chiropractic Association. https://www.acatoday.org
- American Osteopathic Association (AOA). https://osteopathic.org
- American Association of Colleges of Osteopathic Medicine (AACOM). https://www.aacom.org

Books

- *Atlas of Osteopathic Techniques*, Alexander Nicholas (2015)
- *Basic Clinical Massage Therapy: Integrating Anatomy and Treatment*, James Clay (2008)
- *Body, Breath, and Being: A New Guide to the Alexander Technique*, Carolyn Nicholls (2014)
- *Chiropractic Technique: Principles and Procedures*, Thomas Bergmann (2010)
- *Feldenkrais: The Busy Person's Guide to Easier Movement*, Frank Wildman (2006)
- *Myofascial Pain and Dysfunction, Volume 1*, David Simons (1998). Excellent resource for strain-counterstrain
- *Myofascial Pain and Dysfunction, Volume 2*, Janet Travell (1992)
- *Osteopathic and Chiropractic Techniques for manual Therapists: A Comprehensive Guide to Spinal and Peripheral Manipulations*, Giles Gyer (2017)
- *Osteopathic Techniques: The Learner's Guide*, Sharon Gustowski (2017)

- *Somatic Dysfunction in Osteopathic Family Medicine*, Kenneth E. Nelson (2014)
- *The World's Best Massage Techniques: The Complete Illustrated Guide to Eastern and Western Techniques*, Victoria Stone (2010)

Special thanks to Amy Bauman, MD who wrote the original Whole Health Library tool on Osteopathy that inspired the content of the Osteopathy section.

The section on Chiropractic Care was contributed by Anthony J. Lisi, DC, Director, VHA Chiropractic Service, and Section Chief, Chiropractic Service, VA Connecticut Healthcare System.

References

[1] The Complete Guide to the Alexander Technique. Alexander Technique website. www.alexandertechnique.com. Accessed July 30, 2019.
[2] Klein SD, Bayard C, Wolf U. The Alexander Technique and musicians: a systematic review of controlled trials. *BMC Complement Altern Med.* 2014;14:414. doi: 10.1186/1472-6882-14-414.
[3] Woodman JP, Moore NR. Evidence for the effectiveness of Alexander Technique lessons in medical and health-related conditions: a systematic review. *Int J Clin Pract.* 2012;66(1):98-112. doi: 10.1111/j.1742-1241.2011.02817.x.
[4] MacPherson H, Tilbrook H, Richmond S, et al. Alexander technique lessons or acupuncture sessions for persons with chronic neck pain: a randomized trail. *Ann Intern Med.* 2015;163(9):653-62. doi: 10.7326/M15-0667.
[5] Becker JJ, Copeland SL, Botterbusch EL, Cohen RG. Preliminary evidence for feasibility, efficacy, and mechanisms of Alexander technique group classes for chronic neck pain. *Complement Ther Med*. 2018;39:80-86.
[6] MacPherson H, Tilbrook H, Richmond S, et al. Alexander technique lessons or acupuncture sessions for persons with chronic neck pain: a randomized trial. *Ann Intern Med.* 2015;163(9):653-662.
[7] About the Feldenkrais Method. Feldenkrais Method website. https://www.feldenkrais.com/about-the-feldenkrais-method/. Published 2017. Accessed July 30, 2019.
[8] Hillier S, Worley A. The effectiveness of the Feldenkrais method: a system review of the evidence. *Evid Based Complement Alternat Med.* 2015;2015:752160. doi: 10.1155/2015/752160. Epub 2015 Apr 8.
[9] Teixeira-Machado L, Araújo FM, Cunha FA, Menezes M, Menezes T, Melo DeSantana J. Feldenkrais method-based exercise improves quality of life in individuals with Parkinson's disease: a controlled randomized clinical trail. *Altern Ther Health Med.* 2015;21(1):8-14.
[10] Paolucci T, Zangrando F, Iosa M, et al. Improved interoceptive awareness in chronic low back pain: a comparison of Back school versus Feldenkrais method. *Diasbil Rehabil.* 2017;39(10):994-1001. doi: 10.1080/09638288.2016.1175035. Epub 2016 May 23.
[11] What is osteopathic medicine? American Association of Colleges of Osteopathic Medicine Website. http://www.aacom.org/about/osteomed/Pages/default.aspx. Accessed July 30, 2019.
[12] U.S. Colleges of Osteopathic Medicine. American Association of Coleges of Osteopathic Medicine website. https://www.aacom.org/become-a-doctor/us-coms. Published 2018. Accessed July 30, 2019.
[13] Profession adds 6,000 new DOs in 2017: the number of DOs is on the rise-and it's projected to keep climbing. OMP Report website. https://osteopathic.org/about/aoa-statistics/. Published 2018. Accessed July 30, 2019.
[14] Earley BE, Luce H. An introduction to clinical research in osteopathic medicine. *Prim Care*. 2010;37(1):49-64. doi: 10.1016/j.pop.2009.09.001.
[15] Healthcare Analysis and Information Group (HAIG). *FY 2015 VHA Complementary and Integrative Health (CIH) Services (formerly CAM).* Department of Veterans Affairs, Veterans Health Administration. https://sciencebasedmedicine.org/wp-content/uploads/2016/07/FY2015_VHA_CIH_signedReport.pdf. Accessed July 30, 2019.

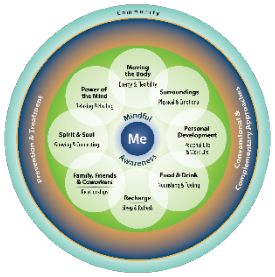
[16] Seffinger M, King H, Ward R, Jones J, Rogers F, Patterson M. Osteopathic philosophy. In: Chila A, ed. *Foundations of Osteopathic Medicine*. 3rd ed. Philadelphia: Wolters Kluwer; 2011.
[17] Noll DR, Degenhardt BF, Morley TF, et al. Efficacy of osteopathic manipulation as an adjunctive treatment for hospitalized patients with pneumonia: a randomized controlled trial. *Osteopath Med Prim Care.* 2010;4:2. doi: 10.1186/1750-4732-4-2.
[18] Bialosky JE, Beneciuk JM, Bishop MD, et al. Unraveling the mechanisms of manual therapy: modeling an approach. *J Orthop Sports Phys Ther.* 2018;48(1):8-18.
[19] Aspinall SL, Leboeuf-Yde C, Etherington SJ, Walker BF. Manipulation-induced hypoalgesia in musculoskeletal pain populations: a systematic critical review and meta-analysis. *Chiropr Man Therap.* 2019;27:7.
[20] Sampath KK, Botnmark E, Mani R, et al. Neuroendocrine response following a thoracic spinal manipulation in healthy men. *J Orthop Sports Phys Ther.* 2017;47(9):617-627. doi: 10.2519/jospt.2017.7348. Epub 2017 Jul 13.
[21] Zegarr-Parodi R, Pazdernik VK, Roustit M, Park PY, Degenhardt BF. Effects of pressure applied during standardized spinal mobilization on peripheral skin blood flow: a randomized cross-over study. *Man Ther.* 2016;21:220-6. doi: 10.1016/j.math.2015.08.008. Epub 2015 Aug 28.
[22] Childs JD, Fritz JM, Flynn TW, et al. A clinical prediction rule to identify patients with low back pain most likely to benefit from spinal manipulation: a validation study. *Ann Intern Med*. 2004;141(12):920-928.
[23] Rubinstein SM, de Zoete A, van Middelkoop M, Assendelft WJJ, de Boer MR, van Tulder MW. Benefits and harms of spinal manipulative therapy for the treatment of chronic low back pain: systematic review and meta-analysis of randomised controlled trials. *BMJ*. 2019;364:l689. doi: 10.1136/bmj.l689.
[24] Paige NM, Maike-Lye IM, Booth MS, et al. Association of spinal manipulative therapy with clinical benefit and harm for acute low back pain: systematic review and meta-analysis. *JAMA.* 2017;317(14):1451-1460. doi: 10.1001/jama.2017.3086.
[25] Chou R, Deyo R, Friedly J, et al. Nonpharmacologic therapies for low back pain: a systematic review for an American college of Physicians clinical practice guideline. *Ann Intern Med.* 2017;166(7):493-505. doi: 10.7326/M16-2459. Epub 2017 Feb 14.
[26] Qaseem A, Wilt TJ, McLean RM, Forciea MA, Clinical guidelines committee of the American College of Physicians. Noninvasive treatments for acute, subacute, and chronic low back pain: a clinical practice guideline from the American college of physicians. *Ann Intern Med.* 2017;166(7):514-530. doi: 10.7326/M16-2367. Epub 2017 Feb 14.
[27] Chou R, Deyo R, Friedly J, et al. *Noninvasive Treatments for Low Back Pain.* Rockville, MD: Agency for Healthcare Research and Quality (US); 2016.
[28] Franke H, Franke JD, Fryer G. Osteopathic manipulative treatment for nonspecific low back pain: a systematic review and meta-analysis. *BMC Musculoskelet Disord.* 2014;15:286. doi: 10.1186/1471-2474-15-286.
[29] Blanchette MA, Stochendahl MJ, Borges Da Silva R, Boruff J, Harrison P, Bussières A. Effectiveness and economic evaluation of chiropractic care for the treatment of low back pain: a systematic review of pragmatic studies. *PLoS One.* 2016;11(8):e0160037. doi: 10.1371/journal.pone.0160037. eCollection 2016.
[30] Schwerla F, Bischoff A, Nuernberger A, Genter P, Guillaume J, Resch K. Osteopathic treatment of patients with chronic non-specific neck pain: a randomised controlled trial of efficacy. *Forsch Komplementärmed*. 2008;15(3):138-145. doi: 10.1159/000132397. Epub 2008 Jun 4.
[31] Williams NH, Wilkinson C, Russell I, et al. Randomized osteopathic manipulation study (ROMANS): pragmatic trial for spinal pain in primary care*. Fam Pract*. 2003;20(6):662-669.
[32] Bronfort G, Evans R, Anderson AV, Svendsen KH, Bracha Y, Grimm RH. Spinal manipulation, medication, or home exercise with advice for acute and subacute neck pain: a randomized trial. *Ann Intern Med*. 2012;156(1_Part_1):1-10. doi: 10.7326/0003-4819-156-1-201201030-00002.
[33] Haas M, Spegman A, Peterson D, Aickin M, Vavrek D. Dose response and efficacy of spinal manipulation for chronic cervicogenic headache: a pilot randomized controlled trial. *Spine J*. 2010;10(2):117-128. doi: 10.1016/j.spinee.2009.09.002.
[34] Upledger JE. Craniosacral therapy. *Phys Ther*. 1995;75(4):328-330.
[35] Chaibi A, Tuchin PJ, Russell MB. Manual therapies for migraine: a systematic review. *J Headache Pain*. 2011;12(2):127-133. doi: 10.1007/s10194-011-0296-6. Epub 2011.
[36] Bryans R, Descarreaux M, Duranleau M, et al. Evidence-based guidelines for the chiropractic treatment of adults with headache. *J Manipulative Physiol Ther*. 2011;34(5):274-289. doi: 10.1016/j.jmpt.2011.04.008.

[37] Ajimsha MS. Effectiveness of direct vs indirect technique myofascial release in the management of tension-type headache. *J Bodyw Mov Ther.* 2011;15(4):431-5. doi: 10.1016/j.jbmt.2011.01.021. Epub 2011 Feb 11.
[38] Anderson RE, Seniscal C. A comparison of selected osteopathic treatment and relaxation for tention-type headaches. *Headache.* 2006;46(8): 1273-1280.
[39] Schabert E, Crow WT. Impact of osteopathic manipulative treatment on cost for patients with migraine headache: a retrospective review of patient records. *J Am Osteopath Assoc.* 2009;109(8):403-407.
[40] Racca V, Bordoni B, Castiglioni P, Modica M, Ferratini M. Osteopathic manipulative treatment improves heart surgery outcomes. A randomized controlled trial. *Ann Thorac Surg.* 2017;104(1):145-152. doi: 10.1016/j.athoracsur.2016.09.110. Epub 2017 Jan 18.
[41] Yao S, Hassani J, Gagne M, George G, Gilliar W. Osteopathic manipulative treatment as a useful adjunctive tool for pneumonia. *J Vis Exp.* 2014;(87). doi: 10.3791/50687.
[42] Licciardone JC, Aryal S. Prevention of progressive back-specific dysfunction during pregnancy: an assessment of osteopathic manual treatment based on Cochrane Back Review Group criteria. *J Am Osteopath Assoc.* 2013;113(10):728-736. doi: 10.7556/jaoa.2013.043.
[43] Licciardone JC, Buchanan S, Hensel KL, King HH, Fulda KG, Stoll ST. Osteopathic manipulative treatment of back pain and related symptoms during pregnancy: a randomized controlled trial. *Am J Obstet Gynecol.* 2010;202(1):43.e41-48. doi: 10.1016/j.ajog.2009.07.057.
[44] King HH, Tettambel MA, Lockwood MD, Johnson KH, Arsenault DA, Quist R. Osteopathic manipulative treatment in prenatal care: a retrospective case control design study. *J Am Osteopath Assoc.* 2003;103(12):577-582.
[45] Gamber RG, Shores JH, Russo DP, Jimenez C, Rubin BR. Osteopathic manipulative treatment in conjunction with medication relieves pain associated with fibromyalgia syndrome: results of a randomized clinical pilot project. *J Am Osteopath Assoc.* 2002;102(6):321-325.
[46] Senstad O, Leboeuf-Yde C, Borchgrevink C. Frequency and characteristics of side effects of spinal manipulative therapy. *Spine*. 1997;22(4):435-440.
[47] Gibbons P, Tehan P. HVLA thrust techniques: what are the risks? *Int J Osteopath Med.* 2006;9(1):4-12.
[48] Boline P, Kassak K, Bronfort G, Nelson C, Anderson A. Spinal manipulation vs. amitriptyline for the treatment of chronic tension-type headaches: a randomized clinical trial. *J Manipulative Physiol Ther*. 1995;18(3):148-154.
[49] Gouveia LO, Castanho P, Ferreira JJ. Safety of chiropractic interventions: a systematic review. *Spine*. 2009;34(11):E405-E413. doi: 10.1097/BRS.0b013e318a16d63.
[50] Nielsen SM, Tarp S, Christensen R, Bliddal H, Klokker L, Henriksen M. The risk associated with spinal manipulation: an overview of reviews. *Syst Rev.* 2017;6(1):64. doi: 10.1186/s13643-017-0458-y.
[51] Nahin RL, Barnes PM, Stussman BJ, Bloom B. Costs of complementary and alternative medicine (CAM) and frequency of visits to CAM practitioners: United States, 2007. *Natl Health Stat Report.* 2009;(18):1-14.
[52] Weeks WB, Goertz CM, Meeker WC, Marchiori DM. Public perceptions of doctors of chiropractic: results of a national survey and examination of variation according to respondents' likelihood to use chiropractic, experience with chiropractic, and chiropractic supply in local health care markets. *J Manipulative Physiol Ther.* 2015;38(8):533-544. doi: 10.1016/j.jmpt.2015.08.001. Epub 2015 Sep 8.
[53] Breuer B, Cruciani R, Portenoy RK. Pain management by primary care physicians, pain physicians, chiropractors, and acupuncturists: a national survey. S*outh Med J.* 2010;103(8):738-747. doi: 10.1097/SMJ.0b013e3181e74ede.
[54] Dunn AS, Green BN, Gilford S. An analysis of the integration of chiropractic services within the United States military and veterans' health care systems. *J Manipulative Physiol Ther.* 2009;32(9):749-757. doi: 10.1016/j.jmpt.2009.10.009.
[55] Joint Commission Online. Joint Commission website. http://www.jointcommission.org/assets/1/23/jconline_November_12_14.pdf. November 12, 2014. Accessed July 30, 2019.
[56] Meeker WC, Haldeman S. Chiropractic: a profession at the crossroads of mainstream and alternative medicine. *Ann Intern Med.* 2002;136(3):216-227.
[57] Accredited Doctor of Chiropractic Programs/Institutions. CCE The council on Chiropractic Education website. http://www.cce-usa.org/dcp-info.html. Accessed July 30, 2019.
[58] Kanodia AK, Legedza AT, Davis RB, Eisenberg DM, Phillips RS. Perceived benefit of complementary and alternative medicine (CAM) for back pain: a national survey. *J Am Board Fam Med.* 2010;23(3):354-362. doi: 10.3122/jabfm.2010.03.080252.

[59] Lisi AJ, Khorsan R, Smith MM, Mittman BS. Variations in the implementation and characteristics of chiropractic services in VA. *Med Care.* 2014;52(12 Suppl 5):S97-104. doi: 10.1097/MLR.0000000000000235.
[60] Lisi AJ, Brandt CA. Trends in the use and characteristics of chiropractic services in the Department of Veterans Affairs. *J Manipulative Physiol Ther.* 2016;39(5):381-386. doi: 10.1016/j.jmpt.2016.04.005.
[61] Hurwitz EL, Carragee EJ, van der Velde G, et al. Treatment of neck pain: noninvasive interventions: results of the Bone and Joint Decade 2000-2010 Task Force on Neck Pain and its Associated Disorders. *Spine (Phila Pa 1976).* 2008;33(4 Suppl):S123-152. doi: 10.1097/BRS.0b013e3181644b1d.
[62] Guzman J, Haldeman S, Carroll LJ, et al. Clinical practice implications of the bone and joint decade 2000-2010 task force on neck pain and its associated disorders: from concepts and findings to recommendations. *Spine (Phila Pa 1976).* 2008;33(4 Suppl):S199-213. doi: 10.1097/BRS.0b013e3181644641.
[63] Shekelle PG, Adams AH, Chassin MR, Hurwitz EL, Brook RH. Spinal manipulation for low-back pain. *Ann Intern Med.* 1992;117(7):590-598.
[64] Rhee Y, Taitel MS, Walker DR, Lau DT. Narcotic drug use among patients with lower back pain in employer health plans: a retrospective analysis of risk factors and health care services. *Clin Ther.* 2007;29 Suppl:2603-2612. doi: 10.1016/j.clinthera.2007.12.006.
[65] Franklin GM, Rahman EA, Turner JA, Daniell WE, Fulton-Kehoe D. Opioid use for chronic low back pain: a prospective, population-based study among injured workers in Washington state, 2002-2005. *Clin J Pain* 2009;25(9):743-51. doi: 10.1097/AJP.0b013e3181b01710.
[66] Vogt MT, Kwoh CK, Cope DK, Osial TA, Culyba M, Starz TW. Analgesic usage for low back pain: impact on health care costs and service use. *Spine* 2005;30(9):1075-1081.
[67] Turner JA, Franklin G, Fulton-Kehoe D, et al. ISSLS prize winner: early predictors of chronic work disability: a prospective, population-based study of workers with back pain. *Spine* 2008;33(25): 2809-2818 doi: 10.1097/BRS.0b013e31817df7a7.
[68] Keeney BJ, Fulton-Kehoe D, Turner JA, Wickizer TM, Chan KC, Franklin GM. Early predictors of lumbar spine surgery after occupational back injury: results from a prospective study of workers in Washington State. *Spine (Phila PA 1976).* 2013;38(11):953-964 doi: 10.1097/BRS.0b013e3182814ed5.
[69] Martin BI, Gerkovich MM, Deyo RA, et al. The association of complementary and alternative medicine use and health care expenditures for back and neck problems. *Med Care.* 2012;50(12):1029-36. doi: 10.1097/MLR.0b013e318269e0b2.
[70] Kosloff TM, Elton D, Shulman SA, Clarke JL, Skoufalos A, Solis A. Conservative spine care: opportunities to improve the quality and value of care. *Popul Health Manag.* 2013;16(6):390-6. doi: 10.1089/pop.2012.0096. Epub 2013 Aug 21.
[71] Allen H, Wright M, Craig T, et al. Tracking low back problems in a major self-insured workforce: toward improvement in the patient's journey. *J Occup Environ Med.* 2014;56(6):604-20. doi: 10.1097/JOM.0000000000000210.
[72] Health Technician (Massage Therapy) Qualification Standard., GS-0640. VA Handbook 5005/108. VA Pulications Handbooks website. https://www.va.gov/vapubs/search_action.cfm?dType=2. Accessed August 1, 2019.
[73] Clarke TC, Black LI, Stussman BJ, Barnes PM, Nahin RL. Trends in the use of complementary health approaches among adults: United States, 2002-2012. *Natl Health Stat Report.* 2015;(79):1-16.
[74] Foltz V, St. Pierre Y, Rozenberg S, et al. Use of complementary and alternative therapies by patients with self-reported chronic back pain: a nationwide survey in Canada. *Joint Bone Spine.* 2005;72(6): 571-577. Epub 2005 Sep 7.
[75] Crawford C, Boyd C, Paat CF, et al. The impact of massage therapy on function in pain populations-a systematic review and meta-analysis of randomized controlled trials: part I, patients experiencing pain in the general population. *Pain Med.* 2016;17(7):1353-1375. doi: 10.1093/pm/pnw099.
[76] Field T. Massage therapy. In: Jonas WB, Levin JS, eds. *Essentials of Complementary and Alternative Medicine.* Baltimore, MD: Lippincott, Williams & Wilkins; 1999.
[77] Coughlin P, Delaney J. Massage and touch therapies. In: Micozzi M, ed. *Fundamentals of Complementary and Alternative Medicine.* 4th ed. St. Louis, MO: Sunders Elsevier; 2011.
[78] Vickers A, Zollman C. Massage therapies. *BMJ.* 319.7219(1999): 1254-1257.
[79] Moyer CA, Rounds J, Hannum JW. A meta-analysis of massage therapy research. *Psychol Bull.* 2004;130(1):3-18.

[80] Miake-Lye IM, Mak S, Lee J, et al. Massage for pain: an evidence map. *J Altern Complement Med.* 2019;25(5):475-502.
[81] Bervoets DC, Luijsterburg PA, Alessie JJ, Buijs MJ, Verhagen AP. Massage therapy has short-term benefits for people with common musculoskeletal disorders compared to no treatment: a systematic review. *J Physiother.* 2015;61(3):106-16. doi: 10.1016/j.jphys.2015.05.018. Epub 2015 Jun 17.
[82] Furlan AD, Giraldo M, Baskwill A, Irvin E, Imamura M. Massage for low-back pain. *Cochrane Database Syst Rev.* 2015;(9):CD001929. doi: 10.1002/14651858.CD001929.pub3.
[83] Cheng YH, Huang GC. Efficacy of massage therapy on pain and dysfunction in patients with neck pain: a systematic review and meta-analysis. *Evid Based Complement Alternat Med.* 2014. doi: 10.1155/2014/204360.
[84] Boyd C, Crawford C, Paat CF, et al. The impact of massage therapy on function in pain populations-a systematic review and meta-analysis of randomized controlled trials: part III, surgical pain populations. *Pain Med.* 2016;17(9):1757-1772. doi: 10.1093/pm/pnw101. Epub 2016 May 10.
[85] Kukimoto Y, Ooe N, Ideguchi N. The effect of massage therapy on pain and anxiety after surgery: a systematic review and meta-analysis. *Pain Manag Nurs.* 2017;18(6):378-390. doi: 10.1016/j.pmn.2017.09.001.
[86] Boitor M, Gélinas C, Richard-Lalonde M, Thombs BD. The effect of massage on acute postoperative pain in critically and acutely ill adults post-thoracic surgery: systematic review and meta-analysis of randomized controlled trials. *Heart Lung.* 2017;46(5):339-346. doi: 10.1016/j.hrtlng.2017.05.005. Epub 2017 Jun 12.
[87] Lee SH, Kim JY, Yeo S, Kim SH, Lim S. Meta-analysis of massage therapy on cancer pain. *Integr Ther.* 2015;14(4):297-304. doi: 10.1177/1534735415572885. Epub 2015 Mar 17.
[88] Shin ES, Seo KH, Lee SH, et al. Massage with or without aromatherapy for symptom relief in people with cancer. *Cochrane Database Syst Rev.* 2016;(6):CD009873. doi: 10.1002/14651858.CD009873.pub3.
[89] Nelson NL, Churilla JR. Massage therapy for pain and function in patients with arthritis: a systematic review of randomized controlled trials. *Am J Phys Med Rehabil.* 2017;96(9):665-672. doi: 10.1097/PHM.0000000000000712.
[90] Yuan SL, Matsutani LA, Margues AP. Effectiveness of different styles of massage therapy in fibromyalgia: a systematic review and meta-analysis. *Man Ther.* 2015;20(2):257-64. doi: 10.1016/j.math.2014.09.003. Epub 2014 Oct 5.
[91] Li Y-h, Wang F-y, Feng C-q, Yang X-f, Sun Y-h. Massage therapy for fibromyalgia: a systematic review and meta-analysis of randomized controlled trials. *PLoS One.* 2014;9(2):e89304.
[92] Xiong X, Li S, Zhang Y. Massage therapy for essential hypertension: a systematic review. *J Hum Hypertens*. 2015. doi: 10.1038/jhh.2014.52. Epub 2014 Jul 3.
[93] Nelson NL. Massage therapy: understanding the mecchanisms of action on blood pressure. A scoping review. *J Am Soc Hypertens.* 2015;9(10):785-793. doi: 10.1016/j.jash.2015.07.009. Epub 2015 Jul 30.
[94] Massage. Natural Medicines websites. https://naturalmedicines.therapeuticresearch.com/databases/health-wellness/professional.aspx?productid=1303. Published April 20, 2018. Accessed July 30, 2019.
[95] Field, T. Massage therapy research review. *Complement Ther Clin Pract.* 2016;24:19-31. doi: 10.1016/j.ctcp.2016.04.005. Epub 2016 Apr 23.
[96] Fang L, Cuiling S, Yao L, Li Z. Acupoint massage for managing cognitive alternations in older adults: a systematic review and meta-analysis. *J Altern Complement Med.* 2018;24(6):532-540.

Chapter 17. Energy Medicine: Biofield Therapies



E=mc²

—Albert Einstein

What Is a Biofield Therapy?

According to one quite-inclusive definition, "The term energy medicine derives from the perceptions and beliefs of therapists and patients that there are subtle, biologic energies that surround and permeate the body. It is suggested that these energies may be accessed in various ways…for diagnostic and therapeutic interventions."[1]

Biofield therapies are based on the idea that beyond being surrounded by energy and vibration, we *are* energy and vibration. The nature of how energy, physical reality, and consciousness interconnect is one of the great mysteries of human existence; quantum physics offers some hints about these relationships, but we have much to learn. Dozens, if not hundreds, of different cultures and traditions worldwide have words in their languages for life energy and have created healing systems that are based on its existence. Names for this force include qi, chi, prana, pneuma, fohat, mana, and orgone. Energy medicine is central to healing systems like Chinese medicine and Ayurveda (both discussed in Chapter 18). Bringing about healing through manipulation of life energy is a key element that biofield therapies have in common.[2] It has been proposed that the "energy perspective" may be a useful basis for integrating Eastern and Western healing practices.[3]

Energy medicine is perhaps one of the most mysterious and controversial of all complementary and integrative health (CIH) approaches; it is hard to discuss therapies when we are not clear on their mechanisms of action. Nevertheless, the Centers for Disease Control found that 0.5% of the U.S. population had used some form of energy medicine in the past year,[4] and 3.7 million Americans have used energy medicine at some point in their lives.[5] The 2015 Healthcare Analysis & Information Group (HAIG) survey found that 39 of 131 (30%) VA systems offer some form of energy medicine to Veterans, up from 7% in 2011.[6]

Many hospitals incorporate Reiki, Therapeutic Touch (TT), or Healing Touch (HT) into patient care. They are most often used to help people before or after surgery or cancer treatment. These approaches are most commonly introduced by nursing staff. Training in various energy medicine modalities varies. Some practices, such as Healing Touch, require 4 or more years of training, and learners must document hundreds of hours of patient care time prior to certification. In contrast, some forms of Reiki are taught over the course of just a few weekends (though it should be noted other forms of Reiki require years of training to achieve "master" status). Many biofield therapy practitioners describe what they do as a gift that they have cultivated without formal training. For many practitioners, their exposure to energy medicine was precipitated by some sort of health crisis or, as some have described it, their "healer's journey."

A list of specific energy healing modalities, with descriptions and related websites, is featured in Table 17-1. The list includes the ones most frequently used in the U.S., but it is by no means comprehensive. Reiki, TT, and HT are the most commonly used, so they are listed first.

Table 17-1. Popular Biofield Therapies[2]

Name	Description
Reiki	Originated in Japan. Trainees are given "attunements" to allow them to pass universal healing energy through themselves to others. Works with specific healing symbols.
Healing Touch	Developed in the 1980s by Janet Mentgen, RN. The hands are used to maneuver the energy field, with a particular emphasis on the chakras. Extensive instruction and training required for certification.
Therapeutic Touch	Developed by Dolores Krieger, RN and Dora Kunz in the 1970s. Light touch is used to influence the biofield. Widely used in hospital settings by nurses.
Acupuncture and acupressure	Needles are inserted into points along meridians, or energy channels, within the body. In acupressure, the points are stimulated by touch instead.
Barbara Brennan School of Healing	Focuses on energy healing according to detailed descriptions of energy anatomy and flow. This is an example of an energy healing modality that has been built upon the experiences and techniques of a specific teacher.
Emotional Freedom Technique, Thought Field Therapy	Tapping with the fingers over various meridian points is said to release stored negative emotional energy. Often classed as a mind-body therapy. Frequently used in treatment of posttraumatic stress.
Flower essences	Extracts from various flowers are said to influence people according to the energetic nature of the plants they contain.
Polarity Therapy	Combines lifestyle modifications and other techniques to optimize the health of the energy field.
Quantum Touch	Popularized in books by Richard Gordon. Energy is directed for healing using intention, breathing, and other techniques. Strong emphasis on treating musculoskeletal issues, among others.
Shamanism	Often classed as a spiritually-based, rather than energetic, modality. Shamans use rituals, helpful spirits, and journeys to the spirit world, or other techniques to gather information needed to bring about healing.

Efficacy of Biofield Therapies

More high-quality studies of biofield therapies are needed, but some research findings are available. A 2011 German review did not find there was enough data to rate the efficacy of various biofield therapies, a typical conclusion for many reviews in this area.[7] However,

while the Natural Medicines Database also states there is "insufficient reliable evidence to rate" the biofield therapies research for many conditions, it does rate HT as being "Possibly Effective" for anxiety, pain, and stress.[8] General reviews and studies of the three most common biofield therapies are listed in this section. Note that these are based on systematic reviews when possible, but research remains scarce, and nearly every review comments that more studies are required.

General Reviews

- A 2016 systematic review of energy healing approaches for chronic illness focused on 27 studies with 3159 participants.[9] It found that 13 of those studies had statistically significant outcomes for 13 different outcomes, including mood disturbance, fatigue, quality of life, pain, poor coping, health locus of control, anxiety, self-esteem, psychological distress, fatigue, joint function, and vitality.
- A 2015 review reported that over 30 trials have now been done focusing on energy medicine and pain. Energy medicine seems to decrease pain intensity, but long-term therapeutic benefits are not clear.[10]
- The same 2015 review noted that over 15 studies of biofield therapies for cancer exist, mostly focused on the treatment of adjunctive symptoms. Results were most favorable where depression and fatigue were concerned, but only a few studies found clear benefit.
- A 2015 review of 30 palliative care-related studies published from 2008-2013 concluded research "...supports the use of biofield therapies in relieving pain, improving quality of life and well-being, and reducing psychological symptoms of stress."[11]
- A 2015 review of biofield therapy studies focused on *non-human* subjects (plants and cell cultures) found that biofield therapies led to significant improvements in variables related to overall "well-being."[12]
- A 2010 review concluded that, in general, biofield therapies show promise for reducing pain intensity, anxiety, and for people with dementia, level of agitation.[13]
- A 2008 Cochrane review concluded from studies of a total of 1,153 patients receiving HT, TT, or Reiki, that pain was reduced at least to a modest degree, by nearly 1 point on a 10-point rating scale.[14]
- A research survey done in 2003, which reviewed 2,200 published reports, found that 11 of 19 trials of energy healing which included a total of 1,122 people showed positive effects.[15]

Therapeutic Touch

- A small 2019 pilot study (n=29) of people with back pain found a significant and long-term effect on back pain disability scores.[16]
- A 2010 study found improvement in pain and fatigue related to chemotherapy.[17]
- Another small study found TT decreases pain, cortisol, and levels of natural killer cells in post-operative patients.[18]
- A 2016 Cochrane review concluded that "...there is no robust evidence that TT promotes healing of acute wounds," and the review was ultimately withdrawn one month after publication due to the poor quality of the included studies.[19]

- A small 2016 review found that TT shows promise in managing behavior in people with dementia, but noted the need for more research data.[20]
- Another 2016 review that had 6 of 334 articles meet inclusion criteria found that TT had general benefits for people with cancer.[21] Eight years prior, a 2008 review concluded that TT reduces pain and anxiety in people receiving oncology care.[22]
- A 2007 Cochrane review did not find any good-quality studies to assess the general effect of TT on anxiety.[23]

Reiki

- A small 2018 meta-analysis that included four studies with a total of 212 participants concluded that Reiki is an effective approach for relieving pain, noting the standardized mean difference of pain ratings for all the studies combined was negative 0.93.[24] However, this study was criticized because 95% confidence intervals crossed 0 by a small margin.[25]
- A 2015 Cochrane review found there was insufficient evidence to confirm whether or not Reiki is beneficial in people over age 16 with anxiety or depression.[26]
- A 2014 review concluded that Reiki "may be effective" for pain and anxiety.[27]
- Reiki improved heart rate variability and emotional state for patients admitted to a Yale Hospital cardiology ward.[28]
- A 2007 review found that Reiki was beneficial for depression in 1 of 4 studies, chronic pain in 1 of 3 studies, and in the only available study of its use for acute pain.[29]
- A 2009 review of 12 studies concluded that 9 found benefit for Reiki for various indications; however, 11 of them were rated as being poor-quality.[30]

Healing Touch

- A 2018 observational/retrospective study of 572 cancer outpatients found that HT provided immediate pain relief, as did Oncology Massage; oncology massage had better odds of pain improvement.[31]
- A 2011 systematic review of 5 out of 332 studies that met inclusion criteria concluded, "Though the studies support the potential clinical effectiveness of Healing Touch in improving health-related quality of life in chronic disease management, more studies are required given that even the studies included with high-quality scores had limitations."[32]
- A 2012 study focused 123 combat-exposed, returning, active-duty military personnel with PTSD who were randomized to receive HT and Guided Imagery or treatment as usual.[33] Reductions in PTSD symptoms and depression were significant in the treatment group.
- In patients recovering from cardiac bypass surgery, HT decreased anxiety and length of stay. It did not affect use of pain medications or antiemetics.[34]
- In 78 women with gynecologic cancers undergoing radiation therapy, HT improved vitality and physical function and decreased pain.[35]

Safety of Biofield Therapies

Even though more research is needed, biofield therapies are relatively free of adverse effects.[1,2] We know that many chronic diseases are exacerbated by anxiety and stress, so if energy modalities are effective in helping patients to relax, they may be worth considering, especially if patients prefer them. There are no reports of these therapies leading to morbidity of any significant duration. Problems may arise if a person defers vital biomedical interventions for an extended period of time to pursue energy modalities in their place.

During an energy medicine session, a patient may perceive physical sensations, such as tingling, temperature changes, pressure, or other sensory impressions. Pain is unlikely. Intense emotional experiences and memories may also surface, so energy medicine should be used with care in people with severe mental health disorders.

Biofield therapies can be useful adjuncts to other types of therapies, and they can also be helpful as stand-alone therapies. We still have much to learn about them, but many studies show promise, and they tend to be quite safe. The question is, will we ever come to understand their mechanism(s) of action?

Energy Medicine Resources

Websites

- Barbara Brennan School of Healing. http://www.barbarabrennan.com/
- Healing Touch Program. International, Nonprofit Healing Touch Group. https://www.healingtouchprogram.com/
- Polarity Therapy. http://www.polaritytherapy.org/
- Quantum Touch. http://www.quantumtouch.com/
- Reiki. http://www.reiki.com/
- Therapeutic Touch. http://www.therapeutictouch.org/

Books

- Biofield Therapies, Adam Rindfleisch, in: Rakel D, ed. *Integrative Medicine*, 4th ed, (2017)
- *Anatomy of the Spirit: The Seven Stages of Power and Healing*, Carolyn Myss (1996)
- *Energy Medicine for Women: Aligning Your Body's Energies to Boost Your Health and Vitality*, Donna Eden (2008)
- *Energy Medicine: Balancing Your Body's Energies for Optimal Health, Joy, and Vitality*, Donna Eden (2008)
- *Energy Medicine: The Scientific Basis*, James Oschman (2002)
- *Hands of Light: A Guide to Healing Through the Human Energy Field*, Barbara Brennan (1993)
- *Healing, Intention and Energy Medicine: Science, Research Methods, and Clinical Implications*, Wayne Jonas (2003)
- *Light Emerging: The Journey of Personal Healing*, Barbara Brennan (1993)

- *Quantum Touch: The Power to Heal*, Richard Gordon (2006)
- *Shamanic Journeying: A Beginner's Guide*, Sandra Ingerman (2008)
- *The Energy Healing Experiments: Science Reveals Our Natural Power to Heal,* Gary Schwartz (2008)
- *The Field: The Quest for the Secret Force of the Universe*, Lynne McTaggart.(2008)
- *The Subtle Body: An Encyclopedia of Your Energetic Anatomy*, Cyndi Dale (2009)
- *Wheels of Light: Chakras, Auras, and the Healing Energy of the Body,* Roslyn Bruyere (1994)

Other Resources

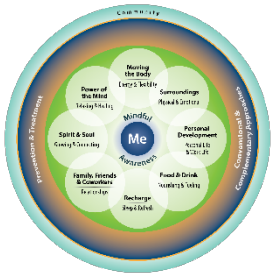
- *Self-Healing with Energy Medicine* (Self-Healing CD Series), Andrew Weil (2009)
- *The Healing Field: Exploring Energy & Consciousness* (2016). Available for online streaming

References

[1] Benor DJ. Energy medicine for the internist. *Med Clin North Am*. 2002;86(1):105-125.
[2] Rindfleisch A. Biofield therapies. In Rakel D, ed. *Integrative Medicine*. 4th ed. Philadelphia: Saunders; 2017:1073-1081.
[3] Zhang M, Moalin M, Vervoort L, Li ZW, Wu WB, Haenen G. Connecting western and eastern medicine from an energy perspective. *Int J Mol Sci.* 2019;20(6).
[4] National Center for Complementary and Alternative Medicine. Energy medicine: an overview. Brainline.org website. http://www.brainline.org/content/2009/06/energy-medicine-an-overview_pageall.html. Accessed July 30, 2019.
[5] US Centers for Disease Control and Prevention, National health interview survey: 2012 data release. 2012 National Health Interview Survey (NHIS) Adult Complementary and Alternative Medicine Public Use File. Available at: http://www.cdc.gov/nchs/nhis/nhis_2012_data_release.htm. 2013. Accessed July 30, 2019.
[6] Healthcare Analysis and Information Group (HAIG). *FY 2015 VHA Complementary and Integrative Health (CIH) Services (formerly CAM).* Department of Veterans Affairs, Veterans Health Administration. https://sciencebasedmedicine.org/wp-content/uploads/2016/07/FY2015_VHA_CIH_signedReport.pdf. Accessed July 30, 2019.
[7] Agdal R, von B Hjelmborg J, Johannessen H. Energy healing for cancer: a critical review. *Forsch Komplementarmed*. 2011;18(3):146-154. doi: 10.1159/000329316.Epub 2011 Jun 3.
[8] Therapeutic Touch. TRC natural medicines website. https://naturalmedicines.therapeuticresearch.com/databases/health-wellness/professional.aspx?productid=1208. Published 2018. Accessed July 30, 2019.
[9] Rao A, Hickman LD, Sibbritt D, Newton PJ, Phillips JL. Is energy healing an effective non-pharmacological therapy for improving symptom management of chronic illness? A systematic review. *Complement Ther Clin Pract.* 2016;25:26-41. doi: 10.1016/j.ctcp.2016.07.003. Epub 2016 Aug 2.
[10] Jain S, Hammerschlag R, Mills P. Clinical studies of biofield therapies: summary, methodological challenges, and recommendations. *Glob Adv Health Med*. 2015;4(suppl):58-66. doi: 10.7453/gahmj.2015.034.suppl. Epub 2015 Nov 1.
[11] Henneghan AM, Schnyer RN, Biofield therapies for symptomatic management in palliative and end-of-life care. *Am J of Hosp Palliat Med*. 2015;32(1):90-100. doi: 10.1177/1049909113509400. Epub 2013 Nov 20.
[12] Roe CA, Sonnex C, Roxburgh EC. Two meta-analyses of noncontact healing studies. *Explore*. 2015;11(1):11-23. doi: 10.1016/j.explore.2014.10.001. Epub 2014 Oct 23.
[13] Jain S, Mills PJ. Biofield therapies: helpful or full of hype? A best evidence synthesis. *Int J Behav Med*. 2010;17(1):1-16. doi: 10.1007/s12529-009-0962-4.
[14] So PS, Jiang Y, Qin Y. Touch therapies for pain relief in adults. *Cochrane Database Syst Rev*. 2008;(4):CD0065354. doi: 10.1002/14651858.CD006535.pub2.

[15] Jonas WB, Crawford CC. *Healing, Intention, and Energy Medicine: Science, Research methods, and Clinical Implications.* Philadelphia, PA: Churchill Livingstone; 2003.
[16] Mueller G, Palli C, Schumacher P. The effect of therapeutic touch on back pain in adults on a neurological unit: an experimental pilot study. *Pain Manag Nurs.* 2019;20(1):75-81.
[17] Aghabati N, Mohammadi E, Pour Esmaiel Z. The effect of therapeutic touch on pain and fatigue of cancer patients undergoing chemotherapy. *Evid Based Complement Alternat Med*. 2010;7(3):375-381. doi: 10.1093/ecam/nen006. Epub 2008 Feb 2.
[18] Coakley AB, Duffy ME. The effect of therapeutic touch on postoperative patients. *J Holist Nurs*. 2010;28(3):193-200. doi: 10.1177/0898010110368861. Epub 2010 Jun 28.
[19] O'Mathúna DP. Therapeutic touch for healing acute wounds. *Cochrane Database Syst Rev.* 2016;9:CD002766. doi: 10.1002/14651858.CD002766.pub6.
[20] Kumarappah A, Senderovich H. Therapeutic touch in the management of responsive behavior in patients with dementia. *Adv Mind Body Med.* 2016 Fall;30(4):8-13.
[21] Tabatabaee A, Tafreshi MZ, Rassouli M, Aledavood SA, AlaviMajd H, Farahmand SK. Effect of therapeutic touch in patients with cancer: a literature review. *Med Arch*. 2016;70(2):142-7. doi: 10.5455/medarh.2016.70.142-147. Epub 2016 Apr 1.
[22] Jackson E, Kelley M, McNeil P, Meyer E, Schlegel L, Eaton M. Does therapeutic touch help reduce pain and anxiety in patients with cancer? *Clin J Oncol Nurs*. 2008;12:113–120. doi: 10.1188/08.CJON.113.120.
[23] Robinson J, Biley FC, Dolk H. Therapeutic touch for anxiety disorders. *Cochrane Database Syst Rev*. 2007;(3):CD006240.
[24] Demir Dogan M. The effect of reiki on pain: a meta-analysis. *Complement Ther CLin Pract.* 2018;31:384-387. doi: 10.1016/j.ctcp.2018.02.020. Epub 2018 Mar 10.
[25] Moran JM, Puerto-Parejo LM, Leal-Hernandez O, et al. Misinterpretation of the results from meta-analysis about the effects of reiki on pain. *Complement Ther Clin Pract.* 2018;32:115. doi: 10.1016/j.ctcp.2018.06.005. Epub 2018 Jun 7.
[26] Joyce J, Herbison GP. Reiki for depression and anxiety. *Cochrane Database Syst Rev*. 015;(4):CD006833. doi: 10.1002/14651858.CD006833.pub2.
[27] Thrane S, Cohen SM. Effect of Reiki therapy on pain and anxiety in adults: an in-depth literature review of randomized trials with effect size calculations. *Pain Manag Nurs*. 2014;15(4):897-908. doi: 10.1016/j.pmn.2013.07.008. Epub 2014 Feb 28.
[28] Friedman RS, Burg MM, Miles P, Lee F, Lampert R. Effects of Reiki on autonomic activity early after acute coronary syndrome. *J Am Coll Cardiol*. 2010;56(12):995-996. doi: 10.1016/j.jacc.2010.03.082.
[29] Vitale A. An integrative review of Reiki touch therapy research. *Holist Nurs Pract*. 2007;21(4):167-179.
[30] vanderVaart S, Gijsen VM, de Wildt SN, Koren G. A systematic review of the therapeutic effects of Reiki. *J Altern Complement Med*. 2009;15(11):1157-1169. doi 10.1089/acm.2009.0036.
[31] Gentile D, Boselli D, O'Neill G, Yaguda S, Bailey-Dorton C, Eaton TA. Cancer pain relief after healing touch and massage. *J Altern Complement Med.* 2018;24(9-10):968-973.
[32] Anderson JG, Taylor AG. Effects of healing touch in clinical practice: a systematic review of randomized clinical trials. *J Holist Nurs*. 2011;29(3):221-228. doi: 10.1177/0898010110393353. Epub 2011 Jan 12.
[33] Jain S, McMahon GF, Hasen P, et al. Healing touch with guided imagery for PTSD in returning active duty military: a randomized controlled trial. *Mil Med*. 2012;177(9):1015-1021.
[34] MacIntyre B, Hamilton J, Fricke T, Ma W, Mehle S, Michel M. The efficacy of healing touch in coronary artery bypass surgery recovery: a randomized clinical trial. *Altern Ther Health Med*. 2008;14(4):24-32.
[35] Cook C, Guerrerio J, Slater V. Healing touch and quality of life in women receiving radiation treatment for cancer: a randomized controlled trial. *Altern Ther Health Med*. 2004;10(3):34.

Chapter 18. Whole Systems of Medicine



The best and most efficient pharmacy is within your own system.
—Robert C. Peale

The "Whole Systems of Medicine" category includes all the complementary and integrative health (CIH) approaches that do not fit into the other four categories. The systems have their own unique histories and philosophies, and many of them have existed for hundreds if not thousands of years, evolving through the contributions of generations of practitioners. Those practitioners may look at a person from a completely different perspective, making diagnoses and offering therapies in ways very different from Western medicine. This chapter covers four of the most commonly-used whole systems of medicine—Chinese medicine, naturopathy, Ayurveda, and homeopathy—but there are many others.

Whole Systems: Chinese Medicine and Acupuncture

The law of yin and yang is the natural order of the universe, the foundation of all things, mother of all changes, the root of life and death.

–The Yellow Emperor's Classic of Medicine

Chinese medicine, and particularly one of its important components, acupuncture, is the most popular "whole system of medicine" used in the VA. It is part of the VA Integrative Health Coordinating Center's (IHCC) List I, which means all VA sites are mandated to offer it in some form.

Chinese medicine has existed for thousands of years, and in the last several decades, various Chinese therapies have become increasingly popular in the West. This is particularly true for acupuncture. Chinese medicine looks at a person as a whole, not only in terms of who they are as an individual but also in terms of how they are connected with the natural world. It emphasizes preventing an illness from ever occurring, as opposed to dealing with it after it has occurred. This is something Whole Health and Chinese medicine have in common.

According to the National Health Interview Survey of 2012, 1.5% of Americans used acupuncture, up from 1.4% in 2007.[1] Use in the U.S. tripled between 1997 and 2007.[2] In the VA, as of 2015, 79 hospital systems (60% of the 131 respondents) offered acupuncture, 25 offered acupressure, and 2 offered Chinese medicine in general, which includes several other therapies in addition to acupuncture, as described later.[3] Acupuncture is a popular option within the U.S. Military Healthcare System.[4] Data related to acupuncture billing and coding indicates that 99% of VA sites now offer acupuncture in some form (with 26% of sites offering Battlefield Acupuncture).

There are many training programs available for learning Chinese medicine. In the U.S., there are over 60 colleges of acupuncture and Oriental Medicine.[5] A Master's in Acupuncture (MAc) takes three years, and a certification as a Master of Oriental Medicine

(MOM) typically takes three years as well. There are over 30,000 acupuncture and Oriental Medicine (AOM) licensees in the U.S.[6]

Over 6,000 physicians in the U.S. have done additional acupuncture training and integrate acupuncture into their medical practices. Most of these clinicians (often said to provide "medical acupuncture") work in primary care, but anesthesiologists and pain management specialists also make up a significant number.[7] Non-MD acupuncturists can practice in over 25 states.

Chinese philosophy is woven into Chinese medicine at a deep level. Brief introductions to yin-yang theory, five-element theory, and other Chinese perspectives on health and healing are included on the following pages, but for more information you might also refer to the Resources section at the end of this chapter. In addition to taking a history, diagnosis is done using all the senses, including through inspection, smell, listening, and palpation (including taking pulses and noting an elaborate array of details).

Chinese medicine includes a variety of therapeutic approaches. These are tailored to each person's individual needs, as well as to the skill sets of the practitioner. They include the following[8]:

- *Chinese herbal medicine*. As of 1977, nearly 5,800 different herbs were used in China.[9] Herbal remedies are not prescribed according to a pattern of "one herb for one condition," as many Western herbalists use. Rather, most Chinese remedies are combinations of herbs. How the herbs are mixed is informed by an elaborate process. Formulas usually have a chief ingredient (treats the pattern of the illness), as well as deputy ingredient (helps the chief), an assistant (synergizes or counterbalances with the chief as needed), and an envoy (synergizes with the other ingredients and focuses the remedy on a given area of the body or meridian). In early 2014, the Cleveland Clinic opened a Chinese herbal clinic, which has drawn a great deal of attention to the use of this therapeutic approach.[10]
- *Tui na* is a form of Chinese massage. It can be quite intense, with a number of various movements being used, including pushing, rolling, kneading, rubbing, and raking the skin with the fingers.
- *Qi gong* involves the cultivation of energy. It is discussed in Chapter 5, "Moving the Body," along with tai chi. Note that there are many types of qi gong beyond the movement therapies that are gaining popularity in the West. Qi gong is used by some practitioners as a type of energy healing. (Chapter 17 features more on energy medicine approaches.)
- *Chinese dietary therapy*. This involves preparing meals that balance the various forces of nature in the body. Many food preparers in China know which foods are held to be helpful for which conditions.
- *Acupuncture (zhen), moxibustion, gua sha, and cupping*.[11] These are actually seen as one therapy, despite their differences. Moxibustion involves burning the herb mugwort (*Artemisia vulgaris*) on acupuncture needles that have been inserted into specific points. It may also be placed directly over the skin. Gua sha is a technique that involves rubbing or scraping the skin. Cupping involves creating negative

pressure over an acupuncture point and adhering a cup to the skin using the suction. It gained international attention during the 2016 Summer Olympic Games. Acupuncture is described in more detail in the Whole Health tool below.

Yin-yang theory. For Chinese medicine (and all schools of thought influenced by Taoism), everything arises through the interplay of two opposite components—yin and yang. Yang is more "masculine" and represents activity, motion, ascending, outside/external, bright, and hot. Yin, in contrast, is said to be "feminine," as well as stillness, descending, cold, dark, and receptive. When people are healthy, their yin and yang are in balance. Various organs and biological functions are said to have different mixes of yin and yang aspects (Figure 18-1). Note that each part of the yin-yang symbol contains a small amount of the other (the small circles). The two components do not simply oppose each other; rather, they flow in and out of predominance when a system is balanced. Chinese medicine associates some diseases with one or the other. Menopause is considered a yin deficiency syndrome. Hypothyroidism, in contrast, is classed as a yang deficiency illness.[12]

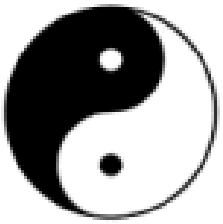


Figure 18-1. Yin-yang symbol.

Five element theory. In Chinese medicine, there is a dynamic interplay of five elements: Earth, Fire, Metal, Water, and Wood. These are related to each other in multiple ways. Each of the elements generates another. For example, fire creates ash (earth) as it burns. Each of them also destroys/controls another. Conversely, fire destroys wood, and water destroys fire. These elements and their interactions are said to govern different organs and different acupuncture meridians.

Other factors that influence health. The following are also important to Chinese medicine practice[12,13]:

- **Chi or qi**—life force, or vital energy. The acupuncture meridians are held to be channels for chi. The chi can be "unblocked" or otherwise maneuvered through the use of acupuncture needles. There are multiple names for types of chi, based on their location and function.
- **Blood** is said to be generated from chi as food essence is generated from food being absorbed by the digestive tract.
- **Shen** is overall vitality or spirit. If it is found to be doing well, prognosis will be good.
- **Jing** are acupuncture points described in more detail in the next section.
- **Six external factors** that can influence health include wind, cold, fire, dryness, summer heat, and dampness. They harm health if they are excessive or when the body's defensive chi is inadequate.
- **Internal factors** include seven emotions: fear, fright, worry, grief, anger, melancholy, and joy. Excess of any given emotion can also cause illness.
- **Interconnectedness** is also referred to as "correlative thinking." Chinese medicine has many therapies that are based on the idea that each part of the body can offer information about the body as a whole. This principle is the basis for reflexology,

which involves the stimulation of various places on the foot that correlate with various other parts of the body. For example, some reflexologists hold that sinusitis can be addressed by firmly squeezing the fourth toes, which represent the sinuses. In auricular acupuncture, it is held that the ear contains a "map" of the rest of the body. Placing needles in certain parts of the ear, then, will affect the body parts associated with those points. Battlefield acupuncture, popular for pain management in the military, uses auricular points.[14]

Whole Health Tool: Incorporating Acupuncture

What is Acupuncture?[15]

Acupuncture, the most familiar Chinese medicine approach to Westerners, involves the placement of needles in the meridian points. Needles are not hollow like injection or IV needles. They are usually 0.22-0.25 mm in diameter (much smaller than needles used in Western medicine) and of variable lengths. A typical session may include the insertion of anywhere from a few needles to dozens of them. Practitioners are taught very specific ways to locate each point based on various anatomical markers. For example, Pericardium 6 (the 6th point on the pericardium meridian) is two finger widths up the arm away from wrist crease between two of the forearm tendons.[16] This point is stimulated by motion-sickness bracelets, which have become increasingly popular in recent years and have shown benefit in some studies.[17]

Acupuncture points, or *jing*, are located along chi pathways, which are also known as meridians. Meridians follow paths longitudinally, or sometimes internally-externally in the body. There are also collaterals (*luo*), which follow horizontal patterns. *Jing-luo* regulate the flow of chi and the balance of yin and yang in a person. Illness arises when flow through them becomes blocked or imbalanced. There are 361 acupuncture points along 20 meridians (numbers may vary slightly, depending on the tradition in which a practitioner was trained). Photos of each meridian, with detailed descriptions, can be viewed at chiro.org or acumedico.com. All of these factors come into play when an acupuncturist is trying to determine where to insert needles. Different meridians are named after different organs, but more than just the organs themselves, these energy pathways are governed by the properties or functions that given organs are said to represent. Points often have evocative names, such as "Supreme Spring" and "Woodworm Ditch."[16]

Key degrees and certifications incorporating Chinese medicine include the following:

- DAc—Diplomate of Acupuncture
- DOM—Doctor of Oriental Medicine
- LAc or LicAc—Licensed Acupuncturist
- MAc—Master of Acupuncture
- MOM—Master of Oriental Medicine
- OMD—Oriental Medical Doctor
- RAc—Registered Acupuncturist
- CAc—Certified Acupuncturist (usually a physician trained in acupuncture)

Licensed acupuncturists can now be hired in the VA, and all VA sites are expected to offer acupuncture, either onsite, or in the community.

Battlefield Acupuncture. Many sites have begun to offer Battlefield Acupuncture (BFA). Battlefield acupuncture was developed by Dr. Richard Niemtzow in 2001 as a way of relieving pain that could even be used in wartime.[18] It is a form of auricular (ear) acupuncture that involves the insertion of extremely small, gold-plated needles into five specific acupoints.[19] These are left in until they fall out by themselves, usually after a

period of 2-7 days.[14] It works well to have Veterans receive the needles during group visits.[20] BFA is being taught more frequently to VA clinicians. In FY 2019, it was taught in conjunction with the *Whole Health for Pain and Suffering* course.

How Acupuncture Works

There are many theories about how acupuncture works from a physics/biochemistry perspective.[21] Traditionally,[22] the Chinese hold that health is related to the flow of qi (energy) and acupuncture allows it to flow. Western researchers have proposed many theories based on our current scientific understanding, including that acupuncture may stimulate release of certain neurotransmitters, that it causes cells to release chemicals that bind to opioid receptors and block pain, and/or that it alters hormone levels and white blood cell activity.[23] Purine-based signaling,[24] nitric oxide release,[25] and stimulation of multiple biochemical mechanisms that promote homeostasis[26] have also been suggested as potential mechanisms of action.[27] Acupuncture points have a slightly warmer temperature than other points on the body.[28]

Several theories about how acupuncture works relate to the central nervous system. Functional MRI studies have shown that needling specific acupuncture points (actual ones only, not sham ones) does indeed stimulate certain parts of the brain to change activity.[29,30] Inhibition of the microglia in the central nervous system may also play a role.[31] In vitro studies indicate that acupuncture prevents apoptosis (cell death) in a variety of neurological diseases.[32] Manual and electroacupuncture seem to stimulate different parts of the brain.[33] Acupuncture increases body production of neurotrophic factors which can stimulate the creation of new nervous system pathways.[34] In animal studies, it also dilates blood vessels in the cerebral cortex[35] and promotes neuroplasticity.[36] A 2018 review of 44 fMRI studies of different parts of the brain found that "true" acupuncture alters the activity of functional networks in the brain relative to sham acupuncture, where random points are used.[37]

Who Can Use Acupuncture?

Most people can use acupuncture. Children may do better with acupressure, as may others who tend to dislike needles. Remind people that the needles are a much smaller diameter than IV or injection needles, and they are not hollow; most people find that this makes them much less painful. Some acupuncturists will, in lieu of needles, use a small amount tape to attach small seeds to acupuncture points to stimulate them that way instead. One advantage of acupuncture is that needles can be inserted at a distance from a particularly painful, tender, or inflamed area and still have potential benefit.

When to Use Acupuncture: Efficacy

Because acupuncture is used much more widely in the U.S. (and in the VA) than any other aspect of Chinese medicine, and because it has been researched much more thoroughly, it has received the most attention when it comes to research on efficacy and safety. Acupuncture research is challenging to do. Having a placebo group is tricky, and having "sham" acupuncture—using needles in non-points—sometimes proves superior to no treatment at all and equivalent in effect to "real" acupuncture. In addition, like so many complementary and integrative health (CIH) approaches, acupuncture therapy is

individualized, so two people with the same Western medical diagnosis may be treated in very different ways.

In January 2014, the Department of Veterans Affairs Evidence-Based Synthesis Program (ESP) Center, created an evidence map of acupuncture.[38] This "review of reviews" created visual overviews of the distribution of evidence for acupuncture and created summaries that could be used to "inform policy and clinical decision making." 183 systematic reviews met inclusion criteria. Three main domains were given attention: pain (65 studies), mental health (20 studies), and wellness (48 studies), and the evidence maps featured in Figures 18-2, 18-3, and 18-4 below were created.

The bubble plots show three key pieces of information:

1. The volume of the research—that is, how many studies were found and how many subjects they include. This is represented by the position of the bubbles on the y-axis.
2. How effective—or not—acupuncture was as an intervention. This is represented by how far along the circles are on the x-axis.
3. How confident one could be that the effects that were found were real. Confidence is represented by a bubble's size.

In these summaries, the evidence is most supportive for the diagnoses that have the biggest circles that are the farthest out on the x- and y-axes (toward the upper right of the diagram).

As of the time of the creation of the evidence maps in 2014, research was most favorable for acupuncture as a treatment for the following[38]:

- Cancer adverse effects
- Chronic pain
- Depression
- Dysmenorrhea
- Headache (in general)
- Irritable bowel syndrome (IBS)
- Migraine
- Osteoarthritis
- Postoperative nausea and vomiting
- Smoking cessation

In the past few years, there has been a huge increase in the number of available reviews and meta-analyses focused on acupuncture. While almost all conclude that more research is needed, studies have shown favorable results for all of the following conditions (and the list is by no means exhaustive):

- Alzheimer's disease[39]
- Analgesia for acute pain conditions[40]
- Angina (stable)[41]
- Anxiety[42]
- Bell's palsy[43]
- Cancer adverse effects
- Chronic fatigue syndrome[44]
- Functional dyspepsia[58]
- Gastroesophageal reflux[59]
- Headaches
- Insomnia related to depression[60]
- Male sexual function[61]
- Myofascial pain[62]
- Opioid addiction[63]

- Chronic knee pain[45]
- Chronic low back pain[46,47]
- Chronic pain,[15,48,49] including in group treatments[50]
- Chronic Obstructive Pulmonary Disease[49]
- Depression[51]
- Dry eyes[52]
- Dysmenorrhea[53,54]
- Endometriosis pain[55]
- Fibromyalgia[56]
- Functional constipation[57]
- Osteoporosis[64]
- Parkinson's disease[65,66]
- Postoperative pain, nausea/vomiting, anxiety[67]
- Premenstrual syndrome[68]
- Shingles pain[69]
- Temporomandibular joint disorder[70]
- Tension-type headaches[71]
- Tobacco use[72]
- Weight loss[73]

Recent reviews have *not* shown benefit for acupuncture for dry mouth,[74] hip osteoarthritis,[75] alcohol withdrawal,[76] carpal tunnel syndrome,[77] rheumatoid arthritis,[78] hypertension,[79] or cancer-related pain.[80,81] Evidence is insufficient (as of July 2019) to know if there is a benefit for neuropathic pain[81,82] neck pain,[83] obesity,[84] glaucoma,[85] polycystic ovarian syndrome (PCOS),[86] gastroparesis,[87] xerostomia (dry mouth),[74] general insomnia,[88,89] or cardiovascular disease.[90] There is promise for acupuncture in treating PTSD, benign prostatic hyperplasia,[91] overactive bladder,[92] chronic prostatitis/chronic pelvic pain syndrome,[93] acute stroke, insulin resistance,[94] migraine without aura,[95] congestive heart failure,[96] and stroke rehabilitation as well, but more studies are needed.[97]

Battlefield acupuncture research. In many recipients, BFA is reported to reduce pain for hours to months. A study of 112 Veterans who attended group clinics reported a decrease in various types of pain by 88% on post-treatment day 0; 81% at day 1; 52% at day 7; and 51% at post-treatment day 40.[98] A 2017 review noted that more research is needed before BFA can be considered an evidence-based approach,[99] though a 2017 review of 10 studies found a small benefit and noted that adverse effects were "minor and transient."[100]

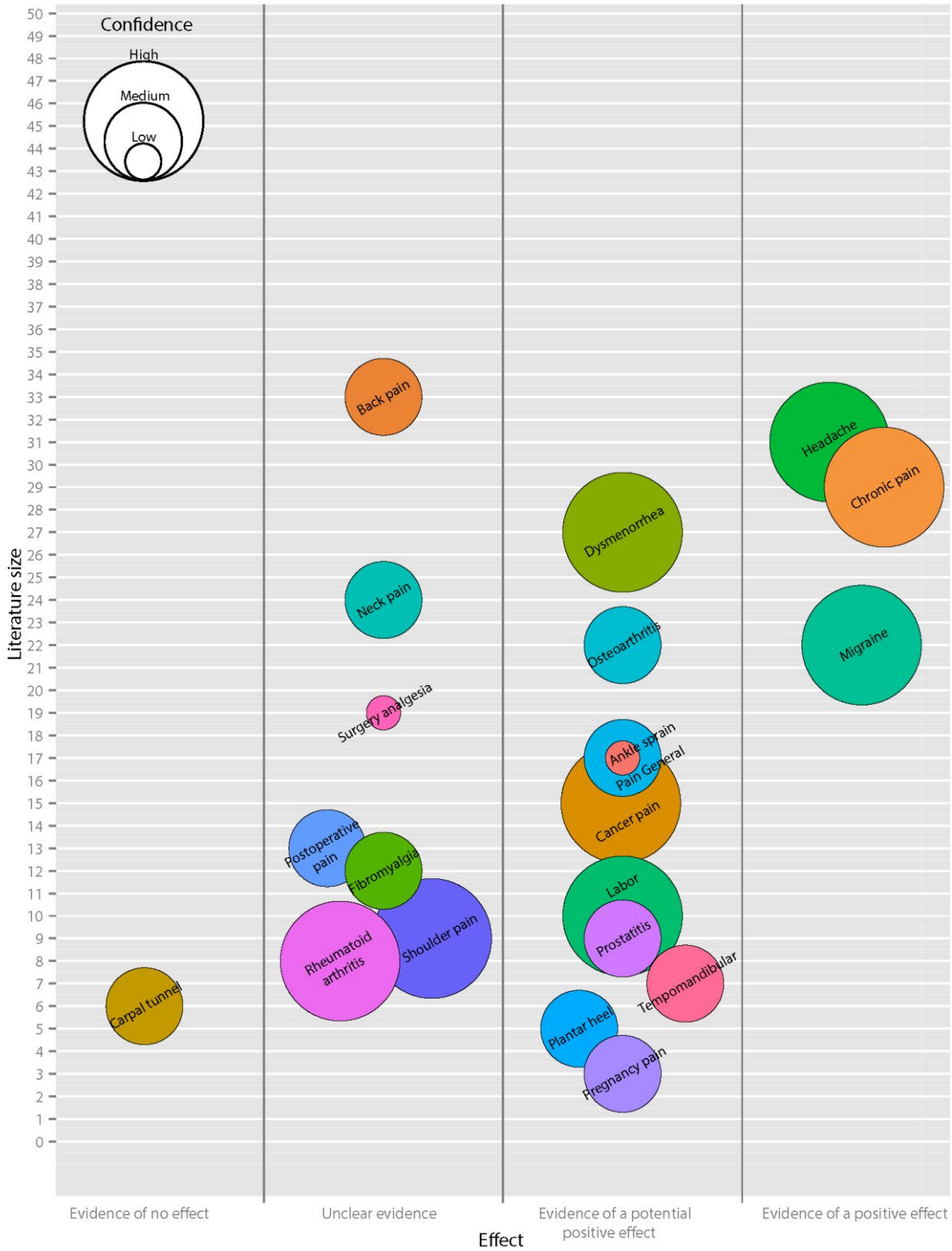


Figure 18-2. Evidence Map of Acupuncture for Pain.[38]

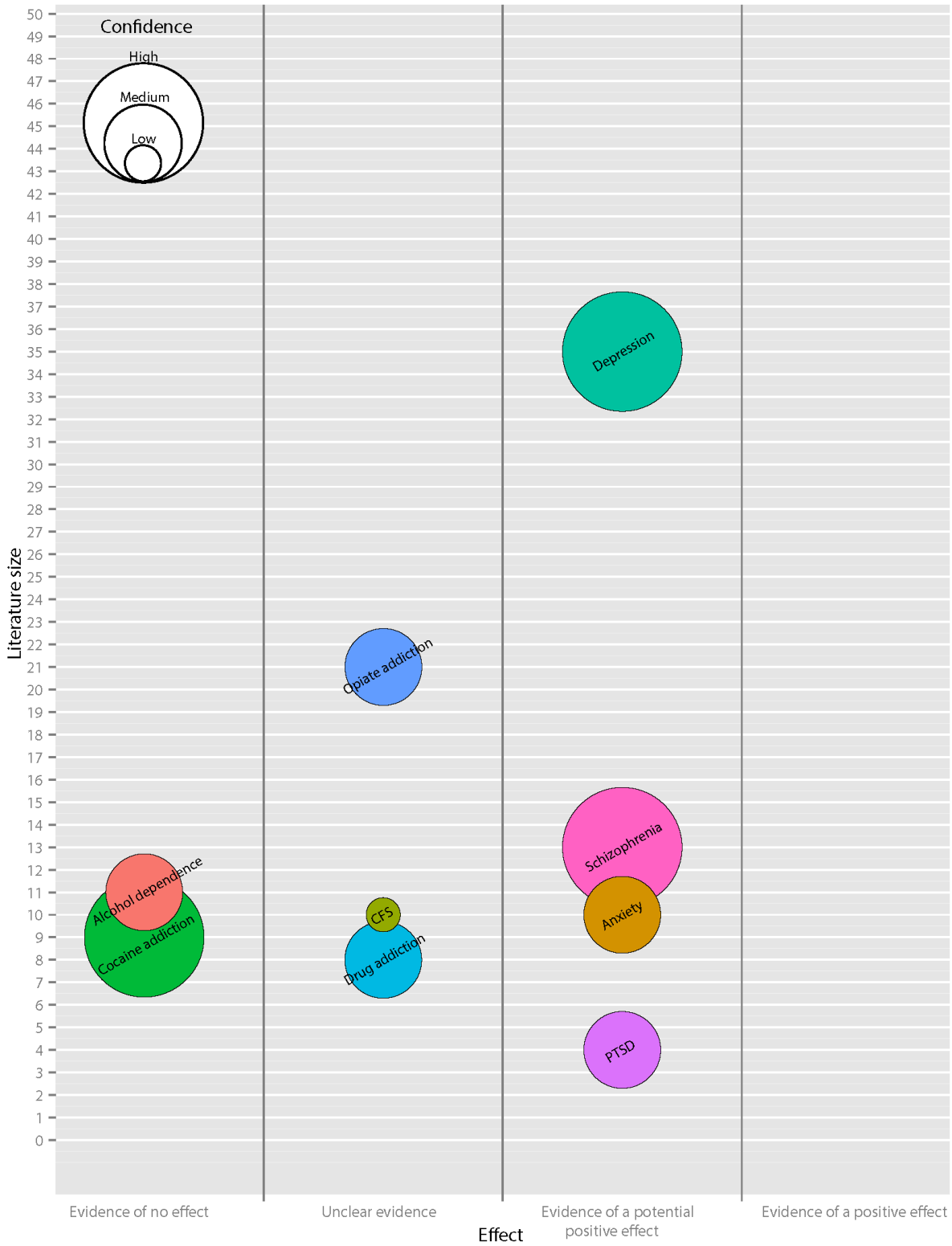


Figure 18-3. Evidence Map of Acupuncture for Mental Health.[38]

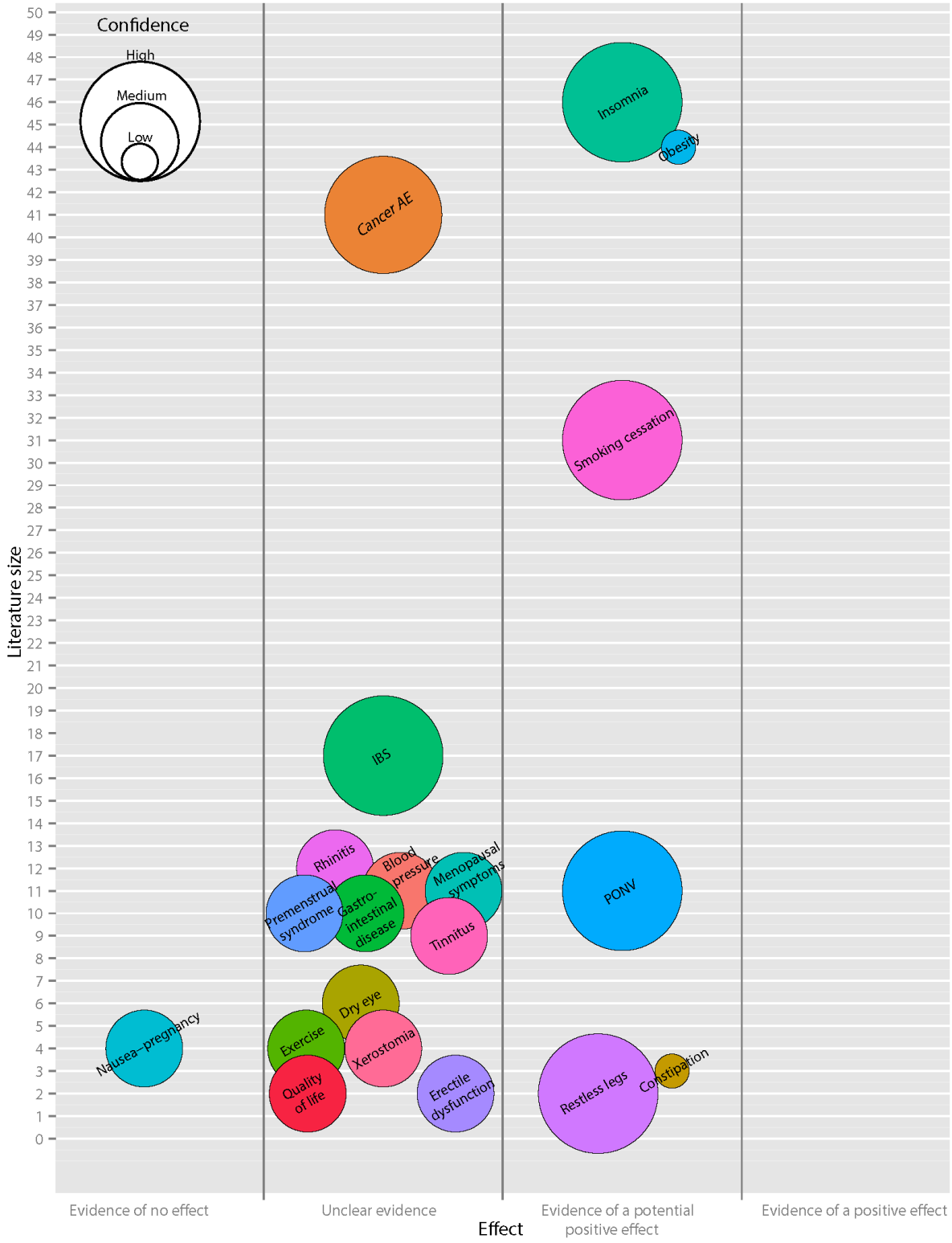


Figure 18-4. Evidence Map of Acupuncture for Wellness.[38]

What to Watch Out for (Harms)

A 2017 overview of 17 systematic reviews noted that serious adverse events, such as deaths, infections, and local reactions are possible but rarely occur.[101] A 2014 review concluded that acupuncture appears to be safe in anticoagulated patients when done at the appropriate depth in the appropriate locations.[102] The 2014 VA review of reviews on acupuncture, referenced above, also looked at adverse effects.[38]

- In the "Pain" studies, 12 reviews addressed adverse events, and all of these were minor—for example, bruising, temporary pain, faintness, and discomfort. They were comparable to adverse effects for control groups.
- Of the "Mental Health" reviews, 6 addressed adverse events. Most studies found no or minimal events. Adverse events from acupuncture were lower in number than those for antidepressants (10.2% versus 40.4%).
- In reviews of acupuncture for overall "Wellness," 13 reviews noted adverse events. Again, reporting rates were rare. There was one report of a patient dropping out of a study because of pain.

A search through four Chinese journals found 1,038 total adverse event case reports up through 2010. Of these, 35 were cases where fatalities resulted, primarily because acupuncture was performed by someone who was not appropriately trained. Overly aggressive needling in the chest cavity can potentially cause pneumothorax, and poor sterile technique can lead to transmission of infection; in the U.S., nearly all practitioners use disposable needles, so this is less of a concern. In the U.S., hospital-related adverse events occur at a much higher rate.[103] Caution should also be used if someone is on blood-thinning medications or has uncontrolled seizures.

A 2012 review of all known complications related to acupuncture reported to the British National Health Service noted 325 incidents that met inclusion criteria. They concluded that "Adverse events reported include retained needles (31%), dizziness (30%), loss of consciousness/ becoming unresponsive (19%), falls (4%), bruising or soreness at needle site (2%), pneumothorax (1%), and other adverse reactions (12%). The majority (95%) of the incidents were categorized as low or no harm."[104]

Because acupuncture has a relaxing effect, it is important that people be careful they are not too drowsy to operate machinery after treatment. Discretion should be exercised as far as tolerability in people with severe needle phobias or severe mental health concerns. As a side note, there are reports of imported herbal supplements from China, which may be used in association with acupuncture, being adulterated with toxic compounds.[105]

Tips from Your Whole Health Colleagues

- Acupuncturists often say that how long one needs to receive acupuncture (i.e. the number of sessions) is proportional to time a person has had a disorder; that is, if a problem is chronic, it will take longer to respond to acupuncture. Many therapists will suggest one to three sessions a week for the first few weeks and then scale back. Acute issues may heal with just one session. A 2017 meta-analysis of 20 trials

including nearly 6,400 chronic pain patients found that "...approximately 90% of the benefit of acupuncture relative to controls would be sustained at 12 months."[106]

- Chinese medicine takes an entirely different perspective on the origins of illness. When a complex person seemingly has multiple unrelated complaints/concerns from a Western perspective, it may be that acupuncture will actually have an explanatory model that can account for them all.
- Researchers have called for more formal clinical practice guidelines, now that acupuncture has been gaining more of a foothold in conventional medical settings.[107]

Whole Systems: Naturopathy

The term "naturopathy" was coined in 1895 by John Scheel and later purchased by Benedict Lust, the "Father of Naturopathy." As of 2018, there are approximately 6,000 licensed Naturopathic Doctors (NDs) in the United States.[108] ND licensing is done by the states, and currently 23 states require NDs to be licensed to practice.[109] Most licensed naturopathic physicians (NDs) are trained in primary care. They can write prescriptions and order diagnostic testing.[110] There are also many other practitioners, often billed as "Naturopathic Consultants" or simply "naturopaths," who are often credentialed through less rigorous means.

According to the 2012 National Health Interview Survey, 0.4% of those surveyed had sought care from a naturopathic practitioner in the past year, up from 0.3% in 2007.2 This represents roughly 957,000 visits. The VA Healthcare Analysis & Information Group (HAIG) survey of 2015 found that two or fewer VA facilities currently offer naturopathy.3 Nevertheless, naturopathy is increasingly popular, and it is important for people who work with Veterans to be able to discuss this healing system with them if a Veteran has questions or is seeing someone outside of the VA.

Like Chinese medicine, naturopathy is often classed as a system of medicine, rather than as a specific therapy. It might best be viewed as an overall philosophy of care—an approach that incorporates many different therapies based on how well they resonate with naturopathy's seven key principles. These principles tie in nicely the concepts of personalized, proactive, patient-driven care and the Whole Health approach. They include[110,111]:

1. Respect the **healing power of nature** (vis medicatrix naturae). The body's power to heal itself is key. The clinician's role is to support and enhance that process.
2. **First, do no harm**. Naturopathy begins with the simplest and least invasive approaches and scales up only as necessary.
3. **Find the cause** (versus merely treating symptoms). Naturopathic physicians seek out the underlying cause of a disease; simply suppressing symptoms is strongly discouraged.
4. **Treat the whole person**. Physical, mental, emotional, spiritual, and social factors are all taken into account.
5. **Focus on prevention**. This is highly valued. Patient education and lifestyle choice counseling are fundamental.
6. Keep the **focus on optimal health and balance**. This even goes beyond prevention. It can mean focusing on reaching greater wellness, regardless of the severity of a disease or one's mortality risk.
7. **The clinician is a teacher**. The word "doctor" is tied to the word "docere," which means teacher. The clinician engages the patient as a respected member of his or her team.

Naturopathy encompasses many modalities. ND students have the option to focus on certain areas as they move through their training. These include the following[112]:

- Diet and clinical nutrition
- Behavioral change, including working with mindful awareness techniques
- Hydrotherapy, the internal and/or external use of water in various forms (ice, liquid water, or steam)
- Homeopathy
- Botanical medicine
- Detoxification. Refer to Chapter 6, "Surroundings," for more information on "detox" approaches
- Naturopathic physical medicine, the therapeutic use of exercise, physiotherapy, energy work, manipulation, and other approaches
- Acupuncture

Efficacy of Naturopathy

Most research on CIH approaches focuses on separate interventions. It is more difficult to study a system like naturopathy, which uses combinations of therapeutic approaches. Some of these approaches may synergize with each other. Since NDs tailor their health plans to the individual and his or her needs, it is difficult to keep the intervention consistent for a randomized controlled trial format. However, a 2019 review of "whole-system, multi-modality naturopathic medicine" concluded that 33 studies including nearly 10,000 people showed benefit for naturopathy in treating cardiovascular disease, type 2 diabetes, PCOS, anxiety, depression, musculoskeletal pain, and a range of other chronic conditions.[113]

A 2009 study of 75 people with anxiety were followed for 8 or more weeks as they received either naturopathic care, which was tailored for each individual, or psychotherapy.[114] Both groups had equivalent, and statistically significant improvements, and average symptom inventory scores decreased by 30.5% in the naturopathy group. A 2013 Canadian study of postal workers with increased cardiovascular disease risk who received either "enhanced usual care" or "individual care" from an ND markedly reduced their 10-year cardiovascular risk relative to the control group.[115] Another study found that naturopathy was superior to physical exercise over 12 weeks for the treatment of rotator cuff tendonitis.[110] Studies on the effects of naturopathic care for type 2 diabetes, gum disease, and breast cancer prevention are ongoing.

Ultimately, understanding the efficacy of naturopathy requires a familiarity with the efficacy of the various complementary approaches encompassed by it. For instance, hydrotherapy, one of several tools in the naturopathic toolbox, has favorable immunomodulatory effects, and rheumatoid arthritis, osteoarthritis, wound healing, hemorrhoids, heart failure, and varicose veins seem to improve with its use (according to multiple studies). However, all of these studies have been criticized for having methodological problems.[116] Other approaches, such as the use of specific herbal remedies, have much more evidence-based support. (Refer to Chapter 15 for more on dietary supplements.)

Safety of Naturopathy

Reports of adverse effects of naturopathy are rare, but safety is contingent to some degree on the skill and knowledge of a given practitioner. Patients should be clear about a practitioners' qualifications before they go for a visit. In general, the methods used preferentially by naturopaths are much less invasive or harmful than many conventional medicine interventions. NDs are preferable to other types of self-proclaimed naturopaths, who have variable levels of training. It is important to be certain that naturopaths are aware of all the medications a person is taking, and naturopaths should communicate with the medical team regarding any treatment recommendations they make. Keep in mind that visits typically cost between $100-$400 and may not be covered by insurers (depending on which state a practitioner is in and its licensing regulations).

Integrative medicine and naturopathic medicine share some similarities, but integrative medicine makes use of a broader array of complementary approaches. NDs tend to have much more intensive training in the use of remedies that might be classed as "natural." In many ways the two overlap, and both overlap to a significant degree with the Whole Health approach as well. When all is said and done, all three are geared toward personalizing care, focusing on prevention and self-care, and drawing from the power of nature—both internal and external to the body—to enhance healing.

Whole Systems: Homeopathy

"Homeopathy" is a combination of the Greek words for "similar" and "suffering." It is a system of healing based on the Law of Similars, the idea that like cures like. Homeopathy was created in 1796 by German physician Samuel Hahnemann. Hahnemann experimented with taking cinchona bark and noted that it caused the same symptoms as the disease (remitting fevers) that it was being used to treat. Through additional experiments involving himself, his students, and other healthy volunteers, he detailed the symptoms associated with taking over 90 different remedies in his *Materia Medica.* The process of identifying potential remedies in this fashion is referred to as a "proving," and new provings continue to be done routinely by modern homeopaths. Over 5,800 remedies have now had provings.[117]

With over 500 million people using it worldwide, homeopathy is the second most used health care system in the world.[118] It is widely accepted in India, Europe, and Latin America. 68% of French physicians consider homeopathic remedies effective. 20% of German physicians use homeopathy, and 42% of British physicians refer patients to homeopaths.[119] It is used less frequently in the U.S. According to the 2012 National Health Information Surveys, an estimated 2.2% of the U.S. population (over 5 million people) used homeopathy over the past year, up from 1.8% in 2006.2,[120] The primary use is for respiratory and ear/nose/throat complaints.[121] The 2015 VA Healthcare Analysis & Information Group (HAIG) study found that "up to 2" of the 141 VA systems nationwide made homeopathic remedies available to patients.[122]

Homeopathy is regulated at the state level. In most states (but not all), people who are licensed to practice any other health care profession can legally practice homeopathy. In

other states, no license is needed. Three states (Arizona, Connecticut, and Nevada) require MDs and DOs (Doctor of Osteopathy) to meet specific homeopathy licensing board requirements.[123]

The Food and Drug Administration regulates homeopathic remedies as drugs, but it does not evaluate for safety or effectiveness; the focus is on good manufacturing practices. Remedies may only be sold over the counter if they claim to treat minor (not major) health problems, such as vomiting or a viral respiratory infection.[119] If they are to be used for a more serious illness (e.g. cancer), they must be prescribed.[124]

For many conventional practitioners, the idea of incorporating homeopathy into practice causes discomfort, because suggested homeopathic principles and mechanisms of action do not jive well with what we currently know about chemistry, physics, and biology. Since the 19th century, there has been a contentious relationship between homeopathic physicians and practitioners of "allopathic" medicine. (Note that it is perhaps best to use a different descriptor, such as "conventional" medicine, because "allopath" has negative connotations; the term was originally coined to be the opposite of "homeopath.")[119] Many experienced practitioners, particularly outside the U.S. and Europe, believe strongly that homeopathy can produce positive results. Many physicians take issue with this.[125,126,127] It is up to each clinician to discern for him or herself whether this therapy fits into Whole Health care. Either way, many patients feel this usually-benign therapy does make a difference, and they have strong opinions about continuing to take their remedies.

Homeopathic Principles

Patient Intakes. In a classical homeopathy visit, care is highly individualized. The homeopath begins with an initial intake that can last as long as 2 to 4 hours. He or she asks multiple open-ended questions to get descriptions of the patient's symptoms down to the minutest detail. The homeopath then consults a *Materia Medica* to find the remedy with a proving that caused symptoms most similar to the ones the patient is experiencing.

Law of Minimum Dose. Another key principle of homeopathy is the "law of minimum dose." Perhaps counterintuitively, it is held that a remedy is more potent—more effective—the *lower* the dose that is given. Substances used in homeopathic remedies undergo a process of potentization; that is, a remedy is diluted and then shaken (homeopaths refer to the shaking process as "succussion"). Dilution and succussion are often done repeatedly.

It is possible to tell how to dilute a homeopathic remedy by looking at the combination of the number and letter printed on the remedy's label. If one part of a substance is diluted in 99 parts of the solvent, the final mixture is labeled "1C." That is, it has been diluted by 100 (Roman numeral C) one time. If one part of that 1C solution is diluted a second time with 99 parts of solvent, it is then referred to as "2C." A 3C label means that the substance has been diluted down below one part per million. If the letter is an "X" or a "D" rather than a "C," the remedy has been diluted by tenfold instead of a hundredfold, respectively. If something is insoluble, it is triturated; that is, it is ground up and then serially mixed in with lactose powder to dilute the dose.

Mechanism of action. Below a dose of 23X or 11C, odds are that there are no more molecules of the original homeopathic remedy remaining in the solvent. It is often asked how such diluted remedies can possibly have any physiological effects. This is one reason why homeopathy is highly controversial; if it works, it does so through a mechanism of action that is not well understood by modern chemistry and physics.

Some proponents of homeopathy argue that the hormesis model may apply. This is described in toxicology and attempts to account for the phenomenon where very low exposures to pollutants or toxins can actually cause favorable biological responses (a response to a vaccine is a useful metaphor). Some homeopaths argue that homeopathy is effective because the solvent somehow carries a memory, or imprint, of the original substance.[128] As Carlston describes it, "Hahnemann described his process of preparing remedies…as liberating the essence of the remedy from its material aspects and thereby increasing its potency."[129]

Homeopathic products can be made from practically anything. Many are made of minerals, such as potassium, arsenic (again, at minuscule doses), and sodium. Others might contain plants, like arnica, a common remedy for acute trauma. Still others may contain animal materials such as snake venom, falcon blood, ground-up insects (there is a remedy made of honeybees), or duck liver and heart. The last, duck liver and heart, is the basis for the remedy, Oscillococcinum, which is a popular but not clearly effective over-the-counter influenza remedy.

Most homeopathic remedies are packaged as small white lactose pellets, and a person typically takes a few of these (between 2 and 5) daily.

Efficacy of Homeopathy

A 2010 "meta-review" summarized findings from six Cochrane reviews on homeopathy that were available at that time.[130] Here are some highlights:

- As of 2010, 150 controlled clinical trials of homeopathy have been published. Some have positive results, others negative.
- A 1997 Lancet review noted that the effects of homeopathy are not entirely due to placebo,[131] but a 2005 Lancet review concluded that they are.[132]
- The 6 articles in the Cochrane meta-review focused on cancer, attention-deficit hyperactivity disorder, asthma, dementia, influenza, and labor induction. None of them concluded that homeopathy is effective.

A more recent Cochrane review conducted in 2013 concluded that the homeopathic remedy asafetida *did* have benefit as a remedy for constipation-predominant irritable bowel syndrome (IBS) but noted that the two included studies had methodological problems.[133] A 2012 review did not find good evidence that convincingly showed Oscillococcinum as beneficial in influenza treatment.[134] A 2017 systematic review found that the homeopathic Galphimia glauca or certain homeopathic nasal sprays may have small beneficial effects for allergic rhinitis, but more study is needed.[135] A 2018 review concluded that homeopathic remedies for upper respiratory infections (URIs) had fewer adverse effects and had equivalent benefits to conventional treatments; noting that the

quality of studies was poor.[136] A 2014 review of homeopathy for fibromyalgia found 10 case reports, three observational studies, one nonrandomized trial, and four RCTs which were supportive overall of benefit.[137] Conclusions were noted to be preliminary due to lack of data. A 2018 review concluded homeopathy could be useful from a public health standpoint, particular for URIs and fibromyalgia.[138] Finally, a 2018 review found no indication of benefit for obesity or diabetes.[139]

A 2015 RCT randomized 410 patients to receive a full homeopathy intake.[140] The homeopathy group "experienced a significant improvement in physical cognitive, social and emotional functioning" to the point where it was recommended as an adjuvant therapy to standard medical care; results did not indicate it would serve as an alternative to standard care. In 2016, the same group went back to look at mortality data for the 401 patients and found a statistically significant improvement in survival time for the homeopathy group.[141] A 2019 trial involving 60 people with insomnia found that individualized homeopathic treatment was significantly more effective than placebo.[142]

Natural Standard, a website that offers systematic reviews related to integrative medicine, rates the homeopathy literature as being "insufficiently reliable" to draw conclusions for the dozens of different indications that have been studied thus far.[143] In contrast, a 2013 review noted that in order to make general statements that homeopathy is ineffective, 90% of clinical trials were excluded, most of which had favorable results.[144] Reviewers suggested that future reviews focus on specific disorders or remedies for a clearer sense of efficacy.

No homeopathic remedies are listed on the VA formulary. In a health food store or online, one can purchase generic remedies that claim to be effective for common illnesses. This is not exactly homeopathy in its truest sense, because these remedies are not precisely matched to individual patients' symptoms.

Safety of Homeopathy

A 2016 systematic review and meta-analysis of 41 trials, with 6,055 total participants, noted that 28 of the trials reported adverse effects, but ultimately, this was equivalent to what was reported by members of the control groups.[145] Rarely, certain homeopathic remedies are promoted as substitutes for immunizations, but there is no data to support this indication.

Whole Systems: Ayurveda

Ayurveda is a medical system unto itself, with a long, rich history of academic investigation and professional experience. Like naturopathy, it draws from a number of different techniques including various forms of meditation and yoga. Ayurveda means "the science of life" or longevity. It focuses as much on prevention as it does on cure, if not more.

Historically, Ayurveda has its roots in ancient Indian Vedic knowledge. Although it dates back more than 5,000 years, it remains an important source of primary health care in India, with 80% of the Indian population using it.[146] It has gained increasing interest in Western culture in recent decades. In fact, it is rapidly growing in popularity worldwide. While

Ayurveda is not yet widely available in the U.S., there are patients who are trying it out, and it is gaining increased popularity in the media.[147]

Ayurveda is usually classed as a "System of Medicine" within the National Center for Complementary and Integrative Health (NCCIH) taxonomy. It is used by roughly 0.1% of the American population, according to the 2012 National Health Interview Survey, and this is similar to 2007 findings.[2] As of 2015, Ayurveda was not being offered within any VA facilities.[3] To learn more about specific schools or to check on credentials for someone in the U.S., see the National Ayurvedic Medical Association.

Licensure and Education

Long ago, Ayurvedic knowledge was passed from a guru (a general term for teacher) to a disciple. Around 2,000 years ago, teachings were formalized in books, and Ayurvedic medical colleges were created. There are currently over 200 Ayurvedic colleges and schools in India. Trainees have educations very similar to MDs in the United States, with training in anatomy and physiology and the requirement that they complete an internship. A Bachelors of Ayurvedic Medicine and Surgery (BAMS) requires five years of study and a two-year internship. BAMS students must write a graduate thesis and complete advanced training to receive a Master of Ayurvedic Science (MASc) degree. It can take 9-10 years to complete this training process. In many places, MASc degrees have been renamed as Doctor of Medicine in Ayurveda (MD in Ayurveda) degrees.[148]

Because Ayurveda is not widely recognized in the U.S., and because practitioners are rare, there are few American training programs. There are some schools in the U.S., but they do not have a standardized curriculum. Sometimes Western clinicians will take a brief course and then label themselves as Ayurvedic practitioners, so it is important to clarify a given practitioner's credentials.

Philosophy and Principles

Ayurveda has evolved over thousands of years, and there are many different ways it might be practiced. However, most schools draw from some common overarching themes. Several of these are listed here.

The five elements. Like Chinese medicine, Ayurveda focuses on five elements. These elements are not the same ones as for Chinese medicine, however. The Ayurvedic elements are:

- **Space/ether**. Linked to communication, hearing, and expansion of consciousness, space's function is to allow for the existence of matter and the intelligence that exists in every cell.
- **Air.** Air is associated with sensation, breathing, touch, and movement (including of thoughts and ideas).
- **Fire.** Fire is linked to transformation, particularly of food as it is digested and absorbed. Understanding, sight, and transformations of thought and emotion are also tied to this element.

- **Water.** Water includes all the fluids in the body, as well as the sense of taste and the emotions of love and compassion.
- **Earth.** Earth is associated with solidified parts of the body, the sense of smell, and being grounded.

The three doshas. *Doshas* might be thought of as types of energy that are present in all things, including the human body. They are also referred to by some sources as "functional principles."[148] The three *doshas* are *kapha*, *pitta*, and *vata*. Table 18-1 describes key aspects of each. They define a person's constitution, or *prakriti*.

Table 18-1. The Three Ayurvedic Doshas[148,149,150]

Dosha Name	Nature	Purpose	Associated Character Traits
Kapha	The energy of structure; holds the cells together.	Influences tendons and bones; supplies water for body needs.	Associated with being even-keeled, patient, and loving. When out of balance, tied to attachment and greed. Tied to congestive disorders, including sinusitis and edema. Obesity more common.
Pitta	The energy of metabolism and digestion. Mainly fire and water elements.	Governs digestion, absorption, thinking, and body temperature.	Tied to leadership and intellect or, when imbalanced, to hatred and anger. Linked to inflammatory problems, skin rashes, and ulcers.
Vata	The energy of movement. Related to the space and air elements. Increases with age.	Influences anything in the body that moves—e.g. heart, blinking, muscles, cellular transport.	Creativity and flexibility when balanced. Anxiety and poor planning when not. Linked to twitches, tics, painful joints, and lung diseases.

Some people have one predominant *dosha*. Others have two. Rarely, people have a balance of all three. The *doshas* interweave in a person, just as body, mind, and consciousness are said to do in Vedic philosophy. Everyone has a unique combination of *doshas*, and if something moves out of balance, they may shift into a different pattern.

There are many online quizzes you can take to determine your *doshas* (while learning more about them along the way). Two options include: Naturedoc.com and Yogainternational.com. Patients often enjoy taking such quizzes to see where they are in terms of balance.

Concepts of disease in Ayurveda. Ayurveda classifies causes of disease in many different ways. *Vaidyas* (Ayurvedic practitioners) ask a number of questions to determine what has weakened the body's defenses. Questions asked about a given symptom might include whether it is acute or chronic, related to past trauma, linked to habitual behaviors, genetic, tied to diet, related to surroundings, or influenced by psychological, supernatural, or spiritual factors.

Disease is thought to arise as a progression through 6 steps, including accumulation of a *dosha*, provocation of dysfunction in local organs, spread to other organs, deposition in weak parts of the body, and manifestation (where it finally becomes possible to make a physical diagnosis because physical damage to tissue is occurring).[148]

Ayurvedic diagnosis. Ayurveda uses sources of diagnostic information, including pulse, urine and stool characteristics, appearance of the tongue, how speech and voice sound, palpation, and the appearance of the eyes. A general physical examination may also be done.

Ayurvedic treatment.[130,148,149] There are 8 traditional Ayurvedic specialties. These are strikingly similar to many Western medical specialties. They include internal medicine, surgery, psychiatry, toxicology, geriatrics, pediatrics, gynecology, and otorhinolaryngology (ENT). Treatments used by each can range from herbal remedies and surgical interventions to marma therapy (much like acupressure) and the use of stones or crystals. The goal is to balance doshas and re-establish a person's unique overall balance. Treating symptoms is insufficient; root causes are sought.

Different Ayurvedic therapeutic interventions include oil massage and sweating therapy, which prepare the body for *panchakarma*. *Panchakarma* (which translates as "five actions") includes therapeutic vomiting, purgative or laxative use, nasal administration of substances, blood purification, and enemas. After *panchakarma*, a personal treatment plan is created based on a person's dominant *dosha* or *doshas*. Specific herbs are given to oppose dominant *dosha* qualities and enhance those that are lacking. Meditation and yoga, as well as dietary modification, are important aspects of therapy. *Doshas* are said to be linked to different tastes. For example, pungent, sour, and salty tastes increase *pitta*. The diet can be modified according to individual needs to rebalance the *doshas*. Treatment may also involve chromotherapy (use of specific colors of light) or palliation, which is used if a person is not felt to be ready for or able to handle *panchakarma*.

Many Ayurvedic herbal remedies are now widely available in the United States. Examples you may hear about include[151]:

- *Ashwagandha*—Used to enhance energy and manage fatigue.
- *Bacopa, also known as Brahmi*—Used to improve cognition.
- *Butterbur*—For allergic symptoms and headaches.
- *Fenugreek*—Lowers LDL, raises HDL; helps maintain serum glucose.
- *Guggul*—Used to treat lipid problems, but data not supportive.
- *Gymnema*—For blood glucose control. Putting powdered gymnema on the tongue can temporarily remove taste sensation.

- *Triphala*—A remedy composed of three different fruits; used for constipation.
- *Tulsi*—Used for inflammation and infection, particularly respiratory infections.
- *Turmeric* (some would argue it is a Western remedy now, too)—Also for inflammation.

Efficacy of Ayurveda

There are over 630 reviews related to Ayurveda on the U.S. National Library of Medicine PubMed.gov site and nearly 5,200 studies. Most systematic reviews focus on Ayurvedic herbal remedies used for specific indications. Of course, as the saying goes, lack of research is not synonymous with lack of efficacy. There is something to be said for a healing tradition having been evolved for over five millennia. Ayurvedic journals, such as the *Journal of Ayurveda and Integrative Medicine* and the *International Journal of Ayurveda Research*, have been disseminating research in recent years and encouraging further investigation.

While, as is so often the case, there is "a need for further research," there are a number of conditions for which Ayurveda has been shown to hold promise. Of course, the literature notwithstanding, most Ayurvedic practitioners would hold that it can be used in general for most health issues, just as Western medicine and other "Whole Systems of Medicine" can.

Noting that this is by no means comprehensive of all study findings related to Ayurveda, some examples of related research are listed below:

- A 2011 Cochrane review of Ayurvedic treatment for diabetes concluded that, "Although there were significant glucose-lowering effects with the use of some herbal mixtures, due to methodological deficiencies and small sample sizes we are unable to draw any definite conclusions regarding their efficacy."[152] Of note, there were no significant adverse events noted in any of the studies. Many different types of therapy were used by the Ayurvedic providers participating in the study.
- A 2018 study found that Ayurveda was beneficial for knee osteoarthritis based n WOMAC Index in a group of 151 participants.[153] A 2014 review found that two Ayurvedic combinations, Rumalaya and Shunti-Guduchi, seemed to be safe and effective treatments for osteoarthritis (OA).[154] These remedies were noted to be comparable to glucosamine, another popular OA treatment, for pain improvement. No severe adverse events were noted in the 10 randomized and 14 nonrandomized trials that were reviewed. Other Ayurvedic drugs used for OA were not found to be as helpful.
- One review found that the Ayurvedic combination, Triphala, showed promise in preventing and treating cancer and the adverse effects of radiation and chemotherapy.[155]
- One review of the literature noted that rasayana Ayurvedic supplements had radioprotective effects for patients undergoing radiation therapy.[156]
- A 2007 systematic review concluded that the majority of randomized controlled trials that were found to be of good quality showed benefit for three Ayurvedic supplements—garlic, guggul, and arjuna—for preventing ischemic heart disease.[157]

- A 2007 Cochrane Review concluded that Ayurvedic medications may have some positive effects on schizophrenia, but only a few "pioneering" studies have been done and more data is needed.[158]
- A 2014 review failed to find enough research to determine Ayurveda's effectiveness in rheumatoid arthritis.[159]

One recent review focusing on the use of Ayurvedic diagnostic methods noted that none of the studies to date had used Ayurvedic diagnostic criteria before using Ayurvedic remedies for treatment, which raised methodological concerns.[160]

Safety of Ayurveda

In general, Ayurvedic approaches seem to be quite safe. Safety and monitoring for adverse effects has been woven into its use in India for hundreds of years. Most studies of Ayurvedic interventions have focused on specific herbal remedies. As with all dietary supplements, these remedies should be approached with appropriate caution regarding the potential for adverse effects or interactions with medications. Refer to Chapter 15, "Dietary Supplements," for more information.

One of the major concerns with Ayurvedic dietary supplements is heavy metal contamination. A 2008 study in the *Journal of the American Medical Association* conducted testing for heavy metals on 230 different medicines. Over one-fifth of them contained detectable levels of arsenic, mercury, or lead. This included products manufactured in both the U.S. and abroad.[161] Be sure to check out product safety using reliable sources, such as Consumer Lab.

Conclusion

With hundreds—or even thousands of years—of accumulated information related to diagnosis, prevention, self-care, and treatment, Whole Systems of Medicine have great potential to inform personal health planning. Get to know the various practitioners of Chinese medicine, naturopathy, homeopathy, and Ayurveda, as well as practitioners working in other Whole Systems of Medicine in your area. Consider experiencing these therapies yourself. It can be quite informative to enlist an entirely different philosophy and perspective for patients, especially if they have a complex health history. It is not uncommon for a Chinese medicine practitioner, vaidya, naturopath, or homeopath to see a complex patient from a perspective that makes sense of an array of symptoms that are not explained by Western medicine diagnoses.

Whole Systems of Medicine Resources

Websites

VA Whole Health Website

- Battlefield Acupuncture
  https://dvagov.sharepoint.com/sites/VHAOPCC/Education/SitePages/Whole-Health-for-Pain-and-Suffering.aspx
- National CIH Subject Matter Experts

- Acupuncture: Juli Olson. Juli.Olson@va.gov; VHABFASUPPORT@va.gov

Other Websites

- Chinese Medicine
  - NCCIH, Traditional Chinese Medicine: In Depth https://nccih.nih.gov/health/whatiscam/chinesemed.htm
  - Qi Journal of Tradtional Eastern Health & Fitness https://www.qi-journal.com
  - Yin-Yang House. http://www.yinyanghouse.com/ This site is a nice introduction to Chinese medicine and has a comprehensive set of acupuncture meridian diagrams.
- Naturopathy
  - American Association of Naturopathic Physicians. http://www.naturopathic.org/. This site can help you find local naturopathic physicians and offers answers to patient FAQ's
- Homeopathy
  - American Institute of Homeopathy. https://homeopathyusa.org. This site has a list of homeopathy-related articles at http://homeopathyusa.org/guide-to-research.html
  - NCCIH, Homeopathy. https://nccih.nih.gov/health/homeopathy
- Ayurveda
  - NCCIH, Ayurvedic Medicine: In Depth. https://nccih.nih.gov/health/ayurveda/introduction.htm,
  - National Ayurvedic Medical Association website. http://www.ayurvedanama.org/. Note that there is a professional listing tab to find local practitioners at https://ayurvedanama.site-ym.com/search/custom.asp?id=945
  - International Society for Ayurveda and Health http://www.ayurvedahealth.org
  - There are many online quizzes you can take to determine your doshas, including http://www.naturdoctor.com/Chapters/Quiz/AyurvedicQuiz.html
- Ayurvedic nutrition.
  - Body and Soul magazine article, "How to Eat for Your Dosha" https://www.bodyandsoul.com.au/health/natural-health/how-to-eat-for-your-dosha/news-story/03b1734023837fce0b190b726e9185f8
  - Recipes at the Ayurvedic Institute https://www.ayurveda.com/resources/recipes/all

Books

- *Ayurveda Beginner's Guide: Essential Ayurvedic Principles and Practices to Balance and Health Naturally*, Susan Weis-Bohlen (2018)
- *Ayurveda: Life, Health and Longevity*, Robert Svoboda (1992)
- *Ayurveda Lifestyle Wisdom: A Complete Prescription to Optimize Your Health, Prevent Disease, and Live with Vitality and Joy*, Acharya Shunya (2017)

- *Ayurveda: The Ancient Indian Healing Art*, Scott Gerson (1997)
- *Acupressure's Potent Points: A Guide to Self-Care for Common Ailments*, Michael Gach (1990)
- *Ayurvedic Cooking for Westerners: Familiar Western Food Prepared with Ayurvedic Principles*, Amadea Morningstar (1995)
- *Between Heaven and Earth: A Guide to Chinese Medicine*, Harriet Beinfield (1992)
- *Chinese Self Massage Therapy: The Easy Way to Health*, Ya-Li Fan (1999)
- *Clinical Naturopathy: An Evidence-Based Guide for Practice*, Jerome Sarris (2014)
- *Textbook of Ayurveda I: Fundamental Principles*, Vasant Lad (2001)
- *Textbook of Ayurveda II: Complete Guide to Clinical Assessment*, Vasant Lad (2007)
- *Textbook of Ayurveda III: General Principles of Management*, Vasant Lad (2012)
- *Textbook of Natural Medicine*, Joseph Pizzorno (2012).
- *The Web That Has No Weaver: Understanding Chinese Medicine*, Ted Kaptchuk (2000)
- *Voices of Qi*, Alex Holland (2000)

References

[1]Nahin RL, Barnes PM, Stussman BJ. Expenditures on complementary health approaches: United States, 2012. *Natl Health Stat Report*. 2016;(95):1-11.
[2] Clarke TC, Black LI, Stussman BJ, Barnes PM, Nahin RL. Trends in the use of complementary health approaches among adults: United States, 2002-2012. *Natl Health Stat Report.* 2015;(79):1-16.
[3] Healthcare Analysis & Information Group (HAIG). FY 2015 VHA Complementary & Integrative Health (CIH) Services (formerly CAM). Department of Veterans Affairs. May 2015.
[4] Madsen C, Patel A, Vaughan M, Koehlmoos T. Use of acupuncture in the United States military healthcare system. *Med Acupunct.* 2018;30(1):33-38.
[5] NCCAOM school code list. National Certification Commission for Acupuncture and Oriental Medicine website. http://www.nccaom.org/school-code-list/. Published 2018. Accessed July 30, 2019.
[6] Frequesntly Asked Questions. CCAOM, Council of Colleges of Acupuncture and Oriental Medcine website. http://www.ccaom.org/faqs.asp. Accessed July 30, 2019.
[7] Yeh GY, Ryan MA, Phillips RS, Audette JF. Doctor training and practice of acupuncture: results of a survey. *J Eval Clin Pract*. 2008;14(3):439-445. doi: 10.1111/j.1365-2753.2007.00891.x. Epub 2008 Mar 27.
[8] Ergil KV. Traditional medicine of China and East Asia. In: Micozzi M, ed. *Fundamentals of Complementary and Alternative Medicine*. Saunders; 2011.
[9] Jiangsu College of New Medicine. *Encyclopedia of the Traditional Chinese Materia Medica* (Zhong Yao Da Ci Dian). Shanghai: People's Press; 1977.
[10] Reddy S. A top hospital opens up to Chinese herbs as medicines. *Wall Street Journal.* 2014. http://online.wsj.com/news/articles/SB10001424052702303626804579509590048257648. Accessed July 30, 2019.
[11]National Center for Complementary and Alternative Medicine (NCCAM). Traditional Chinese Medicine: in depth. National Institutes of Health website. https://nccih.nih.gov/health/whatiscam/chinesemed.htm. Accessed July 30, 2019.
[12] Lao L. Traditional Chinese medicine. In: Jonas WB, Levin JS, eds. *Essentials of Complementary and Alternative Medicine.* Baltimore, MD: Lippincott, Williams & Wilkins; 1999.
[13] Ergil KV, Ergil MC. Acupuncture. In: Micozzi M, ed. *Fundamentals of Complementary and Alternative Medicine.* 4th ed. St. Louis, MO: Sunders Elsevier; 2011.
[14] King HC, Hickey AH, Connelly C. Auricular acupuncture: a brief introduction for military providers. *Mil Med.* 2013;178(8):867-874.
[15] Lemmon R. Acupuncture for pain: 7 questions answered. *J Fam Pract.* 2018;67(4):224-230.

[16] Acupuncture point locations. Acupuncture website. http://www.acupuncture.com/education/points/. Published 2014. Accessed July 30, 2019.
[17] Wright LD. The use of motion sickness bands to control nausea and vomiting in a group of hospice patients. *Am Hosp Palliat Care*. 2005;22(1):49-53.
[18] Niemtzow RC. Battlefield acupuncture. *Med Acupunct*. 2007;19(4). doi: 10.1089/acu.2007.0603. Epub 2007 Nov 15.
[19] Walker PH, Pock A, Ling CG, Kwon KN, Vaughan M. Battlefield acupuncture: opening the door for acupuncture in Department of Defense/Veteran's Administration health care. *Nurs Outlook.* 2016;64(5):491-498.
[20] Federman DG, Poulin LM, Ruser CB, Kravetz JD. Implementation of shared medical appointments to offer battlefield acupuncture efficiently to veterans with pain. *Acupunct Med.* 2018;36(2):124-126. doi: 10.1136/acupmed-2016-011315. Epub 2017 Jun 19.
[21] Li F, He T, Xu Q, et al. What is the acupoint? A preliminary review of acupoints. *Pain Med.* 2015;16(10):1905-1915.
[22] Zhou W, Benharash P. Effects and mechanisms of acupuncture based on the principle of meridians. *J Acupunct Meridian Stud.* 2014;7(4):190-193.
[23] Natural Medicines. Acupuncture. https://naturalmedicines.therapeuticresearch.com. Accessed July 30, 2019.
[24] Tang Y, Yin HY, Rubini P, Illes P. Acupuncture-induced analgesia: a neurobiological basis in purinergic signaling. *Neuroscientist.* 2016;22(6):563-578. Epub 2016 Jun 25.
[25] Ma SX. Nitric oxide signaling molecules in acupoints: toward mechanisms of acupuncture. *Chin J Integr Med.* 2017;23(11):812-815. doi: 10.1007/s11655-017-2789-x. Epub 2017 Oct 28.
[26] Xu Y, Guo Y, Song Y, et al. A new theory for acupuncture: promoting robust regulation. *J Acupunct Meridian Stud.* 2018;11(1):39-43.
[27] Quiroz-González S, Torres-Castillo S, López-Gómez RE, Jiménez Estrada I. Acupuncture points and their relationship with multireceptive fields of neurons. *J Acupunct Meridian Stud.* 2017;10(2):81-89. doi: 10.1016/j.jams.2017.01.006. Epub 2017 Feb 21.
[28] Yang Z, Zhou M, Wang X, et al. Review on skin temperature of acupoints. *Zhongguo Zhen Jiu.* 2017;37(1):109-114. doi: 10.13703/j.0255-2930.2017.01.029.
[29] Romoli M, Allais G, Airola G, et al. Ear acupuncture and fMRI: a pilot study for assessing the specificity of auricular points. *Neurol Sci.* 2014;35 Suppl 1:189-93. doi: 10.1007/s10072-014-1768-7.
[30] Jin L, Sun J, Xu Z, Yang X, Liu P, Qin W. Intersubject synchronization analysis of brain activity associated with the instant effects of acupuncture: an fMRI study. *Acupunct Med.* 2018;36(1):14-20. doi: 10.1136/acupmed-2016-011327. Epub 2017 Dec 19.
[31] Lin L, Skakavac N, Lin X, et al. Acupuncture-induced analgesia: the role of microglial inhibition. *Cell Transplant*. 2016;25:621-628.
[32] Cai W, Shen W-D. Anti-apoptotic mechanisms of acupuncture in neurological diseases: a review. *Am J Chin Med.* 2018;46(3):515-535.
[33] Kong J, Ma L, Gollub RL, et al. A pilot study of functional magnetic resonance imaging of the brain during manual and electroacupuncture stimulation of acupuncture point (LI-4 Hegu) in normal subjects reveals differential brain activation between methods. *J Altern Complement Med.* 2002;8(4):411-419.
[34] Shin HK, Lee S-W, Choi BT. Modulation of neurogenesis via neurotrophic factors in acupuncture treatments for neurological diseases. *Biochem Pharmacol*. 2017;141:132-142.
[35] Uchida S. Cholinergic vasodilative system in the cerebral cortex: effects of acupuncture and aging. *J Acupunct Meridian Stud.* 2014;7.
[36] Xiao L-Y, Wang X-R, Ye Y, et al. Applications of acupuncture therapy in modulating plasticity of central nervous system. *Neuromodulation*. 2017;21:762-776.
[37] Cai RL, Shen GM, Wang H, Guan YY. Brain functional connectivity network studies of acupuncture: a systematic review on resting-state fMRI. *J Integr Med.* 2018;16(1):26-33.
[38] Hempel S, Taylor SL, Solloway MR, et al. Evidence Map of Acupuncture. Washington, DC: Department of Veterans Affairs; http://www.hsrd.research.va.gov/publications/esp/acupuncture.cfm. 2014. Accessed July 30, 2019.
[39] Jai Y, Zhang X, Yu J, et al. Acupuncture for patients with mild to moderate Alzheimer's disease: a randomized controlled trial. *BMC Complement Altern Med.* 2017;17(1):556. doi: 10.1186/s12906-017-2064-x.

[40] Jan AL, Aldridge ES, Rogers IR, Visser EJ, Bulsara MK, Niemtzow RC. Review article: does acupuncture have a role in providing analgesia in the emergency setting? A systematic review and meta-analysis. *Emerg Med Australas.* 2017;29(5):490-498. doi: 10.1111/1742-6723.12832. Epub 2017 Jul 26.
[41] Liu Y, Meng HY, Khurwolah MR, et al. Acupuncture therapy for the treatment of stable angina pectoris: an updated meta-analysis of randomized controlled trials. *Complement Ther Clin Pract.* 2019;34:247-253.
[42] Amorim D, Amado J, Brito I, et al. Acupuncture and electroacupuncture for anxiety disorders: a systematic review of the clinical research. *Complement Ther Clin Pract*. 2018;31:31-37.
[43] Zhang R, Wu T, Wang R, Wang D, Liu Q. Compare the efficacy of acupuncture with drugs in the treatment of Bell's palsy: a systematic review and meta-analysis of RCTs. *Medicine (Baltimore)*. 2019;98(19):e15566. doi:10.1097/MD.0000000000015566.
[44] Wang T, Xu C, Pan K, Xiong H. Acupuncture and moxibustion for chronic fatigue syndrome in traditional Chinese medicine: a systematic review and mate-analysis. *BMC Complement Altern Med.* 2017;17(1):163. doi: 10.1186/s12906-017-1647-x.
[45] Zhang Q, Yue J, Golianu B, Sun Z, Lu Y. Updated systematic review and meta-analysis of acupuncture for chronic knee pain. *Acupunt Med.* 2017;12(10):e0186616. doi: 10.1371/journal.pone.0186616. eCollection 2017.
[46] Oliveira CB, Maher CG, Pinto RZ, et al. Clinical practice guidelines for the management of non-specific low back pain in primary care: an updated overview. *Eur Spine J.* 2018. doi: 10.1007/s00586-018-5673-2.
[47] Chou R, Deyo R, Friedly J, et al. Nonpharmacologic therapies for low back pain: a systematic review for an American college of Physicians clinical practice guideline. *Ann Intern Med.* 2017;166(7):493-505. doi: 10.7326/M16-2459. Epub 2017 Feb 14.
[48] Fan AY, Miller DW, Bolash B, et al. Acupuncture's role in solving the opioid epidemic: evidence, cost-effectiveness, and care availability for acupuncture as a primary, non-pharmacologic method for pain relief and management-white paper 2017. *J Integr Med.* 2017;15(6):411-425. doi: 10.1016/S2095-4964(17)60378-9.
[49] Hsieh PC, Yang MC, Wu YK, et al. Acupuncture therapy improves health-related quality of life in patients with chronic obstructive pulmonary disease: a systematic review and meta-analysis. *Complement Ther Clin Pract*. 2019;35:208-218.
[50] Kligler B, Nielsen A, Kohrher C, et al. Acupuncture therapy in a group setting for chronic pain. *Pain Med.* 2018;19(2):393-403. doi: 10.1093/pm/pnx134.
[51] Smith CA, Armour M, Lee MS, Wang LQ, Hay PJ. Acupuncture for depression. *Cochrane Database Syst Rev.* 2018;3:CD004046. doi: 10.1002/14651858.CD004046.pub4.
[52] Kim BH, Kim MH, Kang SH, Nam HJ. Optimizing acupuncture treatment for dry eye syndrome: a systematic review. *BMC Complement Altern Med.* 2018;18(1):145.
[53] Woo HL, Ji HR, Pak YK, et al. The efficacy and safety of acupuncture in women with primary dysmenorrhea: a systematic review and meta-analysis. *Medicine (Baltimore).* 2018;97(23):e11007. doi: 10.1097/MD.0000000000011007.
[54] Smith CA, Armour M, Zhu X, Li X, Lu ZY, Song J. Acupuncture for dysmenorrhea. *Cochrane Database Syst Rev.* 2016;4:CD007854. doi: 10.1002/14651858.CD007854.pub3.
[55] Xu Y, Zhao W, Li T, Zhao Y, Bu H, Song S. Effects of acupuncture for the treatment of endometripsis-related pain: a systematic review and meta-analysis. *PLoS One.* 2017;12(10):e0186616. doi: 10.1371/journal.pone.0186616. eCollection 2017.
[56] Salazar AP, Stein C, Marchese RR, Plentz RD, Pagnussat AS. Electric stimulation for pain relief in patients with fibromyalgia: a systematic review and meta-analysis of randomized controlled trials. *Pain Physician.* 2017;20(2):15-25.
[57] Bai T, Song C, Zheng C, Huang G. Acupuncture for the treatment of functional constipation. *J Tradit Chin Med.* 2016;36(5):578-287.
[58] Lan L, Zeng F, Liu GJ, et al. Acupuncture for functional dyspepsia. *Cochrane database Syst Rev.* 2014;(10):CD008487. doi: 10.1002/14651858.CD008487.pub2.
[59] Zhu J, Guo Y, Liu S, et al. Acupuncture for the treatment of gastro-oesophageal reflux disease: a systematic review and meta-analysis. *Acupunct Med.* 2017;35(5):316-323. doi: 10.1136/acupmed-2016-011205. Epub 2017 Jul 8.
[60] Dong B, Chen Z, Yin X, et al. The efficacy of acupuncture for treating depression-related insomnia compared with a controlled group: a systematic review and meta-analysis. *Biomed Res Int.* 2017;2017:9614810. doi: 10.1155/2017/9614810. Epub 2017 Feb 14.

[61] Tsai MY, Liu CT, Chang CC, Chen SY, Huang ST. Overview of the relevant literature on the possible role of acupuncture in treating male sexual dysfunction. *Acupunct Med*. 2014;32(5):406-410. doi: 10.1136/acupmed-2014-010592. Epub 2014 Jul 21.
[62] Li X, Wang R, Xing X, et al. Acupuncture for myofascial pain syndrome: a network meta-analysis of 33 randomized controlled trials. *Pain Physcian.* 2017;20(6): E883-E902.
[63] Gong CZ, Liu W. Acupuncture and the opioid epidemic in America. *Chin J Integr Med.* 2018;24(5):323-327.
[64] Pan H, Jin R, Li M, Liu Z, Xie Q, Wang P. The effectiveness of acupuncture for osteoporosis: a systematic review and meta-analysis. *Am J Chin Med*. 2018;46(3):489-513.
[65] Noh H, Kwon S, Cho SY, et al. Effectiveness and safety of acupuncture in the treatment of Parkinson's disease: a systematic review and meta-analysis of randomized controlled trials. *Complement Ther Med.* 2017;34:86-103. doi: 10.1016/j.ctim.2017.08.005. Epub 2017 Aug 12.
[66] Yin C, Buchheit TE, Park JJ. Acupuncture for chronic pain: an update and critical overview. *Curr Opin Anaesthesiol.* 2017;30(5):583-592. doi: 10.1097/ACO.0000000000000501.
[67] Acar HV. Acupuncture and related techniques during perioperative period: a literature review. *Complement Ther Med.* 2016;29:48-55.
[68] Armour M, Ee CC, Hao J, Wilson TM, Yao SS, Smith CA. Acupuncture for premenstrual syndrome. *Cochrane Database Syst Rev.* 2018;8:CD005290. doi: 10.1002/14651858.CD005290.pub2.
[69] Coyle ME, Liang H, Wang K, et al. Acupuncture plus moxibustion for herpes zoster: a systemative review and meta-analysis of randomized controlled trials. *Dermatol Ther.* 2017;30(4). doi: 10.1111/dth.12468. Epub 2017 Mar 24.
[70] Fernandes AC, Duarte Moura DM, Da Silva LGD, De Almeida EO, Barbosa GAS. Acupuncture in temporomandibular disorder myofascial pain treatment: a systematic review. *J Oral Facial Pain Headache.* 2017 Summer;31(3):225-232. doi: 10.11607/ofph.1719.
[71] Linde K, Allais G, Brinkhaus B, et al. Acupuncture for the prevention of tension-type headache. *Cochrane Database Syst Rev.* 2016;4:CD007587. doi: 10.1002/14651858.CD007587.pub2.
[72] Sibbritt D, Peng W, Lauche R, Ferguson C, Frawley J, Adams J. Efficacy of acupuncture for lifestyle risk factors for stroke: a systematic review. *PLoS One.* 2018;13(10):e0206288.
[73] Kim SY, Shin IS, Park YJ. Effect of acupuncture and intervention types on weight loss: a systematic review and meta-analysis. *Obes Rev.* 2018;19(11):1585-1596.
[74] Assy Z, Brand HS. A systematic review of the effects of acupuncture on xerostomia and hyposalivation. *BMC Complement Altern Med.* 2018;18(1):57. doi: 10.1186/s12906-018-2124-x.
[75] Manheimer E, Cheng K, Wieland LS, et al. Acupuncture for hip osteoarthritis. *Cochrane Database Syst Rev.* 2018(5).
[76] Liu X, Qin Z, Zhu X, Yao Q, Liu Z. Systematic review of acupuncture for the treatment of alcohol withdrawl syndrome. *Acupunct Med.* 2018. pii: acupmed-2016-011283. doi: 10.1136/acupmed-2016-011283.
[77] Choi GH, Wieland LS, Lee H, Sim H, Lee MS, Shin BC. Acupuncture and related interventions for the treatment of symptoms associated with carpal tunnel syndrome. *Cochrane Database Syst Rev.* 2018;12:Cd011215.
[78] Ramos A, Dominguez J, Gutierrez S. Acupuncture for rheumatoid arthritis. *Medwave.* 2018;18(6):e7284.
[79] Yang J, Chen J, Yang M, et al. Acupuncture for hypertension. *Cochrane Database Syst Rev.* 2018;11:Cd008821.
[80] Anshasi HA, Ahmad M. An assessment of methodological quality of systematic reviews of acupuncture and related therapies for cancer-related pain. *Complement Ther Clin Pract.* 2018;32:163-168. doi: 10.1016/j.ctcp.2018.06.013. Epub 2018 Jun 30.
[81] Paley CA, Johnson MI, Tashani OA, Bagnall AM. Acupuncture for cancer pain in adults. *Cochrane Database Syst Rev.* 2015;(10):CD007753. doi: 10.1002/14651858.CD007753.pub3.
[82] Ju ZY, Wang K, Cui HS, et al. Acupuncture for neuropathic pain in adults. *Cochrane Database Syst Rev.* 2017;12:CD012057. doi: 10.1002/14651858.CD012057.pub2.
[83] Trinh K, Graham N, Irnich D, Cameron ID, Forget M. Acupuncture for neck disorders. *Cochrane Database Syst. Rev.* 2016;(5):CD004870. doi: 10.1002/14651858.CD004870.pub4.
[84] Zhang K, Zhou S, Wang C, Xu H, Zhang L. Acupuncture on obesity: clinical evidence and possible Neuroendocrine mechanisms. *Evid Based Complement Alternat Med.* 2018;2018:6409389. doi: 10.1155/2018/6409389. eCollection 2018.
[85] Law SK, Li T. Acupuncture for glaucoma. *Cochrane Database Syst Rev*. 2013 ;(5):CD006030. doi: 10.1002/14651858.CD006030.pub3.

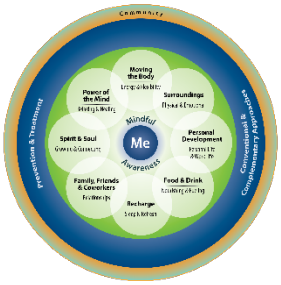
[86] Lim CED, Ng RWC, Cheng NCL, Zhang GS, Chen H. Acupuncture for polycystic ovarian syndrome. *Cochrane Database Syst Rev.* 2019(7).
[87] Kim KH, Lee MS, Choi TY, Kim TH. Acupuncture for symptomatic gastroparesis. *Cochrane Database Syst Rev.* 2018(12).
[88] Cao HJ, Yu ML, Wang LQ, Fei YT, Xu H, Liu JP. Acupuncture for primary insomnia: an updated systematic review of randomized controlled trials. *J Altern Complement Med.* 2019;25(5):451-474.
[89] He W, Li M, Zuo L, et al. Acupuncture for treatment of insomnia: an overview of systematic reviews. *Complement Ther Med.* 2019;42:407-416.
[90] De Lima Pimentel R, Duque AP, Moreira BR, Rodrigues LF Junior. Acupuncture for the treatment of cardiovascular diseases: a systematic review. *J Acupunct Meridian Stud.* 2018. pii: S2005-2901(18)30084-0. doi: 10.1016/j.jams.2018.07.005.
[91] Zhang W, Ma L, Bauer BA, Liu Z, Lu Y. Acupuncture for benign prostatic hyperplasia: a systematic review and meta-analysis. *PLoS One.* 2017;12(4):e0174586. doi: 10.1371/journal.pone.0174586. eCollection 2017.
[92] Zhao Y, Zhou J, Mo Q, Wang Y, Yu J, Liu Z. Acupuncture for adults with overactive bladder: a systematic review and meta-analysis of randomized controlled trials. *Medicine*. 2018;97(8):e9838.
[93] Qin Z, Zang Z, Zhou K, et al. Acupuncture for chronic prostatitis/chronic pelvic pain syndrome: a randomized, sham acupuncture controlled trial. *J Urol.* 2018;200(4):815-822.
[94] Song AQ, Zhang YP, Chen R, Liang FX. Is acupuncture effective for improving insulin resistance? A systematic review and meta-analysis. *Curr Med Sci.* 2018;38(6):1109-1116.
[95] Xu J, Zhang FQ, Pei J, Ji J. Acupuncture for migraine without aura: a systematic review and meta-analysis. *J Integr Med.* 2018;16(5):312-321.
[96] Ni YM, Frishman WH. Acupuncture and cardiovascular disease: focus on heart failure. *Cardiol Rev.* 2018;26(2):93-98.
[97] Xu M, Li D, Zhang S. Acupuncture for acute stroke. *Cochrane Database Syst Rev.* 2018;3:CD003317. doi: 10.1002/14651858.CD003317.pub3. [Epub ahead of print]
[98] Federman DG, Radhakrishnan K, Gabriel L, Poulin LM, Kravetz JD. Group battlefield acupuncture in primary care for veterans with pain. *South Med J*. 2018;111(10):619-624.
[99] Federman DG, Gunderson CG. Battlefield acupuncture: is it ready for widespread dissemination? *South Med J.* 2017;110(1):55-57. doi: 10.14423/SMJ.0000000000000584.
[100] Murakami M, Fox L, Dijkers MP. Ear acupuncture for immediate pain relief-a systematative review and meta-analysis of randomized controlled trials. *Pain Med.* 2017;18(3):551-564. doi: 10.1093/pm/pnw215.
[101] Chan MWC, Wu XY, Wu JCY, Wong SYS, Chung VCH. Safety of acupuncture: overview of systematic reviews. *Sci Rep.* 2017;7(1):3369.
[102] Mcculloch M, Nachat A, Schwartz J, Casella-Gordon V, Cook J. Acupuncture safety in patients receiving anticoagulants: a systematic review. *Perm J*. 2015;19(1):68–73. doi:10.7812/TPP/14-057.
[103] Levinson D. Adverse events in hospitals: national incidence among Medicare beneficiaries. Department of Health and Human Services: Office of the Inspector General. http://oig.hhs.gov/oei/reports/oei-06-09-00090.pdf. 2010. Accessed August 29, 2014.
[104] Wheway J, Agbabiaka TB, Ernst E. Patient safety incidents from acupuncture treatments: a review of reports to the National Patient Safety Agency. *Int J Risk Saf Med*. 2012;24(3):163-169. doi: 10.3233/JRS-2012-0569.
[105] Ernst E, Thompson Coon J. Heavy metals in traditional Chinese medicines: a systematic review. *Clin Pharmacol Ther*. 2001;70(6):497-504.
[106] MacPherson H, Vertosick EA, Foster NE, et al. The persistence of the effects of acupuncture after a course of treatment: a meta-analysis of patients with chronic pain. *Pain.* 2017;158(5):784-793. doi: 10.1097/j.pain.0000000000000747.
[107] Stephen B, Soo LM, Terje A, Tae-Hun K. Overview of treatment guidelines and clinical practical guidelines that recommend the use of acupuncture: a bibliometric analysis. *JACM.* 2018;24(8):752-769.
[108] Institute for Natural Medicine. Naturopathic medicine is growing in U.S. medical centers of excellence. Cision PR Newswire website. https://www.prnewswire.com/news-releases/naturopathic-medicine-is-growing-in-us-medical-centers-of-excellence-300601605.html. Published February 21, 2018. Accessed July 30, 2019.
[109] Naturopathic doctor licensure. Association of Accredited Naturopahic Medical Colleges website. https://aanmc.org/resources/licensure/. Accessed July 30, 2019.

[110]Szczurko O, Cooley K, Mills EJ, Zhou Q, Perri D, Seely D. Naturopathic treatment of rotator cuff tendinitis among Canadian postal workers: a randomized controlled trial. *Arthritis Rheum.* 2009;61(8):1037-45. doi: 10.1002/art.24675.
[111] American Association of Naturpathic Physicians. House of Delegates Position Paper: Definition of Naturopathic Medicine. The American Association of Naturopathic Physicians website. https://docmoses.com/wp-content/uploads/2014/02/Definition-Naturopathic-Medicine.pdf. Published 2011. Accessed July 30, 2019.
[112] Micozzi M, ed. *Fundamentals of Complementary and Alternative Medicine*. 4th ed. St. Louis, MO: Sunders Elsevier; 2011.
[113] Myers SP, Vigar V. The state of the evidence for whole-system, multi-modality naturopathic medicine: a systematic scoping review. *J Altern Complement Med.* 2019;25(2):141-168.
[114] Cooley K, Szczurko O, Perri D, et al. Naturopathic care for anxiety: a randomized controlled trial ISRCTN78958974. *PLoS One*. 2009;4(8):e6628. doi: 10.1371/journal.pone.0006628.
[115] Seely D, Szczurko O, Cooley K, et al. Naturopathic medicine for the prevention of cardiovascular disease: a randomized clinical trial. *CMAJ*. 2013;185(9):E409-E416. doi: 10.1503/cmaj.120567. Epub 2013 Apr 29.
[116] Fleming SA, Gutknecht NC. Naturopathy and the primary care practice. *Prim Care*. 2010;37(1):119-136. doi: 10.1016/j.pop.2009.09.002.
[117] AP admin. Update: number of homeopathic remedies available now is 8,200. The Aurum Project website. https://aurumproject.org.au/homeopathic-remedies-8200/. Published December 12, 2018. Accessed July 30, 2019.
[118] American Institute of Homeopathy website. https://homeopathyusa.org/patients.html. Accessed July 30, 2019.
[119] Chapman EH. Homeopathy. In: Jonas WB, Levin JS, eds. *Essentials of Complementary and Alternative Medicine.* Baltimore, MD: Lippincott, Williams, & Wilkins; 1999.
[120] Barnes PM, Bloom B, Nahin RL, National Center for Health Statistics. *Complementary and alternative medicine use among adults and children: United States, 2007.* Hyattsville, MD: US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics;2008.
[121] Dossett ML, Davis RB, Kaptchuk TJ, Yeh GY. Homeopathy use by US adults: results of a national survey. *Am J Public Health.* 2016;106(4):743-5. doi: 10.2105/AJPH.2015.303025. Epub 2016 Feb 18.
[122] Healthcare Analysis and Information Group (HAIG). *FY 2015 VHA Complementary and Integrative Health (CIH) Services (formerly CAM).* Department of Veterans Affairs, Veterans Health Administration. https://sciencebasedmedicine.org/wp-content/uploads/2016/07/FY2015_VHA_CIH_signedReport.pdf. Accessed July 30, 2019.
[123] Greenwood B. Licensing for homeopathic doctors. Chron website. https://work.chron.com/licensing-homeopathic-doctors-23134.html. Published 2018. Accessed July 30, 2019.
[124] National Center for Complementary and Alernative Medicine. Homeopathy: an introduction. National Institutes of Health. http://nccam.nih.gov/health/homeopathy. Accessed July 30, 2019.
[125] Garattini S, Mannucci PM. Homeopathy provided by a national health service: Only in Italy? *Eur J Intern Med.* 2017;41:1-2. doi: 10.1016/j.ejim.2017.03.013. Epub 2017 Mar 23.
[126] Gray B. How should we respond to non-dominant healing practices, the example of homeopathy. *J Bioeth Ing.* 2017;14(1):87-96. doi: 10.1007/s11673-016-9760-y. Epub 2016 Dec 14.
[127] American Insititute of Homeopathy accuses European Academies Science Advisory Council of deliberate scientific bias. American Institute of Homeopathy website. https://homeopathyusa.org/about-aih-2/position-statements-letters-2/aih-accuses-european-academies-science-advisory-council-of-deliberate-scientific-bias.html. Accessed July 30, 2019.
[128] Almirantis Y, Tsitinidis K. Ultra-high dilutions and homeopathy: can they be explained without non-local theory? *Homeopathy.* 2018;107(3):189-195. doi: 10.1055/s-0038-1656513. Epub 2018 Jun 5.
[129] Carlston M. Homeopathy. In: Micozzi M, ed. *Fundamentals of Complementary and Alternative Medicine.* 4th ed. St Louis, MO: Sunders Elsevier; 2011.
[130] Ernst E. Homeopathy: what does the "best" evidence tell us. *Med J Aust.* 2010;192(8):458-460.
[131] Linde K, Clausius N, Ramirez G, et al. Are the clinical effects of homeopathy placebo effects? A meta-analysis of placebo-controlled trials. *Lancet.* 1997;350(9081): 834-843.
[132] Shang A, Huwiler-Münterner K, Nartney L, et al. Are the clinical effects of homeopathy placebo effects? Comparative study of placebo-controlled trials of homeopathy and allopathy. *Lancet.* 2005;366(9487): 726-732).

[133] Peckham EJ, Nelson EA, Greenhalgh J, Cooper K, Roberts ER, Agrawal A. Homeopathy for treatment of irritable bowel syndrome. *Cochrane Database Syst Rev.* 2013;11.
[134] Mathie RT, Frye J, Fisher P. Homeopathic Oscillococcinum (®) for preventing and treating influenza and influenza-like illness. *Cochrane Database Syst Rev.* 2012;12:CD001957. doi: 10.1002/14651858.CD001957.pub5.
[135] Banerjee K, Mathie RT, Costelloe C, Howick J. Homeopathy for allergic rhinitis: a systematic review. *J Altern Complement Med.* 2017;23(6):426-444. doi: 10.1089/acm.2016.0310. Epub 2017 Feb 16.
[136] Fixsen A. Homeopathy in the age of antimicrobial resistance: is it a viable treatment for upper respiratory tract infections? *Homeopathy.* 2018;107(2):99-114.
[137] Boehm K, Raak C, Cramer H, Lauche R, Ostermann T. Homeopathy in the treatment of fibromyalgia-a comprehensive literature-review and meta-analysis. *Complment Ther Med.* 2014;22(4):731-42. doi: 10.1016/j.ctim.2014.06.005. Epub 2014 Jun 28.
[138] Dossett ML, Yeh GY. Homeopathy use in the United States and implications for public health: a review. *Homeopathy.* 2018;107(1):3-9.
[139] Monami M, Silverii A, Mannucci E. Alternative treatment or alternative to treatment? A systematic review of randomized trials on homeopathic preparations for diabetes and obesity. *Acta Diabetol.* 2019;56(2):241-243.
[140] Gaertner K, Müllner M, Friehs H, et al. Additive homeopathy in cancer patients: retrospective survival data from a homeopathic outpatient unit at the Medical University of Vienna. *Complement Ther Med.* 2014;22(2):320-32. doi: 10.1016/j.ctim.2013.12.014. Epub 2014 Jan 8.
[141] Gleiss A, Frass M, Gaertner K. Re-analysis of survival data of cancer patients utilizing additive homeopathy. *Complement Ther Med.* 2016;27:65-7. doi: 10.1016/j.ctim.2016.06.001. Epub 2016 Jun 7.
[142] Michael J, Singh S, Sadhukhan S, et al. Efficacy of individualized homeopathic treatment of insomnia: double-blind, randomized, placebo-controlled clinical trial. *Complement Ther Med.* 2019;43:53-59.
[143] Homeopathy. Natural Medicines website. https://naturalmedicines.therapeuticresearch.com/databases/health-wellness/professional.aspx?productid=1154. Published July 14, 2015. Accessed July 30, 2019.
[144] Hahn RG. Homeopathy: meta-analyses of pooled clinical data. *Forsch Komplementmed.* 2013;20(5):376-81. doi: 10.1159/000355916. Epub 2013 Oct 17.
[145] Stub T, Musial F, Kristoffersen AA, Alraek T, Liu J. Adverse effects of homeopathy, what do we know? A systematic review and meta-analysis of randomized controlled trials. *Complement Ther Med.* 2016;26:146-63. doi: 10.1016/j.ctim.2016.03.013. Epub 2016 Mar 26.
[146] Ayurveda. Natural Medcines website. https://naturalmedicines.therapeuticresearch.com/databases/health-wellness/professional.aspx?productid=1201. Published June 9, 2015. Accessed July 30, 2019.
[147] Halpern M. A review of the evolution of ayurveda in the United States. *Altern Ther Health Med.* 2018;24(1): 12-14.
[148] Lad V, Ayurvedic medicine. In: Jonas WB, Levin JS, eds. *Essentials of Complementary & Alternative Medicine.* Baltimore, MD: Lippincott Williams and Wilkins; 1999.
[149] Zysk KG. Traditional medicine of India: Ayurveda and Siddha. In: Micozzi M, ed. *Fundamentals of Complementary and Alternative Medicine.* 4th ed. St. Louis, MO: Sunders Elsevierr; 2011.
[150] Sharma HM. Contemporary ayurveda. In: Micozzi M, ed. *Fundamentals of Complementary and Alternative Medicine.* 4th ed. St. Louis, MO: Sunders Elsevier; 2011.
[151] Natural Medicines. https://naturalmedicines.therapeuticresearch.com/. Accessed July 30, 2019.
[152] Sridharan K, Mohan R, Ramaratnam S, Panneerselvam D. Ayurvedic treatment for diabetes mellitus. *Cochrane Databse Syst Rev.* 2011: 7(12).
[153] Kessler CS, Dhiman KS, Kumar A, et al. Effectiveness of an ayurveda treatment approach in knee osteoarthritis – a randomized controlled trial. *Osteoarthritis Cartilage.* 2018;26(5):620-630. doi: 10.1016/j.joca.2018.01.022. Epub 2018 Feb 7.
[154] Kessler CS, Pinders L, Michalsen A, Cramer H. Ayurvedic interventions for osteoarthritis: a systematic review and meta-analysis. *Rheumatol Int.* 2015;35(2):211-32. doi: 10.1007/s00296-014-3095-y. Epub 2014 Jul 26.
[155] Baliga MS. Triphala, Ayurvedic formation for treating and preventing cancer: a review. *J Altern Complement Med.* 2010;16(12):1301-8. doi: 10.1089/acm.2009.0633.

[156] Baliga MS, Meera S, Vaishnav LK, Rao S, Palatty PL. Rasayana drugs from the ayurvedic system of medicine as possible radioprotective agents in cancer treatment. *Integr Cancer Ther.* 2013;12(6):455-63. doi: 10.1177/1534735413490233. Epub 2013 Jun 4.
[157] Singh BB, Vinjamury SP, Der-Martirosian C, et al. Ayurvedic and collateral herbal treatments for hyperlipidemia: a systematic review of randomized controlled trials and quasi-experimental designs. *Altern Ther Health Med.* 2007;13(4):22-28.
[158] Agarwal V, Abhijnhan A, Raviraj P. Ayurvedic medicine for schizophrenia. *Cochrane Database Syst Rev.* 2007;(4):CD006867.
[159] Basnyat S, Kolasinski SL. Ayurvedic medicine for rheumatoid arthritis. *Curr Rheumatol Rep.* 2014;16(8):435. doi: 10.1007/s11926-014-0435-6.
[160] Brar BS, Chhibber R, Srinivasa VM, Dearing BA, McGowan R, Katz RV. Use of ayurvedic diagnostic criteria in ayurvedic clinical trials: a literature review focused on research methods. *J Altern Complement Med.* 2012;18(1):20-8. doi: 10.1089/acm.2010.0671. Epub 2012 Jan 11.
[161] Saper RB, Phillips RS, Sehgal A, et al. Lead, mercury, and arsenic in US- and Indian-manufactured ayurvedic medicines sold via the internet. *JAMA.* 2008;300(8):915-23. doi: 10.1001/jama.300.8.915.

Chapter 19. Whole Health and Community



Small acts, when multiplied by millions of people, can transform the world.

—Howard Zinn

Healing Benefits of Community

Encompassing all of the other circles within the Circle of Health is the outermost circle, Community. Our journey, which started with "Me" at the center, expands out to the "We" that makes everything else possible (Figure 19-1). Mindful awareness and self-care, which empower Veterans to help themselves, offer a foundation. Professional care expands Whole Health to the entire team. Community contains all of this; it makes it all possible. As they say, "It takes a village to do Whole Health." All of the other areas—complementary and integrative health (CIH), Food and Drink, Mindful Awareness, Spirit and Soul, Prevention, etc.—do not happen in isolation, they exist within a broader context. Community is that context. It includes all the groups, organizations and institutions that people rely on and in turn, it would not exist without them.

Figure 19-1. On Reflection, Me and We Are Closely Related

When we talk about Whole Health, the scenario that comes to mind first for many people is a clinical, or one-on-one, encounter. A patient (Veteran, clinician, etc.), perhaps with loved ones, visits with a clinician, or perhaps several members of a team, and co-creates (or elaborates upon) a Personal Health Plan (PHP) that supports their mission, aspiration, purpose (MAP). However, there are many other ways that Whole Health care can be offered. Whole Health can be provided to multiple people at once, in a class or as part of a shared medical appointment. Whole Health is happening when a facility's Whole Health Committee plans a hospital-wide event, or when a group of nurses in a clinic decide to walk together at lunch. It can happen in fitness centers, neighborhood parks, the VFW building, work places, places of worship, and even the canteen at the local VA hospital. It happens when a Whole Health Partner or Coach connects a Veteran with a community resource that supports them with attaining a shared goal. It might look very different to different people.

Policy makers, public health officials, pentad members, and administrative people may have a different but, of course, no less important role in moving Whole Health forward. Without leadership Whole Health would not exist in the first place.

The Integral Health Perspective: I/We/It/Its

Integral medicine is not the same as *integrative* medicine. It is based on the work of American philosopher Ken Wilber, whose intent throughout his career has been to bring all therapeutic approaches—in fact, all areas of human understanding—into a unified model.[1] Wilber is perhaps best known for his Four Quadrant Model, illustrated in Figure 19-2.[2]

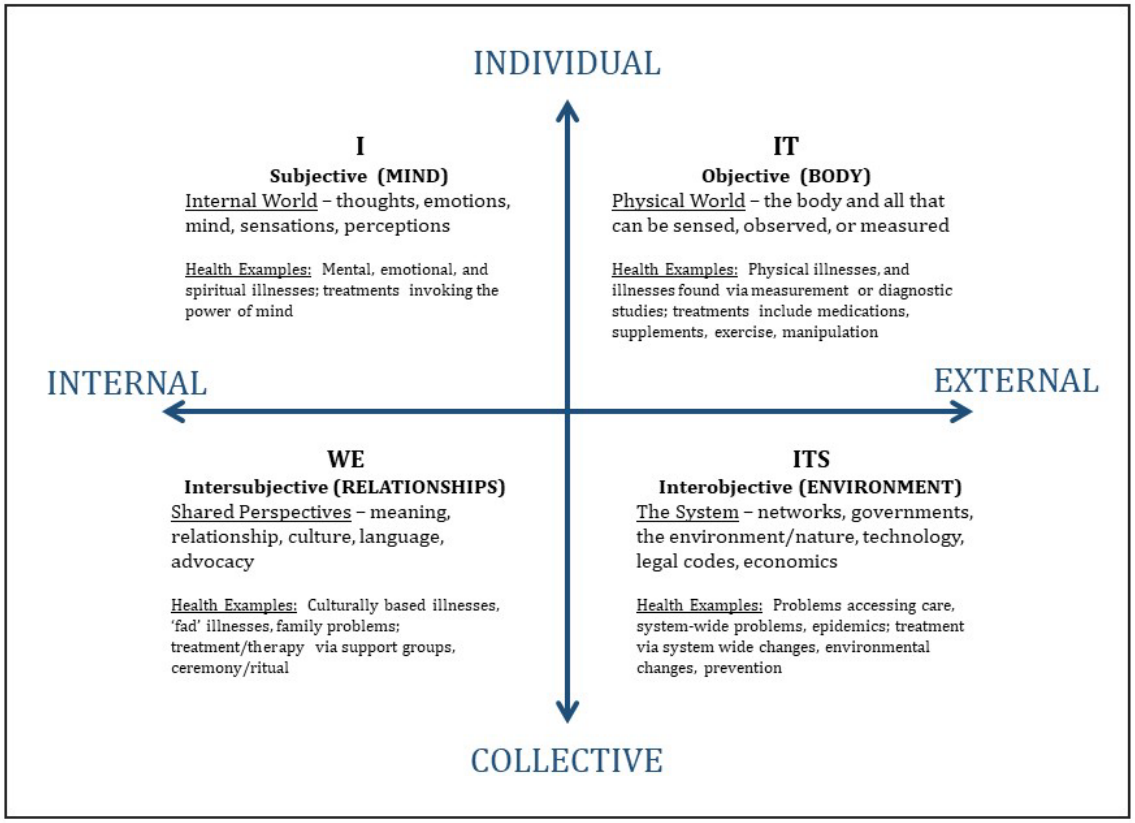


Figure 19-2. The Four Quadrant Model.[2]

How the Four Quadrant Model Meshes with the Whole Health Approach

The two quadrants on the left side of the diagram are linked to the subjective (internal or personal) world. Many treatments, such as mind-body therapies, rely heavily on the subjective. This is where Power of the Mind fits.

The two quadrants on the right side are linked to the objective (external) aspects human experience. Conventional medicine has historically focused primarily on what is objective, the "It" in the upper-right quadrant by focusing on measurable variables tested in clinical trials.

The two quadrants in the top row focus on the individual aspects of health. In contrast, the two quadrants in the bottom row focus on the collective—how the groups to which we belong define us. No PHP, shared goal, or SMART goal is worth its salt if it fails to account for a Veteran's context in terms of his/her relationships (the "WE" in the left lower quadrant) and environment (the "ITS" in the lower right). As you help Veterans create PHPs, try to look at them in terms of how they fit into all four of the Integral Health quadrants. It will make your plans much more comprehensive.

Individual Context

Part of individualizing care is being aware of context, all the factors that shape a person's life.[3] Answers to the following questions have as much of an impact on whether a patient follows through with a PHP as any of the contributions we as clinicians make:

- Do patients have access to a given therapy or practitioner? Do they have transportation? Is there a long wait to schedule a visit?
- Can they afford the therapy, or is it financially covered in some other way?
- Do they have the skills or health literacy to follow through with the plan?
- Do their various illness prevent them from achieving their goals (e.g. substance use disorder, severe mental illness, and/or dementia can be significant impediments to success)?
- Can someone else help them keep track of their schedule, get to their appointments, or offer moral support?
- How are their care options affected by social policy, law, and how the health care system functions?
- Do cultural, religious, and other factors support healing or interfere with it?

Attunement to context has a significant impact on quality of care and prevents medical errors.[3] There are some striking parallels between how the Whole Health approach can emphasize a person's connecting with community and how the Recovery Model also does this in mental health.[4]

Social Determinants of Health

The Office of Disease Prevention and Health Promotion's *Healthy People 2020 Initiative* defines the social determinants of health (SDOH) as "...the conditions in the environments in which people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks."[5] Five key areas of SDOH are listed, including 1) Economic Stability, 2) Education, 3) Social and Community Context, 4) Health and Health Care, and 5) Neighborhood and Build Environment. Social, physical, and economic conditions are examples, as are social engagement, resources and security. Strategies for reducing the negative effects (and enhancing positive ones) related to SDOH can have a profound impact.[6] Truly holistic (whole-person) care can only occur if SDOH is taken into account. The DPHP website offers a snapshot of how the U.S. is doing with regard to a number of national health indicators.

Some SDOH have already been covered in previous chapters, including the following:

- As noted in Chapter 6, **aspects of our Surroundings**, including the safety of our neighborhoods, access to clean air and water, and availability of safe and affordable housing within one's community are all important.[7]
- Chapter 7, "Personal Development," describes the importance of **financial well-being, education, and personal growth** for promoting health.
- **Involvement in community groups and activities**, and the importance of social support and social capital within community are described in Chapter 10, "Family, Friends, & Co-Workers."
- Chapter 11, "Spirit & Soul," highlights the health benefits and value of **spiritual and religious communities.**

There are other SDOH to consider as well. The following might not be mentioned explicitly in a clinician-patient encounter, but they have a profound influence on Whole Health:

- **Public health.** Each of us benefits from measures to contain diseases like tuberculosis, or to vaccinate against diseases that would otherwise harm entire populations of people. For example, smoke-free laws for bars, restaurants, and workplaces reduced hospitalizations by 8-17% in a year.[8]
- **Policy.** Laws exist to keep people safe in any number of ways. It is possible to discuss the Whole Health approach because of legislation, funding, and support from leaders at the national, VISN, and local leadership levels.
- **Environment at the ecosystem level and beyond.** At the largest-scale level, we belong to the community of humanity and the community of life on earth. There is no doubt that decisions on the other side of the planet can influence our day-to-day experiences of our world. Pollution is a community issue. Global warming is a community issue with the potential to negatively affect health in a profound way.[9] How environmentally friendly, or "green," our health care facilities is a community issue. All of these affect individual health too.
- **Culture**. People belonging to a given culture are unique, but cultural standards and norms do influence perspectives on health. Being part of an ethnic group, following various traditions, and the influences of one's family of origin can all inform health care behaviors and preferences. Practicing with cultural humility is essential.[10,11] Cultural humility informs care of people who may be different from a care team member in terms of factors such as race, ethnicity, social status, sexual preferences, and professional roles.[12] Cultivating cultural humility is a lifelong process, built around openness, self-awareness, egolessness, self-evaluation, and supportive interactions. Humble care team members are more effective at patient care.[13] More information is available in the Resources section at the end of this chapter.
- **Engagement and partnerships.** A powerful ally on the team is a social worker, or someone else versed in what programs, classes, and support mechanisms are available not only in the VA, but at the community, county, state, and national level. There are many communities that have programs where volunteers offer free or discounted services specifically for Veterans, such as acupuncture, yoga classes, or even housecleaning services. Your VA Medical Center's Health Promotion and Disease Prevention Program Manager is another good resource for VA and community programs and resources. A link to a full directory of Veterans and Military Service Organizations is featured at the end of this chapter. The VA website features information about Community Care Networks, particularly important now as the MISSION Act has gone into effect.
- **Leadership and advocacy.** Buy-in from leaders makes all the difference in terms of whether or not clinicians, Whole Health Partners, Whole Health Coaches, and others can fully offer their expertise. Meeting with leaders in your facility is as important to promoting Whole Health is as talking to a patient about healthy behaviors; that is, both are extremely important. If something is not going well, or if obstacles are compromising your ability to offer Whole Health, seek help and support. Write your Congressperson. Talk to your supervisor. Step up on behalf of your Veterans.

- **Equity and social justice.** Tragically, poverty, race, educational status, and other such measures are all linked to morbidity and mortality.[14,15] Programs to improve a Veteran's situation in such areas make an important difference. In the U.S., the income for the wealthiest 1% of the population has doubled, even as the poverty rate has held steady.[16,17,18] According to the Bureau of Labor Statistics, White and Asian wages remain over 30% higher than wages for Blacks or Latinos.[16,19] The more equitably wealth is distributed in a country, the higher the average life expectancy[16] and the lower the infant mortality and heart failure rates.[20,21] People live longer based on equitable resource distribution at a state level as well.[22] Not surprisingly, people with lower incomes are more likely to die of cancer, be obese, smoke, and have more stressful lives.[16]
- **Program evaluation.** Many people shy away from quality improvement efforts, but asking what can be done to improve programming, or to evaluate how a program is doing in terms of outcomes measures, can contribute to an environment more supportive of Whole Health.
- **Wise use of resources.** The U.S. is the only country in the "developed world" that spends more of its gross domestic product on health care than on social services.[23] Consider these statistics:
    - The U.S. spends more on health care than any other country, but our life expectancy and overall health rate lower than many other countries'.[23]
    - U.S. clinicians order many more diagnostic tests than most countries,[24] and many of these tests are not needed to determine care outcomes.[25]
    - Americans visit the doctor fewer times per year than people in most other countries (especially the wealthier ones), but care is still much more expensive.
    - A 2003 study concluded that adults living in 12 metropolitan areas in the U.S. only received about 55% of the medical care that was recommended for them.[26]
    - In 2011, one-third of American households said they had trouble paying their medical bills.[27]
    - 165,000 Americans died due to overdoses of prescription opioids between 1999 and 2014.[28] Meanwhile, 83% of the world's population has no access to opioid pain medications, largely because they are all being consumed in the U.S.[29]
    - Lack of insurance is, unsurprisingly, linked to poorer care, poorer health status, and premature death.[30]

Only by engaging in our local communities and at the larger state, national, and even global levels can we truly influence Whole Health care at all levels. Clinicians can do this, and Veterans must as well. When all is said and done, we are all patients, and we are all members of the larger community. We all benefit from a healthy system, and we all suffer under a broken one. And on the positive side, as individuals, our Whole Health favorably influences the health of everyone else in our community. Truly, as the Irish proverb puts it, we live in the shelter of each other.

Wrapping Up

On that note, we have reached the conclusion this chapter, and of our journey around the Circle of Health. Best wishes as you bring the various elements of the circle into your practice, and best wishes as you enhance your own personal Whole Health as well. May this *Passport to Whole Health* point you in new and valuable directions, so that you and the Veterans in your care can achieve things you previously did not think were possible! May you and all those you serve steadily move forward with your "MAPs" as you continue on your Whole Health Journey.

Community-Related Resources

Websites

VA Whole Health Website

- Components of Health and Well-Being Video Series, "A Patient Centered Approach To: Community." https://www.youtube.com/watch?v=m2rZ4taMhyc&feature=youtu.be

Whole Health Library Website

- "Whole Health in Your Practice, Part II: Your Therapeutic Presence" overview https://wholehealth.wisc.edu/overviews/part-ii-power-therapeutic-presence/
- "Whole Health in Your Own Life: Clinician Self-Care" overview https://wholehealth.wisc.edu/overviews/clinician-self-care/

Other Websites

- 2019 Directory, Veterans and Military Service Organizations. 75-page list of websites and contact information for a number of excellent groups. https://www.va.gov/vso/VSO-Directory.pdf
- VA Community Care Network Information, main page. https://www.va.gov/COMMUNITYCARE/providers/Community_Care_Network.asp
- American Legion, "Health Care Options Through VA. Document for Veterans designed to explain eligibility for services under the MISSION Act. https://www.missionact.va.gov/library/files/MISSION_Act_Community_Care_Booklet.pdf
- VA Public Health site. http://www.publichealth.va.gov
- The Social Work Practitioner, "What is Cultural Humility?" https://thesocialworkpractitioner.com/2013/08/19/cultural-humility-part-i-what-is-cultural-humility/

References

[1] Wilber K. *The Spectrum of Consciousness.* Wheaton, IL: Quest Books, Theosophical Publishing House; 1993.
[2] *Integral Health Resources.* Integral Health Resources website. http://www.integralhealthresources.com/integral-health-2/the-four-quadrants/. Accessed July 30, 2019.
[3] Weiner SJ, Schwartz A. Contextual errors in medical decision making: overlooked and understudied. *Acad Med.* 2016;91(5):657-662.
[4] Frost BG, Tirupati S, Johnston S, et al. An integrated recovery-oriented model (IRM) for mental health services: evolution and challenges. *BMC psychiatry.* 2017;17(1):22.
[5] Office of Disease Prevention and Health Promotion. Social Determinants of Health. 2020; https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health. Updated July 30, 2019. Accessed July 30, 2019.
[6] Thornton RL, Glover CM, Cene CW, Glik DC, Henderson JA, Williams DR. Evaluating strategies for reducing health disparities by addressing the social determinants of health. *Health Aff (Millwood).* 2016;35(8):1416-1423.
[7] Podein RJ, Hernke MT. Integrating sustainability and health care. *Prim Care*. 2010;37(1):137-147. doi: 10.1016/j.pop.2009.09.011.
[8] Meyers DG, Neuberger JS, He J. Cardiovascular effect of bans on smoking in public places: a systematic review and meta-analysis. *J AM Coll Cardiol.* 2009;54(14):1249-55. doi: 10.1016/j.jacc.2009.07.022.
[9] Haines A, Ebi K. The imperative for climate action to protect health. *N Engl J Med*. 2019;380(3):263-273.
[10] Tervalon M, Murray-Garcia J. Cultural humility versus cultural competence: a critical distinction in defining physician training outcomes in multicultural education. *J Health Care Poor Undeserved.* 1998;9(2): 117-125.
[11] Kimagai AK, Lypson ML. Beyond cultural competence: critical consciousness, social justice, and multicultural education. *Acad Med.* 2009;84(6):782-787. doi: 10.1097/ACM.0b013e3181a42398.
[12] Foronda C, Baptiste D-L, Reinholdt MM, Ousman K. Cultural humility: a concept analysis. *J Transcult Nurs.* 2015;27(3):210-217.
[13] Ruberton PM, Huynh HP, Miller TA, Kruse E, Chancellor J, Lyubomirsky S. The relationship between physician humility, physician-patient communication, and patient health. *Patient Educ Couns.* 2016;99(7):1138-1145.
[14] Haan M, Kaplan GA, Camacho T. Poverty and health. Prospective evidence from the Alameda County Study. *Am J Epidemiol*. 1987;125(6):989-998.
[15] Arcaya MC, Arcaya AL, Subramanian SV. Inequalities in health: definitions, concepts, and theories. *Glob Health Action.* 2015;8:27106. Published 2015 Jun 24. doi:10.3402/gha.v8.27106.
[16] Income Inequality. https://inequality.org/facts/income-inequality/. Accessed July 30, 2019.
[17] Saez, E. "Striking it Richer: The Evolution of Top Incomes in the United States." https://eml.berkeley.edu/~saez/saez-UStopincomes-2017.pdf. Accessed August 2, 2019.
[18] U.S. Bureau of the Census, Current Population Survey. Annual Social and Economic Supplements. U.S. Census Bureau website. https://www.census.gov/topics/income-poverty/poverty.html. Accessed August 2, 2019.
[19] Bureau of Labor Statistics. "Table 2. Median usual weekly earnings of full-time wage and salargy workers by selected characteristics, quarterly averages, not seasonally asjusted." U.S. Department of Labor Bureau of Labor Statistics website. https://www.bls.gov/news.release/wkyeng.t02.htm. Accessed August 2, 2019.
[20] Organisation for Economic Co-operation and Development. Income Inequality. 2018; https://data.oecd.org/inequality/income-inequality.htm. Accessed July 30, 2019.
[21] Dewan P, Rørth R, Jhund PS, et al. Income inequality and outcomes in heart failure. *A Global Between-Country Analysis.* 2019:995.
[22] The US Burden of Disease Collaborators. The State of US Health, 1990-2016: Burden of Diseases, Injuries, and Risk Factors Among US StatesUS Burden of Diseases, Injuries, and Disease Risk Factors, 1990-2016 US Burden of Diseases, Injuries, and Disease Risk Factors, 1990-2016. *JAMA.* 2018;319(14):1444-1472.
[23] US spends more on health care than other high-income nations but has lower life expectancy, worse health. The Commonwealth Fund website. http://www.commonwealthfund.org/publications/press-releases/2015/oct/us-spends-more-on-health-care-than-other-nations. 2015. Accessed July 30, 2019.

[24] Number of doctor visits per capita in selected countries as of 2015. Statista website. https://www.statista.com/statistics/236589/number-of-doctor-visits-per-capita-by-country/. Accessed July 30, 2019.
[25] Lenzer J. Unnecessary care: are doctors in denial and is profit driven healthcare to blame? *BMJ.* 2012;345:e6230. doi: 10.1136/bmj.e6230.
[26] McGlynn EA, Asch SM, Adams J et al. The quality of health care delivered to adults in the United States. *N Engl J Med.* 2003;348(26):2635-45.
[27] Cohen RA, Gindi RM, Kirzinger WK. Burden of medical care cost: early release of estimates from the National Health Interview Survey, January–June 2011. National Center for Health Statistics; 2012. https://www.cdc.gov/nchs/data/nhis/health_insurance/financial_burden_of_medical_care_032012.pdf. Accessed July 30, 2019.
[28] Dowell K, Haegerich TM, Chou R. CDC guideline for prescribing opioids for chronic pain – United States, 2016. *JAMA.* 2016;315(15):1624-1645. doi: 10.1001/jama.2016.1464.
[29] Brady KT, McCauley JL, Back SE. Prescription opioid misuse, abuse, and treatment in the United States: an update. *Am J Psychiatry.* 2016;173(1):18-26. doi 10.1176:/appi.ajp.2015.15020262. Epub 2015 Sep 4.
[30] Freeman JD, Kadiyala S, Bell JF, Martin DP. The casual effect of health insurance on utilization and outcomes in adults: a systematic review of US studies. *Med Care.* 2008;46(10):1023-32. doi: 10.1097/MLR.0b013e318185c913.