



View from 2022: A look at the changing global health landscape and future of partnerships

June 2022



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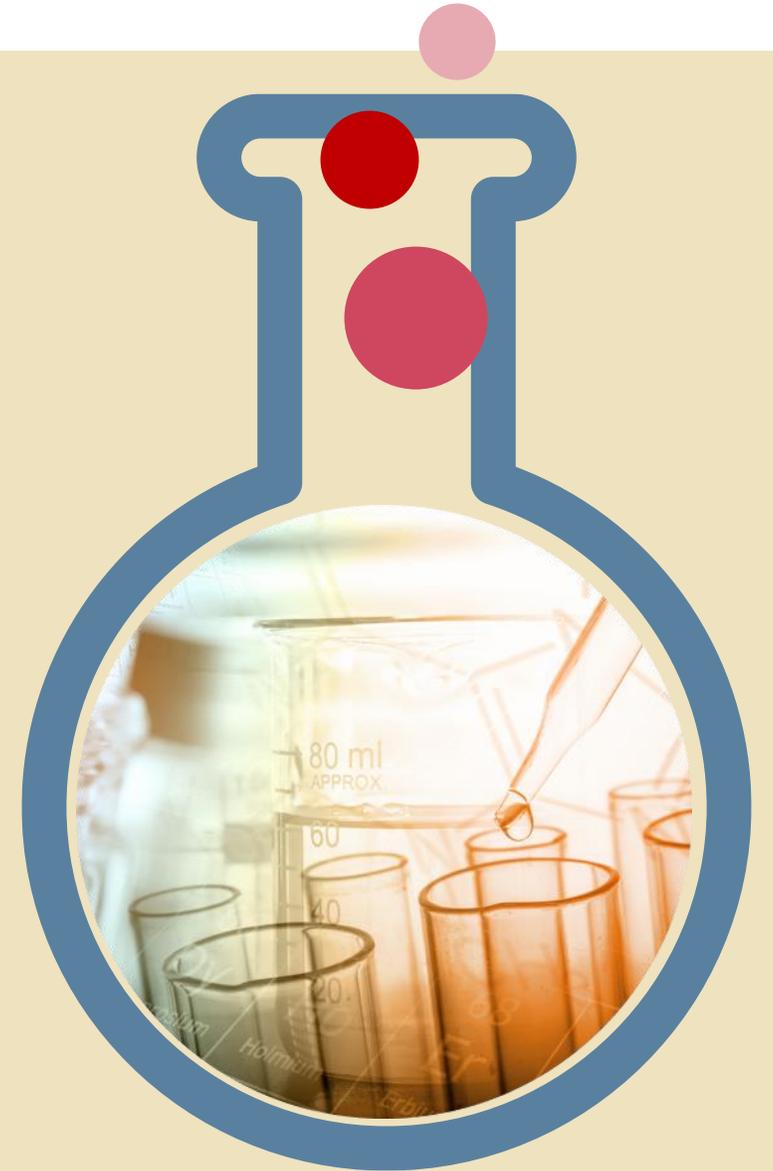
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SITUATION AND APPROACH

Since 2020, the global health sector has gone through a period of rapid and transformative change due to the COVID-19 pandemic and a variety of other forces impacting our health and care landscape. In response to these evolving dynamics, Catholic Health Association (CHA) of the United States enlisted the support of Accenture through Accenture Development Partnerships (ADP) to collaboratively examine these changing global health and technology trends and their impact on future global health partnership opportunities. The insights contained in this report were developed by CHA and ADP through a combination of both secondary research and a series of consultations with global and digital health experts across industries, sectors, and countries. These findings and recommendations may be used by CHA, ADP, and their collaborators across a variety of channels in support of their respective thought leadership and advocacy agendas.

GLOBAL HEALTH AND TECHNOLOGY TRENDS

1. What were the immediate impacts of the COVID-19 pandemic on the health sector?



Delayed, Deferred, and Disrupted

- *The hidden crisis of deferred care*
- *Regression against major health areas*
- *The short horizon: immediate impacts*
- *The long horizon: future impacts*

Over 2 years into the pandemic, health systems are still facing significant challenges in providing and restoring health services. Due to limitations imposed by COVID-19, millions of individuals have delayed or avoided medical care for fear of their own safety, or due to social and economic risks posed by the pandemic. The result, is a dramatically altered disease burden, and a population of patients dealing with the harmful health consequences.



Rebuilding Trust

- *Trust in science and scientific institutions*
- *Trust in technology*
- *Trust amongst marginalized communities*
- *New influencers and stewards of trust*

The confrontation between science and politics in recent years has exposed the fragility of trust in vaccines, medicines, and science. Uncertainty, political divisiveness, the dilution of public health information, and the rise of disinformation and misinformation, particularly in social media, has severely diminished the credibility of crucial health recommendations.



Pandemic Preparedness

- *Current state of global health (in)security*
- *The inevitable and looming future threat*
- *Foundation of international cooperation*
- *Funding the future security agenda*

The COVID-19 pandemic has served as a reality check for countries, raising questions around the current state of global health security. Most countries remain woefully unprepared for future pandemic threats, potentially even more socially and economically devastating than COVID-19. With the disastrous first and second degree impacts of the COVID-19 pandemic still ongoing, the growing push around building more resilient health systems has never been greater.

EXECUTIVE SUMMARY (2/3)

2. What have been the largest shifts in the global health agenda over the past two years (either due to COVID-19 or other drivers)?



Achieving Health Equity for All

- *The role of the private sector*
- *Who is shaping the agenda, and why?*
- *From emergence to expectation*
- *Social determinants of health*
- *Health equity innovation ecosystem*

Though health equity has been a buzzword in the global health sphere for years, since 2020 the sector have seen it evolve in new and important ways. The COVID-19 pandemic has brought many of these inequities, and the market dynamics that have caused them, to the forefront of public discourse and the global health agenda.



Future Health Workforce

- *A growing global gap*
- *Upskilling and reskilling*
- *New roles and responsibilities*
- *Workforce migration and mobility*

Decades of underinvestment have diminished our global health workforce, as the world struggles to deal with shrinking numbers, insufficient capacity, and increased pressure being placed on our health systems. This crisis has only been intensified through COVID-19, leading to significant staffing shortages, increased burnout, and other challenges that will continue to persist beyond the pandemic.



The Human Cost of Climate

- *Health infrastructure resiliency*
- *A swell in disaster displacement*
- *Threat to air quality*
- *Infectious disease in an era of warming*
- *Food and water made insecure*
- *Siloed public policy approaches*

Climate change has been recognized as a global health emergency by leading health institutions around the world and has even been dubbed ‘the greatest global health threat of the 21st century’. Human health is currently, and will even further be, affected by both the direct and indirect impacts of climate change as a major determinant of our health outcomes.



Population Dynamics

- *The silver tsunami*
- *Youth bulge*
- *Displaced and fragile populations*
- *Rapid urbanization*
- *Middle class rising*

The UN estimates that the world’s population is expected to increase by two billion people, from 7.7 billion at present to 9.7 billion in 2050, before reaching a peak of nearly 11 billion by the end of the century as fertility rates continue to decline. The changing demographics of our global population are shifting healthcare needs and creating new demand for health services that support evolving population dynamics.

EXECUTIVE SUMMARY (3/3)

3. What technology changes from the past two years will revolutionize the future of healthcare?



Patients in Power

- *Patient ownership over care pathways*
- *Patient owned data*
- *Consumerization of healthcare*
- *Self and home-managed interventions*
- *Human centric design*

What if patients could easily access relevant and trustworthy health guidance? What if patients were an equal partner and decision-maker in their treatment journey with their doctors? A new expectation for patient-led and patient-centered healthcare has redefined what it means to put patients in power.



Virtual Health, Accelerated

- *Integration into mainstream health and care*
- *Telehealth and virtual appointments*
- *Remote patient monitoring*
- *Virtual capacity building and sharing*
- *Digital front doors*
- *Addressing the digital divide*

The COVID-19 pandemic has significantly changed the way health and care are delivered. Physical limitations imposed by the pandemic have driven the acceleration and adoption of remote health service delivery through digital technologies as a means to overcome geographical barriers to care.



Data Collaboratives

- *The promised potential*
- *Key challenges in operationalization*
- *Laying the groundwork*

Cross-industry and multi-sectoral collaborations are becoming the future state of healthcare. The challenges the world faces are increasingly multi-faceted and require a diverse set of actors to be sufficiently addressed. Though health data is still largely separated across actors, the last few years have underscored the greater need global cooperation and collaborative data efforts to unlock holistic insights.

FUTURE PARTNERSHIP TAKEAWAYS

Partnerships in global health are more critical than ever before to address and overcome increasingly complex issues that cannot be solved in siloes. Our research indicates that in particular, renewed partnership efforts are needed to overcome health challenges across the areas of primary care, One Health, digital health, post-pandemic workforce, health equity, and pandemic preparedness. Additionally, our findings indicate four key changes to future partnership models, including: 1) More horizontal and equitable relationships across donors and grantees, and high-income and low-income countries 2) A strategic focus on building fewer, bigger, and better partnerships to address health challenges at scale 3) The value of emergent and underutilized health partners (e.g. community health workers, multi-industry private sector entrants, professional associations) as part of mainstream and integrated health strategies 4) Growth in partnerships enabled through digital technologies, offering benefits in accessibility, ease of collaboration, and real-time communication.

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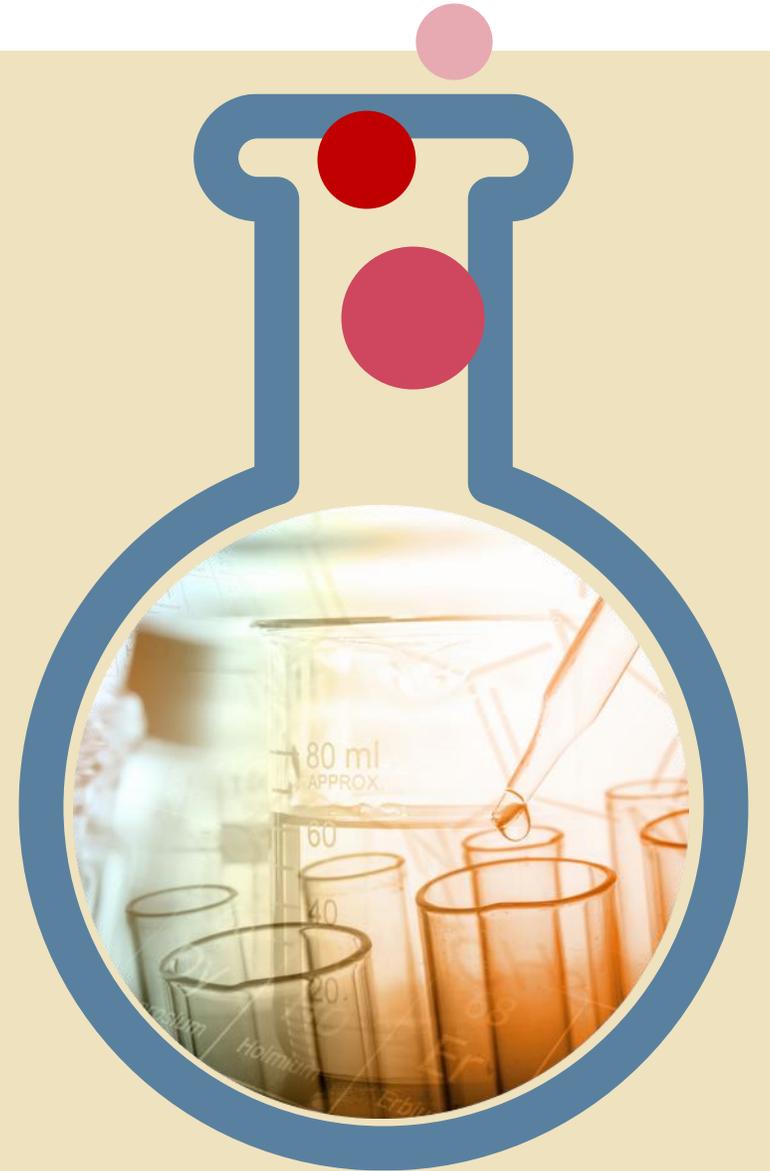
GLOBAL HEALTH TRENDS



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APPENDIX



Introduction

1.

About Us



About Catholic Health Association

Catholic health care is a ministry of the Catholic Church continuing Jesus' mission of love and healing in the world today. Comprised of more than 600 hospitals and 1,600 long-term care and other health facilities in all 50 states, the Catholic health ministry is the largest group of nonprofit health care providers in the nation. At the national level, these organizations join together in the Catholic Health Association of the U.S.

About Accenture

Accenture is a global professional services company with leading capabilities in digital, cloud and security. Combining unmatched experience and specialized skills across more than 40 industries, we offer Strategy and Consulting, Technology and Operations services and Accenture Song—all powered by the world's largest network of Advanced Technology and Intelligent Operations centers. Our 710,000 people deliver on the promise of technology and human ingenuity every day, serving clients in more than 120 countries. We embrace the power of change to create value and shared success for our clients, people, shareholders, partners and communities. Visit us at accenture.com.

About Accenture Development Partnerships:

Accenture Development Partnerships delivers the power of Accenture's global capabilities and experience to address social economic and environmental issues to improve lives around the world. Accenture Development Partnerships works with clients—including leading NGOs, private foundations, public donor agencies and the private sector—to create social impact through sustainable, innovative and market-based solutions. Visit us at www.accenture.com/adp.

Introduction

2.

What is the intended purpose of this report?



The COVID-19 pandemic and events of the last two years have strongly affected the daily lives of billions around the planet, impacting global health security, shaping national strategies and transforming global health activities in the years and decades to come. Now two years into the pandemic, the world is at a timely juncture to reflect upon the lessons learned from the COVID-19 pandemic thus far, and what these changes mean for *how* the sector partners for global health impact going forward. **This report lays out a point of view of some of the boldest trends impacting global health in recent years, and what these changes mean for the future of global health partnerships.** The findings from this report are intended to be used by CHA as part of their larger advocacy and thought leadership strategy and may be shared across a variety of channels.

3.

Who is the intended audience of this report?



This report was developed to be widely shared and socialized with member organizations, partners, and other global health leaders. The report provides insights and recommendations for actors operating in the global health sector to consider as they shape their own strategies and priorities in the future. It is permissible to share findings from this report broadly as they are relevant and applicable for a global audience.

Report Scope and Methodology

Report Scope

- The research in this report was global in nature and the findings are intended to be applicable and relevant to a global set of stakeholders.
- This report most closely examined global health and technology changes that emerged more significantly during the COVID-19 pandemic. Many of the trends examined in this report may also have been relevant in years prior, however; this report primarily seeks to outline the trajectory of these changes in the last two years.
- This report is not intended to be comprehensive in nature. A subset of trends were selected to highlight based on what is most relevant to CHA and their primary stakeholders.

Our Methodology

The findings of this report were developed based on secondary research and integration of expert opinions through a series of consultations.

REVIEW OF SECONDARY RESEARCH

More than 175 publications, articles, and reports relevant to the theme of this report were used to help inform development of our conclusions. All sources referenced are listed in the appendix of this report.

EXPERT INTERVIEWS and CONSULTATIONS

A total of 24 subject matter advisors were interviewed as part of this research to better understand expert perspectives on the most important trends affecting our global health ecosystem. Our list of interviewees included voices across high, medium, and low-income countries, both public and private sector, and across different specialties and backgrounds ranging from practicing physicians, to advocacy experts, to healthcare business leaders. A full list of stakeholders consulted in development of this report can be found in the appendix.

IDENTIFYING and CATEGORIZING TRENDS

Trends on each slide were assessed and categorized according to three dimensions:

- Impact: Measured on a scale of 1 (least disruptive) to 5 (most disruptive) based on potential impact of the trend on the global health landscape e.g. on financing shifts, global health priorities, etc.
- Certainty: Measured on a scale of 1 (limited evidence) to 5 (strong evidence) based on how certain and well-evidenced it is that the trend will come to pass.
- CHA Relevance and Role: Categorized as Influence (where CHA may act as a thought leader and market shaper in championing this trend), Impact (where CHA may incorporate this trend to strengthen and execute their own work), and Inform (where CHA may support and enable this trend, but may not want to or be able to influence its trajectory).

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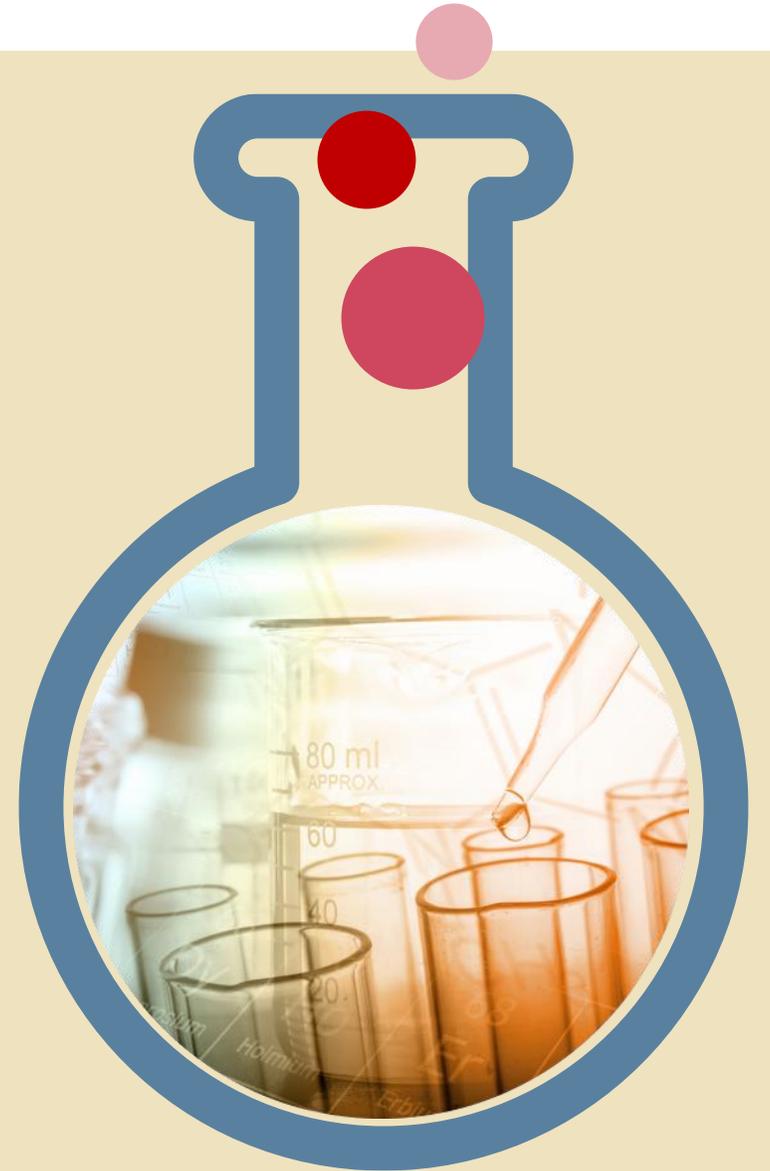
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APPENDIX



What is disrupting global health?

Non-exhaustive

The global health sector is undergoing one of its most transformative periods in history. The COVID-19 pandemic has had a profound impact on how healthcare is financed, organized, and delivered across the globe. COVID-19 has both exacerbated critical health challenges our world was already facing and set the stage for dynamic new models in healthcare globally. This has resulted in ongoing series of shifts that require global health actors and advocates to rethink the way they approach future health strategies and partnerships.

But in this universe of trends and shifts exacerbated by COVID-19, what are the trends that *most* disrupt and reshape the future of global health?

GLOBAL AGENDA	ECOSYSTEMS and PARTNERSHIPS	NEW FINANCING REALITY	DIGITAL REVOLUTION	TREATMENT ADVANCES	THE 8.5 BILLION	EMPOWERED INDIVIDUALS	OTHER
HEALTH EQUITY	GLOBAL GOVERNANCE AND COOPERATION	LOCALIZATION	TELEHEALTH / VIRTUAL CARE	PERSONALIZED THERAPIES	DISPLACED and FRAGILE POPULATIONS	REBUILDING TRUST	DEFERRED CARE
DECOLONIZING GLOBAL HEALTH	PUBLIC-PRIVATE PARTNERSHIPS	DAH PLATEAU	ARTIFICIAL INTELLIGENCE	HCP DECISION SUPPORT	SILVER TSUNAMI	HUMAN-CENTERED DESIGN	SUPPLY CHAIN
WORKFORCE RESILIENCE	INCLUSIVE BUSINESS	DIVERSIFYING ACCESS MODELS	ELECTRONIC MEDICAL RECORDS	INCREASING TREATMENT COMPLEXITY	YOUTH BULGE	CARE PATHWAY OWNERSHIP	FOOD SECURITY
PANDEMIC PREPAREDNESS	SOCIAL VENTURES	PRIVATE PHILANTHROPY	DATA COLLABORATIVES	NEW SCIENCE	MIDDLE CLASS RISING	CONDITION SELF-MANAGEMENT	AMBULATORY CARE
CLIMATE and HEALTH	EMERGING INFLUENCERS	INNOVATIVE FINANCING	COMMUNICATION TECHNOLOGY	FROM PRESCRIPTIVE TO PREDICTIVE	URBANIZATION and MEGA CITIES	OMNI-EVERYTHING	IMPLEMENTATION RESEARCH
MENTAL HEALTH	NON-HEALTH MARKET ENTRIES	PAYER SHIFTS	CONNECTED DEVICES			DATA OWNERSHIP	ANTI MICROBIAL RESISTANCE
INTEGRATED CARE and PHC			CYBERSECURITY			CONSUMERIZATION OF HEALTHCARE	POLITICAL UNREST and DIVISIVENESS
GLOBAL ACCESS TO WASH			EXTENDED REALITY			THE POWER OF BRANDS	
UHC			BLOCKCHAIN				
			DECENTRALIZED CLINICAL TRIALS				

Please Note: The color stratification in the trends heatmap shown above is indicative of the number of times a specific trend or topic arose during a stakeholder consultation. The darker the color of the trend, the greater the number of stakeholders that saw it as a priority.



SECTION 1.

What were the immediate impacts of the COVID-19 pandemic on the health sector?

DELAYED, DEFERRED, AND DISRUPTED

IMPACT ● ● ● ● ● ● ● ● ● ●
CERTAINTY ● ● ● ● ● ● ● ● ● ●
CHA RELEVANCE *Impact*

Fast facts



Over **90% of countries** surveyed in the third round of WHO's global pulse survey **report ongoing disruptions of essential health services during COVID-19** ¹²³



Primary care and rehabilitative, palliative, and long-term care remain the most heavily affected by continuing disruptions, though malaria services and routine immunizations also face ongoing challenges ¹²⁴



~20% of U.S. adults polled during the COVID-19 pandemic reported delaying care during the pandemic, with 57% experiencing negative health consequences ¹²⁵



Between June 2020 – 2021, **deferring care for cancer alone was projected to cause 18,000 additional deaths** in England ¹²⁶



A global study of 20K+ cancer patients early in the pandemic found that **10% of patients awaiting surgery during lockdown didn't receive surgery** after a median follow up of 23 weeks ¹²⁷

Delayed, deferred, and disrupted

Over two years into the pandemic, health systems are still facing significant challenges in providing and restoring essential health services. Due to limitations imposed during the COVID-19 pandemic millions of individuals around the world have delayed or avoided medical care for fear of their own safety, or due to social and economic risks posed by the pandemic. The result, is a dramatically altered disease burden, and a population of patients dealing with the harmful health consequences.

The secondary crisis of deferred care has created a subset of patients who have conditions they would never have developed in a pre-pandemic environment, due to later stage screening, testing, and treatment driven by forgone and delayed care. Restricted mobility due to the pandemic, concerns over safety, and economic factors have all contributed to the disruption of care during COVID-19, and health systems are only starting to feel the long-term effects of this deferral.

i. The hidden crisis of deferred care ^{128, 129, 130}

A myriad of factors and pandemic-induced access barriers have led to a rise in frequency of skipped or delayed healthcare provision. As the economic downturn continues and many countries still cope with unemployment challenges, a significant factor is the cost of care. In one survey conducted during the COVID-19 pandemic, 60% of respondents reported difficulties in paying usual household expenses in the last seven days. Another factor is the increased concern of virus exposure, with many patients indicating concern over risk of contracting COVID-19 as a reason for forgoing care. There are also the direct impacts of community mitigation efforts, such as stay-at-home orders, temporary closure of health facilities, reduced availability of public transportation, and other mobility restrictions making it more difficult to receive care.

ii. Regression against major health areas ^{131, 132, 133}

Impacts of deferred care on severity of disease presentation are manifesting across health areas though top areas of concern including: 1) Cancer: Recent research suggests that nearly 24,000 people in the U.S. will die of cancer because the delayed screening during the COVID-19 pandemic. Cancer screening rates dropped dramatically, creating challenges with later stage diagnosis and delayed care leading to greater risk of mortality. 2) Cardiovascular Disease: Heart care was one of the most commonly delayed preventative services due to the COVID-19 pandemic, leading to declining treatments of heart attack and stroke and increasing death toll. Increased pandemic-related stress, limitations on exercise, and poor access to nutrition have also led to additional cardiac health concerns.

DELAYED, DEFERRED, AND DISRUPTED



3) Mental Health: High levels of stress, loneliness, and anxiety during the pandemic have contributed to poorer mental health outcomes over the last two years. Despite use of practices like telehealth, only 16% of providers in one survey report added capacity to help patients with behavioral health despite the increasing burden.

iii. The short horizon: immediate system impacts ^{126, 134, 135}

The postponement of care is leading an increased number of serious, and even fatal, post-pandemic health complications. In order to deal with the significant procedural backlog in care due to COVID-19, health systems are restructuring their ways of working in the short term. The increased pressure on health systems and workforce while dealing with a second wave of patient onslaught is only being partially mitigated through capacity optimization efforts like a shift to virtual care and investments in strengthening health worker resiliency. Systems will need to make targeted efforts to overcome deficits in care and may need to implement interventions such as routine immunization catch-up campaigns, targeted cancer screenings, or regular follow-up of chronic conditions.

iv. The long horizon: future system impacts ^{136, 137}

Recovering from the negative impacts of delayed care on health systems will take years. Particularly during public health emergencies like COVID-19, a robust primary care system plays a critical role in testing, educating, and providing essential health services for patients. As we restructure care delivery for a post-pandemic world, there is a greater need for continuity of care to be explicitly considered and integrated as part of a health system strategy. This includes the renewed need to strengthen systems of primary healthcare, as well as the need to invest in alternate channels and methods of care (such as scaling up ambulatory care facilities or investment in home-based health models) to better manage and support additional health system burden.



Mexico's National Strategy for Health Services Recovery ¹³⁸

Major disruptions to critical health services during the first year of the pandemic drove the Mexican Institute of Social Security (IMSS) to launch the National Strategy for Health Services Recovery (NHSR) in 2021. In immediate response to the pandemic, the Mexican government reallocated funds, personnel, and equipment from routine services towards addressing COVID-19. The aim of the NHSR strategy was to reinstate the previous essential health services provided to almost 68 million people via the IMSS.

The NHSR strategy comprises six key components:

- 1) Reconversion of repurposed COVID-19 hospitals
- 2) Strengthening COVID-19 preventive measures
- 3) Adjusting governance to prioritize essential health services and optimize service delivery
- 4) Implementation of telemedicine services
- 5) Reinforcement of preventive services and health promotion activities
- 6) Strengthening monitoring of essential service provision.

Fast facts



Trust in healthcare companies fell to 62% in 2022, compared to 73% in 2020 among nine surveyed countries ⁶³



In the first 3 months of 2020, **nearly 6,000 people around the globe were hospitalized** because of coronavirus misinformation ⁶⁴



Only 19% of respondents are confident that their digital healthcare data is being used responsibly and in their best interest ⁶⁵



70% of Black Americans believe that people are **treated unfairly** when they seek medical care **based on race or ethnicity** ⁶⁶



More than 50% of people globally feel the pandemic has decreased their confidence that the healthcare system is well-equipped to handle major health crises ⁶⁷

Rebuilding trust

The confrontation between science and politics in recent years has exposed the fragility of trust in vaccines, medicines, and science. Uncertainty, political divisiveness, the dilution of public health information, and the rise of disinformation and misinformation, particularly in social media, has severely diminished the credibility of crucial health recommendations.

In addition, growing adoption of healthcare technology has led to renewed concerns around trust in digital health, while historically marginalized populations also struggle to place their trust back in health systems that have not prioritized them in the past. Amidst eroding trust and growing paranoia surrounding public health guidance, global health leaders are fighting to protect the integrity of science and evidence-based strategies. Health actors must tap into new channels to navigate public uncertainty and restore a foundation of trust in order to deliver effective and meaningful health interventions.

i. Trust in science and scientific institutions ^{67, 68, 69, 70}

Improving and delivering basic health services demands the foundational belief in science, but emerging distrust of scientific institutions is diminishing the credibility of information provided by health professionals. Competing sources of misinformation have commanded a greater share of public attention during the COVID-19 pandemic, often fueled by political and ideological narratives rather than evidence-backed conclusions. Misinformation about the pandemic has undermined public health efforts to control the pandemic, taking the form of anti-vaccine propaganda, misleading and dangerous guidance around treatments for COVID-19, and rumors of foreign interference in origin and virus transmission. In this new era of uncertainty, patients have grown doubtful of health guidance, questioning its validity and legitimacy and ultimately worsening health outcomes as a result. In order to build and maintain trust in science and scientific institutions, health care organizations must improve their communication, increase transparency, and showcase how trust between science and society creates lasting advantages.

ii. Trust in technology ^{71, 72, 73}

The pandemic has forced a rapid shift and uptake of virtual health technologies, however, there remains a gap in consumer trust of digital health tools due to concerns around data privacy and security, poor prior digital health experiences, and mistrust of technology companies more broadly. Because many digital approaches rely on the trust and goodwill of those sharing data, the issue of patient trust is paramount to a virtual care system. For much of the global population, COVID-19 health applications will be their first digital health experience. At this inflection point, it's critical for sector leaders to earn and maintain patient trust by prioritizing data ethics and people-centered systems in order to build trust in technology.

iii. Trust amongst marginalized communities ^{74, 75, 76}

Health inequities and problematic experiences, rooted in a history of medical and systemic bias and perpetuated by everyday discrimination, have led to a deep crisis of trust amongst excluded and marginalized communities (such as racial and ethnic minorities, those living with disability, etc.). For many sub-groups, burden of disease and access to quality care is also worse than for mainstream populations due to structural and social health determinants. In order to better reach and improve the health of all patients, concerted efforts must be taken to dismantle oppressive and racist structures for patients who have been poorly served by health systems.

iv. 'New influencers' and stewards of trust ⁷⁷

Non-traditional actors are leveraging their credibility, network of deep relationships and profound understanding of the public conscience to bridge gaps of trust between patients and traditional health systems. Where traditional health actors have fallen victim to politicization and public pushback, emerging partners such as patient influencers, professional associations, religious leaders, private sector entrants from technology and telecom, youth, pharmacists, and community resource groups are serving in expanded roles to advance healthcare delivery. Though new influencers may lack the medical and health system context needed to independently drive interventions, the COVID-19 pandemic has shown examples of how new partners can be armed with information to build rapport and help guide patients.



Equipping Youth Leaders to Fight COVID-19 Misinformation in Brazil⁷⁸

More than 3,500 young people from around Brazil have joined UNICEF's Global Volunteer Initiative as 'digital firefighters' of COVID-19 misinformation. The volunteers worked both online in planning and advocacy, as well as in-person mobilizing other volunteers to scale positive public health actions.

UNICEF provided training to these youth volunteers on key topics such as leadership skills, child rights knowledge, best practices for protecting adolescent mental health, and effective mobilization and volunteer engagement strategies. The volunteers worked with UNICEF to spread public messages and advocacy on the internet, driving traffic to social media channels and engaging with followers within their age group.

The #tmjUNICEF social media mobilizations reached 1.7 million people on the internet, and over 55,000 direct engagements with volunteer campaigns, posts and stories.

Fast facts



More than forty new infectious diseases in humans have emerged in these past few decades as fungi, bacteria and protozoa have become more drug-resistant ¹⁵⁶



International assistance for pandemic preparedness has **never amounted to more than 1% of overall global health assistance** ¹⁵⁶



65% of countries do not have an overarching national public health emergency response plan for diseases with epidemic or pandemic potential ¹⁵⁷



69 countries have insufficient health capacity in clinics, hospitals and community centers for outbreak detection and response ¹⁵⁷



152 countries do not have the ability to provide expedited approval of human medical countermeasures, such as vaccines or antiviral drugs, during a public health emergency ¹⁵⁷

Pandemic preparedness

COVID-19 has served as a reality check for countries, forcing health leaders to raise questions around the current state of global health security. Most countries remain woefully un- and under-prepared for future pandemic threats, potentially even more socially and economically devastating than COVID-19. With the disastrous first- and second-degree impacts of the COVID-19 pandemic still ongoing, the growing push around building more resilient health systems has never been greater.

Large disease outbreaks can pose major health, social, and economic risks and disrupt global health and development progress in the long-term. Without adequate emergency preparedness and response mechanisms in place, the world is at risk of suffering setbacks at the magnitude of the COVID-19 pandemic and beyond as the likelihood of future pandemics and epidemics continues to rise while the pace of our infrastructure readiness and improvement programs falls behind.

i. Current state of global health (in)security ^{157, 158, 159, 160}

Existing metrics for pandemic preparedness and measuring health system capacity are not reflective of true response to a severe pandemic, as evidenced by the destruction wreaked by COVID-19. The Global Health Security Index, through a comprehensive study, has found that countries are not prepared to prevent global catastrophic health events and are continuing to neglect preparedness needs, exacerbating the impact of potential health security emergencies, particularly on vulnerable populations. The report found that countries lacked capabilities in preventing the emergence and release of potentially harmful pathogens, building capacity for early detection and reporting, enabling rapid response and mitigation of disease spread, enabling continuity of care and protection of health workers, making commitments to improving national capacity and financing, and addressing overall risk environment and country vulnerability (e.g. political stability, environmental risks, economic resiliency).

ii. The inevitable and looming future threat of pandemics ^{159, 160, 161, 162}

Factors like climate change, loss of biodiversity, rapid urbanization and globalization, lack of water and sanitation, intensification of environmentally unsafe agricultural practices, and the growing threat of anti-microbial resistance all contribute to the increased likelihood of future infectious diseases. Though efforts can be made to try and limit the impacts of these pandemic determinants, global economic and population trends make a future pandemic all but inevitable, leaving systems no choice but to prepare.

iii. Addressing common threats through a foundation of international cooperation ^{157, 160, 183}

The COVID-19 pandemic has set a powerful example of global cooperation in areas like scientific collaboration and open innovation, such as in development of the COVID-19 vaccine, or in product donation of personal protective equipment and essential supplies during the pandemic. In other areas, the pandemic highlighted places where our existing mechanisms for global collaboration are fragile and in need of strengthening, such as the breakdown of our global supply chain and failures in controlling the spread of misinformation. In order to address cross-border health risks, a global approach is required, coordinated through international governance bodies like the World Health Organization (WHO). However, institutions like the WHO face ongoing challenges in securing consistent funding and in limited authority to impose measures for global good over the sovereign rule of countries. Additionally, effectiveness of global security measures is predicated on effectiveness and compliance of member state preparedness, thus, investments in strengthening both national and international preparedness are required.

iv. Funding the future security agenda ^{157, 160}

Years of consistently low investment in international preparedness have resulted in underfunded global health security infrastructure. The lack of significant investment in building health system resilience is concerning given that improving country health security occurs only over time with stubborn investment. At this time, there is still a lack of consistent funding sources for global health security.

Though the COVID-19 pandemic has shifted some perceptions of global health security spending as a necessary investment rather than a superfluous cost, the focus of most financing has been on short-term response rather than a combination of rapid response and long-term financing towards sustainable health security. Funding reform and greater financial investments in global security will be required in order to meaningfully advance towards pandemic preparedness.



The ACT Accelerator ^{163, 164}

The Access to COVID-19 Tools (ACT) Accelerator, launched by the WHO and partners such as the Coalition for Epidemic Preparedness Innovations, the Bill and Melinda Gates Foundation, Gavi, the Vaccine Alliance etc., in response to COVID-19 is an innovative global collaboration accelerating the development, production, and equitable access to COVID-19 tests, treatments, and vaccines. The accelerator is organized into four pillars of work: diagnostics, treatments, vaccines, and health systems strengthening. The coalition has delivered tangible results for low- and middle-income countries, strengthening health systems by resolving bottlenecks across countries, training over 42,000 healthcare workers, and procuring and re-distributing millions of COVID-19 tests and vaccines. Despite some progress however, there are still a large swath of people who remain underserved (e.g. only 9.5% of people in low-income countries have at least one vaccine dose as of Jan 2022), leading to the need for additional funding and investment in order for the coalition to realize its goals.



SECTION 2.

What have been the largest shifts in the global health agenda over the past two years (either due to COVID-19 or other drivers)?

Fast facts



Since the pandemic, **all of the top 10 pharma companies** have made new commitments to addressing health equity ⁷⁹



WHO Multi-Country Special Initiative for Action on the Social Determinants of Health for Advancing Health Equity, improving the SDOH for at least 20M people in 12 countries by 2028 ⁸⁰



89% of U.S. healthcare executives have health equity initiatives in place as part of their core business strategy ⁸¹



In 2021, **800+ medicines** were in development globally for diseases that affect racial and ethnic minorities disproportionately ¹⁷¹



Key areas of investment in strengthening equitable access to medicines and care, diversity in clinical research, addressing the SDOH, and community-based care ⁷⁹

Achieving health equity for all

Though health equity has been a buzzword in the global health sphere for years, since 2020 we have seen it evolve in new and important ways. COVID-19 has brought many of these inequities, and the market dynamics that have caused them, to the forefront of public discourse and the global health agenda.

Stakeholders across sectors are reckoning with the roles their organizations play in upholding inequitable practices, turning a critical eye towards large therapeutic areas like cardiovascular disease, mental health and respiratory conditions – where vulnerable populations often lack adequate support mechanisms because traditional health paradigms are focused on patients who are able to successfully navigate healthcare, leaving many excluded from, or lost within, an increasingly complex system.

i. The private sector's unique opportunity – and responsibility – to address health equity ^{82, 86, 172, 173}

As a newly elevated C-suite priority, health equity has experienced a surge of activity and investment from life sciences companies, technology giants, and private healthcare organizations. A shift towards stakeholder capitalism and push for more effective ESG frameworks are enabling new commitments and the application of a health equity lens across core business strategy – from 'integration' of equity principles into products and offerings (e.g., through accessible packaging, expanded patient services) to 'mainstreaming' across an organization's core capabilities (e.g., ensuring a diverse supply chain, inclusive talent programs).

ii. Who is shaping the narrative, and why? ^{83, 84, 85}

Within the field of global development, there has been a mass awakening that unfair power balances exist, reinforced by enduring colonial legacies, that perpetuate unjust practices and limit the capacity and growth of formerly colonized countries. This has led to a major push to decolonize global health. Histories of slavery, redlining, oppression, and predatory capitalism underpin the design of global and public health systems, resulting in structural inequities and exclusion of vulnerable communities globally. To uproot these sources of health inequity, actors are seeking to re-center power in LMICs, pushing for locally led change, more representative health leadership in institutional settings more funding for local organizations (e.g., USAID's 2021 commitment to funnel a quarter of all development funds directly to local partners) ¹⁷⁰, and more.

iii. From health equity emergence to expectation ^{174, 175, 176}

2020 marked the entry of health equity as a strategic commitment for many across the healthcare sector. As we enter into year three of the pandemic, this idea has solidified into expectation, as the industry begins to converge around best practices and frameworks to guide impactful growth. Change is being institution-alized, from new legislative reform – such as the FDA’s draft guidance to enroll more U.S. participants from under-represented ethnic backgrounds into clinical trials – to innovative, industry-wide collaborations that set the standard for inclusive ways of working – such as the board-created and approved set of principles on health equity issued by AvaMed, a leading association of medical device companies.

iv. Investing in the Social Determinants of Health ^{177, 178}

It is undeniable that the impacts of COVID-19 have been felt unequally across the world, with already vulnerable populations facing heightened challenges, both in disease burden and access to basic needs such as healthy food, transportation, housing, and adequate care. The conditions in which people are born, grow, live, work and age are the underlying cause of today’s health challenges. In a post-COVID-19 world, rising costs and poor health outcomes have led health actors to shift their focus to a preventative model of care, investing in upstream interventions that make a lasting impact on the social determinants of health to improve population outcomes and drive greater ROI long-term.

v. Explosion of health-equity centered innovation ^{179, 180, 181, 182}

A new and fast-growing generation of innovative startups, fueled by rising investment in health-equity focused ventures, are offering more equitable alternatives to the traditional healthcare paradigm, as innovators seek to develop more culturally responsive and accessible tools for underserved groups. Areas such as accessible mental health, culturally competent care, connected solutions to address the SDOH, hybrid and virtual care, inclusive research, and women’s health have received significant traction since the pandemic.



J&J “Our Race to Health Equity” INITIATIVE⁸⁶

In late 2020, in response to inequities highlighted by the COVID-19 pandemic and global Black Lives Matter movement, pharmaceutical giant Johnson & Johnson (J&J) announced their bold commitment “Our Race to Health Equity” – a \$100 million, five-year initiative to invest and promote health equity solutions.

The initiative aims to help eradicate racial and social injustice as a public health threat by eliminating health inequities for people of color, and will take action in three primary areas:

- Closing the racial mortality gap by investing in culturally competent community care models that create health outcomes for people of color
- Leading and leveraging J&J’s powerful partnership network to combat racial and social health determinants
- Cultivating a diverse and inclusive workforce across J&J that inspires innovative healthcare solutions around the world

Fast facts



The WHO estimates a **global shortage of 18M health workers by 2030**, primarily in low-and-middle income countries – and nurses are almost half this gap ⁵¹



90% of national nurse associations globally reported concern that the COVID-19 pandemic is driving **increased numbers of nurses to leave the profession** once the pandemic ends ⁵¹



Over one third of health investments required to meet the SDGs will be needed to support the health workforce ⁵²



There remain **83 countries that fail to meet the most basic standard of health workers**, and only a little over half of the world's countries meet the threshold ⁵³



The largest projected deficits of health workers globally are in **South-East Asia (6.9M) and Africa (4.2M)** ⁵²

The future health workforce

Decades of underinvestment have diminished our global health workforce, as the world struggles to deal with shrinking numbers, insufficient capacity, and increased pressure being placed on our health systems. This crisis has only been intensified through the COVID-19 pandemic, leading to significant staffing shortages, increased burnout, and other challenges that will continue to persist beyond the pandemic.

The health workforce, and frontline health workers in particular, continue to shoulder the immense burden of treating a global pandemic while maintaining essential health services. For a strong health system to function, it must have skilled, motivated, and well-supported health workforce – a need that countries around the world are grappling with as they prepare their workforce strategies for a global COVID-19 recovery and more equitable health workforce of the future.

i. A growing global gap ^{51, 54, 55, 56}

The labor crisis facing our global health systems has been long brewing, driven by demographics, and only heightened by the impacts of COVID-19. The pandemic has simultaneously diminished global supply of health workers – in the first 15 months alone, as many as 180,000 died from COVID-19 – and also caused significant burnout and additional strain on the remaining workforce. As workers are struggling with their own resiliency and personal health during this challenging time, many are beginning to rethink their profession, as health organizations, especially nursing organizations, prepare for a mass exodus of workers out of the sector – with reportedly almost half of U.S. health workers planning to leave their positions by 2025. Well-informed, well-placed, and well-supported health workers are core to providing lifesaving treatment in every health system. As we move to pandemic recovery, we must ensure that workers are not only safe in the short-term but invest long-term and at-scale to address workforce challenges on a longer horizon.

ii. Upskilling and reskilling in new areas ^{55, 57}

Advances in science and care delivery, partially spurred by the pandemic, require an adjustment to new ways of working for the health workforce. Capacity building for health workers has proven instrumental in several areas even beyond the immediate requirements of the COVID-19 response, with institutions across the board putting emphasis on key areas such as data literacy and information management, digital literacy, local problem solving and resource management, building trust and effective communication, and human centric design.

iii. New roles and responsibilities ^{57, 58, 59}

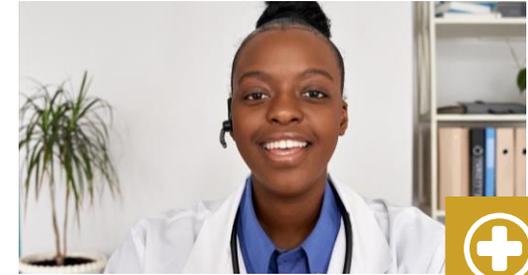
In light of the glaring gap in our current workforce capacity, organizations are also starting to restructure their workforce through task shifting and technological investment in a three-fold approach:

- Equipping a less-skilled labor force to take on tasks not requiring specialized knowledge – e.g., mobilizing youth as advocates to overcome vaccine hesitancy;
- Identifying cognitive tasks that can be enabled through technology – e.g., use of technologies and robotics for data collection and consolidation; and
- Re-allocating the diminished workload more equally across a limited health workforce to scale down the size of workforce needed – e.g., prioritizing physician time in treatment, and less on admin responsibilities.

In parallel the COVID-19 pandemic has also elevated the role of underutilized members of the health workforce, such as community health workers and pharmacists. These workers facilitate deep linkages between health systems and communities and act as not only health service providers, but agents of trust and important messengers of health information. As these expanded roles are not likely to change, health systems must work to better integrate these critical workers into mainstream care pathways and systems.

iv. Workforce migration and mobility ^{52, 60, 61}

The reasons for workforce migration are complex, often driven by high unemployment rates and poor conditions in origin countries (often low-income), and greater professional development opportunities, salaries and perceived work environments in destination countries (often in the high-income). Richer nations benefit in a competitive labor market, recruiting heavily from low-income countries, but for the communities left behind, this poses a critical challenge – e.g., sub-Saharan African countries together bear 24% of the world's disease burden, yet employ only 3% of the world's health workers. As our health worker crisis continues to unfold, there is a need for ethical leadership in shaping the equitable mobility of health workers while safeguarding their rights.



Uganda-UK SCALE Program ⁶²

The Uganda-UK Health Alliance (a collaboration between Uganda's Ministry of Health and NHS Health Education England)'s SCALE program aims to tackle issues of workforce shortages, capacity building, and migration as a 'mutual win'. The program aims to address gaps and challenges in critical medical disciplines (critical care, emergency medicine, neonatology, maternal fetal medicine) in order to improve healthcare delivery.

The program will enable temporary and bilateral movement of healthcare workers in both directions, and virtual learning elements encourage shared learnings between UK and Ugandan participants. Ultimately, the program aims to strengthen workforce capacity in three ways: 1) establish pathways to foster shared learning and build leadership competencies 2) establish sustainable pathways for bilateral research and strengthen its contribution to evidence-based practice 3) share implementable and context specific quality improvement practices.

Fast facts



Between 2030 and 2050, **climate change is expected to cause approx. 250,000 additional deaths** per year ¹⁰⁵



42% of countries are increasing awareness and training for their health workforce on climate change issues ¹⁰⁶



The impacts of **household and ambient air pollution cause up to seven million premature deaths** per year ¹⁰⁵



Globally, only about **0.5% of multilateral climate finance** has been attributed to investment in health-related projects ¹⁰⁷



In the Americas, 67% of health facilities are in disaster-risk areas. In the last decade, 24 million were left without access to care for months due to infrastructure damage ¹⁰⁷

The human cost of climate

Climate change has been recognized as a global health emergency by leading health institutions around the world and has even been dubbed ‘the greatest global health threat of the 21st century’. Human health is currently, and will even further be, affected by both the direct and indirect impacts of climate change as a major determinant of our health outcomes.

COVID-19 has exposed the weak public health systems and disaster preparedness strategies currently in-place in many countries globally. As we prepare for future emerging threats, a growing number of voices in the global health community are calling for a renewed and integrated approach to global health, one that brings together the well-being of humans, animals, and the environment in a cooperative ‘One Health’ approach.

i. Health infrastructure resiliency ^{108, 109}

Climate change strikes at the very core of our health systems, with the potential to disrupt living conditions, access to public services, global supply chains, and impact to economic systems. Changing climate patterns, in combination with an increasing number of unpredictable natural disasters such as floods, wildfires, and earthquakes, set an uncertain backdrop against the future resiliency of our health systems. As we prepare for emerging threats post-pandemic, healthcare organizations and emergency management partners should incorporate the implications of climate change into their emergency preparedness and health system and workforce resilience strategies.

ii. A swell in disaster displacement ^{110, 111}

Environmental degradation due to climate change poses several risks to population health and the social determinants and can have severe humanitarian and health repercussions due to inability to access care. One example of this type of hazard is shown through climate-related forced migration and disaster displacement (e.g., due to flooding, wildfire), which already cause an average of more than 20 million people each year to be displaced, disrupting their access to critical and continued health services. These hazards can also lead to instability in employment, housing, and other basic determinants of healthcare, leading to worse health outcomes for climate vulnerable populations.

iii. Threat to air quality ^{112, 113}

Higher levels of greenhouse gas emissions, and resulting heatwaves, are negatively affecting air quality around the world, leading to adverse health effects such as aggravated asthma, heart attacks, and other respiratory and cardiovascular conditions. In developing countries, due to factors such as overpopulation and rapid urbanization, the expected disease burden is even more severe.

iv. Infectious disease in an era of global warming ^{114, 115, 116}

The impacts of climate change on temperature and precipitation variability are already affecting vector-borne disease transmission and spread, and the burden of these diseases (e.g., malaria, Lyme disease, Dengue) is only likely to worsen in the face of an ongoing climate crisis. Not only will warmer temperatures increase the spread of where vectors can breed, but it may also extend the disease transmission season and affect the behavior of vectors in a way that limits effectiveness of existing interventions such as bed nets.

v. Food and water made insecure ^{117, 118, 119}

Agriculture will be severely impacted by the climate crisis, with foreseen declines in fisheries, crop yield, livestock productivity, and agroforestry, often in areas already vulnerable to food insecurity. Similarly, water scarcity is posing a greater risk, as low rainfall dries up existing water sources and heavy flooding damages water sources, sanitation facilities, and furthers contamination. These changes may lead to an increase in acute malnutrition, multiplying pre-existing risks and creating new health challenges in previously food and/or water secure areas.

vi. Siloed public policy approaches ¹²⁰

While climate change and global health are largely treated as separate issues by the public, media, and policymakers at large, the COVID-19 pandemic is a difficult reminder as to how this thinking leaves gaps in our health approach. The siloes across One Health sectors in policy, financing, and coordination lead to limited information sharing and trust, and therefore, a limited ability to gauge and respond to risks posed by One Health threats.



Sustainable Medicines Partnership ^{121, 122}

Launched in 2022, the Sustainable Medicines Partnership (SMP) is a public-private, not-for-profit, and global collaboration connecting climate and health action. The SMP is aimed at reducing waste of usable medicines and emissions in the healthcare sector and increasing health equity.

The partnership includes actors from the NHS, pharmaceutical companies, private supply chain, government, academic bodies, researchers, designers, and patient groups and will operate over a 4-year timespan. The immediate focus of SMP is on raising awareness of issues and encouraging more companies and organizations to work collaboratively to deliver sustainable healthcare solutions in six key pillars: 1) Measuring healthcare environment impacts 2) End-to-end quality assurance of medicines in supply chain 3) Better shelf life 4) Digital information to reduce environmental impacts 5) Every dose used 6) Sustainable packaging

Fast facts



1 in 6 people in the world will be **over the age of 65 by 2050**, compared to only 1 in 11 in 2019 ¹³⁹



In sub-Saharan Africa, the **total population is projected to double by 2050**, primarily driven by growth of people between 25 and 64 years ¹⁴⁰



Over 11.2 million people were forced to flee or displaced in 2020 both within and beyond their country borders ¹⁴¹



Today, around **55% of the world's population live in cities**. By 2050, the urban population is expected to more than double in size ¹⁴²



By 2030, the **global middle class could swell to over 5.5 billion people**, with the most growth expected to come out of Asia ¹⁴³

Population dynamics

The United Nations estimates that the world's population is expected to increase by two billion people, from 7.7 billion at present to 9.7 billion in 2050, before reaching a peak of nearly 11 billion by the end of the century as fertility rates continue to decline. ¹⁴⁴ The changing demographics of our global population are shifting healthcare needs and creating new demand for health services that support evolving population dynamics.

Global demographic shifts are intensifying pressures on our systems, requiring health leaders to quickly plan for growth and continued provision of essential health services tailored to expanding population needs. The major population trends highlighted below have important implications for economic and social development and should be considered by health systems in healthcare policy and planning.

i. The 'silver tsunami' ^{139, 145, 153}

Longer lifespans and advances in science and medicine leading to increased likelihood of survival are leading to a rapidly aging global population, with the fastest growth concentrated in East and South-East Asia, Europe, and Latin America. This shift has placed increased pressure on old-age support systems to handle common conditions associated with elderly populations such as heart disease, cancer, and neuro-degenerative conditions such as Alzheimer's Disease, Parkinson's disease, etc., while dealing with increasing co-morbidities, and improving the accessibility of geriatric services. For patients, this means growing healthcare costs without necessarily the means to support expensive out of pocket treatments. The global aging trend is projected to astronomically increase senior homelessness, exponentially escalate treatment costs, and require a greater supply of long-term care administrators.

ii. Youth bulge in Africa ^{144, 146}

Following the youth bulges of Asia and Latin America in prior years, the African continent is experiencing rapid growth of their working-age population thanks to huge improvements in nutrition and health services and a decrease in child mortality. Though this poses great opportunity for improved living standards and economic advancement, it also creates challenges for health systems in adequately supporting a growing population in areas like routine immunization, sexual health and communicable diseases.

iii. Displaced and fragile populations ^{141, 146, 147, 148}

While the percentage of international migrants has remained around 3% of the global population over the past two decades, their number has increased by more than half since 2000. The number of people forcibly displaced has risen sharply due to prolonged geo-political conflict, impacts of climate change, and struggles with social and economic insecurity. The vast majority of migrant flow is to low-middle income countries, placing additional pressure on these already constrained health systems. For populations fleeing their homes, displacement is accompanied by disruptions in care, loss of important medical information, challenges with food security, ability to pay for healthcare, access to protection, etc. Millions of refugees relocated to humanitarian camps face additional health challenges in crowded, sometimes unsanitary, and resource-poor conditions. These characteristics are mutually reinforcing, increasing the vulnerability of those who are forced to flee inhospitable environments.

iv. Rapid urbanization ^{149, 150}

The influx of rural and suburban people migrating to cities can offer improved access to population-level healthcare and strengthen many of the underlying determinants of health (e.g., access to education) but may also pose increased health risks of infectious diseases, pollution, sedentary lifestyles, limited green spaces, substance abuse, and potential challenges with food, water and housing insecurity. Cities must invest to keep up with the pace of healthcare infrastructure growth and health worker availability needed to support a growing urban population.

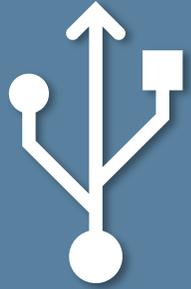
v. Middle class rising ^{151, 152, 153}

Despite pandemic stalls and linkages to an increase in poverty, developing countries continue to experience a longer trajectory of growth in a 'new global middle class'. Though improved standards of living bring significant health benefits, they are accompanied by the health risks of increasingly sedentary lifestyles (e.g., obesity, diabetes). An increase in income may also be correlated with improved insurance coverage and ability to spend on out-of-pocket health expenditures, fueling demand for more care options.



Addressing the Health of Rohingya Refugees in Bangladesh ^{154, 155}

Dissemination of accurate and timely health information can be a challenge for refugees without knowledge of the majority language of their host countries, especially for those who lack access to the internet. In Rohingya resettlement camps in Bangladesh, this information gap has caused the circulation of false information and panic about COVID-19 amongst more than 850,000 refugees. In response, organizations such as UNHCR are running SMS-enabled awareness campaigns, sending up to 15,000 informational texts about COVID-19 and its prevention to urban refugees. In addition, more than 2,000 refugee volunteers are working with community and religious leaders to communicate important prevention measures, complemented by media campaigns (across radio, video, and paper collateral) translated in Rohingya, Burmese, and Bengali languages. These measures are supplemented by other initiatives to improve hand washing and distancing.



SECTION 3.

What technology changes from the past two years will revolutionize the future of healthcare?

Fast facts



When researching healthcare options, patients consider an average of **5.5 reviews and visit at least three websites prior to making a decision** ¹



~50% of oncology patients would have liked to be more involved in their overall treatment plan decision-making process ²



On average, **individuals spend less than one hour per year with a health worker compared to more than 8,700 hours per year on self-care interventions** for health ³



More than 70% of Americans have been exposed to medical misinformation, with **nearly half unable to distinguish accurate information from false** ⁴



Estimates place the addressable market for consumerization of healthcare at **~600 billion in 2019, increasing by 5.5% compound annual growth rate through 2025** ⁵

Patients in power

What if patients could easily access relevant and trustworthy health guidance? What if patients were an equal partner and decision-maker in their treatment journey with their doctors? A new expectation for patient-led and patient-centered healthcare has redefined what it means to put patients in power.

Though common needs may unite all types of patients, healthcare is never a uniform approach – and COVID-19 has brought this principle into sharp focus. Empowered patients have a greater understanding of how to navigate the healthcare system to better support their individual needs, ask for information, and demand value and affordability in health services. The pandemic has further highlighted the importance of keeping patients and caregivers informed and connected, and of valuing them as co-creators of their own experience.

i. Growing ownership over care pathways ^{2, 6, 7}

As patients begin to take a larger role as drivers of their own care journeys, formerly asymmetric relationships with healthcare providers are beginning to evolve, shifting away from a one-way flow of information and decision-making towards an ongoing, collaborative relationship where patients are active participants throughout their care journey (e.g., in data capture, goal setting, decision making, etc.). Rather than seeking purely prescriptive treatment, patients are increasingly seeking access to information and looking to build stronger trust with their providers in order to help shape their own treatment plans. These advances in participatory medicine have the potential to yield both improved health outcomes and lower costs as patients accept greater accountability for their health.

ii. Patient owned data ^{8, 9, 10, 11}

The lines around what constitutes ‘health data’ are increasingly blurred – from scattered electrical medical records, data from apps and wearables, to information about a patient’s social determinants of health – and the volume of this data continues to grow with no designated arbiter. There is a push to consider that patient empowerment truly begins with an individual having control over their own data, and while the benefits of patients being the arbitrators of their own data have great potential to facilitate quality, personalized, and equitable healthcare, there remain significant barriers to making this operationalized at scale. These challenges must be addressed at both a systems level (regulatory considerations, technological capability e.g., digital wallets) and individual level (data and digital literacy, privacy concerns, etc.).

iii. Consumerization of healthcare ^{12, 13, 14, 15}

In an era of unprecedented access to information, consumers are increasingly discerning and preference-driven when it comes to their healthcare decisions, harnessing the power available at their fingertips to demand greater access to personalized and convenient services. In response, health systems are adopting new and personalized approaches to better fit evolving patient expectations (e.g., patient portals, transparent billing), while emerging private sector entrants from technology, telecom, and other sectors rise to meet growing patient demands for on-demand and transparent healthcare.

iv. Rise in self-managed health interventions ^{3, 16, 17, 18, 19}

The rising costs of healthcare, changing disease burden (e.g., more people living with multiple chronic illnesses), and shift in focus towards holistic care have driven a resurgence in self-managed health interventions. Home health options and tools designed to democratize care have gained popularity amongst patients and providers alike in an effort to safeguard high-risk populations during the COVID-19 pandemic. Growing public and private investment, increased regulatory flexibility in delivering home-based care, and patient demand for agency over their lifestyle all point to the rise in self-managed interventions as a trend only poised to grow in the new normal.

v. A human-centered approach to health ^{20, 21}

Human-centric approaches to intervention design focus on deep empathy and involvement of the patient throughout the solutioning process. Organizations are increasingly re-focusing their strategies with a human-centric approach at the core, grounding health programs in the context of the communities where they will be delivered, in an effort to address the confusion, mistrust and fragility of our health systems uncovered during the pandemic.



Integrating Women's Experiences in Efforts to Improve Quality of Care ²²

Merck for Mothers (MfM), Merck's global initiative to address maternal mortality, is taking new measures to integrate women's experiences, perspectives, and preferences into programmatic and advocacy efforts globally. For example:

- In Zambia, partners sought to develop a new model of maternity waiting homes to improve the ability of mothers to receive time, facility-based obstetric care. In consultation with potential users, new facilities were constructed to prioritize the safety and comfort of women in response to stated concerns (e.g., overcrowding, lack of amenities, cultural issues, etc.)
- In India, MfM helped launch 'Together for Her Health', a digital platform that educates women on what quality maternal care looks like and offers anonymous rating options for users. Feedback is made available to women and providers to facilitate informed selection of the care users want.

Fast facts



More than 50% of countries surveyed by the WHO used telemedicine or home-based care to overcome and recover essential service disruptions ²³



More than 150 countries engaged ADA Health, an algorithm-enabled, symptom checker leading to 6 million new users in 2020, more than doubling their total prior users ²⁴



83% of healthcare providers in the U.S. intend to continue using virtual delivery of healthcare after the COVID-19 pandemic ²⁵



Between Dec 2019 – June 2020, 1Doc3, a Colombia-based tele-consultation platform, saw a 700% increase in teleconsultations ²⁶



The UK's NHS Pathways, a triage and clinical decision support system, experienced a 1 million weekly appointment surge between 2020 and 2021 ²⁷

Virtual health, accelerated

The COVID-19 pandemic has significantly changed the way health and care are delivered. Physical limitations imposed by the pandemic have driven the acceleration and adoption of remote health service delivery through digital technologies as a means to overcome geographical barriers to care.

As patients, providers, and health ecosystems more broadly have leaned in to virtual and hybrid delivery methods, virtual health has proven to be a change that is here to stay, driven in large part by evolving patient preferences and increased willingness and adoption by mainstream health institutions. However, while the advances in access driven by virtual health are substantial, health systems must be mindful to not further exclude already vulnerable populations.

i. Integration into mainstream health and care ^{28, 29, 30, 31}

The policy response to standardizing, enabling, and regulating the delivery of virtual health varies across countries. In some nations, such as the UK, Germany, and Rwanda, legislation has enabled the rapid adoption and growth of virtual delivery models into mainstream care as new national strategies and public-private partnerships emerge. In others, a lack of appropriate policy initiatives to guide data governance, reimbursement, and other issues, have resulted in ambiguity and limited adoption of emerging virtual health models.

ii. Telehealth and virtual appointments ^{32, 33}

Telehealth has surged in utilization as a way to streamline patient and provider communication during the COVID-19 pandemic. As virtual engagement has become more common practice, patients and providers globally are preparing for a long-term shift in complementing face-to-face interactions with virtual delivery, driven largely by increased convenience. In particular, specialties such as psychiatry and substance use disorder are seeing large uptake in telehealth adoption.

iii. Remote patient monitoring ^{34, 35, 36, 37}

As patients have grown more comfortable seeking care virtually, remote patient monitoring technology is rising as one of the long-term use cases in virtual health post-pandemic. The use of such technologies in enabling real-time and data-led decisions is ushering in a new era of evidence-based care (e.g., helping to identify gaps in care, ensuring treatment adherence, assisting patient navigation), but poses challenges for patients and doctors in making sense of a growing volume of data.

iv. Virtual capacity building and sharing ^{38, 39, 40, 41, 42}

As a result of COVID-19, the slow shift towards online capacity building efforts for health workers has been thrust into high gear. The upskilling of health workers on how to respond to the pandemic, and the need for continuity of other critical capacity building efforts, has led to wider utilization of a variety of virtual approaches to capacity building – from WhatsApp enabled encouragement and coaching, to simulated patients that mimic in-person interactions. The growth of virtual capacity building as an effective and scalable method of upskilling poses the opportunity for even greater global cooperation and multi-party learning.

v. Digital front doors ^{43, 44, 45, 46}

A ‘digital front door’ refers to the technology patients use to interact with a healthcare organization, from the moment they fall ill through exiting the clinic – amongst others, these touchpoints may include online appointment scheduling, provider search, virtual waiting rooms, patient intake technologies, and more. Contrary to the name however, digital front doors can serve as a patient-facing entry to the healthcare system along the entire continuum of care, not just a single point in time. As more organizations adopt new ‘digital front doors’ however, some experts are calling for a more tactical approach to implementing solutions to mitigate the mounting risk of overwhelming patients.

vi. Addressing the digital divide ^{47, 48}

While utilization of virtual health has enabled continued provision of health services for many, virtual delivery is not reaching all patients in an equitable way. Research shows that several forms of digital divide still exist – across gender, age, rural / urban, income, social group, disability, language, and more – due to a myriad of factors, including literacy, access to broadband, and the social determinants of health. While virtual health can be an effective tool in overcoming the transportation divide, health organizations should caution not overtly relying on virtual tools and leaving patient stuck between ‘two divides’.



Babyl + Government of Rwanda ^{49, 50}

As part of their strategy to provide easily accessible and affordable healthcare, the Government of Rwanda partnered with digital health service provider Babyl and the Bill & Melinda Gates Foundation to launch a 10-year partnership integrating Babyl into Rwanda’s national health insurance scheme. The partnership aims to give every person over the age of 12 in Rwanda access to digital consultations paid via the government’s community-based health insurance scheme.

Through the partnership, the Rwandan government leveraged digital health solutions in response to COVID-19, with contact tracing, symptom surveillance, remote monitoring and data visualization. This is part of a broader effort to make Rwanda a global leader in digital health while overcoming barriers to access. Most recently, in late 2021, the partnership announced the next step of the effort in unveiling Babyl’s AI-powered triage tool to support Rwandan nurses in making more effective and efficient decisions for their patients.

Fast facts



Global health data volumes are expanding by around 36% annually, and today, approximately 30% of the world's data volume is generated by the health sector ^{87, 88}



Optimizing health service data is critical to ensuring equitable, quality services, yet 50% of countries have limited / less capacity for systematic monitoring of quality of care ⁸⁹



59% of countries have sustainable capacity to use data to drive policy and planning, but only 42% of countries have good capacity for data access and sharing ⁸⁹



Nearly 40% of the world's deaths remain unregistered, and more than two-thirds of all LICs have yet to establish a standardized system to report causes of deaths ⁸⁹



In a HBR Analytics Survey, 86% of respondents agreed that significant reform can be achieved through strategic and operational alliances using shared data ⁹⁰

Data collaboratives

Cross-industry and multi-sectoral collaborations with a growing number of participatory organizations are becoming the future state of healthcare. The health challenges our world faces are increasingly multi-faceted and require a diverse set of actors and information to be sufficiently addressed. Though health data is still largely separated across ecosystem actors, the last few years have underscored the greater need for global cooperation and collaborative data efforts to unlock holistic insights.

Data collaboratives are an emerging form of collaboration that leverages the collective power of data across organizations and industries to address a wide range of challenges – from helping scientific researchers get access to a high volume of quality, diverse data, to aiding policymakers in identifying optimal interventions to reduce population health risks.

i. The promised potential of data collaboratives ^{91, 92, 93, 94}

Access to quality health data at high volumes and variety is imperative to good planning and decision-making. Data collaboratives help organizations overcome barriers to inaccessible, siloed data and enable sharing of data across organizations while preserving intellectual property and respecting privacy and compliance considerations. While historically this type of collaboration may have been hampered by technological capacity limitations, non-existent or inflexible regulatory guidance (e.g., HIPAA, GDPR) and lack of trust between organizations, advances in technology and privacy preserving computation techniques have made it possible for organizations to embark on data-enabled collaborations without concerns around trust, intellectual property, compliance, and data control.

The potential of data collaboration is vast and has applications across the ecosystem. The underlying technology platforms of data collaboratives can often be multi-purpose, and a single platform can enable a large set of use cases to be implemented, including benchmarking performance of and optimizing health interventions; enabling deep understanding of patient populations and their behaviors; supporting robust and efficient allocation of health resources; supporting development of new analytics and artificial intelligence solutions to inform real-world evidence based decision making; and improving early diagnosis, amongst others.

ii. Key challenges in operationalization ^{95, 96, 97, 98, 99, 100}

Though there is enormous potential for data collaboratives to drive value, there remain large barriers to actualizing the benefits. These barriers can be loosely categorized into four groups: 1) Misaligned Incentives: Factors that may influence willingness to share data are the perceived risk of a peer gaining competitive intelligence, of a government body imposing restrictions, or the lack of alignment with typical short-term performance measures such as profit. Despite these complexities, a growing number of private actors are participating in ‘data philanthropy’ for social benefit, in line with larger responsible business trends. 2) Technical Capacity: The maturity of data management and sharing capabilities varies greatly across countries, and strong data infrastructure is much less prevalent in LICs than elsewhere, posing challenges for data collaboration at scale. In addition, there are numerous challenges with both data/AI literacy and data usability, with diverging technologies creating difficulties with interoperability. 3) Privacy Risks: Data collaboratives increase the number of users with access to a given dataset increasing the possibility of a data breach. Also, data sharing, even in aggregate, can increase the likelihood of linkages between granular data and the chances that an anonymized individual may be reidentified 4) Regulatory Barriers: Strict laws for data sharing can be challenging for organizations in accommodating requirements e.g., subject opt-in for data collection, auditing capabilities and more. Conversely, countries with limited to no data sharing regulations also pose challenges for partnerships attempting to operate in an uncertain and risky environment without a guiding framework.

iii. Laying the groundwork ^{101, 103}

Coalitions seeking to launch a data collaborative need to define and orchestrate six key components, or ‘building blocks’: 1) The platform and underlying technology that will facilitate the interaction and integration of data between partners 2) The partner ecosystem of organizations that will participate in the collaborative 3) The data custodian organization, who will act as the neutral end-to-end operator of the collaborative 4) A defined and detailed strategic direction on the data required and use cases enabled via the collaborative 5) An overarching strategy and value proposition underpinning the data collaborative 6) A governance and legal framework, structure, and set of policies and processes which will guide partners to achieve mutual trust and benefit.



AI4BetterHearts ^{102, 104}

Cardiovascular disease (CVD) is the leading cause of death globally, and three quarters of CVD deaths occur in LMICs. AI4Better Hearts is a global data collaborative co-founded by the Novartis Foundation, Microsoft, Accenture, and their partners that leverages AI and advanced analytics to combine, mine, and analyze heart health data to help decision makers better understand and address CVD at scale. The aim of AI4BetterHearts is to improve health outcomes by changing the way heart health is managed, predicted and prevented.

The collaboration will pool heart health data from hospitals, primary care centers, research institutions, and NGO partners around the world to further the development of AI tools that can make health policy choices more accurate. Participants contribute data from their own research and health initiatives (e.g., Novartis’ Better Hearts Better Cities, Harvard’s OpenDP Initiative) to generate an evidence base that can guide future population health programs.

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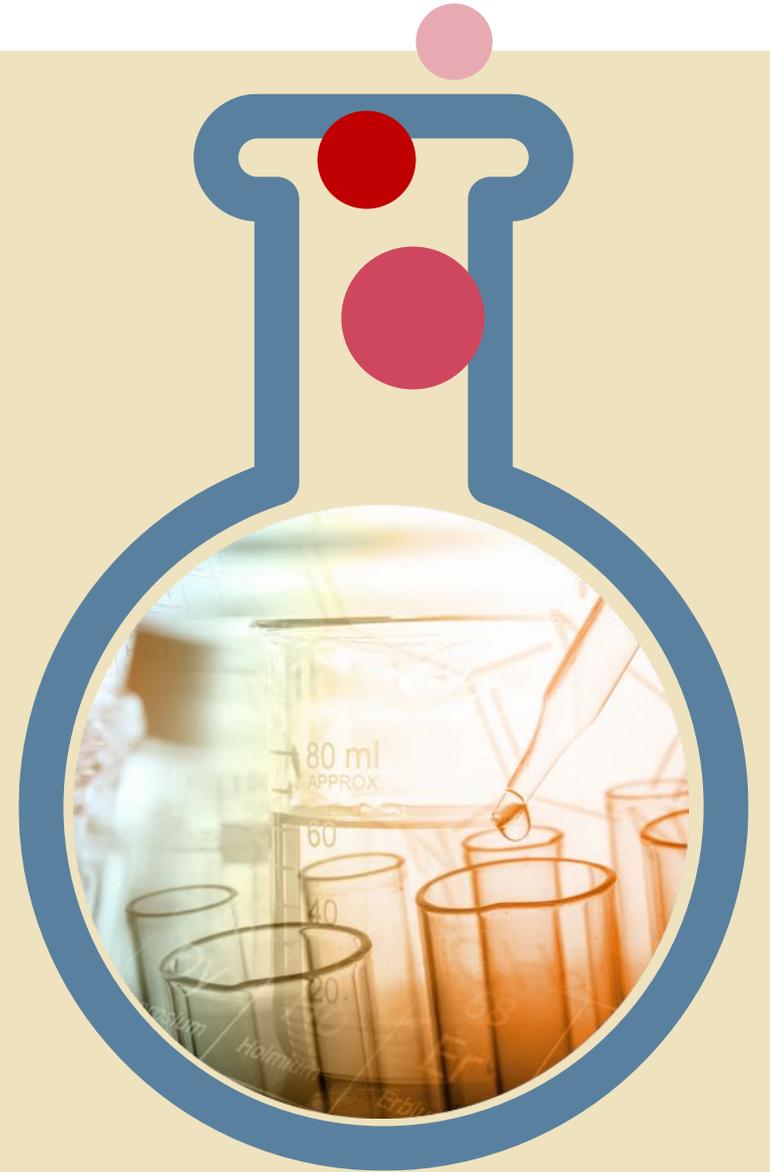
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APPENDIX



The importance of partnerships for global health impact

Global health issues are deeply interconnected and cannot be solved in siloes.

The COVID-19 pandemic has underscored the importance of partnerships, more critical than ever before, in addressing the increasingly complex and interrelated factors that impact global health. Partnerships in health build off the mutual strength of individual actors united under a common goal and can coordinate outsized impact for populations by addressing problems through convergence.

Amidst the tragedy of the COVID-19 pandemic, partnerships have arisen as a powerful tool to develop and scale up tests, treatments, and vaccines, and strengthen innovative modes of healthcare service delivery. COVID-19 has exemplified the increasingly global nature of the health challenges we face, proving that some of our greatest threats – such as infectious diseases – cannot be stopped by geopolitical borders. The additional strain placed on health systems by the pandemic has healthcare organizations attempting to stretch their dollars to cover pandemic-related health concerns while maintaining access to critical services. In response, donors are increasingly encouraging consortiums of implementers to work together to unlock greater, more coordinated impact with limited resources. Further, increased adoption and comfort with digital collaboration tools across the sector has reduced operational barriers to launching and facilitating partnerships.

These underpinning factors are leading to a rise in global health partnerships, allowing for a multiplier effect in impact, unprecedented access to new populations, and increased opportunities for innovation.

Though partnerships are a critical component of the entire global health agenda, our research indicates that a few areas in particular are in need of renewed coalition building efforts.

Our interviewees highlighted several areas they felt were particularly underserved in global health partnerships – both in terms of new ways of working (highlighted on the next slide) and areas in which they would like to see renewed partnership efforts (below).

Addressing Deferred Care

Interviewees saw partnerships focused on primary healthcare as a critical means of ensuring continuity of care, citing strong and resilient primary care models as critical to pandemic preparedness to prevent future crises in deferred care.

Digital Health Partnerships

Growing adoption of various digital technologies (e.g., simulated patients, mobile health applications) are paving the way for new partnership opportunities that leverage the power of digital to extend scale and reach.

Climate and Health

The overlap and co-dependency between planetary, human, and animal health require greater intentional partnerships across these disciplines to properly identify, assess, and overcome threats like zoonotic diseases.

Future Health Workforce

The health labor shortage is a global issue and will require international cooperation to recruit and restructure a more effective, and equitably distributed, health workforce that does not leave any country behind.

Health Equity and Trust

Interviewees highlighted the importance of partners to address barriers preventing underserved populations from receiving care – particularly as it pertains to the SDOH and building trust with vulnerable communities.

Pandemic Preparedness

In order to address cross-border health threats, a greater degree of multinational partnerships and scientific and healthcare collaboration is required to isolate and mitigate emerging threats from any part of the world.

What does this mean for future global health partnerships?

NEW PARTNERSHIP APPROACHES

HORIZONTAL RELATIONSHIPS BETWEEN DONORS and GRANTEES

- The decolonization agenda in global health has long called for more equitable relationships between HIC and LMIC-based organizations
- Changes to the global health landscape have highlighted the need for self-determined priorities by organizations in LMICs, rather than prescriptive approaches rooted in the context of HICs. COVID-19 evidenced that greater access to resources does not necessarily correlate to better public health approaches, exemplified by the staggering toll of COVID in HICs
- In response, global health leaders are working to build the capacity of LMIC organizations to directly receive and utilize donor funds as 'prime recipients'

FEWER, BIGGER, BETTER PARTNERSHIPS

- For many, the pandemic has forced a 'partnerships reckoning', as organizations have had to prioritize truly impactful partnerships given limited bandwidth and resources
- The global health sector has suffered partnerships fatigue and an inundation of pilot programs, but struggled to build embedded partnerships to drive impact at scale
- Now is the time for actors to be realistic about their partnership strategies and pick the partnerships worth investing in over the long-run, prioritized based on ability to address health challenges and drive impact, complementary strengths, mutual accountability and investment, and shared goals

VALUE OF NEW AND EMERGENT PARTNERS

- COVID-19 has enhanced the involvement of non-health actors in supporting the public health agenda, especially in key areas such as demand generation, health communications, service delivery and strategic planning
- For partners like professional associations (e.g. National Association of Nurses), patients, and community health workers, COVID-19 has accelerated previous efforts to integrate into mainstream care pathways and accountability mechanisms
- For other partners such as employers, professional associations, technology companies, and celebrity influencers, the COVID-19 pandemic has allowed for innovative ways to engage new actors to build trust and mutual capacity

GROWTH IN DIGITALLY-FACILITATED PARTNERSHIPS

- Advances and large-scale adoption of digital technologies in health have ushered partnerships into a 'new normal' of virtual engagement, driven by movement away from travel-based ways of working and towards digital facilitation, knowledge management, and collaboration tools
- Digitally facilitated partnerships offer benefits in enabling more continuous engagement, collaboration with proximately distant institutions, and streamlined operations. There are a growing number of use cases for these partnerships to address key issues, including workforce capacity building, health promotion, advancing scientific and research collaboration, etc.

EXAMPLE

Save the Children's Localization Push ^{165, 166}

In 2020, Save the Children established locally managed pooled funds in Somalia and West Africa to enable greater flow of funds directly into the hands of local actors. The localization of these funds enabled the flexible and efficient deployment of contributions from 18+ Member States to organizational partners located in areas best placed to respond. These local funding flows capitalize on local partner proximity to affected people and harness local knowledge and networks to drive scalable impact.

Uganda National Academy of Sciences

During the COVID-19 pandemic, faced with both rising pressure and greater stakes than ever before, institutions like the Uganda National Academy of Sciences underwent a culling of their strategic partnerships. 'For us, came the sobering realization that very few people are willing to engage in truly equal partnerships. It was painful in the short-term, but in the longer-term, it's helping us to build more sustainable partnerships. It cannot be a true partnership if there's inequality embedded.'" reflected one executive at the Academy.

USAID: MOMENTUM Routine Immunization Transformation and Equity ^{167, 168}

This USAID-funded program focuses on sustainable strengthening of routine immunization programs to overcome entrenched obstacles. The project helps countries engage new partners from within and beyond health, mobilizing a diverse set of stakeholders at the national and sub-national level such as community level actors. The program also launched a new strategy to better engage professional associations and the private sector as a vital part of the COVID-19 response.

Providence + World Telehealth Initiative ¹⁶⁹

In Nigeria, the partners used Teladoc to make virtual capacity sharing sessions available, even in low-network bandwidth areas. 88% of doctors in the operating region of Nigeria seek employment abroad due to a lack of support for ongoing education. Through this initiative, Providence physician volunteers work with Nigerian clinicians via tele-mentorship model to offer support for case analysis, speciality consultation, and didactic sessions while offering opportunities for continuing medication education locally.

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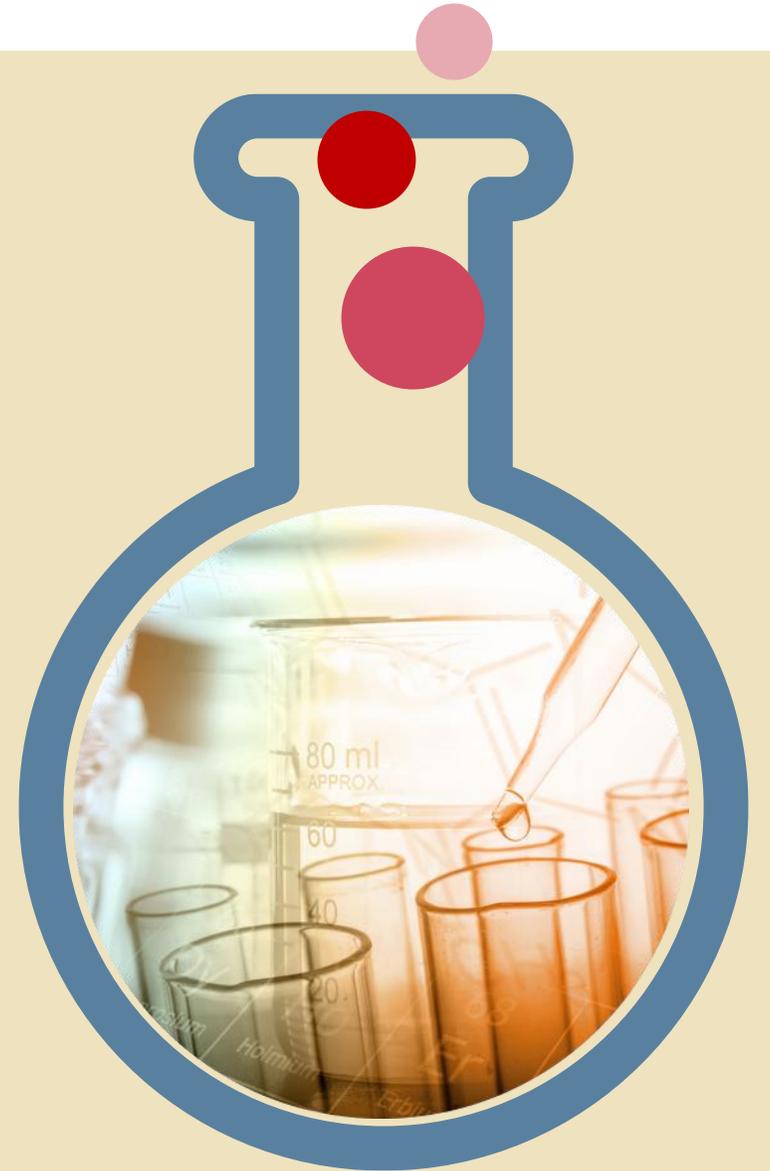
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25. **Susan Huber**, Senior Vice President, Sponsorship, Ascension; President, Ascension Global Mission

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