Global health is a relatively new enterprise. It arose in response to the need for global cooperation to address health concerns that transcend national boundaries. It differs from international health or public health in both motivation and approach — global health envisions a world in which all people have equal access to healthy lives, based on the principle that all lives matter. In approach, it encompasses and emphasizes dignity and respect for the individual, communities and nations.

To those in Catholic health care, the values and principles of global health are more than familiar — they are closely aligned with the tenets of Catholic social teaching. Both seek respect for life and the dignity of the human person, community participation, social justice, the preferential option for the poor and stewardship of our Earth. The ideals, principles and values imperative to the pursuit of global health provide a framework for the expression of Catholic faith while making a difference in the lives of the most vulnerable.

However, building communities, societies and nations in which access to health care is recognized as a fundamental human right requires understanding the context of each individual, community and culture. That context includes the socioeconomic (education, culture, behavior), political and environmental conditions that affect health and the presence or absence of effective and affordable health systems. We need that knowledge as well as cultural and technical competencies in order to develop solutions to problems that occur in complex systems.

Global health recognizes health disparities at every level. Though it focuses on disparities between high-income and low-income countries, global health also is concerned with disparities within countries, within communities and between specific demographic groups (for example, gender, race, sexual orientation and age). In general, it takes multidisciplinary and intersectoral approaches to address health disparities.

DATA AND DECISION-MAKING

Global health emphasizes the importance of data- and knowledge-driven decision-making, which means understanding the right questions to ask, the context of the situation, the correct data to collect and how to analyze and interpret it.

For example, a decade ago, a nutritional program assumed that delivering food to a community would result in better nutrition for the children under 5 years old. To measure the program’s success, reports kept track of how many meals a
Global health needs to be understood as a discipline that requires directed training. The training involves mastery of technical skills and cultural competencies and embraces the concepts of human dignity and social justice.

The need is so great and the scope so broad that nearly any particular expertise can and does contribute to global health. Global health activities can range from a scientist performing basic research on the mechanisms of antibiotic resistance, to a nurse or physician providing clinical care in a low-resource setting, to implementing a mosquito control program, to educating individuals and communities about the benefits of vaccines.

The University of Notre Dame Master of Science in Global Health program provides one year of intense, science-centric training. Though there is no single set of competencies that define a global health professional, there are some technical skills that provide the basis for students and graduates to apply their discipline-specific expertise to global health problems.

The first requirement: learning to work in teams and partnerships — no one person can know and do everything necessary for an effective outcome.

THE RIGHT QUESTIONS
Students learn to consider a population's health from a holistic perspective, assessing:

- Health of individuals or subgroups within the population
- Access to and affordability of health care services
- Quality of services
- Demand for services
- The health system's strengths and weaknesses
- Resilience of the health system (ability to respond to challenges/emergencies)
- Resources available to the health system (internal and external)
- External threats to the health of a community and the health system

Students also learn to assess other contextual determinants of health:

- Economic factors, such as employment, food security, housing security, poverty
- Education
- Social determinants
- Climate change

Although this data- and knowledge-driven approach requires financial resources and commitment, in the end it is the ethical responsibility of everyone who engages in these activities to ensure that ineffective and unsustainable programs are not scaled up and do not consume finite resources. All stakeholders need to agree and commit to the essential nature of knowledge-driven approaches to ensure that they are built into the agreements between partners, design of programs and — importantly — the budget.

Global health, therefore, needs to be understood as a discipline that requires directed training. The training involves mastery of technical skills and cultural competencies and embraces the concepts of human dignity and social justice.

An accountable program is responsible to the communities it is designed to serve, to the institutions that provide resources and to the program implementers. This requires clear lines of communication that allow information to flow in all directions and permit new information and knowledge to be considered and incorporated.

Sustainability can be interpreted through a number of lenses: economic, environmental, social and political. There is never a guarantee of sustainability in all of these spheres, but appropriate planning and consideration will reduce the likelihood of a program collapsing.

Today, such a nutritional program collects information on outcomes: Are fewer children underweight or stunted? Was there an impact on school attendance? Are households more economically stable? The principles of global health demand a more knowledge-based approach and take accountability and sustainability into consideration when assessing the effectiveness of health interventions.

particular community received.

The principles of global health demand a more knowledge-based approach and take accountability and sustainability into consideration when assessing the effectiveness of health interventions.
Educational and training opportunities, including health literacy

Physical/environmental factors, such as weather extremes (drought, for example), safe roads, access to appropriate housing, clean water and sanitation

Social and community context, such as personal and public safety and discrimination

Cultural context, including traditional practices and health-service-seeking behavior

Political stability, as well as governance and leadership of institutions, commitment to health of citizens and the provision of insurance options for the poor and to prevent catastrophic economic consequences for health conditions

Occupational health and safety factors, including the informal workforce, exposure to toxic/hazardous conditions

Individual behavior, such as tobacco, alcohol and drug use

Biology and genetics, such as susceptibility to particular diseases and acquired immunity to diseases in endemic regions.

COMMUNITY INPUT

It is crucial to discern how to earn respect and trust in the community or from the population in question. There is no formula to follow, but experience has identified some fundamental premises.

Start by listening. Members of the community or population will provide guidance regarding who authentically represents them, their priorities, what is and what is not acceptable in terms of solutions, and what research will be required to collect appropriate data. Among the questions to consider are: How does the community want to participate in the research or implementation of new interventions? What are their expectations? What is the model for sustainability (economic, environmental, social and political)?

Global health students should have an advanced depth of knowledge regarding the transmission, pathogenesis, biology and epidemiology of the most prevalent diseases in the population or community. They also should learn the current strategies employed to control disease. For example, global health strategies to control malaria and polio have evolved well past disease identification, control and treatment to meet the more recent goals of eradication (zero new cases in a defined geographical area) and elimination (complete and permanent worldwide reduction to zero of new cases). Modern global health strategies often will require the development and deployment of new technical tools; for example, point-of-care diagnostics that are able to detect very low levels of infection.

GATHERING DATA

If asking the right questions sounds complex, deciding on what data should be collected in order to provide substantive evidence may be even more daunting. Global health researchers must appreciate the potential impacts and outcomes, both positive and negative, of their studies in advance and determine if the appropriate data can be collected and over what time frame.

At the same time the data collection should not be a burden to the health system in question. Requirements for collecting different types of data to support research, monitoring and surveillance projects can tax a health system’s resources without providing any direct benefit.

The researchers should carefully consider when they expect to see certain results and set a time frame. For example, the ultimate goal of a project to implement leadership and governance training at a health facility is to improve services at the facility and to improve the health of the individuals who use those services. A reasonable timeline might measure the improved and expanded capability of the health facility leadership in the near term, set the goal of improved facility functioning and services in the mid-term, and improved health of the community in the long term.

In creating a timeline, be sure to define the
“long” in long term. Months? Years? What is the plan to continue the project over the long term and into the future? What is the plan to consider all the other variables that affect a health facility or community in the long term? This information should be included in a sustainability plan, as discussed above.

ANALYZING, INTERPRETING AND SHARING DATA
The responsible global health researcher will have a well-articulated plan for analyzing, interpreting and sharing the data collected. Low-resource communities are increasingly — and justifiably — demanding a place at the table in terms of ownership and use of data. In the “leadership and governance training” example above, the health facilities that are a part of the program should have a clear voice in what data will be collected, but, more importantly, in how the data can feed back to the system to improve its own decision-making.

In a perfect world, these kinds of approaches would be implicit in the partnerships and relationships that lead up to implementing research projects.

THE UNIVERSITY PARTNER
Universities generally are well suited to be partners in global health research. They are positioned to be engaged over the long term. A typical university professor/researcher has established partnerships that may last for decades. Universities are cost-effective partners, with built-in multidisciplinary expertise. Most university research is supported by external grants or private partners and relies on innovation at its core. Universities are global diplomats; they are viewed as politically independent. University researchers are committed to publishing their findings, so results, successes and failures are available to the entire global health community. In summary, the resources and global health expertise of universities are positioned to deliver high quality, evidence-based, cost-effective and sustainable assistance to partners.

GLOBAL HEALTH: THE DOMESTIC AGENDA
As the United States begins to grapple seriously with health care inequities and access for all citizens, shortcomings have been brought into sharp focus. We see significant disparity between races, regions, economic classes and levels of education. A recent study reported a surprising new trend of rising morbidity and mortality in midlife among white Americans. The most marked increases were seen among the population’s least educated and were driven by increased mortality from drug and alcohol poisonings, suicide and chronic liver diseases and cirrhosis. While some other groups in the U.S. are experiencing improvements in health, a country with the overall prosperity of the U.S. should not be satisfied.

The second major concern for the U.S. is the emergence and re-emergence of infectious diseases around the world. Our vulnerability is elevated due to increased travel and trade, urbanization and a warming climate. Viruses and bacteria can spread around the world with greater ease than ever before. The finding of bacteria resistant to the antibiotic of last resort in a patient in Pennsylvania recently shot into the headlines. The rapid spread of viruses such as MERS, H1N1, swine flu, chikungunya, dengue and Zika threaten health systems everywhere. Recall that one case of Ebola in a Texas hospital in 2014 practically shut the entire hospital down and sent the U.S. health system scrambling for how to manage potential new cases. The introduction of insects (primarily mosquitos) through trade or changing climate into the U.S. that are capable of carrying diseases puts the U.S. at further risk.

Well-trained global health professionals are and will be at the forefront of addressing health disparities, responding to emerging and re-emerging infectious diseases and surveillance...
of these diseases both in the U.S. and around the world. Although the motivation for global health stems from a personal or social desire for social justice, good intentions are not enough. Global health professionals also must bring the appropriate technical knowledge in the context of the social, political, economic, cultural and environmental considerations to bear on their work.

Finally, whether working in foreign lands or in their own local communities global health professionals must understand the primacy of equitable partnerships and humility.

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