

Helping Shape Global Health

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The use of GIS is rapidly spreading across the world as one of the most important technologies that helps nations address their most serious health goals including reducing disparity in the medical

services available, improving access to services, and preventing the spread of disease. Striving for ubiquitous health could mean health everywhere, anytime. I acknowledge that health is on a continuum—one does not arrive at good health accidentally. Personal health begins before birth and continues throughout a person's life. Access to health and human services has become one of the major determinants of the degree of health attained. Multiply one person's health by billions, and this brings us to global health.

The strength of modern GIS technology extends well beyond geographically relevant

data analysis and powerful data visualization. It excels as a medium that helps inform, organize, and deliver health and human services. GIS supports every Web-based service locator, every directions-finding Web site, and every consumer-facing information and referral service sponsored by health organizations.

As nations strive to protect their citizens from the threat of infectious diseases, such as legionella, dengue fever, West Nile virus, tuberculosis, or avian influenza, GIS has become an important technology for adding intelligence to existing disease surveillance systems at the local, regional, and national levels. GIS technology's ability to author, publish, and share critical information about the spatial dynamics of disease makes it, without exception, the technology of choice for accelerating the detection and identification of disease clusters. GIS technology's capacity to reach beyond geopolitical boundaries makes it highly desirable in public health emergencies and responses.

As every person is different, so is every community and nation. However, the varied ways that information technology is used seem fundamentally parallel. The way GIS is used by health and human service organizations and the professionals who lead these organizations is more similar than dissimilar; therefore, one of the greatest promises of GIS is its ability to speak a

common language. In my opinion, developing a common language about health and human services helps nations move forward.

The adoption of any information technology is ultimately a function of its ability to produce results such as creating evidence, identifying inequities, better informing decision makers, and aiding more responsive actions and interventions to protect human health.

Today, more than 90 national health ministries located across every continent license some type of ESRI technology, from ArcGIS Desktop to the enterprise enabler ArcGIS Server. In developing nations where modern information technology is resource challenged, ESRI software is being deployed in the form of specialty epidemiological software distributed at low or no cost to health professionals through organizations such as the World Health Organization, Pan-American Health Organization, and the U.S. Centers for Disease Control and Prevention.

As GIS technology continues to enjoy wider adoption in health and human service organizations across all types of government and private health care organizations, knowledge about our communities—especially how our local environments impact our personal health—will command greater attention by community leaders everywhere. The ability to respond to emergencies and prepare citizens for disasters such as pandemics cannot be overlooked or under-resourced in regard to information systems.

Global health begins at home. The obligation of nations to help citizens have a safe, healthy passage through life is neither a small nor simple matter. Dedication by health professionals in building effective systems and practices must be supported by evidence and results. It also takes knowledgeable people and progressive technologies to promote confidence in the information that is communicated.

In my opinion, delivering on the goal of global health requires unrelenting devotion to leveraging today's knowledge and technologies to mitigate the problems we face today. GIS will certainly play a large role in moving communities and their nations forward, and when we move forward, everyone everywhere has a better chance to attain the optimal health that is so needed in the world.

