The Future of Global Health: Building Local Capacity

Fall 2011 Editorial

The Editorial Review Board of JGH, in conversation with
Lorna Thorpe, Ph.D, MPH (Former Deputy Commissioner of the NYC Department of Health and Mental Hygiene),
Anne Paxton, Ph.D, MPH (Director of the Global Health Track, Mailman School of Public Health, Columbia University),
and James Clarke, MD (Director of Crystal Eye Clinic, Unite for Sight)

In the last two decades, the field of global health has experienced a flood of interest and attention. During this time, international organizations, individual countries and non-governmental organizations (NGOs) have poured more money and resources than ever into disease eradication initiatives and large-scale public health interventions in the developing world. In her 2007 essay entitled "The Challenge of Global Health," Pulitzer Prize winning journalist Laurie Garrett calls this era of aid-giving the "age of generosity." She contends that "for the first time in history, the world is poised to spend enormous resources to conquer the diseases of the poor" (Garrett, 2007). Garrett's claim does not go unwarranted: consider that international developmental assistance in public health rose from US$5.6 billion in 1990 to $21.8 billion in 2007, the year Garrett published her essay (*The Lancet*, 2009). It is worth noting that only two years later, the U.S. pledged to increase its funding for global health development assistance from $460 million to $8.6 billion ("The Future of Global Health Policy," 2009).

Since 2008, however, the world has witnessed the unfolding of a global economic recession that threatens U.S. global health funding with huge budget and resource cuts that could potentially bring an end to the "era of generosity." As of October 2011, USAID (United States Agency for International Development) faces a $400 million budget cut and substantial staff layoffs (Giacomo, 2011), and international affairs and foreign assistance spending in the U.S. faces a 29% budget cut in 2012 and a 44% budget cut by 2016. Congress is currently deliberating whether to cut spending on humanitarian aid, with House Republicans proposing a $1 billion reduction to U.S. diplomacy and global development programs (*The Guardian,* 2011).

Preexisting U.S. global health funding has disproportionately targeted specific high-profile diseases. Not enough aid has gone into the development of infrastructure, and this lack of workable public health infrastructure in most of the developing world today makes the prospect of budget cuts especially ominous. For example, 62% of the entire 2009 USAID health budget was dedicated to HIV/AIDS (USAID, 2011), eclipsing the amount of resources allocated to initiatives in neglected tropical diseases and maternal/child health.

While efforts to combat HIV/AIDS have helped to reduce the burden on impacted people and governments, there is still a lack of self-sufficient local public health institutions. This will be a serious problem if American aid is reduced or cut off in the future. Money and resources urgently need to be dedicated to public health interventions that do not solely target high profile diseases but all impediments to health in a given region. If the U.S. and other international aid-givers focus their limited time and resources on building local public health capacity and infrastructure in the developing world, they may be able to establish a modicum of local health sustainability if and when the "era of generosity" comes to a halt.

Sustainable public health infrastructure cannot be established without systems of epidemiological surveillance. Surveillance allows researchers to identify disease threats and the magnitude of population health problems. From this information, public health policy and interventions can be developed (Arita, Nakane, Mojima, Yoshihara, Nakano, & El-Gohara, 2004).

Lorna Thorpe, former Deputy Commissioner of the New York City Department of Health and Mental Hygiene and current Director of the Epidemiology and Biostatistics Program at the City University of New York (CUNY), understands the challenge and importance of implementing reliable systems of epidemiological surveillance in the developing world. During her tenure at the NYC Department of Health and Mental Hygiene, Thorpe implemented the NYC HANES study, which obtained a representative sample of over 2,000 New York City adults, who completed a survey and a battery of exams and questions that assessed their state of health. In a June 2011 interview with JGH entitled "Global Health, Local Surveillance," Thorpe provided an example of the value of epidemiological surveillance in contributing to public health policy changes and educational interventions. After finding that Dominican women in the NYC HANES study had extremely high levels of urine mercury, Thorpe dispatched a team of health officials to the community where the women resided. Says Thorpe, "We found that these women were using skin-lightening cream that contained mercury, and we had the cream pulled from the shelves immediately. We then sent out targeted educational materials into the local community."

As Thorpe's experience demonstrates, local public health interventions cannot be established and maintained without critical biostatistical data gleaned from epidemiological surveillance. However, many developing countries do not have the resources needed to perform accurate surveillance of population health. As recently as 2009, an estimated 50 million births and 40 million deaths went unrecorded worldwide, mostly in the developing world (World Bank, 2011). Nev-

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ertheless, Thorpe contends that a lack of biostatistics should not deter developing countries from performing surveillance of population health. She explains, "Even if such communities don't have infrastructure and funding to mount surveillance, resource-strapped countries, districts and communities can get around this problem creatively." Thorpe calls for the use of sentinel surveillance, which involves a representative sampling of deaths and births, and allows health officials to obtain rough estimates of health patterns and trends. Another method called dataset linkage allows epidemiologists to combine disconnected tracts of preexisting information in order to gain a general understanding of factors affecting population health and disease incidence, thus bypassing the need to fund new data collection initiatives. For example, to study the health of New York City's homeless population, Thorpe and the NYC Health Department matched the New York City homeless registry against citywide birth and death records and the citywide HIV and tuberculosis registry. "We were able to estimate, with a certain degree of accuracy, the tuberculosis incidence rates, HIV infection rates and the leading causes of mortality in the homeless population," Thorpe remarks.

Even if developing nations do implement greater epidemiological surveillance and public health policy interventions, there remains an alarming lack of emergency health services, physicians and health care facilities throughout rural areas. In a November 2011 interview with JGH, Anne Paxton, Director of the Global Health Track at Columbia University's Mailman School of Public Health, discussed a lack of emergency health services in the developing world. Says Paxton, "Even if you implement educational interventions and teach people how to recognize that there is an emergency, there needs to be a place for people to go when there is an emergency." Paxton's work at the Mailman School of Public Health focuses on maternal mortality in developing countries, the major causes of which are emergencies such as severe bleeding, infection, toxemia and obstructive labor. Treatment of these conditions requires surgical services and a functioning blood supply, resources that are often unavailable in rural hospital settings. The inaccessibility of emergency health services, even when services do exist, poses an additional challenge. In India, for example, almost 80% of physicians are located in urban centers, and only 30.5% of villages have a doctor in residence (Ministry of Health and Family Welfare, 2011). Because of this, the average Indian villager seeking health care must travel 10 kilometers, often without the use of motor transportation, as only 73.9% of villages are connected with roads, and even those villagers with access to roads often cannot afford vehicles (Ministry of Health and Family Welfare, 2011).

In addition to the challenge of building emergency health services in the developing world, local public health infrastructure cannot be implemented when there is a shortage of medical professionals. A serious challenge to the process of building workable local institutions in developing countries is the "brain drain" of health professionals, in which aspiring medical students and fully licensed physicians from the developing world go abroad and do not return to their native countries to practice medicine. In a November 2011 talk entitled "Global Health and Development: Through the Eyes of a Ghanaian Ophthalmologist," co-sponsored by Columbia University Unite for Sight and JGH, ophthalmologist James Clarke described the brain drain problem in his native country, Ghana. Between 1993 and 2002, 69% of physicians trained in Ghana left to practice in developed countries (Bernhard & Dussault, 2004). Clarke points to a lack of monetary incentives for newly licensed Ghanaian medical professionals as a barrier to these professionals' return to their native countries. He argues that, to combat brain drain, Ghanaians need not only to increase salaries for native doctors, but also to change their attitudes toward medical professionals. Clarke provided an example of this attitude change when he asked the audience to consider how Ghanaians would react to a Ghanaian medical professional who returns home to practice medicine after many years overseas. "They would say [to him], 'Why are you coming back? Why aren't you enjoying yourself overseas?' If we want to motivate medical professionals to come back home, we can't have this attitude persist," said Clarke.

A 2011 video produced by the NGO Physicians for Human Rights (PHR) entitled "More Pie" illustrates the global health funding crisis and highlights the need for more money and resources to be pooled into global health funding. The video shows five hands, representing HIV/AIDS, malaria, maternal mortality, cholera and TB, competing for a slice of pie. As the hands bump into each other in their attempts to cut uneven slices, the pie is devoured in a matter of seconds. The words, "We're still hungry! We need more pie" appear on the screen (Physicians for Human Rights, 2011).

Despite recent budget cuts to global health funding, the U.S. and other developed countries *do* have the resources to establish systems of epidemiological surveillance, emergency public health infrastructure and the training of native medical professionals who practice in their respective communities. Although Laurie Garrett speaks of an "age of generosity" since the advent of the new millennium, some argue that the "age of generosity" hasn't been particularly generous. Says Paxton, "There has been a misconception that a lot of money is being spent on humanitarian aid to help developing countries combat disease." In fact, foreign aid currently makes up a meager 2% of the U.S. federal budget, and this includes a huge amount of money that goes to American food, medicine, and weapon exports delivered abroad. The future of global health depends on the ability of industrialized nations to help the developing world build local capacity. Ultimately, it must be recognized that the global health funding pie slice needs to be bigger, but that in the meantime, aid givers and recipients must utilize meager aid funding in the most sustainable and effective means possible.

Interviews transcripts and full listing of references available at JGH Online, www.ghjournal.org