The Inaugural Global Health Workshop
Penn State University
May 14-16, 2014
Final Report

Network Name - The Pan University Network for Global Health

At the conclusion of the global health workshop, participants agreed to turn this into a network of participating institutions with two priorities:

1. Urbanization and Health
2. Intersection of Infectious Diseases and Non-Communicable Diseases (NCDs)

Why did we need a global health workshop?
The Pennsylvania State University (PSU) has begun developing its next five year strategic plan. In our current plan, the University Office of Global Program (UOGP) at Penn State rolled out a vision of globalizing the University through the creation of a Global Engagement Network (GEN). Over the past five years, UOGP made significant strides toward establishing GEN. To date, there are about a dozen GEN partnerships with key university partners in different parts of the world and in various stages of development. More than half are already active while others are making good progress. Many of partners expressed interest in moving beyond bilateral partnerships and developing a true global network. As a result, the plan over the next five years is to strengthen GEN geographic partnerships and build a collaborative network through a thematic focus. One of these key themes is global health. Other themes include energy, food security/sovereignty and climate change/adaptation. In addition to the present geographic GEN partnerships, the thematic foci will facilitate an easier connecting point for new faculty as well as a means of connecting with some other external networks. As a part of this strategic direction, in January 2013, Penn State President Rod Erickson led a delegation to meet with his counterpart at the University of Cape Town, Vice Chancellor Max Price. One of the results of that meeting was an agreement to support joint efforts to organize a global health workshop in which several other universities would be invited. This meeting in May 2014 was PSU first thematic GEN global health workshop.

According to the Consortium of Universities for Global Health, "Global Health is improving the economic, social, and environmental conditions people live in, and eliminating avoidable disease, disability, and death." Another way of stating this is that any other challenges we have as a society, nationally or globally, cannot be fully addressed until success results in improved health conditions of individuals, families, and communities. It is also worth noting that multidisciplinary collaboration, which is the hallmark of the GEN strategy, is the most promising approach to addressing global health and other global challenges. In the current United Nations efforts to plan for post 2015 Millennium Development Goals, global partnerships to address NCDs has become a critical goal to effectively respond to the complex global challenges of which inequity in health remains a persistent challenge.

The global health workshop began with an initial focus on three priority areas:

1. Non-Communicable Diseases (NCDs). The NCD burden, which includes conditions such as hypertension, stroke, and diabetes, is outstripping infectious disease in the global south.
2. Capacity Building. It has been emphasized that building capacity in terms of well-equipped local researchers and service providers is a key to bridging the inequity in global health.
3. Technology and Innovation. Research on disease prevention and management can benefit from technological innovation both in data collection and analysis as well as efficient access to care and management of chronic conditions. The role of technology in producing and sharing knowledge globally has possibilities and challenges that we wanted to examine during our meeting.

What were the objectives for the workshop?
Given the shared tripartite mission of research, teaching and service/outreach, we want to use lessons learned from the workshop to build research partnerships that could focus on short term and mid/long term goals:

Short term – End of workshop
1. Agree on 2-3 key global health themes for multi-institutional partnerships with multidisciplinary scholars.
2. Begin to outline concepts for a proposal related to each theme.
3. Develop a white paper that signals the importance of this topic for higher education in global health and the commitment of the various participating partners.

Mid/Long term – the next 6-12 months
1. Develop plans for select global health pilot projects to be supported by participating institutions.
2. Plan a follow up meeting to be hosted by one of the participating institutions to report on pilot project plans and develop multi-year proposals for funding.

Participating institutions
Invitations went to 15 universities that were part of the PSU GEN. Eight of the original 15 universities invited responded positively to the invitation. These institutions represented PSU partners with whom we currently have a 'GEN' partnership or are in process of finalizing one. Two additional universities were invited. These universities represented disadvantaged populations in their country or region. They were not a part of the official PSU GEN but PSU faculty and academic units either had a partnership with them or were exploring partnerships. Overall, there were a total of 32 faculty and researchers from 10 universities across the globe. Thus the final participating universities were:
GEN Partners (signed MOUs)
- University of Pune, India
- IIT Madras, India
- Sungkyunkwan University, South Korea
- University of Freiburg, Germany
- University of Cape Town, South Africa

GEN Partners (collaborations and discussions already underway, but not yet an MOU)

- University of Guanajuato, Mexico
- Utrecht, Netherlands
- University of the West Indies

Additional Institutional Partners

- University of Limpopo, South Africa (hosts to PSU's global health minor students during six-week summer internships)
- International Institute for Water and Environmental Engineering, Burkina Faso

Other organizations represented

We also had participants from three universities in the US and three private and philanthropic organizations. The US universities were the University of Michigan, New York University Langone Medical Center, and the University of Minnesota. The private organizations were UNICEF, Merck, and Highmark.

Penn State participants

There were 30 faculty researchers from Penn State who participated in the three day workshop. They included faculty in such fields as prevention science, biobehavioral health, demography, medicine, and law.

What did we talk about at the workshop?

The structure of the workshop was such that there were limited formal speeches and more time devoted to small group discussions. Penn State leadership offered welcoming remarks prior to brief introductory presentations by each of the 10 universities from outside the US. A keynote address was delivered by Dr. Rafael Obregon of UNICEF. He focused his remarks on the UN goals and strategy to tackle the increased global burden of NCDs particularly in the global south and UNICEF's plans to address the increasing burden of NCDs particularly among children and young people since this burden has increased among them and they are often left out of the discussion about NCDs. Following the keynote remarks, six preassigned working groups began their deliberations.

With the understanding that research and training/education are best addressed via a global collaboration, each group reviewed the topics below with the goal of identifying the topics with the greatest interest and opportunities:

1. Urbanization and its impact on global health
2. Cultural contexts of behavior and the modality of health service delivery
3. Environmental factors including social and structural determinants of health
4. Bio-psycho-social concepts of health in urban areas
5. Fostering a culture of promoting adherence to evidence based standards of care with regular monitoring and evaluation
6. Exposure to continuous stress, pollutants and toxic substances
7. Integrating biomedicine with other modalities such as Ayurveda, Yoga, etc
8. An equitable engagement around global health through interdisciplinary research approaches and academic exchange
9. Food and water security and sovereignty
10. Environmental determinants of health such as climate change

An initial reporting of the groups led to the two priority areas. In the final day, the six groups were collapsed into 3 groups to further discuss the priorities areas.

Recommendations
The final recommendation was that the network would focus on two priorities areas which clearly can benefit from a network of global institutions since a single institutional approach is not likely to yield sustainable impact on these global health challenges. These priorities are:

A. The intersection of infectious disease and NCDs
B. Urbanization and health

Addressing these two priorities would demand an interdisciplinary and multi-institutional model to stimulate innovation and synergy that would influence the overall framing of research questions as well as the integration and coordination of research. Innovation and synergy should inform new thinking, conceptually, methodologically, and substantively to tackle the complex patterns of, and processes underlying, the intersection of infectious disease and NCDs, on the one hand, and the dimensions of spatial inequality in a rapidly changing urban environment, on the other. Below are synopses of the two priorities.

Intersection of Infectious disease and NCDs
The conventional dichotomy in disease classification masks the pattern and the severity of disease burdens, particularly in the global south. In this dichotomy, diseases are typically classified into infectious or chronic and communicable or non-communicable. The experience of many researchers and practitioners today is that the burden of multiple diseases challenges us to critically examine the utility of the disease classification. For example, HIV/AIDS, tuberculosis and some forms of cancer are both infectious and chronic. They may start out as an infection but successful treatment, coupled with co-morbidity experienced by individuals who are burdened by these diseases, compel us to think about a different strategy for addressing this global health challenge. Indeed, HIV positive patients seem to experience obesity and cardiovascular diseases, heart disease and stroke. For example, it has been observed that people who are on ARV/HAART often experience lipodystrophy, also called fat redistribution. In fact this dual burden is common in people with HIV and AIDS. A disorder of adipose (fatty) tissue is characterized by a selective loss of body fat in which patients with lipodystrophy have a tendency to develop insulin resistance, diabetes, a high triglyceride level (hypertriglyceridemia), and fatty liver. There are numerous forms of lipodystrophy that are genetic (inherited) or acquired (not inherited). One current study in South Africa is looking at lipodystrophy for a better understanding of the intersection between infectious disease and diabetes, a common NCD globally.

Urbanization and Global Health
In 2008 the planet's population became 50.01% urban and the percent of the population that is urban is expected to rise to 60% by 2030. Some part of the global south is already highly urbanized so their urban share is not projected to increase substantially (e.g., Latin America is almost 70% urban). The urban population in the global south will nearly double in 25 years (approx. 2 billion today to over 3.5 billion by 2040). Urban population growth will have a direct

impact on global health, and this growth will be burdened with uneven development and the persistence of urban spatial inequality, including health disparities. Climate change, food, water, and health care are essential to the human condition and the inequity gap in the distribution of these basic resources, goods, and services is projected to widen—especially in urban areas--unless some urgent actions are taken as multinational and multidisciplinary collectives.

There is evidence that the next 20-50 years will see an increase in non-communicable disease and the entrenchment of infectious disease among the lower income populations in *both* the global north and south. Understanding the pattern of inequity is essential for planning for, and adapting to, future urban growth. There are three compelling reasons for coming together and addressing urbanization and health.

1. The world age structure will grow older (i.e., it is projected that in the decade 2040-2050, there will more people over 60 years of age than there will be under 15).
2. The regional balance will shift, with most population growth occurring in less developed countries (see figure below).
   World Population estimates
   Year 2011 = 7 billion … Years to add 1 billion approximately 14
   Year 2025 = 8 billion … Years to add 1 billion approximately 20
   Year 2045 = 9 billion
3. The rural population in the global south is projected to stop growing after 2020 while the urban population will continue to grow, making the challenge of addressing health in these locations even more challenging.,

While large urban areas are a cause for concern it is important to note that another emerging challenge is the proliferation of "urban villages" in regions like sub-Saharan Africa. Yesterday's rural settlements have become today's small cities of 200,000+, many of which lack basic infrastructure.

What is the Next step?
The next steps are to implement the recommendations that were made at the meeting by participants and echoed by Penn State leaders at the closing of the workshop.

1. Formalize a multi-university global health network to focus on the two priorities for this new Pan University Network for Global Health.
2. Each participating institution to identify a champion per institution. Collins Airhihenbuwa will be the champion at Penn State and network leader.
3. Set up a structure at Penn State to house the network and build on the momentum. Hiring of a research associate has been approved to assist Collins Airhihenbuwa in coordinating network related activities.
4. Set up a steering committee, with rotating chair, made up of a few institutions with initial investment in the form of commitment of funds to support a few seed grants undertaken by members of the network and focus on one of the two priorities.
5. Meet in Freiburg on October 2nd and 3rd 2014 to discuss and make some decisions about the framework for the network management and institutional participation including action on #4 above.