

12th Annual Institute for Global Health Benefit Dinner

Comments of Dr. Rob Murphy, Executive Director, Northwestern Feinberg School of Medicine, Institute for Global Health

Welcome and thank you for supporting the *Institute for Global Health*!

On May 29, 2019, under the leadership and direction of Dean Eric Neilson, the new *Institute for Global Health* was launched. The leadership of the new Institute includes Dr. Rob Murphy, Executive Director, Dr. Bob Havey, Deputy Director and Ms. Kate Klein, Senior Administrative Director. The Institute combines Feinberg School of Medicine's ongoing global health activities, most importantly the Global Health Initiative founded by Bob Havey and the Center for Global Health founded by myself. Bob and I are very well acquainted. We were internal medicine residents together here at Northwestern with Bob focusing on general internal medicine and the clinical practice of medicine, and myself accepting a fellowship in infectious diseases and directing my career to fighting infectious diseases which happened to coincided with the start of the HIV epidemic in 1981. We trained at Northwestern, our careers developed at Northwestern and Northwestern is the only place we have ever worked, and now we work together again.

The primary reason driving the creation of the *Institute* at this time was that the level of global activities within Feinberg and Northwestern University in general had reached a size and complexity that would benefit from a reorganization that would enable to the venture to maximize its impact. The global health activities ongoing had been essentially operating without formal collaboratory relationships, a situation which was rectified when operations fell under the umbrella of an overarching institute structure.

Global Health Status Worldwide: *PERSPECTIVES in a shrinking world*

In 2015, the United Nations adopted the 2030 Agenda for Sustainable Development Goals, of which there are 17. Goal 3 is particularly relevant to global health, which simply but eloquently states, "ensure healthy lives and promote well-being for all at all ages". The Sustainable Development Goals follow the encouraging set of goals outlined in the United Nation's "Millennium Development Goals", launched in 2000 and finished in 2015. Major progress was made during this period, however there is still a long way to go as illustrated by findings from 2017 listed below.

- 303,000 women died due to complications of pregnancy, mostly from low- and middle-income countries (LMICs) with two thirds occurring in sub-Saharan Africa. One important metric related to maternal outcomes is the proportion of deliveries that included a birth attendant. Overall, maternal deliveries with a birth attendant increased worldwide to 81%, however in sub-Saharan Africa, the percentage was only 59% highlighting the need for more intervention in this area.
- Mortality rates for children less than 5 years of age is a metric that correlates with the status of an overall healthcare system. The under 5 years mortality fell to 39 deaths/1000 in 2017, a decrease from 49/1000 in the year 2000. These numbers translate to a devastating 5.4 million deaths of children, half of which are less than 1 month of age. One of the features that make this number even more

devastating is that an estimated 80% or 4.3 million childhood deaths are preventable with the technologies and expertise that already exists. One of our large projects, The Newborn Essential Solutions and Technologies (NEST) based at Rice University and funded by a consortium of donors including the MacArthur Foundation, aims to address the neonatal component of the problem.

- Immunization rates for deadly childhood diseases including measles, diphtheria, tetanus and pneumonia have increased. The proportion of children who received two doses of the measles vaccine has increased from 59% to 67% from 2015-2017, still not enough to prevent its spread. The use of the pneumonia vaccine is still less than 50%. Almost 20% of children worldwide received no vaccines during the first year of life, putting them at significant risk for a variety of potentially fatal diseases.
- The incidence of HIV declined by almost 50% since 2005. While the results are encouraging, but last year there were more new HIV infections than deaths, hence the epidemic continues to grow!
- Tuberculosis remains the leading cause of death due to infection. In 2017, an estimated 10 million people developed tuberculosis including 1.3 million who died from the infection. While these numbers of this treatable disease improved, large gaps in diagnosis, treatment and monitoring persist.
- Malaria remains problematic. In 2017, there were 216 million cases with 445,000 deaths. The highest risk groups for fatal complications of malaria include pregnant women and children. Progress has actually stalled and gotten worse in some areas.
- There are approximately 325 million people in the world living with chronic hepatitis B or hepatitis C infection, which is nine times more common than chronic HIV infection. While rates are declining due to increased uptake of hepatitis B vaccine, and treatment cures for hepatitis C, the overall numbers of infected people remains staggering.
- In 2017, 1.58 billion people were reported to have mass or individual treatment and care for one of the “neglected” tropical diseases. This is an improvement from the 2.03 billion persons identified in 2010. While typically not lethal, these diseases cause many morbidities and many result in disability.

The mission of the *Institute for Global Health*

Academic institutions play a very important role in the global health agenda by mitigating global risk of disease and developing sustainable health systems around the world. It doesn't just happen. Every major research university is involved. We do this here at Northwestern by our global translational research and educational programs, many of which have been supported by Global Health Initiative, and now the Institute for Global Health.

Northwestern University Feinberg School of Medicine is working in over 20 countries worldwide and on every continent except Antarctica. We have research and educational programs in the following countries:

Latin America and Caribbean

- Universidad Panamericana in Mexico City; the top medical school in Mexico
- Cayetano University in Lima, Peru. Dr. Roxanna Garcia, Northwestern Feinberg school of medicine neurosurgery resident is spending one year sponsored by the National Institutes for Health in studying head trauma injuries.
- Centro Medico Humberto Parra in Palacios Bolivia

- Child Family Health International, a strong non-governmental organization (NGO) with facilities in Argentina, Bolivia, Ecuador, Mexico
- Clinica de Familia la Romana and the new surgical care center being developed by the next speaker, Dr Darren Eblovi, in the Dominican Republic
- Hillside Health Care Clinic in the country of Belize
- Universidad San Sebastian in Concepcion, Chile

Africa

- Mali, one of the poorest countries in the world with a per capita income of \$775 has an amazing and robust research portfolio focusing on tuberculosis, HIV infection and malaria.
- Nigeria, the most populous country in Africa with as many as 200 million persons, and the largest economy in Africa has 36 medical schools and a research portfolio focused on cancer, neurologic diseases, HIV infection, cardiovascular diseases and new biomedical engineering programs developed by Northwestern faculty
- Tanzania in East Africa has a new program focused on quality of life and HIV treatment.
- Makerere University in Kampala, Uganda, accepts our students into their Public Health Program
- Stellenbosch University in South Africa has a very robust biomedical engineering program
- University of Cape Town is the highest ranked university on the continent of Africa. Their biomedical engineers developed the first computerized tomography scanner (CT scan) and their faculty performed the first heart transplant. Their biomedical engineering program is quite robust. The University is home to a journal launched jointly, *Global Health Innovation*, and on-line biomedical engineering journal, and the first on-line textbook of biomedical engineering in Africa.
- Universite Cheikh Anta Diop in Dakar, Senegal exchanges students with us on a regular basis.
- In Kenya, we have recently launched a new pediatric rural health program

Asia

- We have a longstanding exchange program at Keio University in Tokyo, Japan
- We also have a longstanding exchange program at Peking University in Beijing, China

Europe/Middle East

We also offer student and resident exchange programs with peer institutions in Europe and the Middle East at the following institutions:

- Tel Aviv University. Tel Aviv, Israel
- Charite University. Berlin, Germany
- Karolinska Institutet. Stockholm, Sweden
- Royal College of Surgeons. Waterford, Ireland
- Trinity College. Dublin, Ireland

All of the top medical schools and their universities in the United States have global health programs, and we have joined at their highest ranks. And now, we wish to become the top Institute for Global Health in the world.

What can you do?

Attracting support for Global Health is a challenging task because of the perceived indirect effect on our many of our lives. This statement is simply not true any longer. The world continues to become more interconnected, not less. Many of you travel internationally for business or pleasure, your children I bet are experienced and typically fearless international travelers themselves, and our business connects us worldwide. Worldwide we are interconnected in many ways. One example from infectious diseases involves the *Aedes* mosquito which can transmit diseases such as Zika, dengue, yellow fever, and Chikungunya. You should be aware that *Aedes* can make it all the way to Illinois. Another example is the ubiquitous iPhone. Over 2 billion iPhones have been sold worldwide. You may wonder how iPhones impact global health? It's the production of the iPhone that intersects with global health. Apple has done a remarkable and highly transparent job in sourcing its parts and materials. You may think all pieces and parts comes from China and the United States, but that is far from the truth. The 129 gram iPhone contains parts and materials from 450 suppliers in 43 countries on 6 continents including many in Latin America and Africa including mines in Bolivia to the jungles of the Democratic Republic of the Congo, which happens to be losing a war in the latest Ebola epidemic and where over 200 health care providers, including volunteers from abroad, have been mercilessly attacked by rebel forces in the country. We are connected in so many ways, including health of the providers of our products and our volunteers who offer to assist in high risk areas. Health is another important linkage that is critically important.

Please, support our renewed and strengthened efforts and help make the Feinberg School of Medicine Institute for Global Health the best in the World...it is completely doable with your support!

Thank you again for coming this evening and supporting the Institute!