ANNUAL REPORT

2016

Health Systems Program

Department of International Health

JOHNS HOPKINS
BLOOMBERG SCHOOL
of PUBLIC HEALTH
Letter from the Director

This year has been a year of changes for public health, bringing a wave of uncertainty about where the future is headed. Following on the heels of Ebola, the Zika virus strain challenged the public health community to provide rapid answers to another global health scare. Aleppo is a word now associated with mass horror and fear, rather than a city where citizens once lived and thrived. The United States presidential election left many with questions about the future, specifically how we can continue to protect the vulnerable and address unmet health needs around the world and at home.

Yet this has also been a year for making great strides in health that will help more people more efficiently. We have also dug deeper into how we can incorporate diverse voices into our health systems research and practice. The past year has been monumental for the Hopkins community, as Johns Hopkins Bloomberg School of Public Health celebrated 100 years of making life-saving public health contributions.

The Health Systems Program in the Department of International Health has continued to advance our work addressing key health systems constraints; tackling non-communicable diseases and injuries; aiding global health systems in providing critical maternal, newborn and child health care; helping populations in need in the field of humanitarian health; and increasing our technical assistance in health systems strengthening around the world.

Partnerships, such as those with USAID, Gates Foundation, World Vision, Bloomberg Philanthropies and the many programs supported by the U.S. National Institutes of Health (NIH), continue to propel us forward in our mission to help communities achieve accessible and cost-effective health care.

We have also incorporated gender analysis in health systems research in our specialties, and have provided input in the programmatic transition processes as low-income countries transition to middle-income and traditional support is withdrawn by some donors. We have made strides this year in mobile health (mHealth) technology, increasing our presence in Uganda, Tanzania and Zambia. We have also continued our work on child health including new challenges like drowning in Bangladesh, addressing human rights violations around the world, and increasing access to vaccinations in developing countries.

Our goal is to help communities worldwide achieve healthy outcomes across the lifespan. As we do this, we will continue to support the efforts of governments, business partners and philanthropic organizations toward this goal. Most importantly, we will continue to seek new ways to reach more people, especially in low- and middle-income countries where the need is greatest.

Adnan A. Hyder, MD, MPH, PhD
Director, Health Systems Program
Professor and Associate Chair, Department of International Health

About our Program

The Health Systems Program is focused on achieving accessible, cost-effective health care and healthy outcomes across the lifespan for families, communities and nations. Priority is given to populations stressed by economic, social and political instability, many of which have also been displaced by conflict or natural disasters.

The Health Systems Program is housed in the Department of International Health at the Johns Hopkins Bloomberg School of Public Health. In the past decade, the Program has conducted projects in over 50 countries, with particular expertise in South Asia and sub-Saharan Africa, where the greatest number of people continue to struggle with deep poverty and unmet health needs. We also work in Central and Southeast Asia, Latin America and the Middle East providing guidance and expertise to both low- and middle-income countries and transitional economies.

The Program incorporates more than 200 experts from around the world, including over 50 full-time faculty and a network of over 100 faculty associates that includes a diverse mix of physicians, economists, statisticians, anthropologists, demographers, policy analysts, social scientists, and experts in population health and international relations.

We are proud of our work with many top global public health organizations and grateful for the opportunities we have been given to improve the lives of the most poor and vulnerable in every continent. The following pages demonstrate how these relationships are helping us address critical problems in global health.
Centers and Institutes

Health Systems Program Hosts:
- International Center for Maternal and Newborn Health (ICMNHN)
- Johns Hopkins Center for Humanitarian Health (CHH)
- Johns Hopkins International Injury Research Unit (JH-IIRU)

Health Systems Program Collaborates with:
- Global Obesity Prevention Center (GOPC)
- Institute for International Programs (IIP)
- International Vaccine Access Center (IVAC)
- Johns Hopkins Center for American Indian Health (CAIH)

By the Numbers

- 35 new grants in 2016
- $9.4 million value of new grants in 2016
- 88 active grants in 2016
- $82 million total grant value of all new and continuing awards
- 31 countries where Health Systems Program has worked in 2016

Awards:

- **Linda Bartlett, MD, MHS, Senior Associate**
  Johns Hopkins Bloomberg School of Public Health: Received Excellence in Teaching Award, 2015-2016

- **Maria Merritt, PhD, Associate Professor**
  Johns Hopkins Bloomberg School of Public Health: Received Excellence in Teaching Award, 2015-2016

- **Henry Perry, MD, PhD, MPH, Senior Scientist**
  Johns Hopkins Bloomberg School of Public Health: Received Letters of Commendation from the Dean's Office for both online and on-site course, Advances in Community-Oriented Primary Health Care

- **Krishna Rao, PhD, Assistant Professor**
  Rockefeller Foundation: Awarded Practitioner Resident Fellow, Bellagio Residency Program, Bellagio Center

- 51 Full-time faculty onboard in 2016
- 116 Articles published by Health Systems Program faculty in 2016
- 118 Citations for articles published in 2016
- 489 Articles published by Health Systems Program faculty, 2013-2016

Students in the Health Systems Program in 2016:
- 42 MSPH
- 8 MHS
- 36 PhD
- 15 Post-doctoral fellows
**Peru**
The Health Systems’ Health Economics Program is addressing the burden of chronic diseases in Peru by studying how to use economic incentives to implement sustainable behavior changes. In collaboration with colleagues in Peru, the team is conducting a Randomized Controlled Trial to examine the role that individual and group economic rewards have in encouraging healthy behavior and promoting long-lasting healthy lifestyles.

**Kenya & Uganda**
Supporting Operational AIDS Research (SOAR): Project SOAR is a United States Agency for International Development-funded project, evaluating the United States President’s Emergency Plan for AIDS Relief (PEPFAR)’s geographic prioritization strategy, whereby PEPFAR is intensifying support in “scale up” areas and phasing out its support to “centrally supported” areas. The Health Systems Program is seeking to understand the effect of the PEPFAR geographic pivot, particularly in those facilities and districts where PEPFAR is removing support and shifting responsibilities to central government.

**Lebanon**
The Center for Humanitarian Health is conducting a project in Lebanon to target non-communicable diseases and other health burdens in refugee populations with a new mobile health (mHealth) app. The app, which will help improve management of hypertension and diabetes, is addressing chronic conditions in the field of humanitarian relief in order to provide a seamless health care transition for mobile populations such as refugees.

**Malaysia**
The Johns Hopkins International Injury Research Unit is conducting a project in Malaysia that aims to strengthen mobile health capacity to assess risks and improve prevention of child injuries through an innovative model of sustainable capacity development. The project is called JHU-IKU Mobile Health for Child Injury Prevention in Malaysia (M-CHILD).

**India**
The Health Systems Program is leading an evaluation of a large-scale nurse mentoring program in obstetric care in the state of Bihar. Funded by the Gates Foundation, the mentoring program provides nurses at primary health centers and district hospitals with nine months of on-site mentorship to improve their skills in conducting both normal and complicated deliveries.
The Health Systems Program is a global leader in research, teaching and strategic collaborations to achieve accessible, cost-effective and healthy outcomes across the lifespan for the world’s families, communities and nations. Together with our centers and collaborators, we apply the tools and skills of research to yield discoveries that reduce the global burden of disease and disability, enhancing the health and well-being of millions of people.

Data for Health Initiative (D4H)

The D4H project is Bloomberg Philanthropies’ $100 million investment in improving public health data. Researchers in the Health Systems Program and Department of International Health are leading the research and development (R&D) component of the non-communicable disease (NCD) arm of the initiative, with the goal of providing more accurate, comprehensive and cost-effective data at a faster rate by designing and implementing mobile phone surveys. Partnering institutions include the Institute of Epidemiology, Disease Control and Research (IEDCR) in Bangladesh, the Ifakara Health Institute (IHI) in Tanzania, and Makerere University School of Public Health (MakSPH) in Uganda.

Together on Diabetes

Johns Hopkins Center for American Indian Health (CAIH): Together on Diabetes (TOD) is a family-centered diabetes prevention and management program for American Indian youth developed and evaluated in partnership with the Navajo Nation and White Mountain Apache Tribe, with support from the Bristol-Myers Squibb Foundation and Notah Begay III Foundation. The program works on multiple levels, including one-on-one home-based healthy living education and social support to youth with, or at risk of developing, type 2 diabetes. The program provides young people with problem-solving skills to improve psychosocial health and helps their caregivers create a healthy home environment. In addition to the home-visiting component, the youths’ personal coaches maintained consistent communication with local providers and helped them better understand diabetes and their role in treatment compliance. The program also linked families to community wellness activities. Together on Diabetes is set to be adapted in a tribal consortium in California.

Highly Extensible Resource for Modeling Supply-Chains (HERMES)

Global Obesity Prevention Center (GOPC): This “farm-to-table” model assesses all of the various processes and components involved in getting food from their source to the consumer. HERMES can help evaluate supply chain operations and performance; identify strengths, weaknesses and potential solutions; determine the impact of new technologies, designs, processes and policy changes; and help guide strategic investments. This year the HERMES logistics team is working to model ways to improve the distribution of perishable, nutritious foods in Odisha, India.

MPH Program in Kandahar, Afghanistan

Johns Hopkins Center for Humanitarian Health (CHH): Collaborating with Kandahar University in Afghanistan, CHH is working with the Faculty of Medicine to develop and support an MPH Program at the University. This program is a signal of significant progress in building community-supported health systems in Afghanistan. A long-time partner of Johns Hopkins Bloomberg School of Public Health, Kandahar University is striving to meet public health needs for the Afghan population.
National Evaluation Platform

Institute for International Programs (IIP): The National Evaluation Platform (NEP) equips government decision-makers with the tools and skills to critically evaluate the state of maternal, newborn, and child health and nutrition (MNCH&N) in their countries. NEP is currently implemented in Malawi, Mali, Mozambique and Tanzania, and is tailored to each country’s specific needs. NEP encourages the use of data to drive decisions and help inform policies and program planning. NEP brings together public-sector representatives from different ministry departments that are united by the same goal of improving MNCH&N outcomes in their country. A steering committee comprised of senior health officials identifies pertinent issues relevant to their country, and a technical task team regularly works on the issues raised. NEP is country-led and country-owned and uses data from existing household surveys and health information systems. By putting data into the hands of those who are making decisions, the NEP approach builds sustainable skills within each technical task team, promotes high-quality and statistically sound analyses, and empowers health systems in each country.

Mobile Solutions for Immunization (M-SIMU) Study

International Vaccine Access Center (IVAC): The M-SIMU study is a cluster-randomized controlled trial in rural western Kenya that evaluated the impact of text message reminders with or without mobile phone-based conditional incentives to improve vaccine coverage and timeliness of immunization. Text message reminders and incentives are two demand-side interventions that have been shown to improve health care-seeking behaviors by targeting participant characteristics such as forgetfulness, lack of knowledge, and transportation costs. The primary analysis showed that reminders coupled with a small monetary incentive significantly increased the proportion of children who were fully vaccinated by 12 months of age. In addition, the interventions produced robust gains in timely immunization (immunization within two weeks of the recommended age) for measles and the third dose of pentavalent vaccines. Amid the Decade of Vaccines backdrop of global access to mobile phones and the Global Vaccine Action Plan (GVAP) led by the World Health Organization, global health experts are searching for ways to meet the GVAP targets and reach all children with life-saving vaccines. This study provides rigorous scientific evidence for one potential solution to vaccinate the hardest-to-reach children: using mobile technology and small financial incentives to enhance demand for immunization and increase full, timely vaccine coverage.

Health, Economic, and Long-Term Social Impact of Injuries (HEALS) Study

Johns Hopkins International Injury Research Unit (JH-IIRU): JH-IIRU is currently working on a multi-country prospective longitudinal study to understand the long-term health, economic and societal impact of traumatic injuries in low- and middle-income countries (LMICs). JH-IIRU is partnering with the Institute of Public Health (IPU) in Malaysia, Handicap International in Kenya and Cambodia, and the Hanoi School of Public Health in Vietnam to develop innovative data collection tools and approaches to assess long-term consequences of traumatic injuries in different LMICs. The study has the following specific objectives:

- To develop and implement a tool to examine the long-term health (prevalence, severity and duration of disability), social, and economic impacts of traumatic non-fatal injuries.
- To develop and implement an electronic data collection and monitoring module for use in LMICs to capture traumatic injury data and follow individuals over time.
- To document pilot data on the long-term burden of traumatic non-fatal injuries in a multi-site study.

Alliance for Maternal and Newborn Health Improvement–All Children Thrive (AMANHI-ACT) Study

International Center for Maternal and Newborn Health (ICMNH): AMANHI-ACT is an alliance of investigators from ongoing community-based studies in South Asia and sub-Saharan Africa, as well as the World Health Organization, studying pregnant women and newborns at 11 sites in eight countries. The purpose of the study is to better understand the epidemiology of maternal morbidity and mortality; stillbirths and neonatal deaths; the associations of maternal morbidity and care with maternal, fetal and neonatal outcomes; child-development outcomes; the underlying biological mechanisms of these associations; and to evaluate simpler approaches for accurate assessment of gestational age. ICMNH conducts the research for the Sylhet, Bangladesh AMANHI site and is establishing a repository of biological samples for testing hypothesized biological markers as predictors of important maternal, fetal and childhood development outcomes as new hypotheses, methods and technologies become available.

The Mobile Solutions for Immunization (M-SIMU) Study

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Future Plans

• Attract more students, increase our scholarship numbers and funds, and develop the Health Systems Program's ongoing Health Systems Summer Institute.
• Diversify our funding base and obtain more grants so we can provide better research and results to communities in need worldwide.
• Continue to exemplify good citizenship in every service interaction, both domestically and abroad.
• Attract the best talent in order to keep our program strong and achieve our strategic priorities.

Leadership

Sara Bennett, PhD, MPhil
Associate Director, Academic Programs
Johns Hopkins Bloomberg School of Public Health

W. Courtland Robinson, PhD
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PhD Program Director
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Health Systems Summer Institute

One- to two-week courses | Every year in June

Learn
To measure the burden of disease

Evaluate
Health systems programs

Use
Holistic systems science approaches in health systems

Courses commonly offered:
• Hospital-Based Injury/Trauma Surveillance
• Designing Transformative Innovation for Global Health
• Introduction to Gender Analysis within Health Systems Research
• Managing District Health Systems
• Introduction to Health-Systems Modeling
• Applying Summary Measures of Population Health to Improve Health Systems
• Evaluation Plans for Primary Health Care Projects
• Introduction to Household Surveys for Evaluation of Primary Health Care Programs
• Introduction to Improving Quality in Public Health Practice
• Using Qualitative Methods for Program Planning and Evaluation
• Monitoring and Evaluation of Health Systems Strengthening

Course work focuses on low- and middle-income countries, but the skills are universal.

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