DEPARTMENT OF INTERNATIONAL HEALTH

A Global Health Partner

For over half a century, the Department of International Health has been committed to helping the world’s most vulnerable and disadvantaged people improve their health and well-being. The Department has led the way in developing and testing means to improve health and deliver cost-effective services. As part of our mission to serve vulnerable and disadvantaged populations across the world, we are committed to helping communities build and utilize local capacity.

A Global Network

We work in 90 countries across the globe with over 150 full-time faculty and over 200 projects.

Working with Stakeholders from the Community to Policy Level

The Department engages stakeholders at every level to achieve its mission of understanding health problems and developing affordable means of disease reduction and health protection in underserved populations of the world.

A Complete Set of Tools

Our practical expertise and disciplinary diversity is without equal, with faculty from the fields of:
- anthropology
- biostatistics
- clinical medicine
- communications
- demography
- economics
- engineering
- epidemiology
- immunology
- infectious disease
- management
- nursing
- nutrition
- sociology

Yearly publications: 400+

SCALING UP ACCESS
Implications for Universal Coverage

Implementation Science

Faculty engage in health systems and implementation science to support scale-up of services in low- and middle-income countries, especially among vulnerable populations. We develop and test innovations to support this work and work hand in hand with policymakers in these countries to facilitate successful and sustainable programs.

Testing Policies and Making Health Programs Work Better

The Balanced Scorecard in Afghanistan is one example of how research can be used to implement successful large-scale programs. After the fall of the Taliban, the Ministry of Public Health engaged our faculty to help build a national monitoring and evaluation framework. This system informed policymakers on a wide variety of matters, from funding and personnel to fees and insurance plans. The system has helped the country make great strides in primary health care, despite the ongoing security issues that exist throughout the country.
Analyzing Data to Help Policymakers

The Lives Saved Tool (LiST)

LiST is helping governments, NGOs and international organizations promote the use of evidence in planning and evaluation of maternal and child health interventions. LiST incorporates the best available data from the individual country, state or subnational region with globally recognized estimates of the effectiveness of interventions on mortality to suggest what can best prevent mortality or what is likely to have prevented mortality. Analyses using LiST have contributed to numerous international reports and journal series on impacts of interventions for child mortality, nutrition, neonatal mortality and midwifery.

Currently, one of our students is working with the Ministry of Health in Nigeria on the Saving One Million Lives Project with the support of the Children’s Investment Fund Foundation. He is assisting the Ministry in modeling the achieved and projected lives saved at both the national and state levels. The Ministry’s findings using LiST allow them to see what is being done well and what areas need attention at the state level to reach the national goal of saving one million lives.

An End to “Business as Usual”

The Evaluation of Large-Scale Health Programs

The National Evaluation Platform Approach

The number and size of global health initiatives have multiplied in recent years, concurrent with an increased emphasis on obtaining and measuring results. Methods for the evaluation of these initiatives have not kept pace.

Under the leadership of the Department’s Institute for International Programs and with funding support from the Government of Canada, faculty have developed and refined the National Evaluation Platform approach to meet governments’ need to fully utilize available data to support strategic decisions that will achieve maximum health and nutrition impact. The NEP is designed to equip national decision-makers with tools and skills to evaluate health and nutrition programs by identifying, systematically compiling, and rigorously analyzing data from diverse sources.

Four African countries—Malawi, Mali, Mozambique, and Tanzania—are currently building their own National Evaluation Platforms. NEP partners hope that successful development of the platform in these countries will provide proof of concept and lead to adoption of the approach in additional countries.

Sustainability

The Avahan HIV Prevention Project

Our faculty are leading the evaluation of the transitioning of the Avahan HIV Prevention Project from private to public sector. With a reach of over 5 million high-risk people, the Avahan project was launched by the Bill & Melinda Gates Foundation in 2003 to develop a model HIV prevention system in India and promote others in India and worldwide to adapt and adopt their model. The research will continue until the program has been fully transitioned. The evaluation’s results have already helped inform the Gates Foundation’s approach to transitioning their many programs in India.
Innovations for Hard-to-Reach Populations

The JHU Global mHealth Initiative: Strengthening Health Systems through Mobile Technology

The Global mHealth Initiative strives to develop responsive innovations using information and communication technologies (ICTs) to overcome health system constraints, strengthen frontline workers, and empower clients. Faculty work to provide rigorous evidence-based support for solutions which leverage mobile phones and other devices to improve global health. We also work closely with global health agencies and NGOs to shape and drive enabling policies for public health innovation.

Nicaragua: An Example of Student-led Innovation

In Nicaragua, finding ways of connecting with young people to communicate about sexual and reproductive health is important because the country has a very high teen pregnancy rate. The country has a significant underserved rural population where young people have not had access to quality health information. While Internet access is still low, a majority of Nicaraguans do have cell phones. The award-winning ChatSalud project, developed by students at Johns Hopkins, is exploring ways of reaching young people through simple text-message-based services. One of over 130 mHealth projects across the Hopkins mHealth network, this project measures the impact of this messaging on improving health service utilization and reducing high-risk behaviors.

Social Determinants of Health and Mixed Methods

Economic, social policy, and political forces shape the circumstances in which people live and how they cope with illness. These social determinants of health are complex, and understanding them takes a mix of qualitative and quantitative research methods. A mixed-methods approach can be especially crucial when trying to reach marginalized and vulnerable populations.

In Swaziland, a recent mixed-methods study identified new approaches for better tailoring HIV services to men who have sex with men and sex workers—two groups that often face stigma from both the general public and health care professionals. As part of the study, researchers collaborated with a local organization for sexual minorities. Through this capacity-building collaboration, the group was able to gain official recognition by the Swazi government. The group is now contributing to national policy as part of the country’s technical working groups.
VACCINES: From the Bench to the Field

Our faculty work on all phases of the vaccine value chain, from development to accessibility and safety.

The Department has substantial strengths in the areas of vaccine policy, finance, implementation, ethics, and vaccine safety, as well as the more traditional areas of preclinical and clinical vaccine research. The Department conducts phase I, II, and III clinical trials, community trials, epidemiological studies, and disease surveillance activities.

Research & Development

We have been instrumental in the development of vaccines that infect large populations, with a focus on those that are the mostly deadly in children. Faculty of our department conduct trials of vaccines against some of the most important global causes of morbidity and mortality, including:

- Respiratory pathogens: H. influenzae type b, pneumococcus, influenza, respiratory syncytial virus
- Diarrheal pathogens: rotavirus, enterotoxigenic E. coli, Shigella
- Malaria
- Dengue viruses

Center for Immunization Research

Local Research, Global Impacts

CIR investigators have been responsible for the initial evaluation of many novel vaccines and have achieved international recognition for their work on respiratory virus vaccines, flavivirus vaccines, and enteric bacterial vaccines.

The Center specializes in phase I and II trials and conducts inpatient challenge studies to assess potential efficacy of enteric bacterial vaccines.

Dengue Virus Vaccine Development

With 2.5 billion people at risk and endemic in over 100 countries, prevention of infection from the dengue virus is of global importance.

The Department’s Center for Immunization Research has been at the forefront of the development and rollout of a dengue vaccine. Researchers in the Department were essential in the early phases of testing and currently faculty are collaborating on clinical trials of a quadrivalent dengue virus vaccine in Brazil, Thailand, and Vietnam.

The Department’s International Vaccine Access Center (IVAC) is a member of the Dengue Vaccine Initiative, a consortium of the Sabin Vaccine Institute, IVAC, the International Vaccine Institute at Johns Hopkins, and the World Health Organization (WHO). The consortium works to facilitate evidence-based decision-making around the use of dengue vaccines by strengthening the evidence base through disease burden and cost of illness studies as well as immunization impact models, financing strategies, and strategic demand forecasts.
Contributing to National and Global Policy

Members of our Department are not content to merely prove that new vaccines are efficacious. They are involved in the critical downstream milestone of ensuring that the evidence around vaccine use is translated into policy change that will ensure full utilization of important existing and new vaccines.

Our senior faculty have served on the advisory committees of major global vaccine regulatory bodies, including the Vaccines and Related Biologicals Product Advisory Committee at the US Food and Drug Administration, the Advisory Committee on Immunization Practices at the US Centers for Disease Control and Prevention, and the Strategic Advisory Group of Experts at the World Health Organization.

In addition, our faculty have made meaningful contributions to some of the most important success stories in global and national immunization policy in recent years.

India’s Policy of Including Rotavirus and Hib Vaccines in the Childhood Immunization Schedule

Faculty from the International Vaccine Access Center (IVAC), based in the Department, have worked for the past several years to support evidence-based decision-making around vaccine use in India, which has led to recent announcements by the Indian government to introduce vaccines to protect children against life-threatening Hib and rotavirus infections.

Overcoming Barriers to Implementation

The adoption and optimal use of vaccines has often been hampered by limits in epidemiologic information, sluggish policy processes and market barriers—causing delays during which lives can be lost. Our faculty aim to accelerate access to vaccines for all the world’s children through a strategic approach designed to bridge the gaps between evidence, policies, and implementation.

IVAC developed the first-ever demand forecast for pneumococcal conjugate vaccine (PCV) in developing countries, which helped to pave the way for the Advance Market Commitment (AMC). The AMC, coordinated and administered by the GAVI Alliance, includes long-term pricing and supply agreements from manufacturers and has made it possible for more than two dozen countries to introduce PCVs into routine immunization schedules, and in record time.

Political Will and Accountability

Efficient vaccine rollout is another critical area the Department’s faculty are working to address. In Nigeria, we completed a landscape analysis of routine immunization to identify key barriers to delivery of routine immunizations and engaged with government and civil society to find practical solutions. We are also supporting the Nigerian government on an accountability framework to track progress in addressing bottlenecks in the system and ensure the continued commitment of actors at all levels.
JORDAN
Interviewing Syrian refugees
Going door to door in more than 100 neighborhoods throughout Jordan in 2014, interviewers trained by our faculty located refugees from the Syrian civil war and asked them about their health status and access to care, recording the answers on tablets. Survey results will inform decisions by the UN High Commissioner for Refugees and other NGOs on how best to deliver health services to this distressed and dislocated community.

CHINA
Road safety solutions
The Johns Hopkins International Injury Research Unit has been working with a consortium of partners on the Bloomberg Philanthropies Global Road Safety Program, a five-year initiative to evaluate and implement road safety solutions in 10 low- and middle-income countries around the world. Since the project was launched in 2010, significant progress has been made implementing interventions to curb speeding and drinking in two cities, Dalian and Sozhou.

USA
Health economic analysis | Obesity and socioeconomic status
The obesity epidemic is particularly acute in Native American populations, who are often also low-income. In partnership with the California Rural Indian Health Board, a study was conducted among over 100 Native American tribes to compare outcomes between members of tribes who are receiving increased income from casino revenues compared to those who are not. Preliminary results show that an increase in economic resources show a reduced risk of being overweight or obese among Native American women and children.

MEXICO
Health Economics | Poverty, self-management and chronic conditions
Faculty are conducting research to develop new approaches to estimate the long-term impact of chronic conditions on poverty, labor force participation and earnings in Mexico and Bangladesh. They are also looking into the role of economic and non-economic incentives on self-management of diabetes and hypertension.

PERU
University training and research collaboration
For over 20 years International Health has conducted infectious disease research and training based at the Universidad Peruana Cayetano Heredia in Peru. Over the years, a unique relationship has developed between Hopkins and Cayetano University that has strengthened local research capacity in Peru. It has also created a research network and infrastructure that offer many opportunities for Hopkins faculty and students.

Ghana, Malawi, Mali, Niger, Ethiopia
“Real-Time” Monitoring of Under-Five Mortality
The RMM project is testing and validating new methods for measuring under-five mortality rates that can be used at country level and by partners to assess progress toward national and global goals for child survival.

NEPAL
Sunflower oil massage study
Faculty are conducting research to evaluate the impact of newborn massage with sunflower seed oil on neonatal mortality and infections, relative to massage with mustard oil, which is provided almost universally to tens of millions of newborns in South Asia each year. The long-term research objective is to identify simple, affordable, and effective interventions that can be delivered at the community level in low-resource settings to reduce neonatal and early infant mortality.

GHANA, MALAWI, MALI, NIGER, ETHIOPIA
“Real-Time” Monitoring of Under-Five Mortality
The RMM project is testing and validating new methods for measuring under-five mortality rates that can be used at country level and by partners to assess progress toward national and global goals for child survival.

MALAYSIA
Migrant labor and human trafficking documentation
We are documenting the health and working conditions of migrant workers, documenting the impacts of labor rights violations—including occupational injury and human trafficking—and the implications for Malaysia’s health system.

BANGLADESH
Mobile solutions for maternal and child health
In the mCARE & mTIKKA projects, frontline health workers use cell phones to register pregnant women, send reminders to seek antenatal care and mobilize support during emergencies. Vaccine workers use mobile devices to track and improve timeliness of essential childhood immunizations. Working with WHO and the Ministry of Health and Family Welfare, these projects are being scaled in Bangladesh and across South Asia.

The boundaries used on this map and throughout this brochure do not imply official endorsement or acceptance.
BREAKING NEW GROUND IN NUTRITION

Childhood Development
Healthier, Smarter Children

International Health’s research has advanced the understanding of the long-term adverse consequences resulting from undernutrition in fetal and early postnatal life. Department-led studies document how low birth weight and undernourished children are more susceptible to infectious diseases and death, achieve less education, and have lower cognitive abilities.

Prenatal Micronutrient Supplementation Boosts Children’s Cognition in Nepal

Our long-standing presence in Nepal has allowed our researchers to monitor the long-term health and well-being of children from birth through adolescence. Recent studies have investigated the link between prenatal micronutrient supplementation and cognition and development later in life.

This research has shown that a simple, low-cost intervention such as prenatal iron and folic acid supplement use improved the offspring’s intellectual and motor abilities during school age.

Reducing Stunting, Improving Children’s Lives

There is a growing body of evidence that stunting during the first 1,000 days of life—estimated globally to affect 165 million children—costs the world billions and billions of dollars in lost human capital. Two projects illustrate how we are meeting this road block head-on.

The JiViTa Project
Improving Nutrition to Save Mothers, Infants, and Children

For over a decade, the Department’s JiViTa project has conducted studies in rural northwestern Bangladesh to inform, guide and motivate policies by identifying effective and low-cost nutrition interventions that can improve health and survival of mothers, infants and children across rural South Asia where undernutrition, infectious disease and mortality remain unacceptably high and health services inadequate.

Evaluating Complementary Food Supplements’ Effect on Growth and Stunting

In JiViTa, the latest large-scale study is testing three novel, nutrient-dense complementary food supplements designed for their ability to improve growth and reduce stunting, wasting, and improve micronutrient status and cognition. These “ready-to-use” food supplements are prepared locally with available local ingredients to ensure long-term sustainability of their use in programs.

The study is recruiting over 5,000 children and supplementing their diets daily from 6 to 18 months of age. Results should shed light on the impact in reducing the high rate of stunting in Bangladesh.
Integrating WASH with Nutrition

SHINE: Sanitation, Hygiene, Infant Nutrition Efficacy Project

Building on evidence that poor sanitation contributes to stunting and anemia, our research team in Zimbabwe is delivering interventions to test and address this link. SHINE is a community-based, cluster-randomized trial which will enroll over 5,000 pregnant women before 14 weeks gestation and follow them until their infants are 18 months old.

The research team based in Zimbabwe has been working closely with communities in a rural area with over 180,000 people. Trial interventions include building the capacity of the village health workers’ network to deliver behavior change modules, giving a food supplement, and providing a Blair Ventilated Improved Pit latrine along with a tippy tap.

Gut Function, Health and Growth

The above are just two examples of the cutting-edge studies the Department is conducting to better understand the effects of gut health. Embedded in these two projects are studies on environmental enteropathic disorders that aim to unveil biological pathways by which the interventions being tested can improve child growth and reduce stunting.

Provision of Blair VIP latrines is part of one arm of the SHINE Study

People-Centered Health Care

Developing Lasting Relationships with Individuals, Families, and Communities

Since it was founded in 1961, the Department has worked with local populations to develop sustainable programs. We continue to improve our understanding of community perspectives and needs to develop innovative programming hand in hand with local communities.

Saving Newborns Lives

Chlorhexidine for Umbilical Cord Care

A simple technology with potential to prevent 500,000 global neonatal deaths annually.¹

Our lasting partnership in Nepal that began over 20 years ago allowed our faculty to conduct large-scale field trials of the effect of chlorhexidine on infant survival. Results were remarkable: a 24 percent reduction in mortality. Several studies followed confirming these findings. As a result, the World Health Organization now recommends umbilical cord cleansing in high-risk settings.

¹ Glob Health Sci Pract March 1, 2013 vol: 1 no: 1 p: 5-10
Shifting the Research to the Community

Photovoice: Climate, Health and Resilience

This participatory action research technique helps facilitate evidence-based social action towards a community demand-driven health system in the Indian Sundarbans archipelago. Led by Future Health Systems and the Indian Institute of Health Management & Research, the project helps community members visually capture daily struggles accessing health care. The photos help a population marginalized by climate, terrain and poverty to voice their concerns and contribute to the development of local policy solutions.

A Photovoice worker demonstrates the new camera functions for documenting local healthcare challenges. Photo credit: FHS-IIHMR

Saving Mothers and Newborns by Empowering Community Workers

Lessons from Bangladesh, Application Nationwide in Tanzania

In one of the first randomized controlled trials to evaluate a community-based intervention package, our researchers found that deploying locally recruited and trained community health workers (CHWs) in a poor and rural region of Bangladesh reduced newborn mortality by about a third. Community workers successfully promoted the antenatal and postpartum interventions during home visits in rural areas with high neonatal mortality rates.

These lessons are now being applied in Tanzania where our department is helping the Tanzanian Ministry of Health and Social Welfare to develop a network of CHWs who can deliver a package of integrated newborn and maternal health services in rural communities nationwide.

Community workers in Tanzania help an expectant mother with her delivery plan in Tanzania with the assistance of mobile technology. Photo credit: Jennifer Applegate

INNOVATING FOR THE FUTURE

Systems Science and Noncommunicable Diseases

Global Obesity Prevention Center

A new systems approach to change the way the world fights the global obesity epidemic

The obesity epidemic is the result of a complex system of factors, from individual behaviors to international economic policies—addressing it requires a systems approach. The systems approach integrates research, innovation, education, policy and action.

The Center unites experts, stakeholders and projects from around the world, and it is home to researchers with expertise in a wide range of disciplines. Through this global and systems approach, the Center is developing state-of-the-art methods to control the obesity epidemic around the world.

Using Big Data

A Computational Tool to Design, Plan, and Manage Global Health Supply Chains

HERMES: A Highly Extensible Resource for Modeling Supply Chains

The HERMES software platform allows users to generate a detailed discrete event simulation model of any global health supply chain, which can be used to resolve bottlenecks and optimize delivery of critical interventions.

Led through a collaboration of the Department’s International Vaccine Access Center, the University of Pittsburgh School of Engineering, and the Pittsburgh Supercomputing Center.
Preventing Injuries

Through research, collaboration and training, the Johns Hopkins International Injury Research Unit (JH-IIRU) strives to identify effective solutions to the growing burden of injuries in low- and middle-income populations, influence public policy and practice, and advance the field of injury prevention throughout the world.

In Bangladesh it is estimated that as many as a quarter of all deaths between the ages of 1 and 4 are due to drowning. JH-IIRU is conducting the largest study on socially based interventions among 1.2 million people to learn how to prevent childhood drowning.

Ethics in Global Health Research

In collaboration with the Johns Hopkins Berman Institute of Bioethics, we develop new frameworks and tools to address ethical issues of particular importance to health research in low- and middle-income countries. We are committed to building global capacity in the field. Our ethics work includes

**Training.** The Fogarty African Bioethics Training Program: A consortium of US and African institutions that work collaboratively to enhance institutional capacities in international research ethics through training, research and service. Partners include the University of Zambia, Makerere University, and the University of Botswana.

**Health Systems Research.** Health systems research uses distinctive aims, approaches, and methodologies to help improve the delivery and financing of population-level health services, raising unique ethical issues not addressed by previous guidance. We are leading the global effort to promote responsible ethical oversight of health systems research.

**Community Trials.** Our faculty created an innovative Field Training Guide for Human Subjects Research Ethics. Now translated into seven languages, it serves as a vital tool for ensuring the ethical conduct of research by all study workers in settings where formal and long-term trainings are infeasible.

A drowning alarm bracelet in Bangladesh

ACADEMIC PROGRAMS

For over 50 years the Department of International Health has trained global health leaders. Our alumni hold principal roles at international agencies, ministries of health, research institutions, foundations and volunteer organizations.

In addition to degree programs, we offer training and certificate programs for global health professionals.

**Onsite courses:** 125+

**Online courses:** 25+

We also offer free courses through Coursera.

**Degrees Offered On Campus**
- Master of Science in Public Health (MSPH)
- Doctor of Philosophy (PhD)
- Master of Health Science (MHS) in Global Health Economics

**Degrees and Certificates Offered Fully Online**
- Master of Applied Science (MAS)
  - Community-based Primary Health Care Programs in Global Health
  - Global Health Planning and Management
  - Humanitarian Health
- Certificate in Global Health Practice

**Additional master's programs**
- MSPH/Registered Dietitian Program
- MSPH/MA Dual Degree with School of Advanced International Studies (SAIS)
- Concurrent BA/MSPH

**MSPH & PhD Degree Program Areas**
- Global Disease Epidemiology and Control
- Health Systems
- Human Nutrition
- Social and Behavioral Interventions

**Certificates offered**
For degree and non-degree students
- Health Emergencies in Large Populations
- Public Health Training for American Indian Health Professionals
- Tropical Medicine

For degree students only
- Global Health (fully online)
- Vaccine Science and Policy
- Humanitarian Assistance
CENTERS AND INSTITUTES

The Department is home to a number of research groups that allow faculty from the Department, the University and the world to collaborate directly on specific global health issues.

The Center for American Indian Health works in partnership with American Indian and Alaska Native communities to raise their health status, self-sufficiency, and health leadership to the highest possible level.

The Center for Humanitarian Health partners globally with nongovernmental organizations, international and governmental organizations, as well as other research institutions on field-based research and humanitarian projects. The Center enhances humanitarian assistance by providing education and training, research, and response services.

The Global Obesity Prevention Center brings together experts, stakeholders and projects from around the world to develop and implement innovative, organized, systems strategies to control obesity on a global level.

The Institute for International Programs works with governments in low-income countries to improve maternal and child health and nutrition by supporting the generation and use of sound evidence for program design and implementation.

The Institute for Vaccine Safety provides an independent assessment of vaccines and vaccine safety to help guide decision makers and educate physicians, the public and the media about key issues surrounding the safety of vaccines. The Institute’s goal is to work toward preventing disease using the safest vaccines possible.

The International Vaccine Access Center accelerates global access to life-saving vaccines through development and implementation of evidence-based policies.

The International Center for Maternal & Newborn Health promotes safe delivery of every newborn baby and the optimal health of mothers and babies from conception through the first, most vulnerable weeks of life.

The Johns Hopkins International Injury Research Unit responds to the growing burden of injuries worldwide. Through research, collaboration and training, its members strive to identify effective solutions to the growing burden of injuries in low- and middle-income populations, influence public policy and practice, and advance the field of injury prevention throughout the world.

The Center for Human Nutrition conducts research, teaches and trains tomorrow’s nutrition leaders, and advocates evidence-based approaches to improve nutrition throughout life.

The Center for Immunization Research investigators primarily conduct Phase I and II clinical trials of new vaccine candidates. The Center has also achieved international recognition for its capacity to train other research professionals to develop the skills and infrastructure needed to design and conduct clinical vaccine trials.

The JHU Global mHealth Initiative catalyzes interdisciplinary research and innovation across the Johns Hopkins University and beyond, leveraging the ubiquitous availability of mobile technologies in even the most resource-limited settings. Using health systems and implementation science approaches, faculty are building the evidence-base for mHealth solutions that can be integrated and scaled.