



# Transforming Global Health:

Duke Global Health Institute  
Strategic Plan 2013 - 2017

+001 919-681-7760

[globalhealth@duke.edu](mailto:globalhealth@duke.edu)

[www.globalhealth.duke.edu](http://www.globalhealth.duke.edu)

Trent Hall  
310 Trent Drive  
Durham, NC 27710

Box 90519  
Durham, NC 27708  
USA



## STRATEGIC PLAN 2013 – 2017 | DUKE GLOBAL HEALTH INSTITUTE

### Table of Contents

Executive Summary.....	3
1. Introduction	
1.1 Global Health at Duke: Mission, Vision, and Values .....	6
1.2 DGHI's First Five Years: "Making a Difference in Global Health" .....	7
1.3 The Strategic Planning Process.....	10
2. Goals	
2.1. Preparing Leaders: Future Directions for Education and Training Initiatives .....	11
2.2. Seeking Solutions: Future Directions for Research Initiatives .....	16
2.3. Partnering for Change: Future Directions for International Partnership Engagement ..	23
3. Implementation	
3.1. Administrative and Operational Support .....	26
3.2. Faculty Structure .....	26
3.3. Visibility and Global Presence .....	28
3.4. Financial Sustainability .....	29
4. Conclusion.....	30

Prepared January 2013

Duke Global Health Institute ©

## Executive Summary

### Introduction

The Duke Global Health Institute (DGHI), established in 2006, brings knowledge from every corner of Duke University to bear on the pressing issues of global health in the 21st century. Central to its core mission, DGHI aims to deliver high quality education and research using multidisciplinary and innovative approaches that put knowledge in the service of society and train the next generation of global health leaders. While much of DGHI's work is focused internationally, the translation of knowledge applies to local and global contexts.

Great progress has been made to establish Duke University as a recognized leader in global health. DGHI aims to remain at the forefront of this evolving field by maintaining its competitive advantage, particularly in the area of education. As articulated throughout its five-year plan, *Transforming Global Health: Duke Global Health Institute Strategic Priorities for 2013-2017*, DGHI will work to achieve the following three goals: become the worldwide leader in interdisciplinary global health education; catalyze and conduct innovative research that responds to the changing global burden of disease and influences policy; and create a robust network of international partners to exchange global health knowledge and skills.

### Goals

#### GOAL 1: Become the worldwide leader in interdisciplinary global health education

*DGHI will focus its efforts on:*

- creating the premier liberal arts Global Health Major and Minor
- becoming the leading Master of Science in Global Health (MSc-GH) program in the world
- strengthening the Doctoral Scholars program and establishing a Global Health Doctoral Certificate Program
- expanding the Global Health Postdoctoral Fellowship Program
- strengthening the Global Health Residency/Fellowship Pathway
- launching global health education programs at Duke Kunshan University
- expanding the Comparative Health Research Twinning Program
- exploring the development of training programs and curricular and co-curricular offerings with Duke Schools, Institutes, and Initiatives

Operationally, DGHI will employ vertical integration, experiential education, and blended learning and training opportunities for Duke learners and international partners as well as strengthen faculty teaching, mentoring, and assessment.

## **GOAL 2: Catalyze and conduct innovative research that responds to the changing global burden of disease and influences policy**

DGHI will continue to facilitate and conduct innovative, interdisciplinary research collaborations to address emerging global health issues. Some of its primary strategies include increasing the number of leading global health experts at Duke; establishing an Evidence Lab to evaluate promising technologies and programs; and pursuing knowledge in the service of society through collaborations with the Duke Human Vaccine Institute (DHVI) and university-wide initiatives on innovation and entrepreneurship.

*DGHI will continue to move to the forefront of global health research in the following priority areas:*

- **Global Cancer:** Infection-related Cancers and Pathogenesis
- **Cardiovascular Disease and Obesity:** Hypertension and Heart Failure
- **Emerging Infectious Diseases:** AIDS, TB, Malaria, Bacterial Zoonoses and Arboviruses
- **Global Environmental Health:** Climate Change, Cookstoves and Drinking Water
- **Global Mental Health:** Depression and Post-Traumatic Stress Disorder
- **Maternal and Child Health:** Orphans and Vulnerable Children
- **Health Systems Strengthening:** Enhancing the Health Care Workforce

## **GOAL 3: Create a robust network of international partners to exchange global health knowledge and skills**

A collaborative network of global partners can be more effective than traditional bi-directional partnerships to educate future global health leaders and to conduct research. To this end, DGHI will establish a partnership network comprised of its longstanding principal global health partners. The network will provide a platform for partners to work across continents, cultures, and traditional boundaries to tackle global health research and education challenges. DGHI will also build upon its existing collaborations with individual partners to expand education, research, and capacity building initiatives, while establishing new partnerships with institutions in the Middle East and Latin America.

## Implementation

To meet these ambitious goals and achieve financial sustainability, DGHI requires additional resources and creative ways of utilizing existing assets. Over the next five years, DGHI will selectively recruit global health faculty to meet its anticipated education and research needs; develop a robust marketing strategy to attract the best learners and disseminate DGHI faculty research findings; and support the Initiative in Global Health within the Duke Forward capital campaign.

*Transforming Global Health: Duke Global Health Institute Strategic Plan 2013 – 2017* was developed by the DGHI faculty and received critical review from the Institute's Board of Advisors, Executive Committee, Student Council, and Deans' Council. By accomplishing these goals and successfully implementing the strategies outlined in this plan, DGHI will achieve its vision of employing academic excellence to meet the global health challenges of today and tomorrow and to achieve health equity worldwide.

# 1. Introduction

## 1.1 Global Health at Duke

The Duke Global Health Institute (DGHI), established in 2006, brings knowledge from every corner of Duke University to bear on the pressing issues of global health in the 21st century. DGHI was established as a University-wide institute – rather than as a school of public health, department, or center within an existing Duke school – to serve as a nexus to coordinate, support, and implement Duke’s interdisciplinary research, education, and service activities related to global health. DGHI is committed to developing and employing new models for education and research that engage international partners and find innovative solutions to global health challenges.

### Vision

Academic excellence to meet the global health challenges of today and tomorrow to achieve health equity worldwide.

### Mission

DGHI works to reduce health disparities in our local community and worldwide. Recognizing that many global health problems stem from economic, social, environmental, political, and health care inequalities, DGHI brings together interdisciplinary teams to solve complex health problems and to train the next generation of global health leaders.

### Goals 2013-2017

- Become the worldwide leader in interdisciplinary global health education
- Catalyze and conduct interdisciplinary and innovative research to respond to the global burden of disease and influence policy
- Create a robust network of international partners to exchange global health knowledge and skills

### Core Values

The following core values will influence DGHI’s strategy over the next five years:

- *Excellence*: Deliver high quality global health education and training programs, research opportunities, and capacity building projects
- *Multidisciplinary Approaches*: Collaborate across traditional disciplines and borders at Duke and around the globe
- *Knowledge in the Service of Society*: Strengthen DGHI’s engagement with real world global health issues by integrating them into the Institute’s education and research
- *Innovation*: Implement new educational methodologies and cutting-edge research approaches to address global health challenges and to discover and evaluate innovations in health care

- *Internationalization*: Increase Duke's presence and impact worldwide
- *Diversity*: Develop and support a diverse community of faculty, staff, trainees, and students who support DGHI's mission locally and globally
- *Local is Global and Global is Local*: Share and learn from knowledge and best practices globally and locally

## 1.2. DGHI's First Five Years: "Making a Difference in Global Health"

### Achievements of the First Five Years

Recruited 37 new global health faculty to Duke
Expanded external funding for global health research from \$3.6 million in 2008 to nearly \$17 million in 2012
Created or expanded long-term, bi-directional international collaborations in ten Priority Locations
Awarded more than 150 global health certificates since 2007
Supported more than 300 students participating in DGHI-supported field research projects in 24 countries since 2008
Created one of the first Master of Science in Global Health programs in the US
Developed a Board of Advisors comprised of influential leaders in global health, business, and philanthropy

\* Details of these achievements are summarized below.

### Education and Training

DGHI has distinguished itself as a leader in interdisciplinary education, engaging students and trainees at multiple levels and specializations. Over the past five years, the Institute established new programs, including its flagship program, the Master of Science in Global Health (MSc-GH) degree. Between 2009 and 2012, 29 students completed the MSc-GH. In addition, the Institute developed the Doctoral Scholars Program and Global Health Postdoctoral Fellowship Program.



DGHI provided opportunities for medical students by incorporating global health content into the School of Medicine second year curriculum and through its School of Medicine Third Year Global Health Study Program. The Institute also supported the development of the Global Health Residency/Fellowship Pathway, which is administered by the Hubert-Yeargan Center for Global Health (HYC). DGHI and HYC collaborate to develop and administer education and training programs and support international global health partners.

Additionally, DGHI and its international partners developed and implemented joint global health diploma programs for students in China and Thailand. In undergraduate education, DGHI strengthened the undergraduate Global Health Certificate and the global health Focus cluster.

As of 2012, 159 students had completed the Global Health Certificate, and the global health Focus cluster was one of the most popular on campus among incoming students. DGHI also provided undergraduate fieldwork opportunities for over 300 students in more than 28 countries. Fieldwork is integral to a complete education in global health and is linked to the curriculum, frequently allowing students to compare health solutions in domestic and international contexts.

In Tanzania, DGHI and the Kilimanjaro Christian Medical College (KCMC), one of DGHI's important partner institutions, received funding from PEPFAR, Fogarty International Center, and Health Resources and Services Administration to fund the Medical Education Partnership Initiative (MEPI) to improve medical education and strengthen research capacity at KCMC.

DGHI has incorporated new educational methodologies into its education programs, including distance-based lectures, online class projects, statistical modules for research methods, and team-based learning modules. DGHI also successfully launched the LCMS+ (Learning and Curriculum Management System) at KCMC in Tanzania and established a student and faculty

### Moshi, Tanzania

**Institutional partner:** Kilimanjaro Christian Medical Centre (KCMC)

**Diverse research agenda:** Bacterial zoonoses, emergency medicine, emerging infectious diseases, global cancer, maternal and child health, medical education, and orphan care

**Education and training opportunities:** Medical Education Partnership Initiative; Global Health Residency Fellowship Pathway trainees; residents from the Department of Medicine, Infectious Diseases Fellows, MSc-GH and third year Duke medical students participate in research and clinical training with faculty mentors at Duke and KCMC; undergraduate students conduct mentored fieldwork through the Student Research Training Program with Moshi-based NGOs.

twinning program with Moi University in Eldoret, Kenya in partnership with mentors from the Center for Health Policy and Inequalities Research (CHPIR).

CHPIR, a part of DGHI, is an instigator and facilitator of a broad range of health policy and health disparities research that addresses policy relevant issues. Through its education programs, DGHI, in partnership with CHPIR, has explored comparative health challenges in local and international settings by teaching global health students to analyze the interaction between local context, technology, and diverse innovations.

## Research

In its first five years, DGHI organized its research portfolio around six Signature Research Initiatives (SRIs):

1. Aging and Population Dynamics
2. Cardiovascular Disease
3. Emerging Infectious Diseases
4. Gender and Health
5. Global Environmental Health
6. Health Systems Strengthening

This structure created opportunities for faculty from across the University to address prominent global health issues from a broad, interdisciplinary perspective. To foster this multidisciplinary research agenda, DGHI, often in partnership with other Schools, has recruited 37 faculty members, most of whom are involved in global health research and education at Duke.

As of 2012, DGHI faculty are leading 138 research projects in 32 countries. The Institute has attracted significant funding for its research initiatives: its portfolio of external funding for research has grown from \$3,697,000 in FY2008 to \$16,839,333 in FY 2012; as of 2012, the success rate for National Institutes of Health applications submitted through DGHI was 36%, almost double that of the University as a whole.

Key findings from these research initiatives include a new understanding of febrile illness in East Africa, the development of an antiretroviral pouch to prevent mother-to-child transmission, and impact evaluations on social franchising, telemedicine, and conditional cash transfers in India.

## International Partnership Engagement

DGHI's education, research, and capacity-building initiatives are built on a strong network of ten global health partnership institutions (Priority Locations) around the world. DGHI selects Priority Locations by systematically categorizing locations using a set of variables representing the breadth and depth of faculty-led activities at each location. The locations and associated partnerships form a comprehensive spectrum of activities at each Priority Location.

Over the past five years, DGHI has invested in capacity building, research, and education program development at these locations. Each year, DGHI evaluates the locations where it works to determine which ones will remain or become Priority Locations.

### DGHI International Priority Locations as of 2013



## 1.3. The Strategic Planning Process

DGHI's yearlong strategic planning process engaged many key players affiliated with Duke University and global health leaders outside of the University. The process was led by a Steering Committee of DGHI faculty. DGHI faculty working groups focused on education, research, international partnerships, and administration and operations provided important input and guidance. Early in the process, DGHI conducted an online survey capturing preferences and priorities from faculty, staff, students, and administrators across Duke. The DGHI Faculty Retreat in June 2012 was dedicated to strategic planning and provided an opportunity for diverse faculty recommendations and dialogue. Throughout the process, DGHI consulted and responded to feedback from its Board of Advisors, Executive Committee, Student Council, and Management Team as well as Duke's Deans' Council. HYC and CHPIR also provided strategic guidance and critical feedback.

## 2. Goals

1. Become the worldwide leader in interdisciplinary global health education
2. Catalyze and conduct innovative research that responds to the changing global burden of disease and influences policy
3. Create a robust network of international partners to exchange global health knowledge and skills

### 2.1. Preparing Leaders: Future directions for education and training initiatives

Over the next five years, global health education at DGHI will continue to cross disciplines, geographic borders, and levels of learners; emphasize problem-based and experiential learning methodologies; and explore innovation transfer from the US to other countries and vice versa. DGHI will prioritize education programs that bring together learners at all levels – from undergraduates to postdoctoral fellows – to work on joint interdisciplinary projects; provide students with high quality experiential learning opportunities in the field; and integrate online and blended learning into the curriculum.

DGHI will emphasize monitoring and assessment of education programs to guarantee they are instructionally-sound, flexible, responsive and ethical, culturally, intellectually, and scientifically appropriate. DGHI will also prioritize and assess excellence in teaching, and collaboration with Duke Departments, Schools, and its international partners.

#### Undergraduate Programs

- Undergraduate Major and Minor in Global Health
- Undergraduate Semester in Global Health at Duke Kunshan University
- Student Research Training Program

#### Graduate Programs

- Master of Science in Global Health
- Master of Science in Global Health at Duke Kunshan University
- Doctoral Scholars Program
- Global Health Doctoral Certificate
- Third Year Global Health Study Program (Medicine)
- Doris Duke International Clinical Research Fellowship (Medicine)

#### Professional Opportunities

- Global Health Residency/Fellowship Pathway (Medical Center)
- Postdoctoral Fellowships
- Human Resources for Health in Rwanda (Medicine/Nursing)
- Fogarty Global Health Fellows (Medicine)

## GOAL: Become the worldwide leader in interdisciplinary global health education

### *Programmatic initiatives*

- **Create the premier liberal arts Global Health Major and Minor:** The Global Health Major will facilitate learning that is both broad and deep, teaching undergraduates to approach global health challenges from disciplinary and interdisciplinary perspectives. This is an ideal educational model because understanding global health challenges requires an integration of multiple disciplines.

The major will begin in fall of 2013, and requires three core courses, three foundation courses, three electives, an immersive fieldwork experience, and a senior seminar. These components will allow students to integrate global health content with their co-major, while creating a rigorous and complementary learning experience. The major and minor will replace the popular global health certificate that has been offered since 2007.

- **Become the leading Master of Science in Global Health (MSc-GH) program in the world:** DGHI launched the MSc-GH in 2008 to train researchers and practitioners in global health. As of 2012, DGHI had enrolled four cohorts. Over the next five years, DGHI will strengthen the MSc-GH through the recruitment of internationally renowned faculty; continued curricular assessment and revision; the establishment of additional dual degree programs to complement the existing integrated programs of study; and implementation of a comprehensive marketing, selection, and recruitment plan.

#### **MSc-GH Curriculum Revisions**

In fall 2011, a DGHI faculty committee examined key curricular and programmatic aspects of the MSc-GH and proposed strategic reform.

DGHI will implement the following recommendations from the committee to strengthen the MSc-GH:

- Place greater emphasis on acquisition of statistical, evaluation, and other research skills
- Ensure that students acquire depth in a defined methods skill set

- **Establish a Global Health Doctoral Certificate Program:** The Global Health Doctoral Certificate Program will introduce Duke doctoral students from schools and departments across the University to the field of global health through a combination of coursework, mentoring, and field experiences. Coursework will include a global health challenges course, a research methods course, an elective, and an interdisciplinary seminar in global health.

- Expand the Global Health Postdoctoral Fellowship Program:** To further its research mission, DGHI supports postdoctoral fellows with varying specialties and geographic expertise. Over the next five years, DGHI plans to expand its postdoctoral program with the goal of recruiting two new postdoctoral fellows every year.
- Strengthen the Global Health Residency/Fellowship Pathway:** Administered by the Hubert-Yeargan Center for Global Health (HYC) this program provides medical residents and fellows with tailored postgraduate training that integrates specialty-specific research opportunities, masters-level training, and mentorship to develop a career in global health. HYC plans to expand the program by engaging three new departments/divisions in the program and recruiting up to four new fellows or residents each year.
- Launch two global health education programs at Duke Kunshan University (DKU):** As China's role in the world continues to expand, there is an increasing need for global health experts in China and Asia. In 2012, Duke University, in partnership with Wuhan University and the city of Kunshan, received permission to establish a university in Kunshan, China. DGHI will offer undergraduate courses and the MSc-GH at DKU to expose students to health challenges and systems in China, the surrounding region, and the "global North". DKU will also anchor DGHI as a vibrant research hub in China and throughout Asia.
- Expand the Comparative Health Research Twinning Program:** DGHI piloted a twinning program in 2011 in partnership with faculty mentors at Moi University in Kenya and DGHI faculty mentors from the Center for Health Policy and Inequalities Research (CHPIR). The twinning model epitomizes the "local is global, global is local" philosophy, pairing Moi and Duke students to jointly undertake complementary research projects in Eldoret, Kenya and in Durham, NC. DGHI plans to expand its twinning program with Moi University and explore programs with additional partners in other locations.

**DIHI** is a Duke Institute that promotes transformative innovation in healthcare through high-impact research, leadership development, workforce training, and the cultivation of a community of entrepreneurship.

The **Duke I&E Initiative** is a campus-wide effort to expand the societal impact of Duke innovations and better serve students who seek to launch innovative initiatives.

- **Develop training programs, courses, and co-curricular activities with Duke Schools, Institutes, and Initiatives:** DGHI will explore the development of training programs with other Institutes, such as a health leadership development program with the Duke Institute for Health Care Innovation (DIHI). Additionally, DGHI will collaborate with initiatives such as the Duke Innovation and Entrepreneurship (Duke I&E) Initiative to develop and implement courses and co-curricular activities on global health innovation and entrepreneurship.
- **Establish a Visiting Fellows Program:** DGHI, in collaboration with Duke Schools and Departments, will develop a program to attract senior level global practitioners to spend a year at Duke teaching, engaging with the academic community, and promoting international collaborations while in residence at Duke.

### Strategies

- **Develop vertical integration among learners at Duke:** DGHI will establish projects that involve teams of learners, trainees, and researchers from a range of disciplinary backgrounds and at varying levels of education and training. These faculty-mentored, vertically-integrated teams (see diagram below) will address real-world global health problems that exist at DGHI's Priority Locations and are linked to DGHI research priorities.

As a component of a new university-wide initiative integrating interdisciplinary research with problem-focused education called Bass Connections, these activities will let learners apply, synthesize, and complement the knowledge they acquire in the classroom, while providing practical experience to prepare them for further training and work in global health.

### Global Health Vertical Integration

#### FACULTY, POSTDOCTORAL FELLOWS, AND VISITING SCHOLARS

- Teach full courses, short courses or workshops
- Lead project teams

#### DOCTORAL STUDENTS

- Mentor Global Health students
- Teach short courses or workshops
- Lead project teams

#### MASTER OF SCIENCE IN GLOBAL HEALTH AND MEDICAL STUDENTS

- Undertake dual degrees (e.g., MSc-GH/JD, MSc-GH/MD)
- Enroll in Third Year Global Health Study Program
- Participate in project teams

#### UNDERGRADUATE STUDENTS

- Major in Global Health
- Enroll in gateway course or senior seminar
- Participate in experiential learning and project teams

#### VERTICALLY INTEGRATED ACTIVITIES

- *Project teams (field based & campus based)*
- *Courses*
- *Short courses*
- *Workshops*
- *Annual Global Health Showcase event*
- *Journal Club*
- *Case competition*

- **Expand opportunities for experiential learning:** To improve experiential learning opportunities for its students, DGHI will locate faculty-mentored research projects at Priority Locations and expand the number of pre- and post-fieldwork workshops, reflection sessions, and community events for students and mentors.
- **Develop blended learning and training opportunities for Duke learners and international partners:** A globally-networked learning environment can provide Duke learners with the cross-cultural collaboration skills they will need to succeed in a globalized world. Blended learning opportunities will include a mix of online, videoconference, and face-to-face learning methods. Online materials can facilitate linkages and shared learning experiences between Duke and international partners and can also be delivered as stand-alone training materials to international partners.

### Examples of Blended and Online Learning Opportunities

Objectives	Approaches
Link Duke students with international students and experts	Include online components in courses and degree programs offered concurrently by Duke and international partners
Facilitate education collaborations between Duke and partner institutions	Design blended learning global health courses to be jointly taken by students at international partner institutions and at Duke
Build capacity of international partners	Create short online training tutorials, modules, or courses that are focused on specific areas of instruction (ex. biostatistics, research methods, leadership training)
Contribute to the University's commitment to develop and offer courses that are fully online	Collaborate with University Advisory Committee for Online Education and Center for Instructional Technology to develop a new course or re-design an existing course for online delivery
Promote faculty access to shared instructional material, methodologies, and best practices	Provide an online resource for faculty to share syllabi, instructional content, case studies, recorded lectures, and other instructional media

- **Strengthen faculty teaching, mentoring, and assessment:** DGHI will conduct workshops; provide peer mentoring; identify and create resources related to teaching innovation, flipped classrooms, and team-based learning; and recognize excellence through awards, promotion review, and course evaluations.
- **Provide career opportunities for students and trainees:** DGHI will strengthen and expand DGHI's alumni network, involve alumni in educational activities, and draw on the network to support current students and alumni in building successful and influential global health careers.



## Metrics of Success: EDUCATION

- # of students enrolled in the global health major
- # of alumni in leadership positions in global health
- # of alumni working in global health
- # of locations of student and trainee fieldwork project placements
- # of student and trainee fieldwork project placements
- # of students completing the MSc-GH
- # of students enrolled in the MSc-GH
- # of students completing the global health major

### 2.2. Seeking Solutions: Future directions for research initiatives

DGHI's ability to adapt its research agenda in response to the changing global burden of disease, its own institutional strengths, and new funding priorities, has resulted in a diverse and robust research portfolio. The Institute's research agenda will continue to employ a problem-solving approach, transcend traditional disciplinary and geographic boundaries, and leverage and build upon Duke University's existing research strengths and institutional priorities. To strengthen its research portfolio, DGHI will pursue joint faculty recruitments and partnerships with innovation, entrepreneurship, and health technology programs across the University. To test and assess the effectiveness of innovative technologies developed by Duke faculty or external partners, DGHI will work with partners across the University using a range of evaluation methods.

#### Research Priorities 2013 - 2017

In spring 2012, a Research Review Committee assessed DGHI's existing research priorities and recommended future research priorities. Over the next five years, DGHI will continue to move to the forefront of innovative global health research in the following areas:

- **Global Cancer:** Infection-related Cancers and Pathogenesis
- **Cardiovascular Disease and Obesity:** Hypertension and Heart Failure
- **Emerging Infectious Diseases:** AIDS, TB, Malaria, Bacterial Zoonoses and Arboviruses
- **Global Environmental Health:** Climate Change, Cookstoves and Drinking Water
- **Global Mental Health:** Depression and Post-Traumatic Stress Disorder
- **Maternal and Child Health:** Orphans and Vulnerable Children
- **Health Systems Strengthening:** Enhancing the Health Care Workforce

**GOAL: Catalyze and conduct innovative research that responds to the changing global burden of disease and influences policy**

**Strategies**

- **Facilitate innovative, interdisciplinary research collaborations to address complex emerging global health issues:** DGHI will use the following mechanisms to catalyze, facilitate, and promote research across disciplines and geographical borders:

  - Designate DGHI faculty leaders for each research priority area
  - Convene ad-hoc multidisciplinary teams that comprise representatives from research methods groups and diverse technical areas (including epidemiology, sociobehavioral sciences, health economics, health systems strengthening, mHealth, and biostatistics) to pursue promising research opportunities
  - Fund pilot and travel grants, visiting faculty, and research associates to encourage the development of externally-funded research projects

Provide research support services in the areas of biostatistics, pre-submission peer reviews, and grants administration and management
- **Increase the number of leading global health experts at Duke:** DGHI will continue to build a diverse faculty in the following ways:

  - Selectively recruit experts to lead global health research and to mentor junior global health faculty (see the Faculty Recruitment Table in section 3.2)
  - Establish a Junior Faculty Scholars Program that provides junior global health faculty with the opportunity to spend three years in the field undertaking research in low-resource settings and obtaining research awards
- **Create a DGHI Evidence Lab:** DGHI plans to establish a DGHI Evidence Lab to expand the Institute's capacity to evaluate global health technologies and programs. The Lab will comprise one or more PhD-level evaluation experts who are knowledgeable in a variety of methods, including randomized control trials, synthesis, and pre- and post-program evaluations, to assess programs and innovations.

**Innovation and Entrepreneurship Initiatives at Duke**

**IPIHD**, a non-profit organization hosted in DIHI and co-founded by Duke Medicine, McKinsey & Company, and the World Economic Forum

**SEAD**, a Duke initiative led by the Center for the Advancement of Social Enterprise (CASE), IPIHD, and DGHI, is a collaboration with USAID through its Higher Education Solutions Network

The Lab will have four core activities:

- Assess new models of care, innovative technologies, and approaches to reducing health disparities (at Duke and externally)
  - Provide students with courses and mentorship in evaluation methods in domestic and international contexts
  - Collaborate with the International Partnership for Innovative Healthcare Delivery (IPIHD), the Social Entrepreneurship Accelerator at Duke (SEAD), and DIHI's Center for Implementation and Health Delivery Science to assess new technologies and approaches to health care
  - Collaborate with international partners to strengthen evaluation skills in the field
- **Pursue knowledge in the service of society:** DGHI will strengthen its engagement with real world global health issues in the following ways:
    - Enhance its partnership with the Duke Human Vaccine Institute (DHVI), the “basic science arm” of DGHI, to include the translation of research into practice
    - Facilitate research collaborations with innovation and entrepreneurship programs across campus such as DIHI's health technology innovation programs, the Duke I&E Initiative, and the Developing World Health Care Technology Laboratory at the Pratt School of Engineering, to further the study of informatics and the development and distribution of health information and communications technology
    - Translate knowledge and evidence generated from DGHI research in ways that create value for society and influence policy
    - Share knowledge and learn from best practices and technologies internationally and locally, in partnership with CHPIR

### **Duke Global Health Institute and Duke Human Vaccine Institute Collaboration**

DGHI and Duke Human Vaccine Institute Collaboration (DHVI) form a continuum from discovery science in the laboratory to field based research. DHVI will continue to serve as the basic and translational arm of DGHI in the area of vaccine development for emerging infectious diseases and cancers.

DHVI has robust programs focused on the development of novel vaccines for HIV, tuberculosis and influenza. DGHI complements the scientific expertise of DHVI by providing perspective on diseases of global importance, field sites for rigorous evaluation of vaccines, expertise in implementation science and logistics, and the ability to offer programmatic evaluation of vaccine interventions. The DGHI-DHVI partnership will provide a comprehensive approach to vaccine-related prevention in global health.

## DGHI RESEARCH PRIORITIES: 2013 - 2017

### Global Cancer

#### ***Focal area: Infection-related Cancers and Pathogenesis***

Cancer is a leading cause of death worldwide, accounting for 7.6 million deaths (around 13% of all deaths) in 2008. Based on current projections, cancer deaths will continue to rise, with an estimated 13.1 million deaths in 2030. About 70% of all cancer deaths occur in low- and middle-income countries (WHO 2012).

At Duke, there is growing interest in global cancer across diverse disciplines. The appointment of a new Duke Cancer Institute Director; the commitment from the National Cancer Institute to expand research activities in global cancer; and DGHI's rapid growth, makes it an opportune time to strengthen global cancer research at Duke.

### Cardiovascular Disease and Obesity

#### ***Focal area: Hypertension and Heart Failure***

In addition to the widely-recognized epidemic of obesity, diabetes, and cardiovascular disease (CVD) in the US, rates of these chronic diseases are growing dramatically in India, China, and other transitional economies in Asia and Latin America, and also in urban populations in sub-Saharan Africa. More than 80% of CVD deaths take place in low- and middle-income countries and occur equally in men and women (WHO 2011). DGHI researchers are focused on hypertension and heart failure because they are the two most common clinical manifestations of CVD in low- and middle-income countries.

Duke faculty from a number of disciplines and schools have great expertise in CVD. DGHI is actively collaborating with the Duke Clinical Research Institute, Duke Heart Center, and Duke Translational Medicine Institute to develop interdisciplinary projects in this field, including ongoing work in Africa, India, and China.

#### **Duke-National University of Singapore Graduate Medical School**

Collaborations between Duke-NUS and DGHI have resulted in research initiatives on the epidemiology and transmission of emerging infectious diseases in Asia as well as innovative health systems research in the areas of non-communicable disease epidemiology, the use of incentives to reduce obesity, and clinical practice improvement.

## Emerging Infectious Diseases

### ***Focal area: AIDS, TB, Malaria, Bacterial Zoonoses, and Arboviruses***

Since 1980 a new human pathogen has been identified every seven months (Climate and Health Initiative 2008), and the incidence of many of these pathogens threaten to increase over the next few decades.

Duke has a broad array of global health research activities investigating emerging infectious diseases. Key collaborators in this effort include the DHVI, Center for AIDS Research, Duke Clinical Research Institute, Duke Infection Control Outreach Network, Duke Endocarditis Database, Duke-NUS Graduate Medical School in Singapore, and regional consortia such as the Southeast Regional Center of Excellence in Biodefense and Emerging Infections. Outstanding facilities and laboratories are available to study a range of emerging infections, and Duke-NUS provides the field logistics to study emerging viral infections in Asia.

## Global Environmental Health

### ***Focal area: Climate Change, Cookstoves, and Drinking Water***

Environmental factors cause or influence an array of conditions that contribute to illness and death. Worldwide, 24% of the global disease burden and 23% of all deaths can be attributed in part to environmental factors (WHO 2006). Unsafe water, indoor and outdoor air pollution, and the effects of climate change can lead to an increase in malnutrition, cancer, and diseases like malaria and cholera. Since global environmental health touches human lives in so many ways, interdisciplinary research is needed to document the extent of these problems and to develop and assess interventions that alleviate them.

DGHI collaborates with a number of research groups on environmental health at Duke including those at the Nicholas School of the Environment, the Nicholas Institute for Environmental Policy Solutions, the Center on Global Change, the Sanford School of Public Policy, the Pratt School of Engineering, and the Departments of Biology and Pediatrics. This includes a campus wide, multidisciplinary initiative to address the health and environmental impact of cook stoves used by millions of people in low resource settings.

## Global Mental Health

### ***Focal area: Depression and Post-Traumatic Stress Disorder***

Mental health disorders represent a largely hidden but substantial portion of the world's disease burden. They can often be neglected, especially in low- and middle-income countries, which have no resources to tackle mental health challenges. Projections of the global burden of

disease place depression as the second leading cause of disability-adjusted life years by 2020, and the incidences of post-traumatic stress disorder and other stress-related illnesses resulting from conflict and natural disasters are on the rise (WHO 2009).

Duke has a growing number of faculty working in global mental health. Over the past year, DGHI recruited two global mental health faculty in collaboration with the Departments of Psychiatry and Psychology. DGHI also collaborates with CHPIR and the Department of Medical Anthropology in the study of depression and post-traumatic stress disorder and anticipates expanding its collaborations as a result of the importance of this issue and an anticipated increase in funding streams from US government agencies.

## Maternal and Child Health

### ***Focal area: Orphans and Vulnerable Children***

Globally, infant, child, and maternal mortality rates have all fallen dramatically between 1980 and 2008 (WHO 2012). However, a high number of women continue to die in childbirth, and the number of births attended by skilled birth attendants is still far below WHO targets, especially in Africa. In addition, there are a large and increasing number of orphans because of high mortality among young adults from conditions such as malaria, tuberculosis, pregnancy complications, HIV/AIDS, and natural disasters.

DGHI collaborates with many groups working on maternal and child health issues at Duke including the Department of Obstetrics and Gynecology, the Sanford School of Public Policy, the Pratt School of Engineering, and CHPIR.

## Health Systems Strengthening

### ***Focal area: Enhancing the Health Care Workforce***

Every year, millions of people die from preventable or treatable diseases, not because of lack of knowledge, but because health systems in many low- and middle-income countries lack the expertise, research and analytic capability, information, financing, and implementation capacity to deliver effective and affordable interventions.

One of the most critical health system challenges in low- and middle-income countries is the lack of health workers. The 2006 World Health Report identified 57 countries facing a health workforce crisis. Each of these countries has fewer than 23 health workers (doctors, nurses, midwives) per 10,000 people (the minimum required by the WHO). To highlight this problem

further, sub-Saharan Africa has only 3% of the global health workforce while it is home to 11% of the world's population and bears over 24% of the global disease burden.

DGHI's research on health systems strengthening is conducted in collaboration with partners from various Departments and Schools across Duke including the Department of Economics, Sanford School of Public Policy, School of Medicine, and Fuqua School of Business, as well as through robust partnerships with the Duke-NUS Graduate Medical School in Singapore and DHI.

### DGHI's Approach to Global Health Research

DGHI seeks to sustain a dynamic research agenda that reflects the changing global burden of disease and catalyzes interdisciplinary and innovative work among investigators across Duke University, Duke University Medical Center, and DGHI's international partners. The agenda is creative and opportunistic, focusing on the intersections of diverse investigator expertise and methods. It strategically reflects the strengths of DGHI, Duke, and its partners and responds to needs with investments in faculty recruitment, material and expert support, and capacity building.

At the core of the Institute's research efforts are its research priorities (formally Signature Research Initiatives) focused on the emerging global health themes described above. DGHI identifies its strategic research priorities through a purposeful process that evaluates new initiatives based on faculty expertise and commitment and global burden of disease. These research priorities engage faculty from multiple Duke Schools and Departments and address major current issues in global health from a broad, interdisciplinary perspective. DGHI provides start-up funds and infrastructure support in these areas, both at Duke and to DGHI's collaborating institutions abroad. DGHI recognizes that complex global health problems require teams of investigators that are not bound by traditional disciplinary or disease-focused constraints. Using the strategies highlighted in this plan, investigators from each research priority will support one another to develop creative responses to global health challenges.

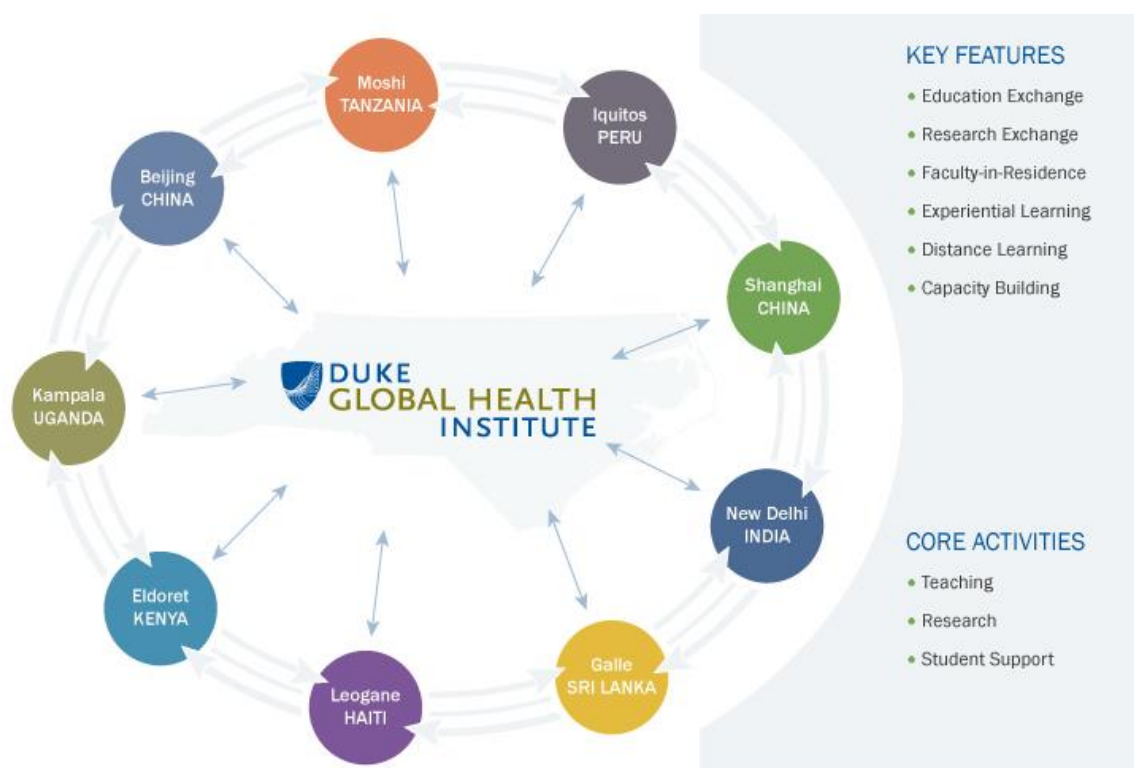
## Metrics of Success: RESEARCH

- # of research "successes"\*
- # of external funding support obtained for research projects
- # of faculty jointly appointed in DGHI and schools
- # of new research collaborations across disciplines and schools

*\* Success is defined as authorship in a journal with high impact; the development of a new patent; or a research finding that leads to a policy change.*

### 2.3. Partnering for Change: Future directions for international partnership engagement

Over the next five years, DGHI will expand education and training opportunities for students, trainees, and faculty at its Priority Locations, identify new Priority Locations, and promote research collaborations among its international partners through the development of a partnership network. The network, depicted below, will comprise Duke's longstanding global health partners and provide a dynamic foundation for collaboration and interdisciplinary inquiry by supporting and extending the depth and breadth of activities already occurring among these partnerships and DGHI. The network will encourage partners to work across continents, cultures, and traditional boundaries to tackle global health research challenges and to educate present and future global health leaders.



DGHI will continue to build upon its existing collaborations with individual partners while facilitating their coming together to enhance global health education and research in new and dynamic ways, utilizing diverse cultural, disciplinary, and geographic perspectives. DGHI will incorporate distance learning, twinning programs cultivating multidirectional exchange, and experiential learning to enhance diverse educational offerings across institutions. DGHI faculty in residence at Priority Locations and at Duke will undertake research, learn from local partners, and work together to strengthen collaborations.



## GOAL: Create a robust network of international partners to exchange global health knowledge and skills

### Strategies

- **Expand education, research, and capacity building initiatives at DGHI's Priority Locations**
  - Provide core investment and faculty leadership to DGHI's Priority Locations through faculty, staff, and onsite infrastructure development
  - Expand education and training opportunities and research collaborations among DGHI and its Priority Locations
  - Establish travel grants and co-host visiting scholars in partnership with entities across the University to strengthen international partnerships
- **Establish additional partnerships with institutions in the Middle East and Latin America:** DGHI will develop new partnerships in these regions given the growing disease burden in these areas, the geographic diversity they bring to DGHI's current set of Priority Locations, and faculty interest in these locations
- **Deepen training and research opportunities in East Africa:** DGHI will expand partnerships in Kenya, Rwanda, Tanzania, and Uganda in collaboration with HYC
- **Facilitate collaboration and mutual learning among several international partners and Duke**
  - Expand the Duke-Fudan Global Health Partnership: DGHI and Fudan Shanghai Medical College are developing an institutional partnership network between Chinese universities and research institutes with those in other Asian and African countries to improve health disparities by promoting and facilitating global health research and educational collaborations

#### Eldoret, Kenya

**Institutional partner:** Moi University

**Diverse research agenda:** Center of Excellence led by HYC focused on chronic cardiovascular and pulmonary diseases; community based health care delivery; malaria; and mental health care

#### Education and training

**opportunities:** DGHI and Moi School of Public Health faculty jointly lead the Comparative Health Research Twinning Program which pairs Moi and DGHI's MSc-GH students to undertake complementary research projects in Kenya and in Durham; MSc-GH students conduct research projects; Global Health Residency/Fellowship Pathway trainees participate in research and clinical training.

- Improve information and communications technology access across Priority Locations to facilitate better communication and collaboration
- Convene a biennial global health forum to share research findings and research capacity across Priority Locations

### Galle, Sri Lanka

**Institutional partner:** University of Ruhuna

**Diverse research agenda:** Aging, febrile illness, mental health, occupational health

**Education and training opportunities:** Field-based research opportunities for MSc-GH students; undergraduate Student Research Training program focused on community health and health issues affecting tea plantation workers in partnership with faculty and an NGO; Global Health Residency Fellowship Pathway trainees participating in research and clinical training; short term research and clinical rotations for Duke residents.

## Metrics of Success: INTERNATIONAL PARTNERSHIPS

- # of Priority Locations
- # of active global health research projects at a Priority Location
- # of countries where DGH research projects are under way
- # of faculty based abroad in a Priority Location
- # of capacity building initiatives\* with international partner institutions

*\* Activities building technical, financial or administrative capacity of DGH's partner institutions including: joint appointments between Duke and its collaborating institutions; expansion of physical office space at a partner institution; facilitation of South-South research or education collaborations; establishment of new training centers at Priority Locations, etc*

## 3. Implementation

DGHI aims to support its research, education, training, and international partnership collaborations highlighted in the strategic plan through administrative and operational support, faculty structure and development, increased visibility and global presence, and financial sustainability. To effectively do this, DGHI must mobilize its current resources while pursuing new avenues of support.

### 3.1. Administrative and Operational Support

- Support Duke University initiatives in response to the need for internationally robust systems, procedures, and strategies
- Develop a flexible and creative teaching and collaboration space to build the global health community at Duke
- Strengthen DGHI's administrative, financial, and grants capacity to become more systematic, consistent, and customer service oriented, while maintaining flexibility and providing individualized support
- Improve and grow information technology capacity for international collaborations, research initiatives, and education and training programs
- Ensure adequate, skilled, diverse staff support to implement DGHI activities and programs

### 3.2. Faculty Structure

- Hire a diverse group of new DGHI faculty and affiliates to accommodate growing educational, training, research, and technical needs
- Organize an annual Institute-wide meeting of all DGHI faculty and affiliates to share information and promote faculty dialogue

In its next five years, DGHI will selectively recruit global health faculty to meet its anticipated education and research needs. These hires are highly strategic and were selected after considerable discussion at DGHI and across Duke.

Specifically, DGHI will recruit four faculty members to assist with the new undergraduate Global Health Major that will be launched in 2013. Hires will include faculty in global health governance, biology, and humanities, as well as one faculty member focused on global health challenges and ethics. Two additional positions in health systems and emerging infectious diseases will be recruited to further strengthen the MSc-GH program. The remaining hires will be tied to DGHI's research priorities (see section 2.2).

Global Health Faculty Recruitment Table: 2013-2017

Area	Partner	Link to Plan
<b>Major Teaching</b>		
<b>Global Health Governance</b>	Sanford or Fuqua	Social sciences foundations course; global health policy elective
<b>Global Health Biology</b>	Arts and Sciences	Biology foundations course; global health biology elective
<b>Global Health Humanities</b>	Arts and Sciences	Humanities foundations course; global health humanities elective
<b>Global Health Undergraduate Education</b>	DGHI	Introduction; ethics
<b>MSc-GH Teaching</b>		
<b>Health Systems</b>	Fuqua or Medicine	Health systems; research ethics
<b>Emerging Infectious Diseases</b>	Medicine	Research methods; elective
<b>Research Priorities</b>		
<b>Global Health Technology</b>	Pratt	Cancer/CVD/environmental health
<b>Global Cancer</b>	Medicine	Global cancer
<b>CVD/Diabetes</b>	Medicine	CVD and obesity
<b>Evaluation</b>	DGHI	Create DGHI Evidence Lab
<b>Innovation</b>	Duke Institute for Health Care Innovation	Leadership training programs

### 3.3. Visibility and Global Presence

Over the next five years, DGHI will strengthen its brand to elevate the Institute as a leader in global health and to promote its high quality education programs, important research discoveries, faculty leadership in selected research areas (see section 2.2), and multi-directional international partnerships. To achieve this goal, we will focus on the following activities:

- **Establish consistent, compelling messages that define DGHI as a leader in global health education**
  - Develop a set of key messages and communication tools that are used consistently by DGHI leadership, staff and faculty to convey DGHI's comparative strengths in global health education
- **Develop and carry out a robust marketing strategy to attract the best learners into DGHI's education and training programs**
  - Clearly identify target markets for each program and conduct research to discover the best strategies for reaching these audiences
  - Measure marketing efforts to ensure time and resources are used effectively
  - Support ongoing recruitment efforts through social media, website, advertising and other communication tools
- **Disseminate DGHI faculty research findings in order to raise awareness and influence policymakers**
  - Communicate regularly with local, national, and international media outlets and online news agencies to highlight newsworthy discoveries, and interesting and relevant stories
  - Create a user-friendly website that highlights DGHI's research portfolio and makes it easy to find and sort research projects
  - Assess and improve DGHI's weekly electronic newsletter to increase readership and focus on DGHI research priority areas
  - Encourage faculty and students to attend and present at leading global health conferences and meetings
  - Establish faculty blogs focused on core research areas to promote ideas and activities
- **Expand the DGHI community to include prospective students, leaders in the global health field, prospective faculty, community partners, potential donors, and decision makers**
  - Effectively use social media platforms to build an interactive, online community
  - Support ongoing efforts to communicate with and engage DGHI and Duke alums interested in global health
  - Sponsor events, conferences, or meetings that engage leaders from various fields in dialogue, debate, and problem-solving

### 3.4. Financial Sustainability

Over the next five years, DGHI's efforts to secure its long-term financial sustainability will be driven by the \$80 million fundraising goal for the Initiative in Global Health, a theme of Duke's comprehensive campaign. Working across Duke, DGHI envisions this goal will be realized through a mix of at least one eight-figure gift, and many more seven and six-figure gifts, as well as through matching gift opportunities.

As part of this fund-raising effort, DGHI will work with campaign leadership to:

- **Establish permanent global health faculty endowments within Schools**
  - Work with Schools to identify, cultivate, and solicit matching gifts for faculty endowment challenges
  - Cultivate deans and department chairs as allies in fund-raising by providing added value through recruitment and retention of rising stars and faculty leaders
- **Secure designated funds to support DGHI initiatives and operations**
  - Build the DGHI prospect pipeline by creating attractive gift opportunities that create value to individual schools and Duke University
  - Create "experiential" cultivation and stewardship opportunities for existing and prospective donors to better understand global health at Duke and in the field
  - Build the global health alumni network in order to foster career networking and mentoring and eventually fund-raising
- **Establish a base of prospects and donors necessary to ensure long-term fund-raising success for the Institute**
  - Utilize campaign focus on global health to establish a comprehensive Duke vision for the future of global health education and research through the work of DGHI
  - Harness the enthusiasm and support of campaign donors for global health to cultivate DGHI's next generation of volunteer leadership

#### Duke Forward

Duke Forward, the University's comprehensive fund-raising campaign, provides an important and strategic opportunity for the Institute's sustainability. The \$80 million goal for the Initiative in Global Health is appropriately split between three key stakeholders: DGHI, Schools, and the University (Provost) and is a central theme within the larger campaign goal structure. Structurally, these shared goals for global health will further strengthen the culture of collaboration that is central to the interdisciplinary model at Duke.

## 4. Conclusion

DGHI will remain at the forefront of the evolving field of global health by building upon the strong foundation it has created during its first five years.

As articulated throughout the plan, DGHI will deepen its focus on education, research, and international partnership collaboration as it realizes its **three primary goals**:



As DGHI implements a growing research portfolio, expands innovative education and training initiatives complemented by additional faculty hires, and continues to develop a strong network of international partnerships, DGHI's comparative advantage and signature programs will be its liberal arts Global Health Major and Minor and Master of Science in Global. DGHI will also undertake innovative multi-disciplinary research to address the growing burden of cancer and cardiovascular disease and obesity worldwide, and create institutional partnerships, particularly among Asian and African universities and research institutes, to build local capacity and to promote and facilitate global health research and educational collaborations.

New solutions-oriented education and training models must be developed to meet the complex global health challenges of the 21st century. The shift in the global burden of disease away from emerging infectious diseases and toward non-communicable diseases also requires immediate attention and significant investment. Additionally, interconnected and collaborative networks of global partners are more effective than traditional bi-directional alliances between independent, isolated, international partners to educate future global health leaders and to conduct research to address difficult health challenges in a globalized world. DGHI is well-positioned to evolve with the changing global health landscape and to continue to make leading contributions to the field of global health.

## Acknowledgments

The Duke Global Health Institute wishes to thank the many faculty, students, partners and staff who contributed time and expertise to developing this plan.

### Strategic Planning Steering Committee

John Bartlett, Medicine and Global Health  
David Boyd, Duke Global Health Institute  
Randy Kramer, Environment and Global Health  
Wendy O'Meara, Medicine and Global Health  
Christine Tobias, Duke Global Health Institute  
Krishna Udayakumar, Medicine and Global Health  
Kathryn Whetten, Public Policy and Global Health

### Duke Global Health Institute Director

Michael Merson

### Project Leaders

Caroline Hope Griffith  
Sarah Trent