Boston Children's Hospital
Global Health Program

Annual Report 2019





Happy 5TH Birthday to the Global Health Program!

...Just like Marie, a Ghanaian child who received timely trauma care at one of our partner hospitals; Marie was able to celebrate her 5TH birthday at home with her family. We have a lot to celebrate - our partnerships and innovations have led to impactful, sustainable results, improving the care for children and their families globally.

From Liberia to Laos (and everywhere in between!) our physicians are training pediatricians, advancing technology, increasing access to specialized care and developing national surgical plans - all striving to ensure that essential medical care reaches every child. Research innovations are being pioneered and implemented - from improving nutritional outcomes to novel vaccines – to prevent disease before it ever occurs.

The World Health Organization has designated 2020 as the **Year of the Nurse and Midwife**. Responding to this call to action, Boston Children's nurses are transferring their knowledge to colleagues around the world, collaborating on a wide range of programs ranging from specialized cancer and ICU care to outpatient clinics and school health. Nurses are working with Child Life specialists to integrate child-friendly practices into healthcare delivery, and bringing physicians and nurses together to learn emergency resuscitation practices where the focus needs to be: at the bedside.

With our partners, we have focused on building a model for impact on the millions of children globally who are in need of better health. Solutions exist; however, they need to be customized to the setting and scaled for impact on the who population. We respond to this need by piloting, scaling and sustaining locally grown solutions. With more kids like Marie out there that lack the treatments they need, children are still dying unnecessarily of preventable causes. Our work is far from finished.

As hard as we strive for impact we also focus on value in our delivery. Our locally empowered, problem focused, solution driven model operates as a social enterprise within Boston Children's Hospital. This efficient and effective operational model allows for the maximum investment into the programs we deliver and the populations we serve.

Our social enterprise inspires:

- Hope that real change can be made for clinicians who work diligently to provide care to patients every day around the world.
- Hope from the seemingly forgotten children and their families that good health can be achievable.
- Hope that we can disrupt and improve the system of global health delivery.

At our 5TH birthday we've made collaborators, friends and partners around the world. We've refined our interventions with a unique operating model and are poised to move child health forward in the next five years! We are seeking others to Invest with us in this model as we aim to disrupt the current non-profit model of global health and scale solutions.

For more information: get in touch at ***globalhealth@childrens.harvard.edu*** - we'd love to hear from you; or visit our website: **www.bostonchildrens.org/globalhealth**



In Ghana, nurse training in critical clinical skills is limited and nurses aren't learning how to provide all the support children and families in crisis need.

Kumasi, Ghana



Supporting Patients and Families through Nursing Care

A team of nurses and child life specialists from Boston Children's Hospital collaborated with the staff at **Asokwa Children's Hospital** in Kumasi to launch a 10-week pediatric nurse training curriculum. Through a combination of classroom, skills and simulation-based learning, the partnership trained nurses at Asokwa in general pediatrics and emergency care, with a special focus on supporting patients' families to cope with their hospital stay.

Over the course of the training, nurses demonstrated knowledge growth and the ability to apply critical skills through pre and post exams. Trainees also expressed increased feelings of autonomy and recognition of their crucial roles within patient care teams. The nurse matron at Asokwa, who co-taught the initial course with the Boston Children's team, has now taken over the role of maintaining an independent nurse training program at the hospital using the curriculum that was developed.

Help Us Grow: The nurse training model developed through this partnership has enabled Asokwa Children's Hospital to establish an empowering and effective training program for their nurses. This program is ready to empower nurses in other countries and with other partners. Support Boston Children's Global Health team to expand this nurse model to train more nurses around the world in pediatric care.









Liberia is severely understaffed in pediatric medical and nursing care.
Currently, the country has over two million children and only 11 pediatricians.

Monrovia, Liberia



Building a Pediatric Workforce

Over the past 12 years, Michelle Niescierenko, MD, MPH, has worked with partners in Liberia to create and implement a pediatric residency training program to generate the first **11** Liberian-trained pediatricians. Now that the program is established, the partnership focuses on extending the reach of high-quality pediatrics to other facilities and into the community to support newborn care at clinics and the development of nutrition programs.

Together, Dr. Niescierenko and the Liberian pediatrics department have successfully trained the country's first **11** pediatricians. The partnership has expanded to support the Ministry of Health to deliver and evaluate the impact of a cash for nutrition program. It has also collaborated with the African Federation on Emergency Medicine pilot a curriculum for nurses and physicians in pediatric emergency care that will be able to be used all over African to train other providers.

Help Us Grow: Over the next year, nurses from the **Boston Children's Global Health Nursing Fellowship** will be working with nurses and midwives in Liberia to implement nurse training curriculums in General Pediatric and NICU care, to try to reduce the high neonatal mortality rate. Additional funding will allow the team to continue scaling these training program in one of the world's top five poorest countries to meet the need for pediatric nurses and for the care of pediatricians to reach the communities.



2.5 million children currently live in the Palestinian territories. Over 1 million of these children have urgent humanitarian needs, but safe and timely access to pediatric care is limited.

West Bank and Gaza Strip



Delivering Pediatric Emergency Care

David Mills, MD, a pediatric emergency medicine and global health fellow from Boston Children's Hospital, partnered with the Palestine Children's Relief Fund and local clinicians to develop and implement contextually adapted curricula for physicians and nurses in resuscitation care and early detection and management of children at risk for serious illness.

The multidisciplinary team, led by Dr. Mills, has trained over **75** clinicians in the West Bank and Gaza to provide emergency care for children. Pediatric early warning tools have been successfully implemented to help nurses identify and provide immediate care for children getting sicker in the hospital setting.

Help Us Grow: More support is needed in general pediatric, emergency and trauma care as well as pediatric ICU care throughout the Middle East. With additional resources, the Boston Children's team can continue to build local partnerships and replicate these programs in other countries to improve health outcomes.









Laos has **two** pediatric hospitals responsible for providing care for more than **2.8 million** children.

Luang Prabang, Laos



Improving Access to Pediatric Care

Over the past four years, a multidisciplinary team from Boston Children's Hospital has partnered with the **Lao Friends Hospital for Children (LFHC)**, the country's only pediatric hospital outside of the capital city of Vientiane. Through this partnership, team members from Boston Children's have collaborated with Lao clinicians to develop their skills to provide quality pediatric care from clinic to hospitalized children.

With support from the Boston Children's Global Health Program, in addition to training of local Lao physicians and nurses, LFHC established a clinic to improve care for children with thalassemia. This clinic is the only place to provide ongoing lifesaving treatment for thalassemia, a disease that causes severe anemia and has a high child mortality rate in the region.

Help Us Grow: This partnership is dedicated to developing a successful pediatric care system through clinical quality and education while targeting the unique health needs of the region. This collaboration could be expanded to formal training programs and additional diseases could be supported through this unique clinic model — both at LFHC and at other sites around the world.



In May 2015, the PGSSC team began working with then Zambian Ministry of Health (MOH) to improve surgical care in Zambia.

Sub-Saharan Africa and the Western Pacific Region



Expanding Access to Surgical Care

The lack of access to high-quality and affordable surgical care affects **5 billion people** around the world and undermines sustainable development. John Meara, MD, DMD, MBA, plastic surgeon-in-chief at Boston Children's Hospital, and his Harvard Medical School/Boston Children's Program in Global Surgery and Social Change (PGSSC) team have been leaders in making access to surgical care a worldwide priority. Together, the partnership created the world's first **National Surgical, Obstetric, and Anesthesia Plan (NSOAP)**.

In May 2017, the initial NSOAP was integrated into the Zambian National Health Strategic Plan and the Zambian National Development Plan. Since then, PGSSC has worked to create NSOAPs with governments in numerous other countries, including Tanzania, Rwanda and Pakistan. The PGSSC is now collaborating with the South African Development Community (SADC), an inter-governmental organization that includes 16 southern African countries, to develop and implement NSOAPs in all countries. The PGSSC also supports the World Health Organization's Western Pacific Regional Office (WPRO) in their efforts to develop a regional plan to finance and scale up surgical care.

Help Us Grow: The PGSSC is now working to create tools that will facilitate the implementation and financing of NSOAPs globally. With support, the PGSSC can continue to help countries with data collection, policy development, implementation and monitoring and evaluation. They can also expand the innovation and dissemination of best-practice models to advance safe and



There is very little primary literature about excess mortality for children and adults with chronic non-communicable diseases in humanitarian settings.

Dominica, West Indies



Chronic Diseases in Humanitarian Settings

After Hurricane Maria in September 2017, the provision of medical care was disrupted throughout the island of Dominica. As a Boston Children's Global Health Program fellow, Ned Palmer, MD, collaborated with the **Dominica Ministry of Health** and Sickle Cell Cares Foundation Dominica to assess the effects of this humanitarian crisis on non-communicable disease outcomes for the population of the island. Using geographic information systems (GIS) technology, this project aims to catalog and map the location of deaths before and after the hurricane to identify geospatial risk factors related to mortality.

Data collection for this project is complete and analysis is underway. This winter, a delegation from Children's Global Health Program will attend a climate symposium in Dominica to deliver their findings and identify risk mitigation opportunities.

Help Us Grow: The results from this research can be used to help Dominica and other countries prevent excess mortality or address geospatial barriers by preparing for future disruptions in healthcare delivery during natural disasters. Help us get talented and creative physician and nurse fellows to the field to solve problems like these facing health systems globally.





Up to **30%** of hospitalized patients in Vietnam develop healthcare-associated infections (HAIs). Many HAIs can be prevented by good hand hygiene — handwashing or hand sanitizer use. The problem is that, as in many countries worldwide, the adherence to hand hygiene in Vietnam is low.

Hanoi, Vietnam



Using Hand Hygiene to Decrease Healthcare-Associated Infections

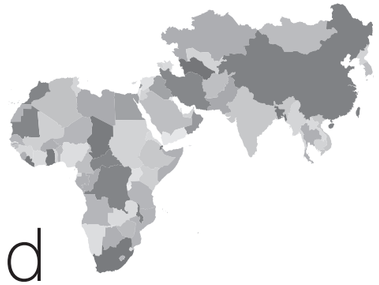
The Partnership for Health Advancement in Vietnam (HAIVN) is a collaboration between Harvard Medical School and several Boston hospitals that is dedicated to developing capacity for medical education, research, and healthcare in Vietnam. As a resident in the Boston Combined Residency Program at Boston Children's Hospital and Boston Medical Center, Jeffrey Campbell, MD, worked with HAIVN to study hand hygiene improvement tools at the Vietnam National Children's Hospital in Hanoi, Vietnam. This unique tool engaged families in the process of having healthcare workers perform hand hygiene.

Dr. Campbell and his team in Vietnam developed a visual reminder tool and conducted a study analyzing hand hygiene rates before and after providing the tool to family members in the cardiac ICU at Vietnam National Children's Hospital. The team found that the tool was associated with significantly increased hand hygiene rates and are now pursuing strategies for translating their findings into a wider scope of clinical practice outside of the ICU.

Help Us Grow: The Boston Children's Global Health Program is dedicated to supporting research projects that improve health outcomes around the world. Help make research that reaches patient care like this possible.



Malnutrition and routine pediatric diseases like diarrhea are a major cause of **mortality and disability** in children under five years of age.



South Asia and Sub-Saharan Africa

Improving Gastrointestinal and Nutritional Outcomes in Children

Although there is a strong focus on combating malnutrition and routine pediatric diseases globally, limited advances have been made on ways to prevent these problems. Childhood stunting and other nutritional problems need better therapies and preventive approaches. As the director of the Center for Nutrition at Boston Children's Hospital, Christopher Duggan, MD, MPH, studies and implements programs focused on improving diarrhea treatment and improving early childhood growth and development.

Dr. Duggan has collaborated with partners including Muhimbili University of Health and Allied Sciences in Dar es Salaam, Tanzania; the World Health Organization; St. John's Research Institute in Bangalore, India and others to analyze current and potential treatments for malnutrition and other common pediatric diseases in multiple sites across South Asia and Sub-Saharan Africa.

Help Us Grow: Further support will help to expand nutrition and micronutrient research and utilize research discoveries to implement programs that successfully promote healthy child development.









Global Health Fellowship Programs

The Boston Children's Global Health Fellowship Programs train future leaders in global child health and support the development of essential child health services in regions of the world with the greatest need. The focus is on training a cohort of physicians and nurses who have the skills and long-term commitment necessary to improve global child health. Global Pediatric Fellowship: Fellows in the Department of Medicine's Global Pediatric Service Delivery Fellowship spend six months a year in a field placement in countries including Rwanda, Liberia, Haiti and Laos, with their remaining time caring for patients at Boston Children's Hospital. This fellowship provides skills-training in global health service delivery and program design, preparing fellows to work with local partners at their site. In their field sites they provide patient care, medical education, program development, management, outcome evaluation, quality improvement and implementation of need-driven research.

Global Nursing Fellowship:

The two-year Global Nursing Fellowship provides three Boston Children's nurses each year with protected time and funding to develop new skills in global health, including leadership, project design and implementation. This fellowship enables nurses to expand their global experience and advance the Boston Children's effort in pediatric global nursing, working collaboratively to develop and implement projects around the world.

Paul Farmer Global Surgery Fellowship:

Hosted by the Program in Global Surgery and Social Change, a collaborative effort between Boston Children's Hospital and Harvard Medical School, this fellowship trains leaders to further promote surgical care, education and research pertinent to global surgery. Fellows develop academic, clinical, and administrative skills in global surgery, public health, surgical systems development and humanitarian response.

Help Us Grow: Boston Children's grows future leaders in global child health and develops essential child health services in regions of the world with the greatest need. Supporting these fellowships provides the opportunity for outstanding professionals to make an impact on maternal and child health globally through time spent directly in the field.



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