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Introduction

Around the world, children and families face extraordinary health challenges: prematurity, infections, malnutrition, safety hazards, environmental poisonings, interpersonal violence and lack of educational opportunities. The challenges of poverty, war, unstable government structures, prejudice and intolerance compound the situation for many children and families. What is particularly concerning is that these problems persist in a world where biologic and social scientific advances provide wonderful opportunities for prevention and intervention. The Global Pediatrics Program as part of the Boston Children’s Hospital Global Health Program is committed to playing a role in the evolving international child health response to these challenges.

The Global Pediatrics Program (GPP) brings together the faculty, residents and fellows and staff of the Department of Medicine at Boston Children’s Hospital who share the commitment to addressing the clinical and health service infrastructural gaps in low resource settings. The work of the GPP is conducted in partnership with child health colleagues and programs in numerous sites around the globe. Through clinical service, education, research and advocacy, the GPP’s teams strive to increase the overall capacity of the global child health community to address the challenges that face children and families. The GPP works in close conjunction with the global health teams in the Department of Nursing, Surgery, Anesthesia and Psychiatry as an active participant in the Boston Children’s Hospital Global Health Program.

Much of the work of the GPP over its first nine years was carried out in the context of the Millennial Development Goals. Our current work continues to address the issues related to child survival. In addition, we are guided in our work by the Sustainable Development Goals and their emphasis on infrastructure and inter-disciplinarity.

We are grateful to so many people at the Boston Children’s Hospital and beyond for their caring advice, backing and donations. We especially want to thank Dr. Gary Fleisher, the Chief of the Department of Medicine, Dr. Fred Lovejoy, the Associate Chief of the Department of Medicine and Dr. Mark Schuster, the former Chief of the Division of General Pediatrics, Dr. Joanne Cox, the Interim Chief of the Division of General Pediatrics and Dr. Michelle Niescierenko, Director of the Boston Children’s Hospital Global Health Program and Dr. Jeffrey Burns, and Ms. Cynthia Haines from International Health Services for all their encouragement and support. And special thanks to our funders, especially Patti Satterthwaite and John Muresianu, who have believed in us from the very beginning.

Judith S. Palfrey, MD
Director, Global Pediatrics Program
Haiti

INFANT MORTALITY RATE = 55
probability of dying by
age 1 per 1000 live
births

UNDER 5 MORTALITY RATE = 73
probability of dying
by age 5 per 1000
live births

MATERNAL MORTALITY RATIO = 359
per 100,000 live births

NUMBER OF HOSPITALS = 0.2
per 100,000 population

POPULATION AGED < 15 = 35%

Haiti is a Caribbean country located on the island of Hispaniola along with the Dominican Republic. Home to 10 million people, Haiti has experienced significant turmoil and societal upheaval throughout its history. Currently, the human development index of Haiti is 0.47, the lowest in the Western Hemisphere and 168th of 187 countries. The health and education systems are fragile at best and the country depends on significant foreign aid.

In 2010, a devastating earthquake struck Haiti and destroyed much of the capital city of Port Au Prince including hospitals, the national medical school and the national nursing school. This disaster caused over 230,000 deaths and left large numbers of people with injuries and disabilities. Many children were orphaned, forcing them to live on the streets or be cared for by already overburdened relatives. At the time of the Haitian earthquake, the Boston Children’s Hospital sent over 100 staff members in response. Also, the hospital provided medicines and supplies to aid the disaster teams. Boston Children’s Hospital’s global health programs have continued to work in Haiti since that time. The Global Pediatrics Program has made a formal relationship with Partners. In Health and Global Pediatric fellows and staff work in PIH programs in St. Marc and Mirebalais. The GPP also has a close relationship with the Kay Mackenson Center.
Liberia

**INFANT MORTALITY RATE = 54**
probability of dying by age 1 per 1000 live births

**UNDER 5 MORTALITY RATE = 71**
probability of dying by age 5 per 1000 live births

**MATERNAL MORTALITY RATIO = 640**
per 100,000 live births

**NUMBER OF PHYSICIANS, NURSES, & MIDWIVES = 2.8**
per 10,000 population

**POPULATION AGED < 15 = 43%**

The Liberian nation of 4.5 million people is now 14 years post-conflict and 2 years out from the devastating Ebola epidemic that affected 28,000 people, claimed nearly 5000 lives and paralyzed much of the country including the health care system. For nearly a decade the Boston Children’s Hospital has collaborated with partners including the Liberian Post-Graduate residency training council, the Academic Collaborative to Support Medical Education in Liberia (ACSMEL), Liberian universities and the NGO, Health Education and Relief Through Teaching, to provide education for medical students, interns and residents in Monrovia, Liberia. Physicians from Boston Children’s have provided bedside and didactic teaching critical to the training of the Liberian physician workforce. When the Ebola epidemic shook the country in 2014 GPP faculty member Dr. Michelle Niescierenko responded by partnering with the Academic Consortium Combatting Ebola in Liberia to provide training and personal protection gear, as well as haz-mat methodology to allow the fragile health care infrastructure to rebuild. Currently Dr. Michelle Niescierenko is collaborating with the Ministry of Health and the World Bank on educational training efforts in Liberia to increase the numbers of Liberian pediatricians.

Rwanda

**INFANT MORTALITY RATE = 37**
probability of dying by age 1 per 1000 live births

**UNDER 5 MORTALITY RATE = 52**
probability of dying by age 5 per 1000 live births

**MATERNAL MORTALITY RATIO = 320**
per 100,000 live births

**NUMBER OF PHYSICIANS, NURSES, & MIDWIVES = 7.5**
per 10,000 population

**POPULATION AGED < 15 = 43%**

Rwanda is located in central and east Africa, bordered by Uganda, Tanzania, Burundi and the Democratic Republic of the Congo. Three ethnic groups (the Hutu, Tutsi and Twa peoples) make up the population. From 1990 to 1994, the country was trapped in a devastating civil war, characterized by ethnic genocide that claimed the lives of as many as 1,000,000 people. Since the end of the war, Rwanda has witnessed a high level of social stability and an increase in economic growth.

The health of the Rwandan people was profoundly affected by the 4 years of civil war and the health indicators at the time were some of the worst in the world. With the reconstruction of the country and the economic recovery, the government of President Kigami has been committed to improving the health systems infrastructure to benefit the citizens and to improve the overall health status of the population. The Health Ministry has initiated a number of innovative programs to advance the state of health services. The Boston Children’s Hospital is actively involved with the USAID funded Human Resources for Health project. This program is directed at increasing the number of well-trained Rwandan health professionals. As of 2011, prior to the beginning of the HRH program, there were only 625 physicians, 8,000 nurses and 10 dentists for over 10 million people. The seven year goal for HRH is to train over 400 physician specialists and improve the skills of over 4000 nurses. Boston Children’s Hospital physicians participate in the HRH program providing training to residents in pediatrics, surgery and anesthesia. A very exciting development has been the exchanges and mentorship programming with partner Rwandan Physicians.
Laos

INFANT MORTALITY RATE = 51
probability of dying by age 1 per 1000 live births

UNDER 5 MORTALITY RATE = 71
probability of dying by age 5 per 1000 live births

MATERNAL MORTALITY RATIO = 220
per 100,000 live births

Chile

Chile is a middle-income country that is experiencing strong economic growth. The GDP Annual Growth Rate in Chile has averaged 5.05% between 1987 and 2017, eventually reaching an all-time high of 16.15% (Banco Central de Chile). Despite the strong economy, the benefits of the improvements have not accrued to everyone. Chile has the second highest financial inequity measure in South America. GPP faculty have been working in conjunction with the David Rockefeller Center at Harvard on two major projects - Un Buen Comienzo, an early childhood development project and Recupera Chile, an initiative to assist with community recovery after the 2010 8.8 earthquake.

India

With a population of over a billion people, India is the 2nd most populous country in the world. India has recently experienced very positive economic growth, but the country still has a low nominal GDP per capita and the average life expectancy is very low at 65 years for men and 68 years for women. The 2013 under 5 mortality rate was 53/1000 and the 2008-2012 stunting rate was 48%. GPP affiliated faculty member Vibha Krishnamurthy has developed a child development program in Mumbai that has a national outreach arm to train health and social care providers about children with developmental disabilities.

Dominican Republic

The Dominican Republic occupies the eastern half of the Caribbean island of Hispaniola. Its population is 10.5 million and its economy is increasingly growing with a current designation as an upper middle-income developing country. While the Dominican health care infrastructure is relatively well developed but health indices continue to reflect significant needs, especially among the poor. Under 5 mortality is 28/1000 live births and immunization completion is well below the recommended levels and stunting rates are high. GPP faculty partner with primary care and hospital programs in the DR to improve maternal and infant care issues and to provide infectious disease prevention.

Guatemala

The Central American country of Guatemala has a population of 16 million, 40% of whom are under the age of 15. The country’s health statistics reflect significant health care insufficiencies with an under 5 mortality rate of 31/1000 live births and high rates of malnutrition and stunting, especially among the indigenous populations who live in isolated areas with high rates of poverty. GPP affiliated faculty member Peter Rohloff has been confronting the health care issues in several indigenous communities. He has developed clinical, nutritional and educational programming.
China

China is the world’s most populous country with a population of over 1.4 billion people million as well as the world’s second largest economy as measured by GDP and purchasing power parity. The infant mortality rate in China is reported to be 9.5/1000 live births (with a neonatal rate of 7.8/1000 live births.) The under 5 rate is 12/1000 live births which is an impressive improvement from the 1991 rate of 61/1000 live births. The Chinese maternal mortality ratio runs at 27/100, 000 live births. Despite these improving health statistics, China has a significant shortage of health personnel which is being aggravated by the rescinding of the “one child policy.” China now has a very low ratio of pediatricians at 0.5/1000 children and it is estimated that 22,000 additional pediatricians are needed for the care of this new population. In collaboration with the China Medical Board, GPP faculty are helping to develop improved residency training methodology.

Nepal

Nepal is country of 28.5 million in South Asia and is one of the world’s newest democracies. A country the size of the American state of Idaho yet with sweltering flatlands bordering India to 8 of earth’s 10 highest peaks in the North, Nepal is home to over 120 languages is a country rich in geographic, biologic, cultural, and ethnic diversity. Nepal is leveraging this diversity to emerge from a ten-year-long civil conflict that ultimately resulted in the abolishment of a centuries-long monarchy in 2008 and a devastating series of earthquakes in 2015. With a citizenry and leadership having a strong commitment to pluralism and democratic government, Nepal is an ideal partner for developing and testing innovations to meet the evolving healthcare needs of populations globally. Within this deep promise, there lies deep inequities and challenges in access, life expectancy, and morbidity across caste, class, gender, and geography.

Tanzania

Tanzania is an East African country with a population of 53.5 million people and a landmass of 365,756 square miles. Its major industries are textiles and agriculture. Mining yields its most valuable export, gold. While the under 5 mortality rate for 2013 was 52/1000 live births, this is a vast improvement since 2009 when the under 5 mortality rate was 167/1000 live births. Members of the GPP have worked in partnership with colleagues in Dar es Salaam at the Muhimbili University through training exchanges and quality improvement projects. Also, faculty of the GPP are engaged in research studies on nutrition and on the use of digital health methods in collaboration with the Harvard T.H. Chan School of Public Health Global Health Program.

Ethiopia

Located in the Horn of Africa, and sharing borders with Eritrea, Djibouti, Somalia, Sudan, South Sudan, Kenya, Ethiopia is a highly populated country, home to over 100 million people. Its human development index (HDI) is 0.448, placing the country with the very low ranking of 174th in the world. Ethiopia has been embroiled in conflict for many years. 85% of the labor force is involved in agricultural pursuits growing crops including coffee, cereals, and sugarcane. Ethiopia has seen improvement in its economy and health in recent years. Nonetheless, the life expectancy of men is 56 years and for women, it is 60 years. Grace Chan and Hema Magge faculty members of the GPP are working in Ethiopia on projects to improve maternal and infant health.
What We Do

The Global Pediatrics Program engages with our global partners to address pediatric health needs in low resource settings.

Our initiatives focus on at least one of the following three areas:

**Personnel**
To provide child health care personnel with the knowledge and skills to meet the medical needs of their communities. The partnership goal is that the trainees will develop competency in leadership and advocacy so that they are the drivers of change in their health care environments.

**Material**
Identify the medical supplies and equipment that are necessary to meet the medical needs of a community, while also being location appropriate. Working with the local child health specialists and agencies, identify sources for the needed materials and supplies.

**Systems**
Address the systematic challenges that act as roadblocks to progress in sustainable health services. Working together with Ministries of Health and Health Provider Organizations such as Hospitals, we aim to develop strong sustainable clinical service delivery for children at the primary care, consultative and tertiary care levels.
Strategic Priorities

The global health work of Boston Children’s Hospital is focused on strengthening child health care delivery in low resource settings. Our partnerships address: Care Delivery, Research, Education and Advocacy.

In the following sections, we provide illustrative examples of the global projects and programming in these four key areas:
Excellence and innovation in global health care delivery is central to the work of the Department of Medicine’s Global Pediatrics Program (GPP) at BCH. Here we present the current areas of clinical focus and some exemplary projects.

Maternal, Infant, & Child Care
Child survival around the world has improved as a result of the Millennial Development Goals, but in resource poor environments, ensuring infant survival remains a major challenge. With our global colleagues, faculty and fellows of the GPP strive to improve the perinatal and newborn care experience of children in our partner countries. GPP faculty and fellows become proficient in the Helping Babies Breathe curriculum and offer regular trainings at our partner sites. GPP faculty and fellows provide direct care in newborn nurseries, establish clinical guidelines, initiate and implement quality improvement protocols and provide on-going training and technical assistance with our partner pediatric and nursing colleagues. Together with the Department of Nursing, we work to assure that the neonatal staffs in our partner sites are equipped with appropriate materials and have access to ongoing consultation.

In Rwanda, the Ministry of Health has put a high priority on improving neonatal survival. The Rwandan neonatal mortality rate declined from 37/1000 in 2005 to 21/1000 in 2011 to 18.7 in 2015. GPP staff and fellows have served as active partners in these efforts. Dr. Anne Hansen and her team helped the Ministry of Health develop standard clinical neonatal guidelines in 2012. A major innovation in the Rwandan nurseries is the introduction of bubble CPAP. In addition Dr. Hansen and GPP former fellow Leanna May have been developing an infant warmer which has the potential of transforming newborn care. Neonatology staff have also helped develop protocols for the Neonatal Intensive Care Unit at the PIH Hospital in Mirebalais, Haiti. Dr. Grace Chan is promoting the wide-scale adoption of Kangaroo Mother Care as a life saving measure for premature and vulnerable infants.

The All Babies Count (ABC) project in Rwanda is an intensive follow up program for babies born prematurely or of low birthweight. Dr. Kim Wilson has collaborated with local doctors and nurses to establish a comprehensive out-reach and clinical program to identify children with chronic conditions and disabilities, that stem from birth complications. The ABC program has been so successful that it is now being expanded and replicated to several other sites. Dr. Jessica Bradford, one of the GPP fellows had been spearheading the implementation of the expansion.
Nutrition

Recognizing that malnutrition is a contributing factor to childhood mortality in upwards of 40% of cases, the GPP teams emphasize the integration of nutritional interventions into health care delivery. In Haiti, PIH has developed nutritional clinical services for infants and children. These programs provide high density, high calorie supplements for children who are chronically malnourished. At St. Nicholas Hospital in St. Marc, GPP fellows have focused their scholarly projects on the care of malnourished children. During her fellowship at St. Nicholas, Dr. Brittany Potts upgraded the in-patient protocols used to treat severely malnourished children. Babies and young children are admitted to the unit with weights significantly below what would be expected for age. Dr. Potts focused on progressive increases in feeding as the children improved and could tolerate greater amounts of intake. Dr. Xi and Dr. Saji Perrera followed this work with expanding the program to a community based outreach component that emphasizes the importance of child development enhancement as well as the provision of appropriate food.

Dr. Christopher Duggan and other members of the BCH Faculty and the HSPH Nutrition Department have a long-standing collaboration with Muhimbili University in Dar es Salaam, Tanzania. They have established comprehensive interventions to ameliorate the acute and chronic effects of malnutrition on children with a wide variety of illnesses, including cholera and HIV. In addition, their nutritional team has been working on maternal nutritional programming to assure that the mothers remain healthy during the pregnancy and that the babies are born at an adequate birth weight. The team has also been working on providing the appropriate micro-nutrients such as iron and vitamins to mothers and infants with a wide variety of health and social risks.

In Guatemala, Dr. Peter Rohloff has introduced nutritional supplementation in indigenous communities. This has moderated the malnutrition that has caused widespread stunting among poor children. He is beginning a new project to integrate development promotion with the nutritional supplementation.

In the program, community health workers assess the daily diets of families and work with the parents on planning and providing nutritious food. The community health workers speak the indigenous languages and are able to make strong positive bonds with the families.
Infectious Diseases

At every care site, the staff and fellows of the GPP care for children with a wide range of common infectious diseases including pneumonia, diarrheal disease, sepsis, meningitis, HIV, TB, malaria, etc. GPP physicians treat conditions that are routinely prevented by immunizations in the United States – including measles, tetanus, and rotavirus. They also manage tropical illnesses such as dengue, cholera, and chikungunya. They follow the established national protocols and employ quality improvement methodologies to ensure accurate diagnosis as well as timely and appropriate treatment of the children and adolescents they care for. When there are staff and materials shortages, they do the best they can to manage the children with supportive care. Boston Children’s Hospital’s Division of Infectious Diseases has had a long-standing commitment to the prevention and treatment of HIV disease. With support from the Aerosmith Fund at BCH, Dr. Kim Wilson has been mentoring Dr Febronie Mushimiyimana on two HIV related projects to improve the care afforded to adolescents with HIV in Butare, Rwanda. GPP sponsored the production of an educational OPEN Pediatrics on current practices in HIV care featuring Dr. Rana Chakraborty from Atlanta.

The tragic Ebola crisis of 2014-2015 has had a major impact on the health infrastructure of Liberia. Dr. Michelle Niescierenko led a collaborative effort in Liberia to train health care providers in safe Ebola care. This has led to the safe reopening of health care facilities around the country and protocols for infection control and the use of appropriate personal protective gear by hospital and clinical staff.

In Haiti, GPP doctors must treat children affected by infections caused by agents such as cholera, malaria, Chikungunya and increasingly with Zika virus. In Lao, infections which have been largely eliminated in high resource settings such as dengue, malaria and parasitic diseases remain common.
Non Communicable Diseases

Increasingly, around the world, it has become clear that much of the burden of disease for children and adolescents stems from non-infectious origins. The GPP doctors and teams work to develop programs that address such conditions as cancer, heart disease, hematologic disorders such as sickle cell anemia, diabetes, congenital anomalies and other conditions that compromise the health, growth, development and well being of children.

GPP affiliate physicians from the Division of Hematology have focused on the identification and care of children with sickle cell disease in Liberia and in Haiti. This work aims to establish national programs of sickle cell screening and care protocols to be used in health facilities.

In 2012, Dr. Chris Carpenter and colleagues began the first program in Haiti to care for children and adolescents with diabetes at the Kay Mackinson Center (http://www.kaymackenson.org). The Kay Mackinson Program is now affiliated with PIH and collaborates with the Pediatrics programs at Mirabilais and St. Marc Hospitals. There is a close working relation with the GPP fellowship and the Haitian Pediatric Residency program at Mirabilais. The Kay Mackenson center continues to grow and to accept patients with a wide variety of chronic conditions such as heart disease, rheumatologic and immunologic diseases.

In Rwanda, GPP has collaborated with Cardiologist Emmanuel Kamanzi Rusingiza and OPEN PEDIATRICS on a training program on congenital heart disease. We have also been collaborating on improving the preventive care routines for children in Rwanda with rheumatic heart disease. Children’s physicians and nurses participate in a number of programs that provide cancer care to children. For instance, in Guatemala, Dr. Asya Agulnik has been leading an effort to improve the in-hospital care of children with cancer by incorporating the Pediatric Early Warning System (PEWS) into routine practice.
Children’s health and development are closely linked. The GPP is working to enhance the delivery of coordinated health and developmental services in low resource settings.

In India, our affiliated faculty member, Dr. Vibha Krishnamurthy runs the Ummeed program that provides both center and community based care for children with physical and developmental disabilities. Dr. Krishnamurthy has created a highly effective and accessible care model that engages community workers in the on-going support for families of children with developmental disabilities and autism. At the Ummeed Center, her team delivers comprehensive developmental and behavioral services for children with a wide range of conditions including cerebral palsy, Down Syndrome, intellectual disability and autism. Dr. Krishnamurthy has developed screening methodologies that are being adopted around the world.

In Rwanda, Dr. Kim Wilson and her team are conducting follow-up assessments of children who graduated from the neonatal intensive care unit. They refer the children to community based services. Finding such services for children with developmental disabilities in many of the rural settings is very challenging but the team is developing a multidisciplinary approach. Community Health Workers provide support to families and provide them with key information about their children’s development and behavior. This innovative work promises to improve the long term outcomes and to teach the field of child development many lessons about delivering developmental and behavioral services in low resource settings.

Since 2011, Dr. Palfrey and Dr. Lili Peacock have participated in Recupera Chile. This disaster recovery project takes place in the Bio Bio region of Chile which is the area of Chile that was devastated in 2010 by an 8.8 earthquake and subsequent tsunamis. Among other interventions, Recupera Chile has established school-based services and promoted opportunities for community rebuilding with a strong emphasis on caring for children’s mental health. Recupera Chile is also focusing on educational programming for children about marine life and conservation of marine resources.

An annual summer school in Dichato, Chile provides working parents with a safe place for their children to be during the day. The children learn lessons in cooperation, healthy living and healthy nutrition and have fun building their own school garden and painting the walls of their school courtyard. Kinesthesiology students teach the children about impulse control and self calming techniques as well as exercises for keeping their bodies healthy and fit. Teachers attend workshops to learn about child and adolescent development as well as strategies for managing problem behaviors in the school.
Research

Members of the General Pediatrics Program are involved in research on topics relating to maternal, infant and child health, non-communicable diseases, infectious diseases, nutrition, child development and other child health concerns. GPP researchers work in multi-disciplinary teams with research colleagues in our partner sites. A bibliography is presented in pages 32-43.

Prevalence, Epidemiological and Observational Studies
Determining the prevalence of health conditions and their impact on diverse populations is a key component of any global health effort. It is critical for clinicians, program planners and policy makers to have accurate information about 1) what conditions are affecting what people 2) what is the severity of those conditions, and 3) what kinds of interventions are (or are not) in place to address the needs of the population. Using both local observational studies and large regional and national data sets, GPP team members assess the prevalence of common pediatric conditions.

With the opportunity to describe clinical conditions and their correlates in detail, GPP physicians have added to the understanding of many disease conditions in low resource settings. For example, in Rwanda, the All Babies Count project is documenting the prevalence of post-neonatal chronic conditions and disabilities in a cohort of 2-3 year old children who were born prematurely. Natasha Archer is doing basic epidemiology to call attention to the large number of children with sickle cell anemia in Haiti. Because there is no current universal sickle cell screening in Haiti, her data is demonstrating the need for increased identification and treatment of children with sickle cell disease.

GPP faculty are detailing the nutritional status of children in low resource settings. Chris Carpenter and his team have conducted one of the first community based studies of lead poisoning in Haiti. In post-disaster Chile, hearing, vision and dental screenings were not routinely performed. The Recupera Chile team instituted routine screenings in the school setting. Dr. Wilson has been collaborating with Dr. Roger Nuss on instituting newborn hearing screening in Rwanda.
Interventions Implementation

Grace Chan has been studying neonatal interventions such as Kangaroo Mother Care that have the potential to improve neonatal survival and health. She published a meta-analysis of all studies done on Kangaroo Mother Care (KMC) and has demonstrated the positive impacts of KMC. She is currently working on interventions to spread KMC to mothers and infants in resource poor settings. This methodology has the potential to protect young infants from severe complications of birth and to help babies get off to a good start with breastfeeding and maternal attachment and stimulation.

A number of the GPP faculty and fellows are conducting nutritional interventions: In a study in the two districts in rural Madagascar, Duggan and co-workers have tested the effects of providing 6-24 month old children with infant and youth child feeding (IYCF) and micronutrient powder (MNP) through a community-based intervention. They were able to document a significant reduction in the prevalence of anemia as well as improvement in maternal knowledge about foods and the importance of dietary diversity. Attendance at educational meetings by parents improved the chance that the families would use the micronutrient powder for the children.

Using a mixed methods methodology, Rohloff and his group in Guatemala have been able to determine the daily diets of children in low resource rural settings and to use this knowledge to develop education and dietary enrichment for children suffering food insecurity and stunting. They are putting a comprehensive set of interventions in place as they attempt to address the various complex, intertwined set of factors that contribute to childhood malnutrition.
**Educational Research**

Several GPP members are conducting educational research to test a variety of approaches to the training of health care providers. The GPP has been evolving as an educational effort at the Boston Children’s Hospital and the Harvard Medical School since 2008-2009. Educational research has focused on the creation of partnerships in global education, the content of global health education delivery, the effectiveness of various educational methodologies and the dissemination of educational materials and instruction for the scaling up of training programs. For instance, in Liberia, Michelle Niescierenko and colleagues from several US university pediatric program have established a coalition approach to assist the Ministry of Health in re-creating a national program of pediatric residency training in the wake of the civil war.

Christiana Russ and her team have been analyzing the experience of countries that have recently initiated pediatric residency programs to deepen the child health work force. She has studied perspectives of host faculty and trainees on guest faculty to understand what faculty development is required for visiting faculty and how global partnerships may be improved and collaborates with partners in the Association of Pediatric Program Directors to research and improve global health training in domestic pediatric residency program, including a recent study on global health tracks.

With many members of the GPP faculty, Dr. Russ has participated in the development and evaluation of curricular teaching tools and has also assessed the long-term outcomes of Global Health training. She and Dr. Beth Harper are completing a study in collaboration with the International Pediatric Association, Global Pediatric Education Consortium and International Pediatric Academic Leaders Association to describe the current global pediatric workforce, distribution of training opportunities and structure and pediatric subspecialty availability and training (Harper). The opportunity for bidirectional exchange is an important feature of equitable global partnerships. Dr. Russ has worked with colleagues in the Association of Pediatric Program Directors to advocate for bidirectional exchange. GPP has facilitated visits from trainees and faculty in Liberia, Rwanda, Tanzania and Haiti to expand their training and networking opportunities. Together with OPENPediatrics™ at the Boston Children’s Hospital, GPP members are developing web-based teaching materials on global pediatrics topics including maternal and child health, nutrition and common cardiac problems. In collaboration with the American Academy of Pediatrics, GPP members participate actively in the scaling up one of the major global educational initiatives – Helping Babies Breathe. This program teaches a wide range of people how to provide life-saving simple intervention in the “golden minute” after birth and during the immediate post-delivery period. Dr. Grace Chan is studying the impact of HBB in Tanzania.

**mHealth Interventions**

Digital technology allows the real-time capture of research data as part of the on-going clinical or systems intervention. Kim Wilson and her team are piloting studies on the use of cell phones as clinical tools for the implementation of neonatal Integrated Management of Childhood Illness (IMCI) guidelines. The programmed cell phones guide the clinicians through the IMCI protocols and allow them to collect data as they are providing the care. These data are readily up-loaded to other digital platforms for clinical documentation and research analysis. As seen in the figure, the group has documented that this technology is readily used both by clinical officers and by community health workers.

![Diagram](https://via.placeholder.com/150)

*Improvement of health documentation through use of mhealth.*
Advocacy

As we endeavor to enhance services and strengthen health systems, the Global Pediatrics Program partners actively advocate at the local, regional, national and international level for necessary resources, training and systems changes that can improve the health and developmental chances for children and families. The Millennial Development Goals and the Sustainable Development Goals provide aspirational benchmarks for monitoring progress.

Advocating at a local level, we look to identify areas of practice that might benefit from new training, new protocols, new equipment and try to integrate changes into the day to day practices at our sites. Our advocacy is also directed at identifying the root causes of problems and filling in systems gaps. For instance, we have identified malnutrition as a major target for advocacy and have been promoting improved feeding practices, family education about healthful foods and are working with government and private partners to increase the availability of food and nutritional supplementation for children who are stunted and developmentally challenged. Peter Rohloff’s program in Guatemala is an example of this type of coordinated advocacy. In addition, our staff and fellows in Haiti have been collaborating with local partners to enhance the provision of milk and healthy food to children hospitalized because of malnutrition. In both of these cases, we are also advocating for adding a component of child development education to the nutritional intervention.

At the regional and national level, GPP members call on government agencies, NGOs, universities and philanthropic organizations to obtain funding and support for improved health training and health systems strengthening. In Haiti, Dr. Natasha Archer is calling on the government to institute universal sickle cell screening. GPP team members also make the case for children’s rights. For instance, in India, faculty affiliate Dr. Krishnamurthy advocates for improved disability services and teaches parents family advocacy skills to keep up the drumbeat for the rights of their children. Drs. Kim Wilson and Roger Nuss have been successful in advocating for the establishment of universal newborn hearing screening in Rwanda.

On the international level, the GPP has been involved with organizations and networks that promote the spread of high quality interventions for children and families, including the Clinton Global Initiative, Helping Babies Breathe, MAMA, the International Pediatric Association and the American Academy of Pediatrics. GPP faculty promote the idea that advocacy needs to be an integral part of the global child health response through national and international lectures and through the book “Global Child Health Advocacy. On the Front Lines.” GPP faculty have joined with our child health colleagues around the world through the Consortium of Global Child Health Programmes in order to support the work toward achieving the Millennial Development Goals and the Sustainable Development Goals. Several GPP faculty are joining with Dr. Krishnamurthy in winter 2017 at a conference entitled: A World of Difference sponsored by the International Developmental Pediatrics Association. This conference is devoted to improving services for children with developmental and behavioral concerns worldwide.
## Global Child Health Advocacy

<table>
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<th>SUSTAINABLE DEVELOPMENT GOALS</th>
<th>GLOBAL PEDIATRICS PROGRAM ACTIVITIES</th>
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<td>End Poverty; Ensure food security, good nutrition, and access to water</td>
<td>Nutritional programming; Promote economic opportunities</td>
</tr>
<tr>
<td>Achieve Primary Education</td>
<td>Provide quality education and lifelong learning opportunities for all</td>
<td>Early childhood programming; Support educational initiatives</td>
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<tr>
<td>Promote Gender Equality and Empower Women</td>
<td>Achieve gender equality and empower all women and girls</td>
<td>Strengthen opportunities for women and girls; Speak out against sexual violence</td>
</tr>
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<td>Reduce Child Mortality</td>
<td>Ensure health and mental health; Promote wellbeing for all</td>
<td>Infant, child and adolescent programs; Acute and chronic care</td>
</tr>
<tr>
<td>Improve Maternal Health</td>
<td>Ensure healthy lives</td>
<td>Maternal and infant health training and guidelines</td>
</tr>
<tr>
<td>Combat HIV/AIDS, Malaria, and Other Diseases</td>
<td>Ensure healthy lives</td>
<td>Infectious disease programs; Prevention and treatment</td>
</tr>
<tr>
<td>Ensure Environmental Sustainability</td>
<td>Ensure sustainable consumption and production patterns</td>
<td>Increase consciousness of environmental sustainability</td>
</tr>
<tr>
<td>Global Partnership for Development</td>
<td>Establish a global partnership for development</td>
<td>Advocate for appropriate financing, health equity and wellness for all</td>
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</table>
Human Resources for Health in Rwanda

The Rwanda Human Resources for Health (HRH) Program is a novel and potentially transformative healthcare workforce capacity building initiative developed by the Government of Rwanda and funded in part by the U.S. Government. The overarching aim of the HRH Program is to build a comprehensive, high quality, and sustainable healthcare system in Rwanda. It is doing so by strengthening the health workforce education system and by promoting the education and career development of the country’s health workforce over an eight-year time frame. To achieve this goal, the Government of Rwanda has convened a consortium of 23 U.S. partner academic institutions (including Harvard Medical School, Brigham and Women’s Hospital, Massachusetts General Hospital, Beth Israel Deaconess Medical Center, and Boston Children’s Hospital) engaged in the areas of medicine, nursing and midwifery, dentistry, and public health. Each of the participating U.S.-based institutions in this academic consortium will be asked to recruit and deploy clinical faculty according to the school’s identified specialty and subspecialty areas of interest. The Rwanda HRH Program plans for the complete transition of health workforce education from the academic consortium to Rwandan faculty and healthcare personnel within eight years as a result of the projected increase in the number of health care professionals and a projected increase in government health sector spending.

Faculty Projects

Dr. Shubhada Hooli served as the Rwanda study site coordinator for a multi-country prevalence assessment of neurologic disorders in developing countries (PANGEA-DC), estimating the number of children with neurologic diseases Tanzania, Botswana, Uganda, Ghana, Kenya and Rwanda.

Dr. Samantha Rosman has developed a Pediatric Early Warning Scoring System (PEWS) for Low Resource Health Systems. She is also spearheading a project using simulation to teach emergency response in Rwanda.

Dr. Diane Stafford collaborates with the HRH faculty on a diabetic ketoacidosis protocol for use in Rwanda. They are basing the protocol on the International Society for Pediatric and Adolescent Diabetes (ISPAD) guidelines. Dr. Ken McIntosh from the ID department assisted in teaching HIV management and care to HRH.

Dr. Daphne Remy, has led many educational initiatives including resident and medical student didactic lectures, neonatal resuscitation courses, developing an instructional CPAP video, as well as developing and implementing a multidisciplinary simulation project. She also served as a consultant to the Ministry of Health of Rwanda to update the Essential Newborn Care (ENC) guidelines and training materials. Dr Cliff Lo has assisted the HRH program with guidelines on nutrition.

Dr. Kim Wilson has assisted with the expansion of programming for children with chronic illnesses and disabilities.
Education

Education is a core activity of the General Pediatrics Program. The goal of the educational programs is to provide clinical, health care and advocacy skills to a wide variety of learners who in turn will improve health care delivery in low resource settings. The learners include US medical students, residents, fellows and attending and partner site medical students, residents, fellows, staff and other child health professionals.

Pediatric Residency Training at Partner Sites
A core element of many of the GPP programs is residency training in the partner sites. In conjunction with the Ministries of Health and other groups, in Haiti, Rwanda, Liberia and Laos, GPP is a key player in efforts to increase the number of pediatrics trained and certified doctors. In each of these countries, there are currently not enough child health physicians to meet the needs of the hospitals and clinics. Residency training is an organized, structured approach that ensures a new generation of highly qualified child health providers and leaders. The educational methods include bedside teaching, lectures and conferences, telemedicine, journal clubs and curriculum development. In 2017, the GPP is beginning a program of Faculty Development Training in China in conjunction with the China Medical Board.

Mentoring in Research and Quality Improvement
At the partner sites, GPP faculty and fellows join partner faculty and trainees on research and quality improvement projects. These activities include significant educational components as together the teams learn research and quality improvement techniques. Much of the positive impact of the GPP programs has come from the development and implementation of clinical protocols followed by rigorous quality improvement monitoring of the roll-out of the new pediatric care procedures.

Helping Babies Breathe
The GPP has linked with the American Academy of Pediatrics and other global child health groups in the dissemination of the Helping Babies Breathe curriculum. Faculty and fellows present HBB at the partner sites both as direct teaching and as train-the-trainers methodology. The elegantly simple, curricular materials aid health workers at both the community and the clinical level to appreciate the importance of pre-delivery planning and the critical nature of life's first “Golden Minute.” The simple HBB icons direct learners through every step of the newborn process.

OPENPediatrics™
OPENPediatrics is a groundbreaking initiative with the aim of being “an online community of clinicians sharing best practices from all resource settings around the world through innovative collaboration and digital learning technologies.” The GPP is connecting with OPENPediatrics to develop internet modules that focus on common pediatric problems, such as maternal and infant care, diarrhea and malnutrition as well as modules on non-communicable disease issues that are emerging in the global child health context. Modules are under development on topics such as the approach to congenital heart disease in low resource settings.
Educational Opportunities

In conjunction with the Boston Children’s Hospital Global Health Program, we offer courses, seminars, and travel opportunities that complement the GPP programmatic work. These offerings emphasize the skills, tools, and attitudes that equip child health care providers to address health care needs in low resource settings.

Skills Course

**Helping Babies Breathe**
Simulation-based course on neonatal resuscitation designed for those who will be responsible to train other birth attendants in low-resource settings.

**Clinical Topics in Global Health**
Didactic course for pediatric clinicians with an overview of key topics in preparation for clinical work in resource limited and tropical settings. Topics include: parasites, malnutrition, TB, newborn care, malaria, IMCI, and HIV.

**Ultrasound**
This interactive didactic and hands-on course exposes participants to a range of point-of-care ultrasound applications including FAST, cardiac, lung, vascular access, and a variety of others.

**Trauma, Emergencies, & Sedation**
Simulation-based course to discuss response to trauma and emergencies and how to do sedation safely in resource limited settings.

**Nursing, Pharmacy, & Lab Skills**
Hands-on course on useful skills for clinical work in resource limited settings. Topics include: administration of IV medications and fluids, skin and wound care, lines and tubes, skin & wound care, a review of basic laboratory procedures.

Seminars & Workshops

**Global Health Seminar Series**
A monthly seminar series in which faculty & trainees come together to share their experiences and learn about current global health issues and strategies.

**Global Health Research Day**
An annual event to provide trainees and junior faculty with the knowledge and skills to conduct global health research. Topics include: IRB hurdles, developing data management systems, building partnerships, and securing funding.

**Ethics in Global Health**
Preparation for common ethical challenges encountered when working abroad, through small-group discussion and case-based simulation.

**Communication & Advocacy**
Written and oral communication skills in the context of advocacy for specific global health issues.

**Medical Education**
Clinicians learn curriculum design and evaluation as well as innovative teaching techniques.
Residents

The Boston Combined Residency Program (BCRP) currently offers global health opportunities of varying depth depending upon residents’ interests.

Tier 1
All residents in the BCRP are training to be outstanding clinicians. In this era of globalization where our patients are frequently immigrants or travelers, pediatricians need to know the basics about pediatric care of common illnesses encountered around the globe. Global Health topics are included in the BCRP noon conference series. The goal is that all of our graduates will develop a basic understanding of child health from a global perspective.

Tier 2
Many residents seek global health experiences – working in different cultures with different or limited material resources, and encountering pathologies seen in other places. Our goal is that all residents interested in global health will receive preparation and support to facilitate their participation in elective rotations in resource limited settings that are educational, safe, and responsive to their host communities.

Tier 3
Residents in the Urban Health and Advocacy Track, who are planning a career in global health research, may apply for a 4-year global health track that will impart proficiency in clinical pediatrics, public health and applied research aimed at improving policy and outcomes in areas of significant child health disparity.

Examples of Funded Resident Projects
- Developing Protocols for Fever in Patients with Sickle Cell Disease in West Africa (Ghana)
- Teaching Neonatal Resuscitation (Indonesia)
- Developing an OPENPediatrics Cardiology Module for Residents (Rwanda)
- Evaluation of Clinical Outcomes and Predictors of Mortality in an Acute Care Unit (Tanzania)
- Diarrhea Illness Management and Research (Bangladesh)
- Research on Neonatal Care in the Community (Indonesia)

Neonatal Capacity Building in Peri-Urban Kenya

BCRP residents Lucy Marcil, Cynthia Schreiner and Tracy Seimears developed an innovative partnership with a group in Northern Kenya who were looking for consultation and capacity building in their effort to decrease the very high neonatal mortality rate (35.5 deaths per 1000 live births in their community. They joined with Jacaranda Health in their efforts by providing clinical guidance around the establishment of a Level II Neonatal Intensive Care Unit. They performed an extensive needs assessment, reviewing 151 neonatal charts and from this came up with the priority areas for protocol generation and local staff training. These include hypoglycemia, hyperbilirubinemia, hypothermia, sepsis and respiratory distress.

The project has been highly successful and resource efficient. After their initial trip to Jacaranda, the residents have conducted routine internet meetings with the staff of the program and have been able to share their experience, expertise and counsel directly with staff. This model of resident involvement has the potential for replicability in residencies around the US.
Global Pediatric Fellowship

The Global Pediatric Fellowship Program at Boston Children’s Hospital aims to train future leaders in global child health as well as support the development of essential child health services in regions of the world with limited access to child health providers. Our goal is to train a cadre of pediatricians who have the necessary skills and long term commitment to make an impact in improving child health in some of the world’s neediest settings.

PROGRAM STRUCTURE
The fellowship is a two year training program in which Fellows rotate in 6 month blocks between a field placement in Haiti, Rwanda, or Liberia, and a clinical placement in Boston, Massachusetts. The focus of the fellowship is on skills in global health service delivery, including skills in clinical care, medical education, program development, management, evaluation, quality improvement, and implementation focused research.

Boston
During their clinical placement in Boston, fellows combine service in general pediatrics with an extensive global health curriculum that strengthens their core clinical, public health, quality improvement, and teaching skills relevant to global health. Fellows attend the Global Health Delivery Summer Intensive Program at the Harvard School of Public Health, in addition to courses in clinical skills, ultrasound, research, and QI.

Field Sites
During their field placement, fellows work in collaboration with Partners In Health (Haiti/Rwanda) or Lao Friends Hospital to provide direct clinical care and to study, teach and learn alongside site-based colleagues and students. Together with local clinicians, they strive to strengthen existing child health programs, and expand access to pediatric health care. Prior to departing to their field site, fellows attend a 1-week “bootcamp” orientation to fieldwork in Haiti through PIH.

HOW TO APPLY

Requirements
Applicants must have board certification/eligibility in pediatrics or medicine-pediatrics. International applicants must submit: (1) USMLE Scores: Steps 1–3, (2) ECFMG certificate & Green Card. The application can be found on our website:
https://form.jotform.us/71907952775167

Timeline (for July 2018 start)

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>July 2017</td>
<td>Application period opens</td>
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<tr>
<td>September 30, 2017</td>
<td>Application deadline</td>
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<tr>
<td>October 2 &amp; 16, 2017</td>
<td>Interview Days (in Boston)</td>
</tr>
<tr>
<td>July 1, 2018</td>
<td>Fellowship start date</td>
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▲ In their field placements, the Global Pediatric fellows work in partnership hospital settings. Ophelia Adipa (left), Theresa Strong (right) care for children with a wide range of acute and chronic health conditions.
Current Fellows

Virginie Clavel, MD, 2016 - 18

MD
University of Montreal

MPH (in progress)
Harvard T.H. Chan School of Public Health

Residency & Chief Residency in Pediatrics
Montreal Children’s Hospital, McGill University

Field Site
University Hospital in Mirebalais, Zanmi Lasante/ Partners In Health (Mirebalais, Haiti)

Scholarly Project
Implementation of Pediatric Early Warning Score on Pediatric Ward

Clinical Work & Medical Education
- Direct clinical care in inpatient wards, ED, and ICU
- Supervision of residents on the inpatient wards
- Creation and supervision of acute care rotations for 3rd year residents
- Support during diphtheria epidemic
- Teaching sessions on clinical subjects, patient safety, and communication
- Pediatric & neonatal resuscitation training for all emergency & pediatric residents

Chiquita Palha De Sousa, MD, MPH 2016-18

MD
Geisel School of Medicine at Dartmouth

MPH
John Hopkins Bloomberg School of Public Health

Residency in Pediatrics
Children’s National Medical Center

Field Site
Kirehe District Hospital, Inshuti Mu Buzima/Partners In Health (Kirehe, Rwanda)

Scholarly Project
Promoting Breastfeeding in the Neonatal Care Unit & Strengthening Linkage to Care after Discharge

Clinical Work & Medical Education
- Direct clinical care to patients in neonatology and pediatric wards
- Coordinate patient care and transfers to referral hospital
- Teaching and mentoring of local clinical staff
- Provided training sessions on malnutrition, resuscitation on, and neonatology
- Development and expansion of pediatric services within the districts

Meghan Craven, MD 2017-19

MD
Drexel University College of Medicine

Residency in Pediatrics
Cohen Children’s Medical Center

Chief Residency in Pediatrics
Cohen Children’s Medical Center

Field Site
University Hospital in Mirebalais, Zanmi Lasante/ Partners In Health (Mirebalais, Haiti)

Sindu Govindapillai, MD 2017-19

MD
University of Toronto

MPH (in progress)
Harvard T.H. Chan School of Public Health

Residency in Pediatrics
The Hospital for Sick Kids at University of Toronto

Field Site
Laos Friends Hospital for Children
(Luang Prabang, Laos)

Shela Sridhar, MD 2017-19

MD
Morsani College of Medicine, University of South Florida

Residency in Internal Medicine-Pediatrics
Medical College of Wisconsin

Field Site
Kirehe District Hospital, Inshuti Mu Buzima / Partners In Health

Sindu Govindapillai, MD 2017-19

MD
University of Toronto

MPH (in progress)
Harvard T.H. Chan School of Public Health

Residency in Pediatrics
The Hospital for Sick Kids at University of Toronto

Field Site
Laos Friends Hospital for Children
(Luang Prabang, Laos)

Nirmala Narla, MD 2017-2019

MD
Mayo Clinic School of Medicine

MPH (in progress)
Harvard T.H. Chan School of Public Health

Residency in Pediatrics
Boston Combined Residency Program

Field Site
Laos Friends Hospital For Children
(Luang Prabang, Laos)

Global Pediatric Research Fellow: Oludare Odumade, MD/PhD 2017-19

Research Focus:
- Maternal and Infant Health
- Neonatal Interventions
- Mechanisms that govern anti-pathogen immunity in neonates

Clinical Work and Medical Education:
- Critical Care
Graduates

Molly Moore, MD  2010-12
During fellowship, Dr. Moore served as a district clinical advisor in pediatrics in rural Rwanda. She worked on national pediatric oncology protocols, supported a pilot program to prevent mother-to-child transmission of HIV, and ran an HIV education program for nurses. She is currently the Director of Global Health for the Department of Pediatrics at the University of Vermont College of Medicine, where she is heavily involved with global health medical education.

Brittany Potts, MD  2013-15
Dr. Potts spent her fellowship serving as a pediatrician St. Nicholas Hospital in St. Marc, Haiti. She focused on acute care delivery and on improving the delivery of nutritional support to severely malnourished children. She also assisted colleagues at the St. Damien Hospital in Port Au Prince with their programming around children with severe chronic health conditions. Dr. Potts is currently the Associate Director of Pediatric Global Health at Akron Children’s Hospital.

Vanessa Wolfman, MD  2010-12
Dr. Wolfman worked as a district clinical advisor in pediatrics in rural Rwanda during her fellowship. Her activities included clinical mentorship and health systems strengthening. She works for the International Medical Corps of Los Angeles. Dr. Wolfman has continued her active role in global health response. She served as the Emergency Medical Director of the International Medical Corps in Sierra Leone during the Ebola outbreak.

Theresa Strong, MD  2013-15
Dr. Theresa Strong spent part of her fellowship working at the JFK Hospital in Liberia on the partnership medical residency training program. During the Ebola outbreak she was redeployed to Indonesia and to Laos to support program development. Dr. Strong is currently an attending physician at South Shore Hospital and is pursuing a Masters in public health.

Chris Carpenter, MD, MPH  2011-13
During his fellowship, Dr. Carpenter worked in Haiti where he improved pediatric care by training local doctors and nurses at St. Marc’s district hospital. At the end of his fellowship, he co-founded the Kay Mackenson clinic for children with chronic diseases in Pierre Payen. He is now practicing hospitalist pediatrics in California and serves as a close colleague and consultant to the Boston Children’s Hospital Global Pediatrics Program.

Leana May, DO, MPH  2013-15
During her fellowship, Dr. May worked as a district clinical advisor in pediatrics in rural Rwanda. Her work centered around capacity building through clinical care, and pediatric oncology programmatic work. Dr. May is a member of the Faculty of the Children’s Hospital of Denver working on emergency medicine and global health issues. She is also continuing her work on an innovative newborn baby warmer for deployment in Rwanda.

Sara Gonzalez, DO  2011-13
During her fellowship, Dr. Gonzalez worked at St. Marc’s Hospital in rural Haiti providing inpatient clinical services. She carried out several projects on neonatal nursing education. She had a special interest in programs that promoted breast feeding to prevent malnutrition in infants. She is a trained HBB instructor. Dr Ginzales is currently an attending physician at the St. Luke’s Hospital in New Bedford, MA.

Jessica Bradford, MD  2015-17
Dr. Bradford spent her fellowship expanding the Pediatric Development Clinic from Southern Kayonza to the Kirehe District Hospital in Rwanda. She met with hospital leadership, ensured equipment and supply availability, identified a space for the clinic, and served as a mentor for oncoming staff. After fellowship, Dr. Bradford stayed on with Inshuti Mu Buzima/Partners In Health, as a pediatric district clinical advisor.

Sajithya Perera, MD  2015-17
During her fellowship, Dr. Perera provided care, supervision, and teaching to patients and staff at Hospital St. Nicolas in Haiti. Her work was centered around development of an early childhood development program for malnourished children. She is currently joining the faculty of Nationwide Children’s Hospital where she will practice pediatric academic hospitalist medicine and assist with global health programming.
Xinshu She, MD, MPH 2014-16
Dr. She spent 6 months each year of fellowship in Saint Marc, Haiti, working with Partners In Health to pilot a participatory art project aimed at reducing stress, enhancing patient self-expression, and promoting community bonding. She also helped start an Early Childhood Development Program for malnourished children to help assess baseline needs and pilot a home-based intervention. Dr. She is currently a pediatric hospitalist at the California Pacific Medical Center.

Jen Werdenberg, MD 2014-16
Dr. Werdenberg’s fellow placement was Rwinkwavu, Rwanda. She provided clinical care and participated in the roll-out of the All Babies Count program. In 2016-2017 year, she was a staff member of the PIH Rwanda team. She returned to Boston in the fall of 2017 to complete her MPH at the and from there to join the faculty member at the University of Texas in Austin. Where she will help launch a comprehensive global health program at the medical school and university.

Ophelia Adipa, MD 2014-16
Dr. Adipa traveled to Mbale, Uganda as a consultant pediatrician at the CURE Children’s Hospital of Uganda and was in Liberia as pediatric faculty, teaching and mentoring residents and interns the John F. Kennedy Medical Center in Monrovia and Phebe hospital in Suakoko. Dr. Adipa is currently a hospitalist in the Children’s National Hospital community network. She is also a faculty member the University of Ghana, where she supports pediatric residency training.

Unami Mulale, MD 2015-16
After completing her education at college level in Botswana, Dr. Mulale went to medical school in Grenada and subsequently did Pediatric Residency and Pediatric Critical Care Fellowship in New York, with a longstanding vision to contribute to building Botswana’s first children’s hospital. She spent her fellowship providing care in Liberia and Rwanda to learn systems she can incorporate as the Head of Pediatric Critical Care and Lecturer at the University of Botswana School of Medicine.


PRESENTATIONS


Ganapathi L, Martins Y, Schumann D, Russ CM. Establishing general pediatric residency training programs in low- and middle-income countries where few prior precedents exist: can it be done? Poster presentation at: Pediatric Academic Society; Boston, MA, April 2012.


Maggie H, Meyers A, Sprinz P, Adams WG. Zinc Protoporphyrin (ZPP) and Iron Deficiency; Trends and Response to Therapy in a Low-Income Primary Care Center. Poster presentation at: Pediatric Academic Societies; Boston, MA, April 2012.


Russ CM. Efficacy of Guest Faculty Visiting Pediatric Academic Centers in East Africa: Exploring the Perspective of the Host Faculty and Trainees. Oral abstract presentation. 28th International Congress of Pediatrics. Vancouver, Canada


She XS, Zhao DQ, Scholnick J. Where do we start? A baseline health Assessment in rural China for Health-Promoting Schools. Poster presented at: The 5th Consortium of Universities for Global Health (Washington DC) and the Pediatric Academic Societies (Vancouver); May 2014.


von Oettingen JE. Challenges and Opportunities in Global Pediatric Endocrinology and Diabetes. McGill University Annual Endocrine Retreat; Montreal, Canada. 2016.


Who We Are

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Front page: This girl from Mozambique is a Child Rights Ambassador trained by the World's Children's Prize. Since year 2000 40.6 million children have participated in the WCP Program. They have been educated and empowered as changemakers who stand up for the equal value of all, children's/human rights and democracy.
Photo by Johan Bjerke/ http://worldschildrensprize.org/

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Page 20: Rajen Aldis
Page 23: Top, Judy Palfrey; Bottom, Human Resources for Health Program
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Page 27 Lucy Maroll, Cynthia Schreiner, Tracy Seimears (Jacaranda Health)
Page 28: Left, CURE International; Right, JFK Hospital