GLOBAL PEDIATRIC
Fellowship 2017

DEADLINE TO APPLY (to start on July 1, 2017)
September 30, 2016

ONLINE APPLICATION FORM
http://tiny.cc/globalpediatric
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 greatest need and limited access to health providers. Our goal is to train a cadre of pediatricians who have the skills and long term commitment necessary to make an impact in improving child health in some of the neediest global settings.

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 in implementation focused research.

During their field placement, fellows will work in collaboration with Partners In Health in Haiti and Rwanda or Laos Friends Hospital for Children to support pediatric medical education, strengthen existing child health programs, and expand access to pediatric health care.

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

Fellows will receive a medical staff appointment at BCH with a stipend commensurate with BCH guidelines and a full employee benefits package offered to all BCH clinical fellows. For their field placements, fellows receive an annual round trip ticket, room & partial board, and evacuation & emergency insurance coverage. Fellows will also be recommended for an academic appointment at Harvard Medical School as a Clinical Fellow.
Application Form

Deadline to Apply: September 30, 2016

Applications are being accepted now through our online form:

http://tiny.cc/globalpediatric

In addition to the application form, the following documents are required:

Curriculum Vitae

Personal Statement

Letters of Recommendation (2)

Timeline

August 1, 2016
Application Period Opens

September 30, 2016
Application Deadline
Please apply early!
Invitations to interview will be made on a rolling basis.

October 3 & 17, 2016
Interview Days

July 1, 2017
Fellowship Start Date

Requirements

Applicants must be Board-certified or Board-eligible in Pediatrics or Medicine-Pediatrics

International Medical Graduates, including graduates from Canadian medical schools, must pass USMLE Steps 1, 2, and 3 by December 31, 2016

We welcome candidates with interests in:

- Collaborative learning, teaching and mentorship
- Commitment to the improvement of healthcare within the public sector
- Community outreach, primary care, hospital based tertiary care
- Using basic quality improvement methodology and public health research methods to improve health care delivery
- Social justice

The ideal candidate would have the following qualifications:

- A willingness to learn languages as needed (Creole for Haiti)
- Prior experience in health care delivery in low resource settings
- A talent for teaching and an interest in medical education
- Interest in program development and/or quality improvement
- Excellent clinical pediatric skills in care of acute hospitalized pediatric patients
Clinical Skills Week

The Global Pediatric Clinical Skills Week is an annual course which provides an overview of key topics for pediatric clinicians to help prepare them for clinical work in resource limited and developing settings.

Ultrasound Course

- an interactive didactic & hands-on course exposing learners to a range of point-of-care ultrasound applications including FAST, cardiac, lung, and vascular access

Helping Babies Breathe (HBB)

- an evidence-based simulation course of the American Academy of Pediatrics, to teach neonatal resuscitation techniques in resource-limited areas
- the objective of HBB is for learners to train birth attendants in developing countries in the skills of newborn resuscitation

Clinical Core Topics in Global Health

- didactic lectures on the core clinical topics for preparation for clinical work in resource-limited settings; previous topics include: parasites, malnutrition, TB, newborn care, malaria, IMCI, HIV

Lab & Pharmacy Skills Course

- hands-on course on useful clinical skills such as administration of IV medications and fluids, and a review of basic laboratory skills (slide & smear prep, interpretation)

Trauma, Emergencies & Sedation Course

- a simulation based course providing an overview of the initial organized approach to trauma in resource-limited settings, placement of pigtail catheters and surgical thoracostomy tubes, and procedural sedation in resource-limited settings

Seminar Series

The Global Health Seminar Series is a biweekly didactic lecture that highlights work by faculty from BCH and beyond who are working effectively in global health with a goal to harness knowledge and experiences of professionals who have worked extensively in the field.

The interdisciplinary nature of this curriculum stretches learners to consider how different roles of providing health care may be met in different settings, and broadens the scope of solutions that learners may consider. In addition we draw from implementation sciences to highlight effective projects in quality improvement, research, advocacy and education in resource limited settings.

Fellows’ Seminars

The Global Fellows’ Seminars are a monthly interdisciplinary educational series focused on competencies of advocacy and communication, effective medical education, ethics and conducting research in global health.

These seminars are offered exclusively to BCH GH fellows engaged in longitudinal work in global health, to assist them in building skills in capacity strengthening, collaboration, and partnership specifically in the context of their ongoing global health projects.
Research Day

The Global Health Research Day is an annual conference devoted to helping fellows and junior faculty gain skills and knowledge necessary to conduct global health research.

Topics from previous years include:

- Developing Data Management Systems
- The Ethical Conduct of GH Research: IRB concerns & hurdles
- Building Relationships with Partners
- Approaches to Grant Revenue

GHD Intensive

To bridge the gap between knowledge and practice in global health, the GHD Intensive at Harvard School of Public Health (HSPH) aims to systematize the study of health care delivery and stimulate collaboration among educators, researchers, stakeholders, and implementers.

During the three week summer session, participants in the program take three courses:

- Epidemiologic Methods for Global Health
- Introduction to Global Health Care Delivery
- Management Practices in Health Care Delivery
PARTNERS IN HEALTH

**Haiti**

Zanmi Lasante, PIH’s sister organization, provides care along with the Haitian Ministry of Health at 11 rural hospitals and health centers in Haiti. Fellows are placed at one of the ZL-supported hospitals where they work alongside Haitian pediatricians, generalist doctors, and nurses to provide care on inpatient pediatrics wards, and to initiate and participate in quality improvement initiatives with the clinical team. In addition to inpatient work, fellows participate in providing medical education for Haitian residents, medical students, and other trainees. Fellows also participate in programmatic and clinical care for other pediatrics programs such as pediatric noncommunicable diseases, neonatology, pediatric HIV, and malnutrition.

**Rwanda**

Partners In Health (PIH) was invited by the Rwanda Ministry of Health (MOH) to support the health system in 3 rural districts in 2005. Since that time, PIH has partnered closely with the central and district level MOH to support high quality care delivery at the community, health center, and district hospital levels, with strong advocacy, policy, and monitoring and evaluation platforms. The organization works to address core social determinants of health through a variety of clinical and non-clinical core and innovative programs, and share field experience with central level policy makers for national scale-up of successful models of care delivery.

Pediatric global health fellows form a key part of the PIH pediatric team and serve in the role of District Clinical Advisor (DCA). Pediatric DCAs are assigned to a District Hospital where they support medical education and training in pediatric, malnutrition and neonatal care for MOH hospital staff (Rwandan general practitioners and nurses). They work side-by-side with the MOH hospital pediatric team, provide case-based teaching, and work together to identify key system-based challenges for quality improvement initiatives to be led by the hospital teams. Fellows collaborate with and report to the IMB District Clinical Director and the MOH Hospital Director. Additionally, DCAs have the flexibility to choose an area of interest to focus on for their scholarly work and can choose among the wide variety of clinical, training, medical education, quality improvement and research activities that are ongoing within the Pediatric Program at the community, health center, hospital and policy levels.

**Laos**

Laos Friends Hospital for Children (LFHC) opened in February 2015, and provides free medical care to over 15,000 children annually. Children and families often travel long distances, up to 8 hours, to receive the medical care available at LFHC as the only pediatric specific care in the north of Laos. Every child is treated with high-quality and compassionate medical care, following the motto of *Treat every patient as if your own child.* The hospital was developed by Friends Without a Border and is designed to integrate into the national healthcare system over nine years. Fellows working at this site will support the training of the Laos General Practitioners and nurses who staff the hospital to develop pediatric knowledge and expertise in practice. LFHC actively supports quality improvement projects, medical education for the staff and community outreach projects. Fellows working at this site will work along side the Laos clinicians providing patient care in the outpatient, inpatient, emergency room, neonatal unit and post surgical care areas as well as give lectures and run skills/simulation sessions. Fellows will be invited to join ongoing hospital-wide QI and research projects as well as support the initiation of new projects.
ROLES & RESPONSIBILITIES

Objectives for Learning

Fellows will serve as an integrated member for the field team, and engage in pediatric clinical care, medical education, quality improvement and program development in collaboration with the local team and site determined needs.

Through this experience, we anticipate that fellows will gain skills in providing clinical care in global, resource limited settings, in advocacy and culturally appropriate care, in collaboration to improve quality of care by implementing clinical guidelines, and in didactic and bedside teaching.

In addition, fellows will be expected to actively take a leadership role in developing a quality improvement and/or medical education initiative, and to complete a scholarly project over the period of the fellowship. Fellows will plan and execute these activities in collaboration with the field mentors as well as with their fellowship mentors.

Objectives for Work at Field Site

• To enhance the quality of education of national trainees rotating through clinical services in pediatrics including postgraduates, medical students and nurses
• Support ongoing continuing medical education in pediatrics for national physicians and nurses
• To improve quality of care of patients through role modeling, enhancement of training programs and development of evidence-based clinical care guidelines and a culture of continuous quality improvement
• To support those responsible for the delivery of care to patients in pediatrics, with a focus on medical training and quality improvement in pediatric care

Breakdown of Specific Roles

Educational/clinical teaching responsibilities (70%):
• Actively participate in bedside-teaching, as well as seminar-based teaching
• In collaboration with national faculty:
  - Participate in development and delivery of materials, programs and tools to enhance learning & teaching
  - Organize and conduct seminars in evidence-based medicine
• Engage in co-mentorship with national faculty to develop clinical and teaching skills
• Supervise postgraduate students in the delivery of care to patients for training purposes (both inpatients and outpatients)
• In collaboration with national faculty, assist in development and/or enhancement of clinical guidelines, as well as innovative therapeutic and diagnostic approaches in pediatrics

Administrative, Program Development and Research (30%):
• In collaboration with national faculty, work to improve quality of care and implementation of evidence based guidelines for pediatric
• Work collaboratively with NGO and/or local leadership in program planning, monitoring and management to improve quality of pediatric care
• Work in partnership with national counterparts to identify and develop opportunities for quality improvement projects
• Work collaboratively with NGO leadership, national counterparts and fellowship mentors to develop and implement a scholarly project
LEADERSHIP

Fellowship Co-Directors

Kim Wilson, MD, MPH
Attending, General Pediatrics & Associate Director, Global Pediatrics Program, Boston Children’s Hospital; Assistant Professor & Affiliate, Div. of Global Health and Social Medicine, Harvard Medical School

Dr. Kim Wilson’s work focuses on strategies for improving health care delivery for underserved and at risk children in both domestic and global settings, particularly children with chronic medical or developmental concerns. Current projects in East Africa include leveraging mHealth technology to improve care delivery for ill newborns in Tanzania and an assessment of the impact of a nutritional and developmental intervention for follow up management of low birth weight and preterm infants in Rwanda. Dr. Wilson has also worked in on maternal and neonatal quality improvement projects at community and hospital sites in the Dominican Republic. In Boston, Dr. Wilson’s quality improvement focus is on care improvements for underserved and minority children with special health care needs. In addition, Dr. Wilson is engaged in medical education with a focus on learning to serve underserved populations, and is involved with medical education programs including a Global Pediatric Fellowship, an advocacy curriculum for US pediatric residents, a tele-education for Rwandan pediatric residents, and the Human Resources for Health Program, an academic consortium supporting post graduate pediatric residency programs in Rwanda.

Sara Stulac, MD, MPH
Deputy Chief Medical Officer, Partners In Health; Associate Physician, Division of Global Health Equity, Brigham and Women’s Hospital; Teaching Affiliate, Division of Global Health and Social Medicine, Harvard Medical School

Sara Stulac, MD, MPH, is the Deputy Chief Medical Officer for Partners In Health, supporting programs in Rwanda, Haiti, Lesotho, Malawi, and West Africa. She lived and worked in Rwanda from 2005 to 2011 as PIH-Rwanda’s Clinical Director, collaborating with Rwanda’s Ministry of Health to develop primary health care infrastructure and community based HIV care in three rural health districts. Her areas of clinical focus have included pediatric HIV prevention and treatment, malnutrition care, inpatient pediatrics, and pediatric oncology and other noncommunicable disease treatment. Dr. Stulac holds faculty positions in the Division of Global Health Equity at Brigham and Women’s Hospital, at Boston Children’s Hospital, and at Harvard Medical School. She received her MD and MPH from Tufts University School of Medicine, and completed her residency in pediatrics at Dartmouth Hitchcock Medical Center.
Leadership Faculty

Michelle Niescierenko, MD, MPH
Pediatric Emergency Medicine Attending &
Director, Global Health Program, Boston Children’s Hospital;
Instructor in Pediatrics, Harvard Medical School

Michelle Niescierenko, MD is a Pediatric Emergency Medicine physician and director of the Global Health Program at Boston Children’s Hospital. The Boston Children’s Global Health Program works to improve child health globally through partnerships for clinical quality improvement, education, research and advocacy. She has experience in pediatric care and program development in China, Bolivia, Lesotho, Guatemala, Liberia and Indonesia. In Liberia she provided pediatric humanitarian aid in the immediate post-conflict setting partnering local remaining infrastructure to US academic institutions. Through these partnerships, sustainable programs for health system rebuilding including physician education and care for vulnerable children were developed. Her particular areas of research interest are in the provision of emergency care for children in humanitarian settings, the development of emergency care systems for children as well as the role of children in humanitarian crises.

Judith Palfrey, MD
Senior Associate in Medicine, Boston Children’s Hospital;
T. Berry Brazelton Professor of Pediatrics, and Professor of Global Health and Social Medicine, Harvard Medical School; Professor, Harvard School of Public Health;

Judith Palfrey is the T. Berry Brazelton Professor of Pediatrics at Harvard Medical School and a Senior Associate in Medicine at Children’s Hospital, Boston. From 1986 to 2008, she served as the Chief of the Division of General Pediatrics at Children’s Hospital. She was the National Director of Building Bright Futures, the Director of the National Program Office of the Anne E. Dyson Pediatric Training in the Community Initiative and is a Past President of the Academic Pediatrics Association and the American Academy of Pediatrics. Dr. Palfrey has focused her career on developing programs that address the social determinants of child health. She has promoted community interventions such as home visiting, school based coordination for children with disabilities, and early education. She has been active nationally in expanding opportunities for physicians to learn how to integrate advocacy into their daily practice as well as into their overall career directions. Her book Child Health in America, Making a Difference Through Advocacy includes information on clinical, group, legislative and professional advocacy. As Director of the Global Pediatrics Program at Children’s Hospital, Boston, she is working to establish training and service programs in international sites based on her experiences in the United States. Dr. Palfrey is working with an interdisciplinary group of Chilean and American partners on Recupera Chile, a program of community reconstruction after the 2010 earthquake in the Bio Bio region of Chile. She and several international colleagues have recently published Global Child Health Advocacy.
Sajithya Perera, MD  
**Field Site: Haiti**

Saji attended Eastern Virginia Medical School in Norfolk, VA and earned her medical degree in 2012. Following medical school, Saji completed her residency training in pediatrics at the Children’s Hospital of the King’s Daughters/Eastern Virginia Medical School with a certificate in public health. Throughout her time as a medical student and resident, Saji worked in various global settings including the Philippines, India and Belize participating in mobile clinics geared towards reaching patient populations with poor access to medical care as well as helping educate local nurses, students and teachers. Saji is the recipient of the 2011 Physicians for Peace Dr. Charles E. Horton Scholarship and 2015 Children’s Hospital of the King’s Daughters/Eastern Virginia Medical School Global Health Award.

Jessica Bradford, MD  
**Field Site: Rwanda**

During medical school at Vanderbilt University, Jessica had the opportunity to spend time at Siloam Family Health Center, a clinic providing health care to the uninsured population in Nashville, many of whom are immigrants or refugees. Jessica then went to University of Rochester, Strong Memorial Hospital, for residency in Internal Medicine and Pediatrics. During residency she did a rotation in Gaborone, Botswana caring for children with HIV. Following residency Jessica worked with Baylor International Pediatric AIDS Initiative for 6 years in Tanzania. There she cared for children infected and affected by HIV, TB, and malnutrition. She also educated other health care providers about pediatric HIV. In addition, she taught Tanzanian medical students about general pediatrics during their clinical rotation at Sekou Toure Regional Hospital in Mwanza, Tanzania. While in Tanzania she helped developed the country’s curriculum for Pediatric HIV with the National AIDS Control Program. She also helped start a program for women living with HIV with young children to counsel and support other pregnant women living with HIV regarding testing, HIV prophylaxis and treatment, and infant feeding, to help keep those women in care and facilitate their babies receiving appropriate services. In 2014 Jessica attended the AIDS 2014 Conference in Melbourne, Australia, and presented a poster on ART in children under 2 years of age in Mbeya, Tanzania.
Bianca Quinones-Perez, MD  
**Field Site: Laos**

Bianca Quiñones-Pérez was born and raised in Puerto Rico. She completed her undergraduate studies and medical school at the University of Puerto Rico. After graduating, she moved to the United States to complete her pediatrics residency at the Boston Combined Residency Program, where she graduated this past June. She is excited to continue her training as a global health pediatrics fellow this year, where she will spend six months as a general pediatrics attending at Boston Children’s Hospital and 6 months abroad. Her global health interest roots from a desire to understand different cultures and give back to the communities she visits. She also enjoys teaching and wants to be involved in medical education programs in resource-limited settings. She has spent some time in Rwanda, working at the emergency department at CHUK, and one month at the Lao Friends Hospital for Children in Luang Prabang, where she plans to go back as a volunteer next year. She also spent a year abroad as a medical student doing genetics research at Hospital La Paz in Madrid, Spain.

Chiquita Palha De Sousa, MD, MPH  
**Field Site: Rwanda**

Born and raised in Zimbabwe, Chiquita first came to the U.S. to attend Lafayette College where she obtained a dual degree in Biology and Art. She completed medical school at Dartmouth and obtained an MPH degree from Johns Hopkins School of Public Health, with a concentration in health systems and policy. She completed her residency training in pediatrics at Children’s National Medical Center, in the community health track, and she received a certificate in global child health. Chiquita was the recipient of a Diversity Visionary Award from Dartmouth, as well as an AAP International Travel Grant as a resident, and various fellowships to fund global health projects in Haiti, Zimbabwe, Lesotho, and Namibia such as: conducting pneumonia and TB research, and creating educational materials to promote health literacy in Haiti as a Global Health Initiative Fellow; developing and evaluating a training curriculum on general pediatrics for nurses in Lesotho; developing a modified dose pole to treat adults against schistosomiasis in Zimbabwe; and providing outpatient and inpatient clinical care to pediatric HIV and TB patients. She is passionate about medical education, health system strengthening, and capacity building in resource-limited settings. She also uses her paintings to highlight global health issues.

Virginie Clavel, MD  
**Field Site: Haiti**

Virginie Clavel was born and raised in Montreal, Canada. During her medical degree at Université de Montréal, she took part in multiple local health initiatives with at risk populations and represented her peers as the student delegate for academic affairs. In 2007, she travelled to Senegal where she took part in a three month project with street involved youth. This experience reinforced her desire to pursue a career in Global Child Health. Virginie completed her residency in pediatrics at McGill University and she was chief resident in 2014-2015. During her residency she had the opportunity to explore another side of academic global health by developing a competency-based, multidisciplinary Global Child Health curriculum. She was also involved at the national level with the Canadian Paediatric Society and organized advocacy events annually. During the past years, Virginie has worked in a variety of resource-limited settings, including Rwanda, Senegal, Peru and arctic regions of Canada.
ALUMNI

Ophelia Adipa, MD
During fellowship, Ophelia 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. Her time was split between the John F. Kennedy Medical Center in Monrovia and Phebe hospital in Suakoko. Post fellowship Dr. Adipa will split her time as a hospitalist in the National Children’s Hospital community network and on the University of Ghana teaching faculty supporting pediatric residency training.

Brittany Potts, MD
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, and collaborated with the Haitian Pediatric Society on initiatives pertaining to pediatric residency training. Dr. Potts is currently the Associate Director of Pediatric Global Health at Akron Children’s Hospital.

Xinshu She, MD, MPH
During fellowship, Xinshu spent 6 months each year in Saint Marc, Haiti, working with Partners In Health. There, she worked side-by-side with local pediatricians and nurses; taught residents and medical students; and carried out quality improvement projects. She also piloted a participatory art project aimed at reducing stress, enhancing patient self-expression, and promoting community bonding. Dr. She is now a hospitalist and HEAL fellowship faculty member at the University of California at San Francisco.

Jennifer Werdenberg, MD
Dr. Werdenberg worked in Rwinkwavu, Rwanda, with Partners in Health/Inshuti Mu Buzima, during her fellowship. There, she taught and worked side-by-side with local General Practitioners, interns and nurses and as a member of the team implementing and evaluating the All Babies Count initiative (ABC). ABC is a comprehensive, intensive 18-month intervention across 25 facilities serving 500,000 individuals aimed at decreasing neonatal deaths through a combination of clinical mentorship and system-level improvements including district-wide learning collaboratives. After fellowship, she joined Dell Children’s Hospital as an ER acute care provider and stayed on with PIH/IMB as the interim Cheif Technical Advisor for Maternal Neonatal and Child Health.

Unami Mulale, MD
Unami grew up in Botswana as one of six children, and was raised by a mother who didn’t complete elementary school and a father who went against tradition to educate his girls. After completing her education at college level in Botswana, she 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. Unami views medicine as a platform to bring complete wellness and wholeness, and not merely to treat disease. She is currently the Head of Pediatric Critical Care and Lecturer at the University of Botswana School of Medicine.

Leana May, DO, MPH
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 currently a member of the Faculty of the Children’s Hospital of Denver at the University of Colorado Medical School.
Molly Moore, MD
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 currently holds an academic appointment at the University of Vermont College of Medicine, where she is involved with global health medical education.

Vanessa Wolfmann, MD, MPH
During fellowship, Dr. Wolfman worked as a district clinical advisor in pediatrics in rural Rwanda. Her activities included clinical mentorship and health systems strengthening. She is currently the Emergency Medical Director of the International Medical Corps in Sierra Leone.

Chris Carpenter, MD, MPH
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 a faculty member at the University of California at San Francisco and serves as a consultant to the Boston Children’s Hospital Global Pediatrics Program in Haiti.

Jill Veselik, MD
During her fellowship, Dr. Veselik worked in rural Rwanda where she provided pediatric care and participated on the teams that wrote the protocols for the newly established Pediatric Development Clinic. She is currently an attending physician at St. Luke’s Hospital in New Bedford, MA.

Sara Gonzalez, DO
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 with an emphasis on breast feeding promotion. She is currently an attending physician at the St. Luke’s Hospital (New Bedford, MA) with continued work in Haiti.

Theresa Strong, MD
Dr. Theresa Strong spent part of her fellowship in Liberia, working at the JFK Hospital in Monrovia on the partnership medical residency training program. As a result of the Ebola outbreak she was redeployed to Indonesia where she worked on decision support tool implementation and to Laos where she supported the opening of a pediatric hospital. Dr. Strong is currently an attending physician at South Shore Hospital (Weymouth, MA) and is pursuing a masters in public health.

Molly Moore, MD
During her fellowship, Dr. Moore worked 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 currently holds an academic appointment at the University of Vermont College of Medicine, where she is involved with global health medical education.

Vanessa Wolfmann, MD, MPH
During fellowship, Dr. Wolfman worked as a district clinical advisor in pediatrics in rural Rwanda. Her activities included clinical mentorship and health systems strengthening. She is currently the Emergency Medical Director of the International Medical Corps in Sierra Leone.
I will never forget the first time I saw a child die of a vaccine-preventable disease. I walked into a room in a busy Haitian hospital (where I spend 6 months each year working as a fellow with Boston Children’s Global Health Program) to find an 8-year-old boy gasping for air. A thick, greyish white coating covered his mouth and throat, and his body burned like it was on fire. I had seen it only in textbooks before—a classic late presentation of a diphtheria infection.

A few hours later, despite our best efforts and timely antibiotics, the child died of acute respiratory failure. I remember sitting in the doctor’s room, staring into the space and overwhelmed by an intense wave of sadness. This child could have lived, if he had been vaccinated. This should never have happened.

Coming back to work in Boston usually reminds me of how fortunate we are in the U.S. Relative to most countries, we have an abundance of resources, trained providers and infrastructures aimed at both preventing and treating disease. However, this summer’s Center for Disease Control (CDC) annual report on vaccination coverage among children in kindergarten shocked me. Thirty-two states and the District of Columbia haven’t met the Healthy People 2020 target of 95 percent measles vaccine coverage. In seven states, coverage for the full 2-dose measles, mumps, and rubella (MMR) schedule is less than 90 percent. In 2015 alone, measles outbreaks affected 68 unvaccinated U.S. residents, 43 percent of whom did not get vaccination because of philosophical or religious objections.

The U.S. physician-to-patient ratio is 24 times that of Rwanda; its GDP per capita is 90 times higher. There is no excuse for our country’s vaccination rates to be lower.

My experiences in global health have taught me that we can never take for granted life-saving interventions that prevent diseases still killing millions in the world. In addition to helping less-resourced countries improve their health care, we need to be an example of a system that truly makes good use of the resources that we have—including clean water, flushing toilets, access to health care and VACCINES.

We as pediatricians need to be more vocal about the potentially disastrous consequences of declining coverage, and advocate for and support policies that can improve disease prevention. Some states have already taken action. For example, California and Vermont both removed religious exemptions for vaccination for all children attending public and private schools in 2015. California has gone even further, removing philosophical exemptions as well.

Now, let’s all join the movement in whatever capacity we can, as pediatricians and as families, neighbors and friends of all children who deserve to live their lives free of vaccine-preventable diseases. My wish is to never have to witness another death from a vaccine-preventable disease. Let’s start with the U.S.
When the Doctor’s Office is Regarded as a Last Resort

Ophelia Adipa, MD

As I reflect on my last few months at Phebe Hospital in Bong County, Liberia, my thoughts are drawn to particular patients who are hard to forget, like:

- The 6-year-old boy who burned his leg severely falling into a fire during a seizure. His family spent two months seeking care elsewhere; he spent another two months in the hospital recovering from surgery.
- The developmentally delayed, severely malnourished 1-year-old, who weighed 4 kg (8.8 lbs; the average weight of a 2-week old) when I first met him one Wednesday afternoon.
- The 4-year-old girl with malaria, treated in the hospital after experiencing fevers and seizures. She was covered in chalk after being treated with herbs in the village.
- The 6-month-old girl who arrived in the emergency room with a florid full body rash. Her parents had been treating her with a cream of herbs mixed into zinc oxide.

It is amazing how quickly I adjusted to hearing stories like these, which would seem so far-fetched if heard in the Boston Children’s emergency room. However, an overriding theme that seemed to link a lot of my patients’ stories was shopping around for local remedies before coming to Phebe.

In a country whose total expenditure on health per capita is $88 (in 2013) — one still reeling from years of civil war and a devastating Ebola epidemic — it seems a luxury to even consider the need for primary health care. But when primary care doesn’t exist, patients have no chance to develop a trusting relationship with a health care provider.

Thus, when a family’s child is ill, they often pursue local or folk remedies first, seeking formal medical care only as a last resort or when the illness reaches the point of urgency.

When they do appear for care, they’re often first met with blame. “Why did you wait this long to come in,” frustrated doctors and nurses exclaim. “How did you let this happen to your child?”

Expectation of a chilly welcome is compounded by the impression that the hospital is a place to go to die. Unfortunately, to some degree there are statistics to back this notion. Liberia’s infant and under 5 mortality rates are 54 and 94 per 1000 live births, respectively. And because they wait so long, patients occasionally arrive at the hospital when they are beyond intervention.

**Signs of change**

Shortly before I started working at Phebe, the 2nd year pediatric residents took it upon themselves to start a primary care clinic for children with chronic conditions. Patients with asthma, seizure disorders, rheumatic heart disease and sickle cell disease are told to come soon after a hospital discharge, and are then scheduled to return for frequent follow-up visits. By engaging families early and encouraging them to come often, the clinic is building relationships and providing much needed anticipatory guidance and counseling.

Through this clinic, these children now receive the appropriate pediatric care, reducing the risk that a child will arrive in our emergency room with an acute exacerbation that has progressed beyond intervention. Case in point: The team recently caught a developing case of avascular necrosis of the femoral head in a sickle cell patient who would otherwise have had unsuccessful treatments at home.

It is fair to assume that most parents want to do the best (however that is defined) for their children. Where they feel they cannot trust medical providers and institutions, they will likely provide care at home before turning to the formal health sector. This is why it is not enough for systems to provide just emergency health services. Primary health care is of paramount importance, but it must be delivered with compassionate, caring support. With their chronic care clinic, the residents at Phebe Hospital have created a model for the rest of the country. And I have seen first hand how every family that walks in is grateful for the counseling, guidance and care they provide.
“I know that my child died because I am poor.”

These are words I will never forget. They were uttered by a dejected mother as she watched us, her daughter’s medical team, desperately try to resuscitate the child.

She was right.

Because she could not afford the antibiotics to treat severe pneumonia, her daughter died when the infection overwhelmed her little body.

As a Pediatric Critical Care specialist, I am trained to help children survive their most acutely ill states. I fight death, in the literal sense. Over the last few months, while working in Rwanda and Liberia, I have all too often found myself staring helplessly at parents and family members as they watch their young children succumb to disease.

Much of the western medical advances that allow us to minimize childhood mortality rates have not yet made it to these countries.

In Sub-Saharan Africa and other low resource areas, preventative strategies and primary healthcare are the focus of governments and ministries of health. The need for basic healthcare services will always be present, but tertiary healthcare systems — including critical care — are becoming more important as childhood mortality rates decline. These supplementary services must be incorporated into the fabric of existing healthcare structures.

Although critical care is often understood to mean intensive care units that deliver expert, specialized care, the truth is that many diseases are pre-critical. For example, strep throat can lead to rheumatic heart disease when left untreated. If issues such as this are not addressed early, they will progress and overcome the body’s defenses.

Preventative care, primary care and specialized care overlap and must be developed alongside one another to minimize morbidity and mortality. Disease prevention decreases the burden of need for critical care intervention, but does not eliminate its necessity.

Why is critical care undervalued?

There are many reasons cited for the slow development of critical care in global health, including:

- lack of qualified human resources (health care workers)
- deficiencies in fundamental logistics (clean water, reliable electricity, medical equipment, etc)
- poor health care infrastructure
- financial limitations

Because of the many competing human needs, engaging in complex and critical care can seem exorbitant and reckless. Efforts to provide critical care are often abandoned because the cost per patient of providing high intensity care is often significantly higher than that of providing other services such as clean water, vaccinations, nutrition and other primary healthcare concerns. The World Health Organization defines a “very cost-effective” intervention as one that costs less than the value of gross domestic product (GDP) per capita per disability-adjusted life year (DALY).

In some countries such as Egypt, South Africa and Kenya, quality pediatric critical care comparable to U.S. standards is available at private and university hospitals. But the provision of care is greatly skewed: it can only be afforded by a minority of families. Health care resource allocation and accessibility remain important issues of global justice.

I believe every life matters. Preventable death should be minimized if not eradicated in all corners of the globe. This is not simply a challenge for primary healthcare systems, but tertiary healthcare systems that address every sickness in every child. To succeed, tertiary healthcare systems must be developed alongside primary healthcare systems for balanced prevention and treatment strategies that will lead to continual decline in childhood mortality.
NEWBORN MALNUTRITION AND CARE BEYOND THE HOSPITAL WARD

Jessica Bradford, MD

There are some patients that keep me up at night — the ones I worry about even when medical care is optimal. Patients with severe acute malnutrition fall into this category. It’s difficult to predict which child with severe acute malnutrition will survive and which child won’t make it. All too often, I have seen a child on the pediatric ward who seems to be doing well, only to be told the next day at morning report the child had died.

It was 6 p.m., and I had been seeing patients since the morning, along with an intern doctor. A nurse on the neonatology unit informed us there was a new patient to see. Our new patient was 21 days old. Her mother had not received any prenatal care and had delivered at home — unusual here in Rwanda, where around 90 percent of women give birth in a health facility. These were definite red flags in her history.

The mother reported she was unable to produce breast milk. She had been feeding the infant formula, which she obtained from a neighbor, about twice a day. She came to the hospital at the neighbor’s prompting. At admission, the infant weighed 1 kg., or approximately 2 lbs. 3 oz. She was tiny but surprisingly vigorous. Nutrition seemed to be her only problem. She had not had any signs of infection, common among children with acute malnutrition. Still, these are the children I worry about. This one in particular was so young and so small.

Malnutrition: more than feeding issues

According to the World Health Organization, malnutrition is a contributing factor in 45 percent of pediatric deaths. Many people think caring for them is just a matter of feeding, but it is much more complex than that. These patients are so fragile. They are at risk for infections, have difficulty maintaining their body temperatures and can develop electrolyte abnormalities. Because all of their muscles are weak, including their heart, they are at risk for heart failure from fluid overload if given IV fluids.

There are protocols for taking care of children with malnutrition. However, the most experience is in children above six months of age. This child was a mere 21 days old. Her birth weight was unknown. It was also not clear if she had been a full-term infant or was born prematurely.

Despite appearing healthy overall, this infant definitely had me on edge. The intern doctor and I made our plan for her care. Her blood glucose was OK. Kangaroo mother care (when the mother holds the infant close to her chest) provided warmth and kept her temperature within the normal range. Antibiotics were given to treat any hidden infections, which are common among malnourished children. Feedings were scheduled every three hours, day and night, and weight was monitored daily. The next morning, my first stop at the hospital was the neonatology ward to check on this patient. I was assured by the nurses, who had cared for her overnight, that she was doing OK.

On a path to health

I split my time working at two different district hospitals in Eastern Rwanda, so I don’t always have the continuity of patient care that I like to have. But every time I was on the neonatology ward I would look for her. Patients often switch beds as a more desirable space becomes available, so sometimes I wouldn’t see her immediately, but then would spot her in a different part of the ward.

She remained strong and free from infection. She tolerated her feeding and began gaining weight. The nurses taught her mother how to care for the baby. They showed her how to prepare the formula properly. They showed her how to feed her, and how often. They helped her with kangaroo mother care to keep the baby warm. Eventually, it was time for discharge, and they taught her to watch for danger signs and when to seek medical care. Usually, that is the end of the story: the patient gets discharged from the hospital. But this story was different.

A week or so later, I went with a hospital team to a health center about 45 minutes from our hospital to do supervision at the pediatric development clinic, a novel medical intervention in Rwanda that follows up with high-risk children. The infant was there with her mother, enrolled in a clinic that will monitor her growth and nutrition along with screening for medical problems and developmental issues.

Finally this child was on a sustainable, healthy path. And I didn’t need to lose sleep anymore.
The red dirt road brings me back to these wards, these walls, these children. I’m about half way into my second six months in Rwanda working for Partners In Health/Inshuti Mu Buzima (PIH/IMB) as a district clinical advisor to two district hospitals — which is really just a fancy way of saying that I’m the (only) attending pediatrician on two government hospital wards. I walk into the neonatology unit and the nurses are bustling around, hooking babies up to CPAP, performing the first steps of life saving care for tiny (800-1500g, or 1.8-3.3 lbs.) premature babies who the doctors have not been able to come see yet because they are busy in the other wards with other critically ill patients.

Rwanda is unique in that almost 90 percent of births take place in facilities. But despite that fact, two-thirds of neonatal deaths still occur within the first 7 days of life while babies are still receiving facility-based care. It’s taken three years of facility-level mentorship — delivered through PIH/IMB nurse mentors and physicians — on basic neonatal protocols, Kangaroo Mother Care, Helping Babies Breathe and systems level advocacy to allow nurses in Rwanda to be trained and work in one clinical area (rather than being forced to constantly change wards). But they are now able to initiate life saving neonatal support (e.g., IV fluids, antibiotics, CPAP, oxygen support) as needed until a doctor can come. They are now the anchor of a neonatal team that is able to regularly save babies born around 1000g.

I’m called to come over to the Pediatric Development Clinic (PDC) — an outpatient clinic that follows at-risk infants (the majority of whom are preemies and low birth weight infants) after they are discharged from the neonatology unit — to consult on a case. In a country where the reality until quite recently was that you only went to the hospital if you were acutely ill, the concept of a clinic that routinely follows the growth and development of at-risk children is truly unique. The fact that the clinic’s no-show rate is less than 10 percent when these women have so many other demands on their time and resources never ceases to amaze me.

I walk in and see mothers sitting with their babies, babies who used to be patients on our neonatology unit — playing with blocks, talking to their children, trouble-shooting feedings together while they wait for the doctor to assess their babies’ weight and development. Some of these babies are 6 to 12 months old now: fat and laughing and terrified of the muzungu (white) doctor who just walked in. They cringe a little at the unfamiliar sight and start making a beeline — whatever that might mean at their given age — back towards their mothers, who just smile and shake their heads.

And I pause, with awe that resonates as a deep ache and wells to leave me on the edge of tears. People said this couldn’t be done, accepted a reality in which low birth weight infants and preterm infants born in the resource limited world would die because the level of training, investment and equipment that would be needed to change that reality was unimaginable — too overwhelming, too hard. They accepted the idea that some lives are worth less than others by the simple virtue of where you were born.

But these babies, born prematurely, are now playing on blankets with their mothers and growing into healthy young children — this is justice. This is a miracle. A miracle that has grown out of 5 years of grit, heartache, frustration and hard work on the part of PIH/IMB, the Rwandan Ministry of Health and so many others at every level of the district hospital. A miracle that began with neonatal protocol development. With showing up over and over again to help nurses and doctors implement those protocols. Until they could finally see and believe with their own eyes that these tiny babies they had watched die their entire lives, these tiny babies they at first believed only survived in developed world hospitals they would never see, who don’t even get named until they’re 7 days old because you’re trying to emotionally protect yourself from a child who is likely to be die.

These babies can live. They are living. They are thriving, laughing and stealing blocks from each other on a blanket in the PDC. And there’s no magic or new machine or revolutionary medical treatment that made this happen. It’s just nurses and a few doctors equipped with basic supplies and support who believe in a new reality and refuse to give up. Who show up to give these babies antibiotics, oxygen, IV fluids and nasogastric tubes. Who understand how to feed them until the babies can do it for themselves.

Rwandans are making this happen despite high staff turnover, supply chain interruptions, high patient burdens and the emotional toll of working in a unit where we still lose children more often then we should. And there is more work to be done. But today I stand in awe and celebration of a miracle that grew from a tenacious dream, and of which I have had the privilege to be a small part.