

Boston Combined Residency Program



The Pediatric Residency Training Program
of
Boston Children's Hospital
Harvard Medical School
and
Boston Medical Center
Boston University School of Medicine



July 2017 edition

CLASS OF 2018

BOSTON COMBINED RESIDENCY



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History

Boston Combined Residency Program



David Nathan



Barry Zuckerman

In 1996, David Nathan and Barry Zuckerman, the Chiefs of Services at Boston Children's Hospital (BCH) and Boston Medical Center (BMC), respectively, decided to combine their separate training programs to form the Boston Combined Residency Program in Pediatrics (BCRP), the first combined residency program in pediatrics in the US. This program also brought together two major medical schools (Harvard Medical School and Boston University School of Medicine).



Fred Lovejoy and Bob Vinci

The architects of this merger were Fred Lovejoy and Bob Vinci, the educational leaders at BCH and BMC who then served as the initial program directors for the BCRP. The educational, clinical and research accomplishments of each institution formed the foundation for this collaborative venture. The

BCRP merger had, at its core, a singular emphasis of pediatric education and was built upon the rich tradition of the previously separate training programs at Boston Children's Hospital and Boston Medical Center. Lovejoy and Vinci worked together for an entire academic year, crafting together the BCRP with a primary mission of training residents as excellent pediatricians but also emphasizing preparation for academic leadership in the general and subspecialty disciplines. It was their belief that by providing a foundation of clinical and educational experiences while creating opportunities for independence and learning, the BCRP would establish a

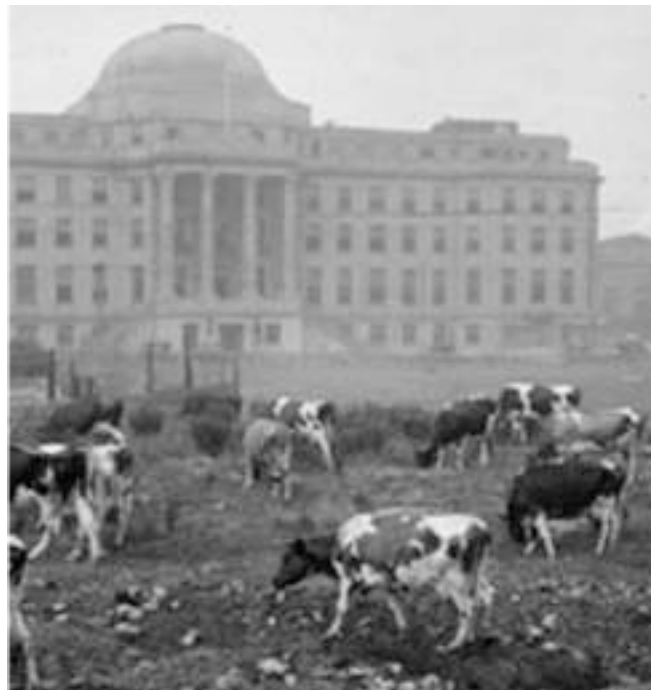
culture of academic excellence that would enhance the training of pediatricians who would become academic, clinical and educational leaders of the future.

The BCRP, now in its 22nd year, continues to flourish and adapt to the changing elements of pediatric training. Our program continues to support the diverse interests of our house staff in an environment that provides clinical experiences at both Boston Children's Hospital and Boston Medical Center in strong partnership with our dedicated pediatric faculty.

Boston Children's Hospital

1869-1881

Soon after the Civil War, in 1869, Dr. Francis Henry Brown organized a small group of Harvard Medical School graduates joined by Boston's civic leaders to establish a 20 bed Children's Hospital in a townhouse on Rutland Street in Boston's South End. The hospital treated just 30 patients that first year. One year later the Children's Hospital relocated to a larger building on the same street. The patients were predominately Irish immigrants and many had traumatic injuries or infectious diseases. Philanthropy completely supported the new hospital. Sister Theresa and the Anglican Order of the Sisters of St.



Children's Hospital neighbors were far different in 1914 than today.

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Margaret oversaw the nursing care of the children for the first 45 years of the hospital's existence.

1882-1913

By 1882 having outgrown its current structure, the hospital was moved to Huntington Avenue near the current Symphony Hall. This larger building was designed especially for children's needs. As the range of illnesses grew, so did the professional staff. Between the years 1882 and 1914 the practice of pediatrics was recognized as a specialty and Harvard Medical School made its first appointment of a physician devoted solely to the care of children. The first medical house officers (interns and externs) were appointed and a nursing school was opened to educate nurses.

1914-1945

In the early 1900s Harvard Medical School moved to the former Ebenezer Francis Farm, its current site, and in 1914 the Children's Hospital relocated to its current address on Longwood Avenue immediately next to the Medical School. During this era the Hunnewell building housed the children until a series of "cottages" were built to minimize the spread of infection. These "cottages" housed medical, surgical and orthopedic patients. Departments now differentiated into Surgery, Medicine, Radiology, Orthopaedics, and Pathology to mention only a few. Cystic fibrosis, erythroblastosis fetalis and other diseases were described and studied by Children's Hospital physicians. Pediatric medicine subspecialized into metabolism, hematology and bacteriology. Surgeons developed new techniques for repairing congenital abnormalities. The field of cardiac surgery was begun and the iron lung for polio victims was developed by



John Enders in his lab at Children's in 1965.

physicians at Children's Hospital and the Harvard School of Public Health. Harvard medical students began to learn pediatrics at the Children's Hospital. The housestaff grew from 3-4 in 1900 to over 30 in the early 40s. Women became residents when men left to serve in World War II. The Medical & Nursing Alumni Associations were established. During this period, Children's Hospital forged strong bonds with

other institutions including the House of the Good Samaritan (for rheumatic fever patients), the Sarah Fuller School (for deaf children), the Judge Baker Children's Center (for psychiatric illness) and the Sharon Sanatorium. Remarkably, in 1939 the average cost of a hospital visit was just \$1.50.

1946-1990

During the years 1946 to 1990 the Children's Hospital was well positioned to take a leadership role in pediatric health. Experienced physicians returned from the military service. The NIH established programs to support academic research. The Children's Hospital organized itself into the Children's Hospital Medical Center. The hospital endorsed specialized pediatric care, and began the construction of new buildings: the Farley inpatient building (in 1956), the Fegan outpatient building (in 1967), the Martha Eliot Health Center (in 1967), and the Enders research building (1970) named for Dr. John Enders, recipient of the Nobel Prize for his work with polio virus. In 1987 a new inpatient facility was built bringing the number of inpatient beds to 330. Old diseases such as polio, measles, pertussis, meningitis, pneumonias, and epiglottitis decreased in prevalence because of vaccines, and new antibiotics, only to be replaced by new diseases like HIV, Kawasaki's, substance abuse, and the autism spectrum disorders. The faculty in all departments grew rapidly. The medical housestaff by 1990 numbered over 86 residents. All subspecialties had developed outstanding fellowships. The hospital was now a primary education site for Harvard medical students and elective students from throughout the US, and Children's Hospital enjoyed both a national and international reputation.

1990-Present

The years since 1990 have seen increasing excellence in patient care, great research productivity, new medical



Before the mid-1950s, Children's wards were separated into cottages to limit the spread of infection. The white marble buildings of Harvard Medical School are in the background.

Children's Hospital Milestones

innovations, and remarkable contributions to pediatric medical education. Children's Hospital clinicians have pioneered lung, liver, and multiple organ transplants, innovative procedures for short gut syndrome, surgery using robotics and lasers, the development of tissue engineered organs, the use of small devices to repair holes in the heart, hydroxyurea to treat sickle cell disease, gene therapy, novel treatments for vascular malformations, and fetal intervention for hypoplastic left heart syndrome, among others. Children's researchers have developed treatments for blood disorders, regenerated damaged nerves, identified genes associated with specific diseases, developed new vaccines for serious illnesses, created disease-specific human stem cells, invented genomic tools to classify tumors and identify new drug therapies, and developed whole new fields, such as angiogenesis.

- 1869** Boston Children's Hospital opens as a 20-bed facility at 9 Rutland Street in Boston's South End.
- 1891** Children's establishes the nation's first laboratory for the modification and production of bacteria-free milk.
- 1920** Dr. William Ladd devises procedures for correcting various congenital defects such as intestinal malformations, launching the specialty of pediatric surgery.
- 1922** Dr. James Gamble analyzes the composition of body fluids and develops a method for intravenous feeding that saves the lives of thousands of infants at risk of dehydration from diarrhea.
- 1932** Dr. Louis Diamond characterizes Rh disease, in which a fetus's blood is incompatible with its mother's. Diamond later develops exchange transfusion to treat the disease.
- 1938** Dr. Robert Gross performs the world's first successful surgical procedure to correct a congenital cardiovascular defect, ushering in the era of modern pediatric cardiac surgery.
- 1947** Dr. Sidney Farber achieves the world's first successful remission of acute leukemia. He goes on to found the Dana-Farber Cancer Institute.
- 1954** Dr. John Enders and his colleagues win the Nobel Prize for successfully culturing the polio virus in 1949, making possible the development of the Salk and Sabin vaccines. Enders and his team went on to culture the measles virus.
- 1971** Dr. Judah Folkman publishes "Tumor angiogenesis: therapeutic implications" in the New England Journal of Medicine. It is the first paper to describe Folkman's theory that tumors recruit new blood vessels to grow.
- 1978** Dr. Stuart Orkin develops restriction endonuclease mapping to diagnose thalassemia in utero. A similar technique led to the development of prenatal tests for sickle cell anemia in 1982.
- 1983** Children's physicians report the first surgical correction of hypoplastic left heart syndrome, a defect in which an infant is born without a left ventricle. The procedure is the first to correct what previously had been a fatal condition.
- 1985** The Howard Hughes Medical Institute funds a major research program in molecular genetics, the first HHMI program at a pediatric hospital.
- 1986** Children's surgeons perform the hospital's first heart transplant.
- 1986** Drs. Louis Kunkel and Stuart Orkin and their research teams develop the technique of positional cloning to identify the genes responsible for Duchenne muscular dystrophy and chronic granulomatous disease, respectively.
- 1987** The gene for a brain protein found in the degenerative nerve tissue of Alzheimer's patients is isolated and located on chromosome 21 by Dr. Rachael Neve.
- 1989** Researchers in Neurology and Genetics discover that beta amyloid, a protein that accumulates in the brains of people with Alzheimer's disease, is toxic to neurons, indicating the possible cause of the degenerative disease.
- 1990** Dr. Joseph Murray, chief of Plastic Surgery emeritus, wins the Nobel Prize for his pioneering work in organ transplantation.
- 1993** A team led by Dr. Carlo Brugnara discovers that a common antifungal medication, clotrimazole, prevents dehydration in red blood cells, a factor in sickle cell disease.
- 1996** Boston Combined Residency Program formed.
- 1997** Endostatin, one of the most potent inhibitors of angiogenesis, is discovered by Drs. Michael O'Reilly and Judah Folkman.
- 1998** Dr. Anthony Atala successfully transplants laboratory-grown bladders into dogs, a major advance in the growing field of tissue engineering.
- 1998** Dr. Evan Snyder clones the first neural stem cells from the human central nervous system.
- 1999** Dr. Todd Golub first uses gene expression microarrays to differentiate cancers.
- 1999** The FDA approves the use of CardioSEAL, a minimally invasive device invented by Dr. James Lock that closes holes in the hearts of the most seriously ill cardiac patients.
- 2000** Dr. Frederick Alt finds that end-joining proteins maintain the stability of DNA, helping to prevent the chromosomal changes that precede cancer.
- 2001** Children's performs the world's first successful fetal repair of hypoplastic left heart syndrome in a 19-week-old fetus.
- 2001** Dr. Lois Smith demonstrates that insulin-like growth factor 1 is critical to blood vessel growth in the eye, and that its loss in premature babies may lead them to develop retinopathy of prematurity.

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- 2002** Dr. Nader Rifai co-authors a landmark study showing that a simple and inexpensive blood test for C-reactive protein is a more powerful predictor of a person's risk of heart attack or stroke than LDL cholesterol.
- 2002** Drs. Scott Pomeroy and Todd Golub use microarray gene expression profiling to identify different types of brain tumors and predict clinical outcomes.
- 2003** Drs. Heung Bae Kim and Tom Jaksic develop, test and successfully perform the world's first-ever serial transverse enteroplasty (STEP) procedure, a potential lifesaving surgical procedure for patients with short bowel syndrome.
- 2004** Children's surgeons perform New England's first multi-visceral organ transplant when an 11-month-old boy receives a stomach, pancreas, liver and small intestine from a single donor.
- 2004** Dr. Marsha Moses and her colleagues show that ADAM 12, when found in urine, is a reliable indicator of the presence of breast cancer.
- 2005** Dr. Stephen Harrison and colleagues show how a key part of the human immunodeficiency virus (HIV) changes shape, triggering other changes that allow the AIDS virus to enter and infect cells.
- 2005** Dr. Raif Geha discovers a gene mutation that causes common variable Immunodeficiency (CVID) and IgA deficiency.
- 2006** Dr. Scott Armstrong identifies self-renewal genes that turn a normal blood cell progenitor into a leukemic stem cell.
- 2006** Dr. David Pellman discovers a set of genes whose loss is only lethal in hyperdiploid cells and are therapeutic targets in hyperdiploid cancer cells.
- 2006** Dr. Dale Umetsu and colleagues characterize NKT cells, which may play an important role in causing asthma, even in the absence of conventional T-helper cells.
- 2006** Dr. Hannah Kinney links sudden infant death syndrome (SIDS) to abnormalities in the brainstem serotonin system, which regulates breathing, blood pressure, body heat and arousal.
- 2006** Children's urologists successfully implant laboratory-grown bladders, the first completely tissue-engineered organs to be implanted in humans, in seven children with spina bifida.
- 2006** Dr. Doug Cowan creates a tissue-engineered, electrically conductive implant for the heart and shows that it functions well in mice.
- 2006** Drs. Sean Wu, Stuart Orkin and colleagues discover a type of stem cell that is the precursor to at least two main cell types that form the heart.
- 2007** Dr. Charles Nelson proves that abandoned children do much better cognitively if moved from institutions to foster care.
- 2007** Dr. Len Zon discovers that prostaglandin E2 greatly stimulates the growth of blood and probably other tissue stem cells.
- 2007** Dr. Lois Smith finds that omega-3-polyunsaturated fatty acids reduce pathological retinal angiogenesis and are a potential therapy for retinopathy of prematurity.
- 2008** Dr. George Daley discovers how to reprogram human somatic cells to pluripotent stem cells with defined transcription factors.
- 2007** Dr. David Ludwig demonstrates that diets rich in rapidly-digested carbohydrates not only expand waistlines, but may also cause fatty liver disease.
- 2007** Cardiac surgeons Drs. Virna Sales and John Mayer create living, growing heart valves in an animal model using tissue engineering techniques.
- 2007** Dr. Morris White and colleagues show that reducing insulin signaling specifically in the brain can prolong lifespan in mammals.
- 2008** Dr. Chris Walsh and his colleagues identify several genetic loci that cause autism.
- 2008** Dr. Rani George finds that activating mutations in the receptor tyrosine kinase ALK cause some cases of neuroblastoma.
- 2008** Drs Vijay Sankaran and Stuart Orkin discover that the fetal hemoglobin to adult hemoglobin switch is controlled by the BCL11A transcription factor. This solves a decades old problem in hematology and has important implications for the treatment of sickle cell disease and thalassemias.
- 2008** Dr. Zhi He observes that stimulation of the mTOR pathway increases axon regeneration after CNS injury. Subsequently, in 2012, Dr. He describes methods for achieving robust and sustained axon regeneration.
- 2008** A consortium led by Dr. Joel Hirschhorn discovered six new genetic variants linked to obesity. Most are active in the brain, suggesting that differences in appetite regulation contribute to obesity.
- 2008** Neurobiology researchers at Children's successfully get damaged nerves to recover and regrow in a mouse model by temporarily silencing genes that normally prevent regeneration.
- 2008** Dr. Scott Armstrong discovers MLL is caused by an epigenetic change that leads DOT1L to alter chromosome structure and activate normally silent genes.
- 2008** Children's neuroscientists identify Npas4, the first known "master switch" in brain cells to orchestrate the formation and maintenance of inhibitory synapses.
- 2008** Dr. Takao Hensch and colleagues describe Otx2, a factor that triggers the learning by initiating a "critical period," a window of heightened plasticity when the brain can readily make new connections.
- 2008** Manton Center for Orphan Disease Research founded.
- 2009** Immune Disease Institute joins Children's Hospital as the Program in Cellular and Molecular Medicine.
- 2009** Drs. George Daley and Richard Gregory show that the microRNA, Lin 28, plays an important role in germ cell development and cancer.
- 2009** Drs. Len Zon and George Daley discover that blood flow triggers development of hematopoietic stem cells.
- 2010** Dr. Jon Kagan and his team show that peroxisomes are important in the innate immunity against viruses.

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- 2011** Drs. Luigi Notarangelo, Sung-Yun Pai and David Williams achieve the first successful treatment of severe combined immunodeficiency by gene therapy in the US.
- 2011** Drs. Stuart Orkin, Vijay Sankaran and their colleagues are able to correct sickle cell disease in mice by silencing BCL11A, which shows that the fetal hemoglobin switch can be reversed.
- 2012** Dr. Heung Bae Kim develops novel method to stretch arteries in vivo for repair of arterial defects.
- 2012** Standardized Clinical Assessment and Management Plans (SCAMPS) method developed for reducing costs and variability of care and improving outcomes.
- 2012** Dr Gabriel Corfas shows that social experience regulates prefrontal cortex myelination and is essential for normal cognitive function.
- 2013** Drs. Amy Starmer, Ted Sectish and Chris Landrigan develop a patient handoff method (I-PASS) that greatly reduces medical errors and preventable adverse events.
- 2013** Dr. Dan Bauer discovers an erythroid specific enhancer of BCL11A whose deletion raises fetal hemoglobin without affecting BCL11A in the brain and lymphocytes where it is needed. The discovery opens the door to gene editing of BCL11A as a treatment for sickle cell disease and thalassemia.
- 2013** Dr. Joseph Majzoub finds that MRAP2, a protein that regulates melanocortin signaling, is involved in body weight regulation in humans.
- 2014** Drs. Jeff Burns and Tracy Wolbrink launch OPENPediatrics, an innovative web-based digital learning platform linking physicians and nurses across the world.
- 2014** Rani George discovers that neuroblastomas that overexpress MYC oncoproteins are selectively killed, without systemic toxicity, by inhibiting cyclin-dependent kinase 7 (CDK7).
- 2014** Dr. Fernando Camargo discovers that the Hippo-signaling pathway maintains the differentiated hepatocyte state. Loss of Hippo causes hepatocytes to revert to a progenitor state.
- 2014** Dr. Derrick Rossi devises a procedure to reprogram myeloid cells into hematopoietic stem cells.
- 2014** Dr. Carla Kim identifies mechanisms that drive the differentiation of lung stem cells and contribute to alveolar repair after injury.
- 2015** Dr Joel Hirschhorn and others identify a large number of genes that contribute to obesity and body fat distribution.
- 2015** Dr Len Zon defines the perivascular hematopoietic stem cell (HSC) niche and shows that epoxyeicosatrienoic acid lipids enhance HSC engraftment.
- 2015** Dr Beth Stevens wins MacArthur “Genius” Award for defining the role of microglia in synapse pruning in development and Alzheimer’s disease.
- 2015** Dr Louis Kunkel and his colleagues show that overexpression of the Jagged protein ameliorates Duchenne muscular dystrophy suggesting a possible therapy for the disease.
- 2015** Dr. Hao Wu visualizes the structure of the inflammasome, which activates innate immunity, and how it is assembled.
- 2015** Dr. Umut Ozcan discovers that Celastrol, a pentacyclic triterpene extracted from the roots of the thunder god vine plant, is a leptin sensitizer and a powerful anti-obesity agent.
- 2016** Dr Len Zon shows that reversion to a neural crest identity initiates the first cancerous cell in melanoma.
- 2016** Dr. Min Dong shows that the Frizzled proteins are the gastrointestinal receptors for *C. difficile* toxin.
- 2016** Dr. Beth Stevens reports the important discovery that the complement pathway and microglia, which prune excess synapses during normal brain development, are inappropriately activated and cause synaptic loss early in Alzheimer’s disease.
- 2016** Dr. Judy Lieberman discovers a new innate pathway for intracellular killing of bacteria by gasdermin D, which binds to the bacterial membrane and forms a lethal pore.
- 2016** Dr. George Daley and his colleagues find that loss of the let-7 microRNA family plays a key role in the development of neuroblastomas and is associated with a poor outcome.
- 2016** Dr. Seth Rakoff-Nahoum discovers that some gut bacteria cooperate by metabolizing nutrients for each other; likely the first of many examples of microbial symbiosis.
- 2017** Researchers at Children’s and Beth Israel Deaconess Hospitals discover how the Ube3a gene impairs sociability in autism.

Boston Medical Center

The establishment of Boston City Hospital in 1864 was a major accomplishment for the City of Boston. Boston City Hospital was the first municipal hospital established in the United States.

As a municipal institution, Boston City Hospital began to provide much needed health care to both the urban poor of Boston and the ever-increasing number of Irish Immigrants entering the city during the mid-19th century. Boston Medical Center, which is the result of the 1996 merger of Boston City Hospital and University Hospital, exists on the grounds of the original Boston City Hospital. In the first 50 years of its existence, Boston City Hospital did not have a Pediatric Service. Children were admitted to one of the four Medical or Surgical Services in wards that housed adults.

In 1919 Boston City Hospital determined that two buildings, near the site of the current Menino Pavilion would be dedicated to the care of children and this began the Pediatric Service.

With support from the City of Boston, funds were earmarked for a free standing Children's Building, and in honor of the wife of Mayor Curley, the Mary E. Curley Pavilion for Children opened in 1932. This nine story facility housed a Walk-In Clinic, an Ambulatory Clinic and a large inpatient Pediatric ward service, which occupied five stories of the Curley Pavilion. A number of the current faculty provided care in the Curley Pavilion.



Early Boston City Hospital ambulance

Over the years, the Pediatric Service at Boston City Hospital has continued its long tradition of providing service and patient care to the residents of Boston. The Department continues to be a national leader in areas of advocacy, urban health and health care services.

Since its inception under Dr. Martin J. English in 1923, and the continued leadership of the preeminent pediatricians of their time—Drs. Eli Friedman, Sydney Gellis, Horace Gezon, Joel Alpert, Barry Zuckerman and Bob Vinci — the mission of the department has continued to be integrated with the changing needs of our patient population. The Department remains committed to solving the health care challenges of the urban poor and focuses its clinical and research expertise in topics such as racial disparities, malnutrition, infectious diseases, childhood obesity, autism and medical informatics. While the landscape of Boston has seen many changes in the 150-year history of Boston City Hospital/Boston Medical Center, the consistent mission of the Department of Pediatrics remains imbedded in the framework of the families and children they serve.



Boston City Hospital, circa 1903

Boston Medical Center Milestones

- 1848** The Boston Female Medical College is established as the first medical school created for educating women physicians. It later became the New England Female Medical College.
- 1850** Samuel Shattuck, known as the Father of Public Health, is the primary author of the "Report of the Sanitary Commission of Massachusetts."
- 1873** Boston University merges with the New England Female Medical College to establish the Boston University School of Medicine
- 1897** Dr. Solomon Carter Fuller, who would become the nation's first black psychiatrist, graduates from the BUSM. A pioneer in Alzheimer's research, Dr. Fuller was an early proponent of minority recruitment.
- 1946** Dr. Sydney Gellis becomes Chief of the Department of Pediatrics at Boston City Hospital. Dr. Gellis was the 1959 President of the Society for Pediatric Research and would later become Dean of BUSM in 1962.
- 1970** Under the direction of Dr. Robert Klein, the Department of Pediatrics at Boston City Hospital developed one of the first childhood lead poisoning programs in the nation.
- 1972** Dr. Joel Alpert becomes Chief of Pediatrics and in 1973 was awarded funding from RWJ to develop primary care residency training. Dr. Alpert and Dr. Alan Cohen then received the first Federal Funding for the first Primary Care Residency Training Program in the nation, and the Pediatrics Dept at Boston City Hospital developed a national reputation for residency training in primary care and community based pediatrics.
- 1974** Dr. Jerome Klein describes his work on occult bacteremia in the New England Journal of Medicine. Dr. Klein was the 2002 recipient of the prestigious Maxwell Finland Award for Lifetime Achievement in Pediatric Infectious Disease.
- 1982** Dr. Barry Zuckerman establishes a Developmental and Behavioral Pediatric Fellowship Program that has trained over 35 leaders in DBP across the nation.
- 1989** Drs. Robert Needleman and Barry Zuckerman, with colleague Kathleen Fitzgerald Rice, begin Reach out and Read (ROR). In 1998, ROR received federal funding to establish a national model of literacy education promoted by pediatricians. Currently there are more than 4500 sites, serving more than 5 million children nationally. 28,000 pediatricians, nurses and other clinicians have been trained in the ROR strategy of early literacy.
- 1989** The Pediatric HIV program joins the NIH network to develop new approaches to the treatment and prevention of HIV. Under the leadership of Jerome Klein and Steve Pelton, the division participates in landmark studies of AZT in the newborn infant and helps to establish the Women and Infants study of vertical transmission.
- 1990** Hortensia Amaro establishes the MOM's Project, a community-based intervention program aimed at improving birth outcomes and reducing drug use among pregnant women by linking them with healthcare services, social service supports, counseling and peer support.
- 1993** Barry Zuckerman becomes Chief of Pediatrics and establishes the Family Advocacy Program. This unique collaboration between lawyers and pediatricians, now called the Medical-Legal Partnership for Children (MLPC), provides direct, proactive legal assistance in the clinical setting to families at Boston Medical Center. The MLPC also educates health care professionals to identify non-medical barriers to a patient's health and to incorporate advocacy as part of their treatment plan. In 2007 the Robert Wood Johnson and Kellogg Foundations provided support to establish the National Center of MLP to disseminate the model nationally. Presently there are over 220 MLP Programs
- 1994** With \$40 million support from the Commonwealth Fund and other foundations, Drs. Barry Zuckerman, Steven Parker, Marilyn Augustyn and Margot Kaplan-Sanoff developed and implemented Healthy Steps at 12 sites nationally.
- 1996** Boston Combined Residency Program (BCRP) formed.
- 1996** Boston Medical Center (BMC) was created by the merger of Boston City Hospital and University Hospital.
- 1996** Project HEALTH (Helping Empower, Advocate and Lead through Health), currently called Health Leads, was founded by Rebecca Onie as a collaboration of Harvard undergraduates and Boston Medical Center's Department of Pediatrics. It has grown to a network of college volunteers and health care mentors that aid urban children and families.
- 1997** Children's Sentinel Nutritional Assessment Program formed. CSNAP (currently renamed Children's Healthwatch) is a multisite surveillance program of children birth to 3 years of age that monitors the impact of economic conditions and public policies on the health and well-being of very young children.
- 1999** Under the direction of Dr. Bobbi Philipp, BMC became the first hospital in New England to achieve Baby-Friendly status, fully implementing the Baby-Friendly Hospital Initiative, Ten Steps to Successful Breastfeeding.
- 2004** Drs. Chi Huang and CC Lee establish the Global Child Health Initiative at Boston Medical Center and the BCRP
- 2004** Boston University School of Medicine is designated as the new site for the National Emerging Infectious Diseases Laboratories (NEIDL). This is one of only four non-governmental Biosafety level 4 laboratories in North America. Designed to anticipate the research needs of investigators over the next 20 years, the lab engages in cutting-edge research into diagnostic tests, treatments and vaccines for emerging infectious diseases

BOSTON COMBINED RESIDENCY

- 2004** Department of Pediatrics establishes the SPARK Center. The Spark Center (a merger of two innovative programs: the Children's AIDS Program and the Family Development Center) is a model childcare program offering comprehensive, integrated services for children and families whose lives are affected by medical, emotional and/or behavioral challenges.
- 2006** During the first 10 years of its formal organization, 15 members of the Division of General Pediatrics received 18 career development awards from the NIH and various foundations.
- 2008** Boston University School of Medicine is awarded a Clinical and Translational Science Institute named the BU-BRIDGE from the NIH. The focus of this 7 million dollar award is to increase the amount of translational research done at BUSM/BMC.
- 2009** Project HEALTH received a \$2M grant from the Robert Wood Johnson Foundation to support the Family Help Desk model in other institutions. Today, Project HEALTH's 600 college volunteers staff Family Help Desks in 6 cities that assist over 4,500 patients and their families annually in securing health related community resources.
- 2011** Drs. Julie Herlihy and Bob Vinci establish a 4-yr Child Global Health Residency in collaboration with the Center for Global Health and Development at the BU School of Public Health.
- 2011** Dr. Howard Bauchner is named the 16th Editor in Chief of the Journal of the American Medical Association
- 2013** Dr Bob Vinci becomes the Chief of Pediatrics at Boston Medical Center and the Boston Univ School of Medicine.
- 2013** Dr. Debra Frank is the recipient of the AMA 2013 Excellence in Medicine Award
- 2014** The Department of Pediatrics received the 2014 APA Health Care Delivery Award.
- 2015** Dr. Bob Vinci receives the Association of Pediatric Program Director's Robert S. Holm Award, honoring an APPD member for extraordinary contributions in pediatric program director leadership and/or support of other directors as a mentor, advisor or role model at a national level through APPD.
- 2017** The Urban Health and Advocacy Track receives the Academic Pediatric Association's Teaching Program Award, recognizing an outstanding general pediatric program. Programs must demonstrate excellence in educational teaching methods, acceptance by students and/or residents, acceptance by the community and the institution innovations and adaptability, or outstanding quality of the individuals trained in the program.

People

Program Directors

Ted Sectish



Dr. Ted Sectish is Professor of Pediatrics, Vice-Chair for Education and Program Director of the pediatric residency training program at Boston Children's Hospital. He came to Children's and the BCRP from Stanford Medical School, where he directed the pediatric residency program for 14 years. Dr. Sectish, is a distinguished educator in pediatrics

and the winner of many teaching awards. He obtained his MD degree from Johns Hopkins and was an intern and resident in pediatrics at Boston Children's Hospital from 1977 to 1980. He spent 13 years as a general pediatrician in Salinas, California before becoming the program director at Stanford. Dr. Sectish has written extensively about residency education, including an article on making pediatric residency programs family friendly, an area of special interest to him (J Pediatr 149: 1-2, 2006). His interest in educational innovation and improvement spans the continuum from undergraduate medical education to graduate medical education and the professional development of practicing physicians. His recent focus is as one of the leaders of the I-PASS Study, a multi-site collaborative research project to standardize the handoff process to reduce medical errors and improve the workflow of residents (JAMA 2013; 310:2262-2270, N Engl J Med 2014; 371: 1803-1812). He was the Executive Director of the Federation of Pediatric Organizations (FOPO) from 2007- 2014. FOPO serves the pediatric community with its Task Forces on Women in Pediatrics and Diversity and Inclusion and its Strategic Initiatives. It hosted a Visioning Summit in 2013 on the Future of the Workforce in Pediatrics. As the Past-President of the Association of Pediatric Program Directors, Dr. Sectish has been involved in national issues related to graduate medical education, including the formation of the Council of Pediatric Sub-specialties, which serves as a home for pediatric sub-specialists and fellowship directors. He is a member of the American Pediatric Society. He is an Executive Council and Board member of the I-PASS Institute, which aims to improve patient safety and standardize communication in medicine.

Kate Michelson



Dr. Catherine Michelson is Program Director for the Boston Combined Residency Program at Boston Medical Center. She attended college at the University of Notre Dame and obtained her medical degree from the Johns Hopkins School of Medicine. She was a pediatric resident in the Boston Combined Residency Program (BCRP) from 2010-2013 and

served as chief resident from 2013-2014 before joining the faculty at the Boston University School of Medicine as a hospitalist and Associate Program Director. She served as Co-Program Director from 2015-2016 and has served as Program Director since July 2016. Dr. Michelson earned a Master of Medical Sciences in Medical Education from Harvard Medical School, has been a scholar in the Harvard Macy Institute's Programs for Educators in Health Professions and Leading Innovations in Health Care and Education. She has received awards for her teaching and is a faculty leader in the BCRP's Academy of Medical Education. She designed and implemented the Keystone Quarter, a longitudinal experience in outpatient pediatrics and advocacy in the BCRP. In 2015, Dr. Michelson led the residency program through a strategic planning process resulting in a revised mission and 5-year plan. Her areas of focus in education research include: the impacts of longitudinal integrated blocks and other structural innovations to training, resident assessment; program evaluation, and advocacy training. She has a special interest in resident wellness and support. Dr. Michelson is a member of the Association for Pediatric Program Directors, the American Academy of Pediatrics and Alpha Omega Alpha. She and her husband Ken, whom she met in residency, live in Needham.

Residency Program Leadership



Gary R. Fleisher, MD
*Physician-in-Chief & Chair, Dept of Medicine
Boston Children's Hospital*



Robert J. Vinci, MD
*Chair, Dept. of Pediatrics
Boston Medical Center*



Theodore C. Sectish, MD
*Vice Chair for Education &
Program Director
Boston Children's Hospital*



Catherine D. Michelson MD, MMSC
*Program Director
Boston Medical Center*



Ronald C. Samuels, MD
*Assoc. Program Director
Boston Children's Hospital*



Scott E. Hadland, MD, MPH
*Assoc. Program Director
Boston Medical Center*



Thomas J. Sandora, MD, MPH
*Assoc. Program Director
Boston Children's Hospital*



Tanvi S. Sharma MD
*Assoc. Program Director
Boston Children's Hospital*



Ariel S. Winn, MD
*Assoc. Program Director
Boston Children's Hospital*



Christine C. Cheston, MD
*Assoc. Program Director
Boston Medical Center*



Samuel E. Lux IV, MD
*Director of Intern Selection
Boston Children's Hospital*



Celeste R. Wilson, MD
*Assoc. Chair, Intern Selection
Boston Children's Hospital*



Colin M. Sox, MD, MS
*Chair, Intern Selection
Boston Medical Center*



Rebecca Gold
*Program Coordinator
Boston Children's Hospital*



Elayne Fournier
*Program Coordinator
Boston Children's Hospital*



Susan Brooks
*Housestaff Coordinator
Boston Children's Hospital*



Kate Antanovich
*Program Coordinator
Boston Medical Center*

Interns and Residents

We seek residents who are intelligent, curious, creative, energetic, personable, and accomplished. Residents who will become leaders in pediatrics. Residents with a sense of humor. We also seek residents who come from all parts of the country and beyond and who have a wide variety of backgrounds.

The 163 current residents illustrate our desire for diversity. They come from 29 states and 18 countries. They went to 68 colleges and 66 medical schools, including 7 international schools. They majored in 50 diverse subjects in college—from history, English, political science, philosophy, social studies, sociology, linguistics, anthropology, environmental studies, various languages, religion, government, economics, business, financial engineering, management information systems, global health, public health, public policy, international affairs, gender studies, education, film, music, art and art

history, to mathematics, statistics, epidemiology, physics, chemistry, computer science and multiple kinds of engineering. Plus all varieties of biological sciences. Forty have PhDs or PhD-like research experience and 19 have an MPH, MSc, MPP, MMS, MEd or MHS. Many have years of experience before medical school in fields such as art, business, finance, science, education, engineering, advocacy, and health care policy. Their interests are equally diverse. Among them, they speak more than 20 languages.

We believe this diversity greatly enriches the residency. It stimulates creativity, promotes tolerance, and allows residents to excel in various ways within the program. It also creates chances to try new things. Most importantly, perhaps, it offers opportunities to establish rich friendships. Nothing is more important in a residency than the quality of the other residents. Many will become lifelong friends and colleagues. We believe that no pediatric program has better residents than the BCRP.

Interns (Categorical Track)



Kristie Aamodt, MD, PhD

- Harrisonburg, VA
- Brigham Young Univ. (Genetics & Biotechnology)
- Vanderbilt School of Medicine
- PhD (Molecular Physiology & Biophysics)



Cynthia Akagbosu, MD, MMS

- London, England → Tampa, FL
- Dartmouth College (Spanish and Psychology)
- Tufts Univ. School of Medicine
- MMS (Medical Science), Boston Univ.



Faraz Alizadeh, MD

- Oklahoma City, OK
- Univ. California, Los Angeles (Integrative Biology & Physiology)
- Albert Einstein College of Medicine



Gina Aloisio, MD, PhD

- Chillicothe, OH
- Ohio State Univ. (Spanish & Biomedical Sciences)
- Univ. Texas Southwestern School of Medicine
- PhD (Pathology)



Daniel (Danny) Atwood, MD

- Minnetonka, MN
- Univ. of Kentucky (Biology)
- Medical College of Wisconsin



Christina (Chris) Briscoe-Abath, MD (Neurodevelopmental Disabilities)

- Newport News, VA
- Univ. of Maryland (Public Health & Anthropology)
- Univ. of Virginia School of Medicine



Amanda Bryson, MD

- Medway, MA
- Univ. of Maryland (Biology & Spanish)
- Pennsylvania State Univ. College of Medicine



Hamsika Chandrasekar, MD

- Sugarland, TX
- Massachusetts Institute of Technology (Brain & Cognitive Sci & Computer Science & Molecular Biol)
- Stanford Univ School of Medicine



Anna Cushing, MD

- Washington, DC
- Stanford Univ. (Biomedical Computation)
- Icahn School of Medicine at Mount Sinai



Kelly Fitzgerald, MD

- Sudbury, MA
- Harvard College (Neurobiology)
- Warren Alpert School of Medicine at Brown Univ.



Caroline Gross, MD

- Los Angeles, CA
- Cornell Univ. (Biology & Society)
- Univ. of California, Los Angeles School of Medicine



John (Jack) Hale, MD

- Austin, TX
- United States Naval Academy (English)
- Univ. of Rochester School of Medicine

BOSTON COMBINED RESIDENCY



Rachel Goldstein
Hirschberger, MD, MPH
(Child Neurology - BCH)

- Dix Hills, NY
- Brown Univ. (Public Policy & American Institutions)
- Boston Univ. School of Medicine
- MPH (Health Policy)



Robert Hoffmann, MD

- Nuremberg, Germany
- Ludwig Maximilians Univ. Munich Faculty of Medicine



Alexander (Alex) Holtz, MD, PhD
(Ped-Medical Genetics)

- Fairfield, CT
- Cornell Univ. (Biology)
- Univ. of Michigan School of Medicine
- PhD (Cell Dev Biology)



Hadas Ityel, MD

- Tel Aviv, Israel
- Tel Aviv Univ (Life Sciences Honors Prog.)
- Sackler School of Medicine, Tel Aviv Univ.



Divya Jayaraman, MD, PhD
(Child Neurology - BCH)

- Mumbai, India → Cos Cob, CT
- Harvard College (Biochemical Sciences)
- Harvard Medical School
- PhD (Neuroscience)



Jenna Katz, MD

- Plainview, NY
- Univ of Pennsylvania (Biol Basis of Behavior)
- Stanford Univ. School of Medicine



Kailyn Kuzmuk, MD

- Tinley Park, IL
- Harvard College (Psychology)
- Tufts Univ. School of Medicine



Matthew (Matt) Luchette, MD

- Burr Ridge, IL
- Massachusetts Institute of Technology (Biological Engineering)
- Boston Univ. School of Medicine



Amanda Marinoff, MD

- Plainview, NY
- Dartmouth College (Neuroscience)
- Harvard Medical School



Caitlin Milligan, MD, PhD

- Lexington, KY
- Duke Univ. (Biology & Global Health)
- Univ. of Washington School of Medicine
- PhD (Pathobiology)



Alisa Mo, MD, PhD
(Child Neurology - BCH)

- Plano, TX
- Cornell Univ. (Biology & Mathematics)
- Johns Hopkins Univ. School of Medicine
- PhD (Neuroscience)



Megan Mohnen, MD
(Pediatric Anesthesia)

- Clintonville, WI
- Marquette Univ. (Biology)
- Medical College of Wisconsin



Carolina Montaña, MD, PhD

- Barranquilla, Colombia → Miami, FL
- Brigham Young Univ. (Neuroscience & Molecular Biology)
- Johns Hopkins Univ. School of Medicine
- PhD (Genetics)



Sinead Murphy, MD

- Rochester, MN
- Amherst College (History & Chemistry)
- Mayo Medical School



Chloë Nunneley, MD
(Child Neurology - BCH)

- Buffalo, NY → New Zealand → College Station, TX
- Texas A&M (Biochemistry)
- Baylor College of Medicine



Milad Rezvani, MD, Dr med

- Hannover, Germany
- Albert Ludwigs Univ. Freiburg Germany Medical School
- Dr med (Genetics/ Neonatology)



Caroline Smith, MD

- Dallas, TX
- Stanford Univ. (Biology)
- Univ. of Texas Southwestern School of Medicine



Christina Theodoris, MD, PhD
(Ped-Medical Genetics)

- Alpharetta, GA
- California Institute of Technology (Biology)
- Univ of California, San Francisco
- PhD (Dev Stem Cell Biol)

BOSTON COMBINED RESIDENCY



Michaela Tracy, MD

- Needham, MA
- Georgetown Univ. (Biology & Psychology)
- Univ. of Massachusetts School of Medicine



David (Dave) Vanderhoff, MD

- Stow, MA
- Dartmouth College (Government & Environmental Studies)
- Univ of Washington School of Medicine



Kimiko (Kimi) Warlaumont, MD

- Mt Kisco, NY
- College of William & Mary (Neuroscience & Studio Art)
- Univ of Michigan School of Medicine



Mollie Wasserman, MD

- St Louis, MO
- Washington Univ., St Louis (Biology)
- Univ of Missouri-Columbia School of Medicine



Yasmine White, MD

- Arcata, CA
- Bowdoin College (Mathematics & Biology)
- Univ. of Michigan School of Medicine
- General Surgery Residency (1 yr), Stanford Univ.



Christina Williams, MD (Pediatric-Anesthesia)

- St Louis, MO
- Washington Univ St Louis (Spanish & Anthropology)
- Stanford Univ School of Medicine

Interns (Urban Health and Advocacy Track)



Brenna (Hughes) Chase, MD

- Boston, MA
- Dartmouth College (Economics & Environmental Studies)
- Univ. of Chicago Pritzker School of Medicine



Suzanne Collier, MD

- Potomac, MD
- Colgate Univ. (Psychology)
- Univ. of Michigan School of Medicine



Cody-Aaron (Cody) Gathers, MD

- Goose Creek, SC
- Clemson Univ. (Biochemistry)
- Medical Univ. of South Carolina



Genevieve (Gen) Guyol, MD

- St Louis, MO
- Middlebury College (Spanish & History)
- Boston Univ. School of Medicine



Jeremiah Joyce, MD

- Jackson, MI
- Vassar College (German & Film Studies)
- Stony Brook Univ. School of Medicine



Perry Nagin, MD, MEd

- Manhattan, NY
- Princeton Univ. (Sociology)
- MEd, Hunter College
- Sidney Kimmel Medical College at Thomas Jefferson Univ.



Alexandra (Alex) PowerHays, MD

- Tallahassee, FL
- Emory Univ. (Biology)
- Harvard Medical School



Tyler (Tye) Rainer, MD

- Marlborough, MA
- Williams College (Psychology)
- Lewis Katz School of Medicine at Temple Univ.



Lauren Sweetser, MD, MMS

- Holliston, MA
- Middlebury College (French & Biology)
- Boston Univ. School of Medicine
- MMS (Medical Science)



Elizabeth (Lizzy) Wilson, MD (Child Neurology - BMC)

- Berkeley Heights, NJ
- Lafayette College (Neuroscience)
- Boston Univ. School of Medicine



Daniel (Dan) Zheng, MD, MHS

- Barrington, RI
- Yale Univ (Psychology)
- Yale School of Medicine
- MHS (Health Science)

BOSTON COMBINED RESIDENCY

Interns (Medicine-Pediatrics Track)



Mariel Bailey, MD, MEd
• Newport, RI
• Stanford Univ. (Human Biology)
• Univ. of California, Los Angeles
• MEd, Lehman College



Neha Limaye, MD
• Westfield, NJ
• Duke University (Global Disease Control)
• Perelman School of Medicine at the Univ of Pennsylvania



Ian McConnell, MD
• Boothbay, ME
• Harvard College (Government)
• Yale Medical School



Emily Murphy, MD
• Beverly, MA
• Brown Univ. (Neuroscience)
• Johns Hopkins Univ. School of Medicine

Junior Residents (Categorical Track)



Milena Andzelm, MD, PhD (Child Neurology - BCH)
• Montreal, Canada → San Diego, CA
• Harvard College (Biochemistry)
• Harvard Medical School
• PhD (Immunology)



Geetha Bhagavatula, MD
• Corning, NY
• St Bonaventure (Biology & Business)
• George Washington Univ. School of Medicine



Emily Cross, MD
• New York, NY
• Harvard College (Biology)
• Univ. of Pennsylvania School of Medicine



Darius Ebrahimi-Fakhari, MD, Dr med (Child Neurology - BCH)
• Giessen, Germany
• Ruprecht-Karls-University Heidelberg Medical School
• Dr med (Neurobiology)
• Pediatric residency (1 yr) Heidelberg Univ. Hospital



Lindsey Gaston, MD
• Detroit, MI
• Kalamazoo College (Biology)
• Univ. of Michigan School of Medicine



Andrew Groves, MD
• Ann Arbor, MI
• Northwestern Univ. (Integrated Sciences, Chemistry & Mathematics)
• Washington Univ in St Louis School of Medicine



Connor Hall, MD, PhD
• Walnut Creek, CA
• Univ. of Southern California (Biomedical Engineering)
• Texas Tech Univ. School of Medicine, Lubbock
• PhD (Pharmacology)



Caitlyn Williams Hark, MD
• Larchmont, NY
• Hamilton College (Neuroscience)
• Albert Einstein College of Medicine



Leslie Hotchkiss Hayes, MD (Child Neurology - BCH)
• New Caanan, CT
• Georgetown Univ. (Science, Technology & International Affairs)
• Cornell Medical College



Julia Hickey MD, CM (Pediatric Anesthesia)
• Dover, MA
• Duke Univ. (French)
• McGill Univ. Faculty of Medicine



Clara Hildebrandt, MD (Ped-Medical Genetics)
• Freiberg, Germany → Ann Arbor, MI
• Univ. of Michigan (Neuroscience)
• Wayne State Univ. School of Medicine



Shawn Jackson, MD, PhD (Pediatric Anesthesia)
• Tucson, AZ
• University of Arizona (Cellular & Molec Biology and Political Science)
• University of Wisconsin School of Medicine
• PhD (Cell & Molec Biol)

BOSTON COMBINED RESIDENCY



Hannah Johnson, MD
(Child Neurology - BCH)
• Canton, OH
• Brown Univ. (Neuroscience)
• Vanderbilt Univ. School of Medicine



Margaret (Molly) Lewen, MD
• Ridgefield, CT
• Williams College (English & Psychology)
• Univ. of Pennsylvania School of Medicine



Jia Liu, MD
(Pediatric Anesthesia)
• China → Charlottesville, VA
• University of Virginia (Biology)
• Yale University School of Medicine



Adrienne Long, MD, PhD
(Integrated Res. Path.)
• Damascus, MD
• Northwestern Univ. (Biomedical Engineering)
• Northwestern Univ. School of Medicine
• PhD Northwestern & NIH (Microbiol & Immunology)



Kyle McCracken, MD, PhD
(Accelerated Res. Path.)
• Youngstown, OH
• Xavier Univ. (Biology)
• Cincinnati Univ. School of Medicine
• PhD (Molecular & Developmental Biology)



Caitriona McGovern, MD
• Winchester, MA
• Harvard College (Global Health Policy)
• Harvard Medical School



Erin Meyer, MD
• Columbia, MO
• Washington Univ. in St Louis (Philosophy, Neuroscience & Psychology)
• Case Western Univ. School of Medicine



Melissa Musser, MD, PhD
(Integrated Res. Path.)
• Amarillo, TX
• Univ. of Oklahoma (Cello & Zoology)
• Vanderbilt Univ. School of Medicine
• PhD (Human Genetics)



Ryan Nelson, MD, PhD
(Accelerated Res. Path.)
• Rochester, MN
• Washington Univ. in St Louis (Biol & Anthropol)
• Univ. of Minnesota School of Medicine
• PhD (Microbiology, Immunol & Cancer Biol)



Amy O'Brien, MD
(Pediatric Anesthesia)
• Dublin, Ireland → San Diego, CA
• Brown Univ. (Immunology)
• Harvard Medical School



Conor O'Halloran, MD
• Chicago, IL
• Univ. of Wisconsin-Madison (Biology)
• Univ. of Wisconsin School of Medicine



Jordan Roberts, MD
• San Luis Obispo, CA
• Harvard College (Government)
• Cornell Medical College



Matthew (Matt) Rowland, MD
(Pediatric Anesthesia)
• St Charles, IL
• Michigan (Microbiology)
• Northwestern University, Feinberg School of Medicine



Jessica Sanchez, MD
• Phoenix, AZ
• Univ. of Arizona (Physiology)
• Univ of Arizona School of Medicine
• Pediatric Residency (1 yr), Connecticut Children's



Anna Sheridan, MD
(Pediatric Anesthesia)
• Lexington, MA
• Rensselaer Polytechnic Institute (Biology)
• Albany Medical College



Dan Shin, MD, PhD
(Accelerated Res. Path.)
• Bronx, NY
• Columbia Univ. (Biology)
• Albert Einstein College of Medicine
• PhD (Pathology)



Steven Siegel, MD, PhD
(Accelerated Res. Path.)
• Washington, DC
• Yale Univ. (Biology)
• Univ. of Pennsylvania School of Medicine
• PhD (Cell and Molecular Biology)



Michael (Mike) Stratton, MD, MMS
• Newton, MA
• Bowdoin College (Biology)
• Boston Univ. School of Medicine
• MMS (Medical Science)



Kate Templeton, MD
• Santa Monica, CA
• Providence College (Biology)
• Pennsylvania State Univ. School of Medicine



Maria Trissal, MD, PhD
(Integrated Res. Path.)
• S. Korea → Phoenix, AZ
• Univ. of Arizona (Biochemistry and Molec Biophysics & Molecular and Cellular Biology)
• Washington Univ in St Louis School of Medicine
• PhD (Immunology)



Ashley Davidson Turner, MD
• Joplin, MO
• Univ. of Missouri-Columbia (Biochemistry and Nutrition)
• Univ. of Missouri School of Medicine

BOSTON COMBINED RESIDENCY



**Franziska (Franzi) Wachter, MD
(Integrated Res. Path.)**

- Hof, Germany
- Ludwig Maximilian Univ. Munich Faculty of Medicine



**Lara Wahlster, MD, Dr med
(Accelerated Res. Path.)**

- Saarbrücken, Germany
- Ruprecht-Karls-University Heidelberg Medical School
- Dr med (Physiology)
- Pediatric residency (1 yr) Heidelberg Univ. Hospital



Nina Weichert-Leahey, MD

- Heidelberg, Germany
- Ludwig Maximilians Univ. Faculty of Medicine.
- Pediatric Residency (3.5 yrs), Charité Hospital, Berlin



Stephan Wu, MD

- Montreal, Canada → Carlisle, MA
- Univ of Pennsylvania (Biochemistry & Economics)
- Univ of Pennsylvania School of Medicine



**James Xie, MD
(Pediatric Anesthesia)**

- Switzerland → England → Burlingame, CA
- Stanford (Computer Science)
- Stanford University School of Medicine



Julia Whitlow Yarahuan, MD

- Arlington, TX
- Univ. Texas-Austin (Business Honors Program & Management Information Systems)
- Baylor College of Medicine



Salim Zerriny, MD

- Tyngsboro, MA
- Univ. Massachusetts-Amherst (Kinesiology)
- Univ. of Massachusetts School of Medicine

Junior Residents (Urban Health and Advocacy Track)



Hannah Barber-Doucet, MD, MPH

- Brooklyn, NY
- Wesleyan Univ. (Biology & Feminist, Gender and Sexuality Studies)
- SUNY Downstate School of Medicine
- MPH (Public Health)



Jeffrey (Jeff) Campbell, MD

- Boulder, CO
- Princeton (Art History & Materials Science and Engineering)
- Harvard Medical School



Beatriz (Betty) Collada, MD

- Cuba → Miami, FL
- Duke Univ. (Biology)
- Florida International Univ. College of Medicine



Kelsey Egan, MD

- Rochester, NY
- Cornell Univ. (Human Biology, Health & Society)
- Columbia Univ. College of Physicians and Surgeons



Yuan He, MD, MPH

- Tempe, AZ
- Yale Univ. (Molecular Biochemistry & Biophysics)
- University of Arizona College of Medicine
- MPH (Public Health)



Sara Holmstrom, MD

- St. Charles, IL
- Univ. Wisconsin-Madison (Biology)
- Boston Univ. School of Medicine



Avital Ludomirsky, MD, MPP

- Ann Arbor, MI → St Louis, MO
- Princeton Univ. (Public and International Affairs)
- New York Univ. School of Medicine
- MPP, Princeton (Public and International Affairs)



Daria Murosko, MD, MPH

- Columbia, MD
- Univ. of Maryland (Biochemistry)
- Univ. of Pennsylvania School of Medicine
- MPH (Public Health)



Daniel (Dan) Shapiro, MD

- New Haven, CT
- Stanford Univ. (Economics)
- Univ. California, San Francisco School of Medicine



Arielle Spellun, MD

- Warwick, RI
- Univ. of Pennsylvania (Biology)
- Thomas Jefferson Univ. School of Medicine



Destiny Tolliver, MD

- Albany, GA
- Yale University (Linguistics)
- Morehouse School of Medicine

Junior Residents (Medicine-Pediatrics Track, Year 2)



Peter Dunbar, MD

- Oxford, MS
- Princeton Univ. (Chemistry)
- Univ. of Pennsylvania School of Medicine



Erica Pimenta, MD, PhD

- Rahway, NJ
- Rutgers Univ. (Molecular Biology and Biochemistry)
- Rutgers Univ. New Jersey School of Medicine
- PhD (Biochemistry)



Jennifer (Jenna) Schulte, MD

- Burr Ridge, IL
- Univ. of Notre Dame (Anthropology)
- Chicago Univ. School of Medicine



Stephen Tsaur, MD

- Lexington, MA
- Carnegie Mellon Univ. (Chemical and Biomedical Engineering)
- Univ. of Pennsylvania School of Medicine

Junior Residents (Medicine-Pediatrics Track, Year 3)



Charles (Nick) Cuneo, MD

- Weston, MA
- Duke University (Evolutionary Anthropology and Biology)
- Johns Hopkins University School of Medicine



Ross England, MD, PhD

- Lancaster, PA
- Pennsylvania State University (Biology)
- Temple University School of Medicine
- PhD (Molecular & Cellular Physiology)



Brian Hasselfeld, MD

- Chesterfield, MO
- Vanderbilt University (Mathematics, Computer Science and Economics)
- Tulane University School of Medicine



Mariya Kalashnikova, MD

- Kiev, Ukraine → Mountain View, CA
- Stanford University (Human Biology)
- University of Southern Calif School of Medicine

Senior Residents (Categorical Track)



Fatimah Ahmed, MD

- Rolla, MO
- University of Missouri - Kansas City School of Medicine (6 yr BA/MD)
- * Pediatric Residency (2 yrs) Texas Children's



Karyn Austin, MD, PhD

- Worcester, MA
- Mount Holyoke (Biochemistry)
- Tufts University School of Medicine
- PhD (Genetics)



Shawana Bibi, MBBS

- Pakistan
- Ayub Medical College
- Pediatric residency at Aga Khan Medical University Hospital



David Blauvelt, MD

- Glendale, CA
- Harvard College (Molecular & Cellular Biology)
- Harvard Medical School



Philip Boone, MD, PhD (Medical Genetics)

- Chesterfield, MO
- Virginia → Stanford (Biological Sciences)
- Baylor College of Medicine
- PhD (Genetics)



Emily Bucholz, MD, MPH, PhD (Integrated Res. Path.)

- Dallas, TX
- Yale University (Cell & Molecular Biology)
- Yale School of Medicine
- MPH (Epidemiology)
- PhD (Epidemiology)

BOSTON COMBINED RESIDENCY



Kenneth (Kenny) Caldwell, MD

- Fort Myers, FL
- University of Florida (Biological Sciences)
- University of Florida School of Medicine



Kevin Campbell, MD

- Kansas City, MO
- University of Kansas (Human Biology)
- University of Kansas School of Medicine



Laura Chiel, MD

- Newton, MA
- University of Pennsylvania (Biology)
- Harvard Medical School



Madeline (Maddy) Coquillet, MD

- Cleveland, OH
- Yale University (Molecular Biophysics & Biochemistry)
- Harvard Medical School



Shyam Deshpande, MD

- Baltimore, MD
- Grinnell College (Chemistry)
- Vanderbilt University School of Medicine



Yarden Fraiman, MD

- Chicago, IL
- Princeton (Religion)
- Johns Hopkins University School of Medicine



Eli Freiman, MD

- Washington, DC → Wellesley, MA
- Duke University (Evolutionary Anthropol)
- University of Massachusetts School of Medicine



Jonathan (Yoni) Gall, MD, PhD

- Kalamazoo, MI → Morristown, NJ
- Brown (Biology)
- Boston University School of Medicine
- PhD (Molecular Medicine)



Riaz Gillani, MD

- Fredericksburg, VA
- Brown University (Biomedical Engineering)
- Johns Hopkins University School of Medicine



Amanda Gomez, MD, MPH

- Ann Arbor, MI
- University of Michigan (Biochemistry and Spanish)
- Columbia Univ College of Physicians & Surgeons
- MPH (Epidemiology)



Hilary Haim, MD

- New York, NY
- Amherst College (Psychology)
- Icahn School of Medicine at Mount Sinai



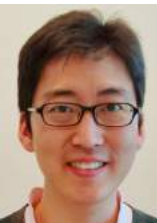
Suzanna Hirsch, MD

- Brookline, MA
- Wesleyan University (Neuroscience & Behavior)
- Albert Einstein College of Medicine



Ryan (Brandon) Hunter, MD

- San Juan, PR → Arlington, VA
- University of Virginia (Biology)
- University of Virginia School of Medicine



Albert (Al) Kwon, MD (Pediatric Anesthesia)

- Redwood City, CA → South Korea
- MIT (Biology)
- Harvard Medical School



Omar Meziab, MD

- Tucson, AZ
- New York University (Neural Science)
- University of Arizona College of Medicine



Levent Midyat, MD

- Istanbul, Turkey
- Istanbul University Cerrahpasa Medical Sch.
- Pediatric residency and allergy-immunology fellowship at Ege Univ. School of Medicine
- Pediatric pulmonary fellowship at Boston Children's Hospital



Gopi Mohan, MD, PhD

- Syracuse, NY
- Amherst College (Chemistry and Music)
- Emory University School of Medicine
- PhD (Immunology & Molecular Pathogenesis)



Scott Resnick, MD

- Highland Park, IL
- Cornell University (Economics)
- University of Illinois School of Medicine
- Pediatric internship at Rainbow Babies (Case Western Reserve)



Nancy Spurland Rixe, MD

- Fairfax, VA
- Wake Forest University (Psychology)
- Pennsylvania State University College of Medicine



Natan Seidel, MD

- Washington, DC
- University of North Carolina (Biology)
- Emory University School of Medicine



Kristen Hart Shanahan, MD

- Mineola, NY
- Boston College (Biology and Education)
- Boston University School of Medicine

BOSTON COMBINED RESIDENCY



**Jennifer (Jenn) Smith, MD
(Pediatric Anesthesia)**

- Huntsville, AL
- North Carolina (Physics)
- University of North Carolina School of Medicine



**Nadine Straka, MPH, MB
BCh BAO**

- Toronto, ON, Canada
- Univ of British Columbia (Microbiol & Immunology)
- MPH, Columbia Univ (Epidemiology)
- Royal College of Surgeons in Ireland



**Jessica (Jess) Tsai, MD,
PhD
(Integrated Res. Path.)**

- Mountain View, CA
- Stanford University (Neurobiology)
- Stanford University School of Medicine
- PhD (Neuroscience)



Lauren Veit, MD

- Springfield, MA
- Rensselaer Polytechnic Institute (Biomedical Engineering)
- University of Massachusetts School of Medicine



Jayme Wilder, MD

- Cape May, NJ
- Princeton University (Operations Research and Financial Engineering)
- Harvard Medical School



Jia Zhu, MD

- Nanjing, China → Murfreesboro, TN
- Massachusetts Institute of Technology (Biology)
- Harvard Medical School

Senior Residents (Urban Health and Advocacy Track)



Lauren Brown, MD, MPH

- New Haven, CT
- Boston University (Biology)
- New York University School of Medicine
- MPH, Harvard School of Public Health (Public Health)



**Lillian (Lily) Buchhalter,
MD, MPH**

- Rochester, MN
- Wheaton College (Political Science)
- MPH, Johns Hopkins School of Public Health (Epidemiol & Statistics)
- Mayo Medical School



Jennifer (Jenn) Fiore, MD

- Elkins Park, PA
- Harvard College (Chemistry)
- University of Connecticut School of Medicine



**Mary Beth Howard, MD,
MSc**

- Boston, MA
- Cornell University (Human Biology)
- Boston University School of Medicine
- MSc (Epidemiology)



Mia Kanak, MD, MPH

- Tokyo, Japan
- Yale University (Political Science)
- Stanford University School of Medicine
- MPH (Health Policy & Management)



Larissa Lester, MD, MPH

- Palm Beach, FL
- Duke University (International Development & Religion)
- University of Miami School of Medicine
- MPH (Public Health)



**Katherine (Katie) Nash,
MD**

- New York, NY
- Dartmouth (History)
- Columbia University College of Physicians & Surgeons



Joanna Perdomo, MD

- Miami, FL
- Washington University in St Louis (Philosophy, Neuroscience and Psychology)
- University of Chicago Pritzker School of Medicine



Jennifer Perez, MD

- Northampton, MA
- Boston University (Biology and Mathematics)
- University of Massachusetts School of Medicine



Puja Umaretiya, MD

- Chandler, AZ
- University of Arizona (Molecular & Cellular Biology)
- Mayo Medical School



**Yanjia (Jason) Zhang, MD,
PhD**

- Shanghai, China → Arcadia, CA
- Yale University (Biology)
- Harvard Medical School
- PhD (Biological Sciences in Public Health)

BOSTON COMBINED RESIDENCY

Senior Residents (Medicine-Pediatrics Track, Year 4)



Viswatej (Vishu) Avutu, MD

- Akiveedu, India → Round Rock, TX
- University of Texas at Austin (Biochemistry)
- University of Texas Southwestern Medical School



Anne Beckett, MD

- Phoenix, AZ
- Harvard College (Social Studies)
- Yale University School of Medicine



Siobhan Case, MD

- Omaha, NE → Seattle, WA
- Stanford (Human Biology)
- Yale University School of Medicine



Melissa Lechner, MD, PhD

- St Louis, MO
- University of California Berkeley (Public Health)
- University of Southern California, Keck School of Medicine
- PhD (Cancer Immunol)

Chief Residents (Boston Children's Hospital)



Marcella Luercio, MD

- Forteleza, Brazil → Fenton, MI
- Michigan-Flint (Molecular Biology)
- Case Western Reserve School of Medicine



Natalie Pica, MD, PhD

- New York, NY
- Georgetown (Biology)
- Mount Sinai, Icahn School of Medicine
- PhD (Virology)



Robert (Rob) Przybylski, MD

- Royal Oak, MI
- Michigan (Biomedical Engineering)
- University of Michigan Medical School

Chief Residents (Boston Medical Center)



Zeena Audi, MD

- Greenwich, CT
- Columbia (Neuroscience)
- Columbia University College of Physicians & Surgeons



Alexandra (Ali) Baker, MD

- Falmouth, MA
- Cornell (Biology)
- Washington University in St Louis School of Medicine

Boston Children's Hospital Department of Medicine

Organization and Faculty Leadership

Gary R. Fleisher, MD

Physician-in-Chief and Chair of Medicine
Boston Children's Hospital

Frederick H. Lovejoy Jr., MD

Vice Chair for Academic Affairs and Associate Physician-in-Chief

Samuel E. Lux IV, MD

Vice Chair for Research and Director of Intern Selection

Vincent W. Chiang, MD

Vice Chair for Finance

Jonathan A. Finkelstein, MD

Vice-Chair for Quality and Outcomes

Ronald C. Samuels, MD

Associate Program Director for Residency Training

Tanvi S. Sharma, MD

Associate Program Director for Residency Training

Marcella Luercio, MD

Chief Resident

Theodore C. Sectish, MD

Vice Chair for Education and Residency Program Director

Alan M. Leichtner, MD

Vice Chair for Clinical Services

Mark A. Schuster, MD, PhD

Vice Chair for Health Policy

Thomas J. Sandora, MD

Associate Program Director for Residency Training

Ariel S. Winn, MD

Associate Program Director for Residency Training

Natalie Pica, MD, PhD

Chief Resident

Robert Przybylski, MD

Chief Resident

Divisions and Programs

Adolescent Medicine

Clinical Translational Study Unit

Developmental Medicine

- ASAP (Adol Substance Abuse Prog)

Emergency Medicine

- Clinical Emergency
- Clinical Toxicology (Poison Center)

Endocrinology

- Clinical Endocrinology
- Diabetes Program
- Neuroendocrinology

Gastroenterology and Nutrition

- Clinical Gastroenterology
- Clinical Nutrition

General Pediatrics

- Children's Hospital Inpatient Service
- CHPCC (Primary Care)
- Clinical Effectiveness
- Coordinated Care Service
- Environmental Medicine
- Family Develop't Unit (Child Abuse)
- Martha Eliot Health Center

Genetics & Genomics

- Clinical Genetics
- Metabolism

S. Jean Emans, MD

David A. Williams, MD

Leonard A. Rappaport, MD

Sharon J. Levy, MD

Richard G. Bachur, MD

Anne M. Stack, MD

Michele M. Burns, MD

Joseph A. Majzoub, MD

Laurie E. Cohen, MD

Joseph I. Wolfsdorf, MB, BCh

Laurie E. Cohen, MD

Wayne Lencer, MD

Athos Bousvaros, MD

Christopher P. Duggan, MD, MPH

Mark A. Schuster, MD, PhD

Vincent W. Chiang, MD

Joanne E. Cox, MD

Jonathan A. Finkelstein, MD

Sangeeta Mauskar, MBBS

Alan D. Woolf, MD, MPH

Celeste R. Wilson, MD

Alex Epee-Bounya, MD

Christopher A. Walsh, MD

Olaf Bodamer, MD, PhD

Gerard T. Berry, MD

Hematology/Oncology

- Clinical Hematology
- Stem Cell Transplantation

Immunology

- Allergy
- Dermatology
- Immunology
- Clinical Rheumatology

Infectious Diseases

- Clinical Infectious Diseases

Interdepartmental Programs

- Bioinformatics
- Cellular and Molecular Medicine
- Stem Cell Biology

Medicine Critical Care

Molecular Medicine

Neonatology

- at Boston Children's Hospital
- at Beth Israel Deaconess Hospital
- at Brigham and Women's Hospital

Nephrology

- Clinical Nephrology

Pulmonary Medicine

- Clinical Pulmonology
- Ina Sue Perlmutter Laboratory

David A. Williams, MD

Matthew M. Heeney, MD

TBD

Raif S. Geha, MD

Hans C. Oettgen, MD, PhD

Stephen E. Gellis, MD

Hans C. Oettgen, MD, PhD

Robert P. Sundel, MD

Michael Wessels, MD

Sandra K. Burchett, MD

Kenneth D. Mandl, MD

Frederick W. Alt, PhD

Leonard I. Zon, MD

Michael S. D. Agus, MD

Stephen C. Harrison, PhD

Stella Kourembanas, MD

Anne R. Hansen, MD

DeWayne M. Pursley, MD

Terrie E. Inder, MD, MB ChB

Friedhelm Hildebrandt, MD

Michael J. Somers, MD

Craig J. Gerard, MD, PhD

Debra Boyer, MD

Craig J. Gerard, MD, PhD

Boston Medical Center Department of Pediatrics

Organization and Faculty Leadership

Robert J. Vinci, MD

Chief of Pediatrics, Boston Medical Center

Chair, Department of Pediatrics, Boston University School of Medicine

Mark E. Dovey, MD

Vice Chair for Clinical Services

Michael Silverstein, MD, MPH

Vice Chair of Research

Catherine D. Michelson, MD. MMSc

Residency Program Director

Scott E. Hadland, MD, MPH

Associate Program Director

Christine C. Cheston, MD

Associate Program Director

Zeena Audi, MD

Chief Resident

Alexander Baker, MD

Chief Resident

Divisions and Programs

Ambulatory Service

- Adolescent Medicine
- Continuity Care Clinic
- Lead Clinic
- Pediatric Primary Care
- Substance Abuse Program
- Transgender Program

Behavioral Health

Cardiology

Children's Services

- Inpatient Pediatric Unit
- Neonatal Intensive Care Unit
- Normal Newborn Nursery
- Pain Program
- Pediatric Intensive Care Unit

Child Protection Program

Community Pediatrics

Developmental and Behavioral Peds

- Child Witness to Violence Program
- Comprehensive Care Program
- Developmental Assessment Clinic
- Good Grief Program
- Grow Clinic
- Primary Care Enrichment Program
- Reach Out and Read
- School Achievement Clinic

Eileen Costello, MD

Mandy Coles, MD, MPH

Melissa Nass, MD

Sean Palfrey, MD

Eileen Costello, MD

Sara Bagley, MD

Mandy Coles, MD, MPH

Lisa Fortuna, MD

Sharon O'Brien, MD

Mark Dovey, MD

Elizabeth Hutton, MD

Alan Fujii, MD

Bobbi Philipp, MD

Caitlin Neri, MD

Kate Madden, MD

Kim Schwartz MD, MPH

Mary Ellen Stolecki, PNP

Marilyn Augustyn, MD

Neena McConnico, PhD

Jack Maypole, MD

Marilyn Augustyn, MD

Maureen Patterson, MSW, LICSW

Deborah Frank, MD

Deborah Frank, MD

Marilyn Augustyn, MD

Naomi Steiner, MD

Emergency Medicine

- Clinical Simulation

Endocrinology

Gastroenterology and Nutrition

General Pediatrics

- Academic Fellowship
- Center for the Urban Child

Genetics

Health Leads

Hematology/Oncology

Infectious Diseases

- HIV Program
- Refugee Health

Medical Student Teaching

Neurology

- Neuroepilepsy Program
- Neurophysiology Program

Neurosurgery

Ophthalmology

Orthopedics

Otolaryngology

Pediatric Surgery

Pediatrics Weight Management Prog

Pulmonary Medicine

Rheumatology

David H. Dorfman, MD

Tehnaz P. Boyle, MD, PhD

Suleiman Mustafa-Kutana, MD

Claudio Morera, MD

Michael Silverstein, MD

Caroline Kistin, MD MSc

Megan Bair Merritt, MD MPH

Jodi Hoffman, MD

Jessie Odegard, MSW

Amy Sobota, MD

Stephen I. Pelton, MD

Ellen Cooper, MD

Elizabeth Barnett, MD

Rachel Thompson, MD

Karl Kuban, MD

Mandeep Rana, MD

William Debassio, MD, Ph.D

James Holsapple, MD

Steven Christiansen, MD

T. Desmond Brown, MD

Jessica Levi, MD

Catherine Chen, M.D

Carine Lenders, MD

Robyn Cohen, MD, MPH

Ezra Cohen, MD

Facilities



Children's Hospital Main Building front entrance

Statistics

- 404 beds (~50% medical)
 - ▷ 29 bed multidisciplinary ICU
 - ▷ 29 bed cardiac ICU
 - ▷ 24 bed neonatal ICU
 - ▷ 12 bed medicine ICU
 - ▷ 10 bed intermediate care ICU
 - ▷ 13 bed stem cell transplantation unit
 - ▷ 6 bed clinical research center
- 25,000 inpatient admissions
- 26,500 surgical procedures
 - ▷ 2,000 cardiac cath procedures
- 610,000 outpatient visits
 - ▷ 258 specialized clinical programs
 - ▷ 60,000 emergency department visits
- 1,129 active medical and dental staff
- 1,250 adjunct, affiliated and scientific staff
- 2,100 nurses
- 34 languages spoken by patients

Boston Children's Hospital

Boston Children's Hospital is one of the largest pediatric hospitals in the United States, and a major teaching facility of Harvard Medical School. Founded in 1869 as a 20-bed hospital for children, it is now a comprehensive medical center for pediatric and adolescent health care, dedicated to excellence in patient care, teaching and research.

There are 404 inpatient beds distributed on five floors in the Main hospital building, Main South, and the new state-of-the-art Mandell building. The hospital contains a 29-bed multidisciplinary intensive care unit, 12-bed medical intensive care unit, 24-bed neonatal intensive care unit, 26-bed cardiac intensive care unit, 10-bed intermediate care unit, 13-bed bone marrow transplantation unit and six-bed clinical research center (called the Institutional Centers for Clinical and Translational Research at Children's). Children's has physician services agreements for inpatient pediatrics, emergency medicine and newborn medicine at Beverly Hospital, Charlton Memorial Hospital, Milford Hospital, St Luke's Hospital, South Shore Hospital, Tobey Hospital and Winchester Hospital.

There are more than 100 outpatient programs ranging from primary care to a wide variety of specialty programs. Outpatient facilities include an 11-story building for

ambulatory services, the Adolescent/Young Adult Program, Children's Hospital Primary Care at Longwood, and Martha Eliot Health Center, an affiliated neighborhood health center. In addition, outpatient services are provided at Children's satellite centers or physician offices in Brockton, Lexington, Milford, North Dartmouth, Peabody, Waltham and Weymouth Massachusetts.



The green-domed Hunnewell building is the architectural signature of Boston Children's

BOSTON COMBINED RESIDENCY

Hunnewell Building

This famous "green-domed" building with its classic columned facade on Longwood Ave was built in 1914 and is the oldest building in the Children's complex. To many it is the symbol of the institution. Today, it mostly houses administrative offices, including the Dept. of Medicine, offices, which are located on the 2nd floor. The copper dome covers an internal atrium. It was reclad about 20 years ago and is only beginning to recover its verdigris hue.

Main South

Children's opened this 11-story clinical building in 2005. An extension of the hospital's existing Main Building, Main South gives clinicians access to cutting-edge technology while carving out more room for patients and families. The building includes cardiac, medical and multidisciplinary ICU beds, a medical intermediate care unit, a cardiac catheterization lab, inpatient echocardiography, medical and surgical patient beds, operating rooms, interventional radiology space and administrative office space.



Main South building

Fegan Building

This 12 story building sits in the middle of the Children's campus, between the Hunnewell building and the Main Hospital, and houses Children's ambulatory programs and many clinician's offices.

Enders and Karp Research Laboratories

The 13-story John F. Enders Laboratories for Pediatric Research, named for the Nobel Prize recipient who cultured the polio and measles viruses; the 12-story state-of-the-art Karp Family Research Laboratories; and a portion of the new neighboring Center for Life Science Boston, add up to more than 750,000 square feet of research space. These buildings contain basic scientists and physician investigators in virtually every specialty, more than 1,100 in all. The hospital faculty includes 8 members of the National Academy of Sciences, 17 members of the National Academy of Medicine, 23 Fellows of the American Academy of Arts and Sciences, and 11 members of the Howard Hughes Medical Institute and a level of research that rivals the very best research



Enders Research Laboratories



Karp Building

institutes in the world. Funding for research at Boston Children's Hospital exceeds \$300 million and is greater than all other pediatric hospitals in the United States.

Boston Children's Hospital is also a leader in clinical research and has recently doubled clinical research space with the acquisition of a new building near the hospital. The clinical research program has extensive support services, including biostatisticians, epidemiologists, database programmers, data coordinators and clinical research coordinators who provide consultation to clinical investigators. The hospital also has one of the oldest and largest NIH-funded clinical research centers (called the Institutional Centers for Clinical and Translational Research at Children's) in the country.

Mandell Building

This 10-story state-of-the-art clinical building opened in 2013. It contains much needed expansion space for the Emergency, Radiology, Surgery, Neurology, and Pharmacy services. There are four floors of single bed inpatient rooms that align with floors in the existing hospital, new 'short stay beds', and a neuroimaging suite with additional MRI, magnetoencephalography, functional MRI, and near infrared imaging tools.



Mandell Building

Harvard Medical School and the Longwood Medical Area

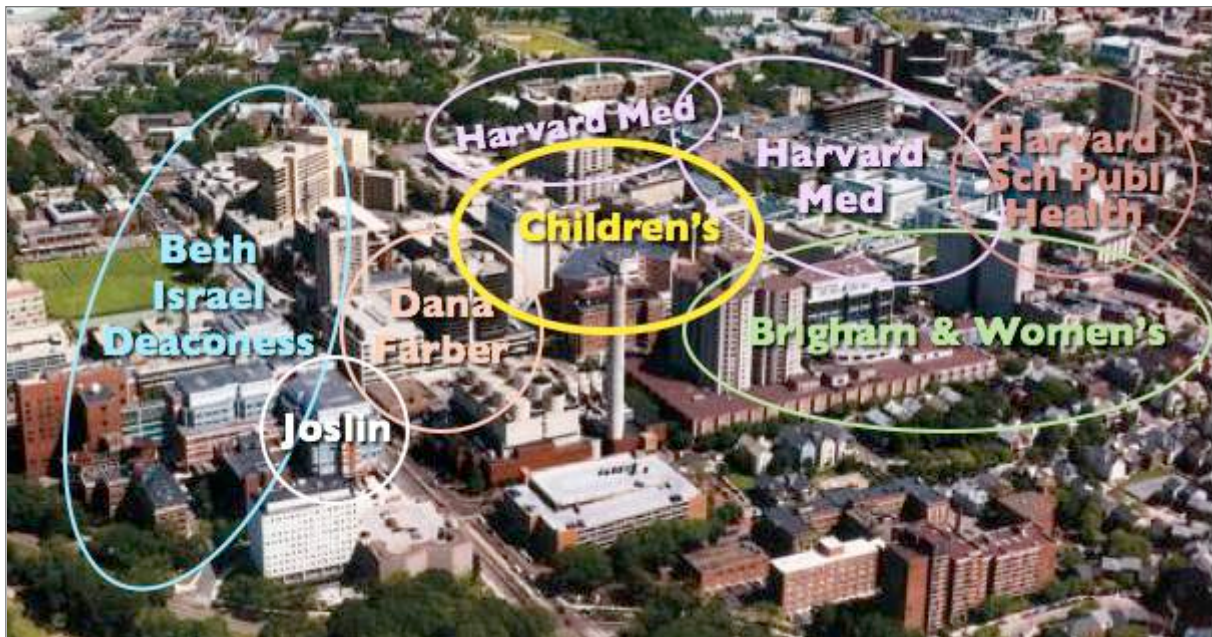


The central Quad of Harvard Medical School. Children's Hospital is next to the buildings on the right.

Boston Children's Hospital is the primary pediatric program of Harvard Medical School, which is located next to the hospital. All faculty hold academic appointments at the medical school. There are more than 3000 Harvard Medical School faculty affiliated with Boston Children's Hospital.

Children's Hospital and Harvard Medical School are part of a larger, roughly 20 square block campus called the Longwood Medical Area. Children's sits in the center of this area, next to the Brigham and Women's Hospital, Beth Israel Deaconess Medical Center and the Dana-Farber Cancer Institute, as well as Harvard Medical School, and within a block of the Joslin Diabetes Center, the Massachusetts College of Pharmacy, the Harvard School of Public Health, and the Harvard School of Dental Medicine. Some members of the staff are also staff members at one of these neighboring institutions.

Boston Children's Hospital participates in numerous cooperative programs. It is a partner in Neonatology with Brigham and Women's Hospital and Beth Israel Deaconess Medical Center. It is the headquarters of the New England Regional Infant Cardiac Program, the site of the Massachusetts Poison Control System, a partner in the Dana-Farber/Boston Children's Cancer and Blood Disorders Center with Dana-Farber Cancer Institute and a partner in the Joint Program in Gastroenterology and Nutrition with Massachusetts General Hospital across town. Several surgical departments are joint programs with the Brigham and Women's Hospital.



Children's lies at the center of the Longwood Medical Community

Boston Medical Center



Boston Medical Center main entrance

In July 1996, Boston City Hospital, Boston Specialty and Rehabilitation Hospital, and Boston University Medical Center merged to form Boston Medical Center (BMC). Through its partnership with Boston University School of Medicine and Boston Health Net neighborhood health centers, BMC continues the mission set forth by Boston City Hospital more than 125 years ago--to provide medical care to the residents of Boston. Last year, the Department of Pediatrics at BMC provided care to more than 3,000 pediatric inpatients, 60,000 outpatients, and 27,500 patients in the emergency department. The neighborhood health centers, which provide continuity clinic sites for house officer training, contribute an additional 110,000 ambulatory visits each year to the program. Boston Health Net reflects our commitment to Community Care by combining BMC with 13 community based health centers into an integrated service delivery network.

Inpatient Facility

This building opened in January 1994. There is a 22-bed pediatric unit, a six-bed pediatric intensive care unit, a 30-bed normal newborn nursery, and a brand new, state-of-the-art 21-bed level III neonatal intensive care unit with single rooms for newborns and mothers that opened in January 2016. There are approximately 2,800 deliveries each year, 40 percent of which are high risk. There are 25 outpatient programs including primary care, adolescent medicine, pediatric cardiology, pulmonology, gastroenterology, allergy and immunology, rheumatology, nutrition, developmental behavioral pediatrics, genetics and a variety of specialty programs, many of which are

Statistics

- 493 total beds
 - ▷ 22 pediatric inpatient beds
 - ▷ 30 bed newborn nursery
 - ▷ 21 bed neonatal ICU
 - ▷ 6 bed pediatric ICU
- 3,000 inpatient admissions
- 2,800 deliveries
- 60,000 outpatient visits
- 27,500 emergency department visits

directed towards health care issues of urban children due to poverty.

Maxwell Finland Laboratory

The Maxwell Finland Laboratory for Infectious Diseases, named for the world-renowned investigator of bacterial diseases and antibiotics, houses the laboratories of the divisions of pediatric infectious diseases, immunology, pulmonary, and molecular biology. Research in these laboratories focuses on problems of urban children.

Shapiro Ambulatory Care Building

In April 2011 BMC hosted the grand opening of the Carl J. and Ruth Shapiro Ambulatory Care Center, the hospital's new state-of-the-art facility for outpatient services. The 250,000 square foot, nine-story building allows consolidation of clinical programs and a standard of care delivery that maximizes patient comfort and operation efficiency.



Shapiro Ambulatory Care Building

BOSTON COMBINED RESIDENCY



Yawkey Ambulatory Care Center

Yawkey Ambulatory Care Center

Home to all Ambulatory Care Programs at BMC, the Pediatric Department Programs are located on the fifth floor of the Yawkey Ambulatory Care Center Building. Residents who select BMC as their continuity practice site will be based here at BMC. The Department of Pediatrics provides extensive services to its patients in this ambulatory site, including a food pantry, clinic-based literacy program (Reach Out and Read) and specialized Health Services screening for our patients and their families (Project Health Help Desk).

Isadore Talbot Building

The Talbot Building demonstrates the beautiful architecture of turn-of-the-century Boston. It was the original site of the Massachusetts Memorial Hospital (predecessor to BMC) and is now renovated on the BMC campus and is the site of the Boston University School of Public Health.

Moakley Cancer Care Building

With the November 2006 opening of the Moakley Building, Boston Medical Center had reached its goal of providing a best-in-class, centralized cancer and ambulatory care facility that embodied the commitment to provide



Isadore Talbot Building



Moakley Building

exceptional care. Named in honor of the late Congressman John Joseph Moakley, a devoted champion of BMC, the building was designed to streamline care by consolidating the diagnostic and cancer treatments that were scattered across the 16-square-block Medical Campus. The latest equipment and technology supplement the services offered, including the diagnosis and treatment of cancer and digestive and otolaryngology disorders, a breast health center, and an ambulatory surgery center.

Boston University School of Medicine

Boston University School of Medicine (BUSM) is located in the historic South End of Boston and shares a campus with Boston Medical Center Hospital, the School of Public Health, the Goldman School of Dental Medicine, the Solomon Carter Fuller Mental Health Center, and the Boston Public Health Commission. This campus hosts approximately 700 medical students, along with 550 School of Public Health students, and nearly 1000 graduate students receiving master's degrees and doctorates, as well as nearly 1200 full-time and part-time faculty members. Besides the 4-year MD program, there are a number of dual degree options and students may earn a combined MD/PhD, MD/MPH, or MD/MBA.

Boston University School of Medicine began as the New England Female Medical College, which opened in 1848 as the first institution in the world to offer medical education to women. In 1873, the college merged with Boston University, becoming the first coeducational medical school. Throughout its history BUSM has maintained a strong commitment to the study and practice of medicine in the context of a mission of service to society. In addition, BUSM is a major research institution with over 600 funded research programs and more than 1,000 active clinical trials, providing an exceptional environment for students interested in basic science, clinical investigation, or public health and health services oriented research. Students may also participate in international health programs and a variety of professional and social service activities.

BUSM is distinguished by its programs in cardiovascular diseases, cancer, pulmonary disease, human genetics, dermatology, arthritis, geriatrics, Alzheimer's disease, Parkinson's disease, public health, law and medicine, and medical ethics, among others. Boston University School of Medicine continues to provide the leadership for the Framingham Heart Study, the largest epidemiological study in the world. As a leading medical research institution BUSM is ranked 40th in receipt of federal funding. In 2014, the BUSM received \$282 million in total grant awards, with \$182 million coming from the NIH. The BU School of Public Health, currently ranked #10 in the nation, has an additional \$40 million in grant funding, with an emphasis on global health, maternal and children health and health policy. Research awards to the BU-affiliated Boston Medical Center (BMC), where many of the faculty's research grants are awarded and

administered, totaled \$127 million. The school, in partnership with Boston Medical Center, continues to build BioSquare, a 16-acre state-of-the-art biomedical research and business park, next to its campus in the South End. BioSquare provides BUSM with an additional 2.5 million square feet of research space. There is a particular emphasis on interdisciplinary research programs featuring investigators from the School of Medicine collaborating with investigators at the other medical campus schools (Public Health and Dentistry), our principle teaching hospital (Boston Medical Center), and the Charles River Campus of Boston University. These collaborative projects often focus on urban health problems, health disparities, and issues of health care delivery to vulnerable populations and underserved communities.



BioSquare Research Center at BUSM

Program

What's Special About the BCRP

1. Residents and faculty: diversity and unmatched quality
2. Unique combination of the leading pediatric subspecialty and research hospital with the leading center in urban pediatrics and patient advocacy
3. Commitment to education and innovative initiatives like the BCRP Academies.
4. Intertwining of high quality research and clinical care
5. Flexibility and family friendliness
6. Academic Development Block
7. Harvard and BU medical students
8. Resident influence on organization of residency through the Residency Program Training Committee
9. Global Child Health Initiative
10. Harvard University, Harvard Medical School and Boston University School of Medicine Libraries and extraordinary electronic library facilities
11. Location of hospitals adjacent to highly desirable living areas in Brookline and Boston
12. Boston and New England

The Boston Combined Residency Program in Pediatrics (BCRP) was formed to meet the needs of the future, bringing together the training programs of Boston Medical Center (formerly Boston City Hospital) and Boston Children's Hospital. Boston Medical Center has a long and important history of clinical research, advocacy, public policy and primary care training for pediatricians in an urban setting. Boston Children's Hospital is the nation's leading research and training institution dedicated to the care of children, adolescents, and young adults with unusual and complex medical problems.

Pediatric care is changing rapidly and the dynamic interface between health care systems, and complex medical challenges requires residency training programs to constantly modify our educational programs. Pediatricians of the future will need advanced knowledge and skills to diagnose and treat children with medical and surgical problems in a primary care setting. Subspecialists will work in close collaboration with primary care clinicians in managing children who require their expertise. Imbedded within this framework of pediatric care must be the continued development of leaders in academic medicine and research.

Mission: The BCRP is dedicated to providing outstanding (world-class) clinical training that prioritizes clinical excellence, aligns to the interests and goals of each resident, fosters the acquisition and strengthening of leadership and advocacy skills, creates an environment conducive and supportive of scholarship and innovation, and optimizes the opportunity to advance the science of pediatrics through research.

Vision: It is the vision of BCRP that each resident completing our program is an effective leader for child health within any chosen career and is providing clinical

care of the highest quality, optimizing the health and well-being of each child under their care.

Values: The BCRP believes that superb training promotes care that is patient and family centered, longitudinal in perspective, collaborative, compassionate and humanistic, culturally competent, evidence-based, high-value, inter-professional, and innovative. The BCRP believes that a superb training experience requires commitment to development of the individual as a professional, life-long learning, development of leaders capable of driving change, inter-professional teamwork, and balance in personal and professional life.

The goal of the BCRP is to provide our housestaff with the skills required to attain leadership positions in academic pediatrics, to support their clinical and research careers, thus allowing them to modify the future direction of pediatric health care. You will receive comprehensive training experiences that emphasize outstanding clinical care, while integrating your training with advances in basic science, and provide you with access to faculty who are leaders in science, clinical care, global health, advocacy and public policy. The BCRP is committed to provide you with a dynamic training experience while emphasizing humanistic qualities in a supportive training environment to assist you in reaching your professional and personal goals.

We believe the BCRP serves as a national model for pediatric training and comprehensive care for children. It has brought together two great hospitals and universities not for economic gain, but rather to help craft the future of pediatric care and training. We are pleased to offer this program for applicants interested in becoming leaders in pediatrics, and we look forward to working with you as our colleagues to meet the challenges of pediatric health



Dr. Sectish meets with a resident

care and to help shape the future of clinical care, research, and education.

Tracks

The Boston Combined Residency Program in Pediatrics (BCRP) at Boston Children's Hospital and Boston Medical Center emphasizes training in general pediatrics for all residents, regardless of their ultimate career plans. The program offers two tracks:

- Categorical Track (36 residents) — emphasizing training in academic medicine and pediatric subspecialties
- Urban Health and Advocacy Track (11 residents) — emphasizing training in urban pediatrics, public policy and advocacy

Categorical Track

This track (**NRMP #1259320C0**) is designed for applicants who wish to focus on academic general or specialty pediatrics. Besides the strong educational base in general and subspecialty pediatrics, principles of academic leadership are actively taught throughout the three-year training program. About 85% of the Categorical track graduates enter subspecialty fellowships or academic general pediatrics fellowships, but some pursue pediatric practice, hospitalist positions, global health and health policy experiences, and health services research training programs.

Categorical track residents have opportunities for research funding, exposure to academic meetings and active mentoring by general pediatrics and subspecialty faculty. Most residents participate in the standard three-year curriculum; however, the two research tracks of the American Board of Pediatrics—the Integrated Research Pathway, and the Accelerated Research Pathway—are available to housestaff pursuing academic research



Dr. Zuckerman Reaches Out and Reads

careers. In fact, the BCRP has had the most residents participate in these so-called “fast-tracking” pathways of any program.

Categorical residents do approximately 80 percent of their training at Children's Hospital and 20 percent of their training at Boston Medical Center.

Urban Health and Advocacy Track

This track (**NRMP #1259320C1**) was previously called the Primary Care Track but has been renamed to more accurately reflect its mission. It provides general pediatric training with an emphasis on experiences in the primary care of underserved children and their parents in an urban setting. This track allows residents to focus on their interests in general academic pediatrics, public health policy, advocacy, community pediatrics, and global health. Development of leaders in these areas is a goal of this track. Beginning in the PL2 year, Urban Health and Advocacy Track (UHAT) residents select an additional half-day experience to augment their training. Residents have the option of choosing between a second continuity clinic and a project in urban health, advocacy, global health or public policy. Those selecting a project are coupled with a faculty mentor throughout the PL2 and PL3 years. The UHAT curriculum is enhanced by monthly educational sessions on child health and advocacy, as well as by regularly scheduled evening seminars on health policy. Over the past two years these sessions have been augmented by the development of UHAT specific mentoring groups, which, under the direction of faculty leaders, provide an introduction in careers in global health, health services and health policy.

Many UHAT graduates have careers in academic medicine with a focus on health care issues of the urban poor, serving as researchers, advocates, community leaders and clinicians. They often practice in urban settings, and

BOSTON COMBINED RESIDENCY

many pursue academic general pediatric fellowships, advocacy fellowships, masters programs in public health and health services research fellowships.

UHAT residents spend 35 percent of their time at Boston Medical Center and 65 percent at Children's Hospital. Inpatient general pediatrics rotations are spent primarily at Boston Medical Center in the PL-2 and PL-3 years.

Common Aspects

Both tracks are geared towards training outstanding general pediatricians. Rotations in the two tracks are very similar and all residents work at both institutions, but the faculties at Children's Hospital and Boston Medical Center have different interests and the two institutions have a different focus, which allows residents to focus upon their individual goals and take advantage of the diverse resources to explore and prepare for careers in virtually any aspect of pediatrics.

It is important to emphasize that residents in the two tracks are all part of the same program and function as one. They are totally integrated in all aspects of the program and, aside from the program leaders, few faculty or staff know which residents belong to which track.

As described in detail in the Application section, each track has a separate match number through the National Resident Matching Program (NRMP) and has a separate selection process. Applicants can apply to either one or both tracks. Because the tracks are quite similar and the program is highly unified and, because most applicant's interests overlap the missions of each track to some degree, **most applicants should apply to both tracks.**

Combined Pediatrics-Anesthesiology

The BCRP was one of the first residency programs to offer combined training in Pediatrics and Anesthesiology (**NRMP #1259726C0**). Residents spend their first year in pediatrics residency. The following year is the first year of anesthesiology training, followed by three years of integrated residency training in both pediatrics and anesthesiology. Throughout the three years of integrated training, while residents are doing core training in Pediatrics or Anesthesiology, they attend conferences and participate in core clinical activities once a month in the other discipline to keep the combined program fully integrated. We are developing a core seminar series that will occur throughout the year to bring together the residents in the combined training program. The seminar will cover topics specific to pediatric anesthesiology.

Individuals ideally suited for this combined training will likely pursue careers at the interfaces between critical care, pediatrics, and anesthesiology. Examples of such

careers include hospitalist medicine, pain and palliative care, out-of operating room procedural and sedations services, and members of integrated subspecialty teams in pediatrics, critical care and anesthesiology.

Combined Pediatrics-Medical Genetics

The BCRP is one of the few residency programs in the country that offers combined training in Pediatrics and Medical Genetics (**NRMP #7652444017**). The program is four years and offers the opportunity to be board-certified in both fields. Residents spend their first year in pediatrics residency. During the following two years, residents alternate between rotations in clinical genetics and pediatrics every six months. The fourth year is spent completing clinical genetics training, as well as a genetic research project. During their training in genetics, residents continue to attend their pediatrics primary clinics and are encouraged to participate in other BCRP educational programs.

The combined pediatrics-medical genetics residency is best suited for individuals who have a clear interest in medical genetics at the time of application. These individuals may envision clinical careers in genetics and genomics, biochemical genetics, complex care, or careers in research, bioethics, or advocacy for individuals with genetic disorders.

Combined Pediatrics-Child Neurology

The BCRP offers two different Pediatrics-Child Neurology programs: one a joint program between the Categorical Track and the Child Neurology program at Boston Children's Hospital (**NRMP #1259185C0**), and one between the Urban Health and Advocacy Track and the Child Neurology program at Boston Medical Center (**NRMP #1257185C0**). These two "Categorical" programs both begin with 2 years of general pediatrics in the appropriate track of the BCRP followed by three years of child neurology at either Boston Children's Hospital or the Boston Medical Center, depending on the program. Both child neurology programs also offer separate "Advanced" positions that are not linked to the BCRP, where the matched residents first complete their 2 years of general pediatrics in some other program.

Neurodevelopmental Disabilities Preliminary Position

The BCRP offers one two-year Preliminary-NDD position (**NRMP #1259320P1**) to those who match in the Boston Children's Hospital Neurodevelopmental Disabilities (NDD) training program (**NRMP #1259186A0**). NDD is an ACGME-accredited program combining 2-years of pediatric training with 4-years of training in adult and

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pediatric neurology, adult and pediatric NDD, and basic and clinical sciences. Children's Hospital only offers an Advanced four-year NDD position, which begins in 2018. However, the linked BCRP Preliminary position allows applicants who match into that position to complete their entire six-year NDD training in Boston.

Harvard BWH/BCH Med-Peds Residency

The Harvard Associated Medicine & Pediatrics Programs were established in the late 1980s. The highly competitive program at the Brigham and Women's Hospital and Children's Hospital is fully integrated into each categorical residency. Med-Peds residents have the same supervision, responsibilities and opportunities as their medicine and pediatrics colleagues and are a vital part of the BCRP. More information about the Harvard BWH/BCH Med-Peds Program is available [here](#).

Residency Program Organization

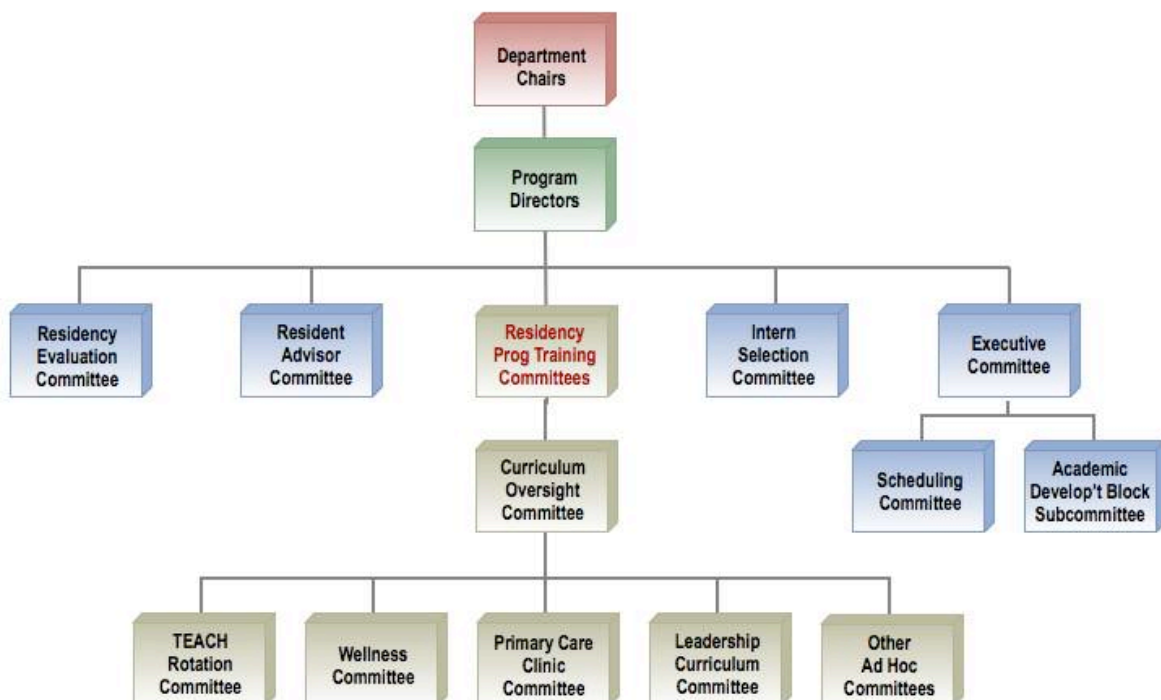
The Residency Program Training Committee (RPTC) was established in the 1970s. It is the BCRP Program Evaluation Committee and is responsible for review of the curriculum and for development of new training initiatives. The committee's structure, shown in the figure on the next page, aligns residents and faculty members with the main educational elements of the residency program curriculum. The RPTC Executive Committee oversees and integrates the work of five standing Committees for

Inpatient Care, Subspecialty Experiences, Intensive Care, Ambulatory Experiences, and the Individualized Curriculum. On all committees of the RPTC, there are faculty representatives from each institution, but residents elected from each class constitute the majority of the committee members. The fact that residents in the Boston Combined Residency Program (BCRP) are primarily responsible for directing their own program and deciding critical details is one of the strengths of the program.

Based on new 2013 ACGME Program Requirements for Graduate Medical Education in Pediatrics the RPTC and its standing Committees redesigned the residency program curriculum while maintaining compliance with new program requirements. Our aim was to create an innovative curriculum that provided rigorous pediatric training, met curricular needs, and provided flexibility for professional development. We believe the new BCRP curriculum reflects the mission, vision, and values of our program and enhances the academic focus of residents, a focus that sets us apart as a pediatric residency program nationally

BCRP Administration and Operations

The BCRP is the union of prior residency programs at Boston Children's Hospital (BCH) and Boston Medical Center (BMC) and functions as a one integrated program with the leadership at each institution working collaboratively. At each site there are weekly meetings of the program leaders (program directors, chief residents,



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administrative staff, and, when appropriate, department chairs). The Executive Committee is composed of all program leaders and meets monthly and alternates sites.

Regular class meetings every few months allow for exchange of ideas, information, and areas of needed improvement. Town hall meetings of the entire residency serve a similar function and occur every two to three months. These gatherings provide an open forum for discussion on a variety of topics related to residency education.

Progress Notes, a weekly newsletter, written by the chief residents, features a column, Program Directors' Corner, in which the leadership provides an opportunity for real time discussion of events, ideas for curricular change, areas of success to celebrate, or areas of improvement that need action.

In these multiples venues, we hope to continue to foster bidirectional exchange of information, ideas, and issues with the ultimate goal of constantly improving the education and training within the BCRP.

Residents serve as a driving force for change in the program. They play a key role in the Residency Program Training Committee and the resident voice at class meetings and town hall meetings is pivotal to curricular development. The wonderful collaboration of residents with chief residents and program leadership is a significant feature of the BCRP.

The 2017-2018 BCRP Program

The re-designed residency program is the culmination of the efforts of residents and faculty on the five Committees of the Residency Program Training Committee over the past several years and new elements that were identified by the 2015 Strategic Planning Process and Retreat. Many members of the residency community were involved in the in-person retreat including resident representatives, chief residents, program leadership, invited faculty from Boston Children's Hospital and Boston Medical Center and several outside consultants. The retreat focused on three domains: clinical excellence, leadership development, and resident experience. Starting in the 2016-2017 academic year, we initiated several programs directly related to discussions at the retreat:

- Supervisory rotations in the junior year
- TEACH rotation in the junior year
- Bringing I-PASS to the bedside: patient and family centered rounds
- Stem Cell Transplant rotation in the junior year.



Supervisory Rotations in the Junior Year

We have focused a lot of our curricular changes on the junior year with **a major goal is to provide more supervisory experiences earlier in residency.**

Supervisory experiences in the junior year also support the curricular needs of residents in combined programs and non-standard research pathways. We included new experiences to expand the list of experiences that are already supervisory in the program now: Brigham and Women's (BWH) Delivery Room Rotation, Boston Medical Center (BMC) NICU Junior, Boston Children's Hospital (BCH) 6NE Junior, BCH Intermediate Care Program (ICP) Junior, BHC Short Stay Unit Junior, and BMC Ward Junior. New rotations will include: BCH 7W Subspecialties Junior and the BCH Complex Care Service Junior. The respective night rotations also provided supervisory experiences. We believe These new experiences provide juniors with more opportunities to expand their leadership skills.

TEACH Rotation in the Junior Year

We offer a 2-week rotation in the junior year that is call-free and is focused on the development of teaching skills. The semi-structured schedule provides specific teaching sessions for residents to practice teaching in different venues from Senior Rounds to chalk talks. In addition, there are opportunities for *in situ* teaching while serving in a preceptor role in the Urgent Care Clinic. This rotation is offered to all categorical residents and UHAT residents. Residents in combined programs or those on non-standard pathways may elect the experience. We have a small cadre of faculty who will serve as mentors to observe and give feedback.

Bringing I-PASS to the Bedside: Patient and Family Centered Rounds

This initiative aims to reduce medical errors, improve the patient, family, and provider experiences, and promote a

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shared mental model of the plan of care. Based on pilot data that patients and families had a discordant understanding of the plan of care, Alisa Khan and Christopher Landrigan developed an Intervention Bundle and launched a multisite project across North America. We will be implementing the new approach to care at Boston Children's Hospital and Boston Medical Center on the general inpatient units starting in the new academic year. The Intervention Bundle consists of: 1) engaging and empowering patients and families with an orientation to Patient and Family Centered Rounds on admission (with a brochure); 2) a new format of discussion on rounds based on the organizing framework of the mnemonic, I-PASS, *plus* a written Rounds Report that summarizes what we discussed; and 3) standardized communication techniques throughout the day and night shifts with an inter-professional Huddle at mid-shift. We have been training faculty at both sites this Spring and will do training at Rising Junior Orientation, Rising Senior Orientation and New Intern Orientation.

Stem Cell Transplant Moves to Junior Year

In order to accommodate the request of many subspecialty bound residents (especially those headed for heme/onc and critical care fellowships) and to provide for the the flexibility needed to meet scheduling needs between the junior and senior year, Stem Cell Transplant will now be a call-free junior year rotation. This highly rated rotation educationally provides an opportunity to care for a very sick patient population with an integrated inter-professional team. Interestingly, the majority of patients transplanted are not hematologic malignancies.

Mindfulness Curriculum

Based on new data showing that mindfulness practice can improve or prevent burnout, which has a significant impact on physician well-being and ability to deliver compassionate patient care, senior resident Yarden Fraiman and recent BCRP graduate Alexandra Coria developed a week-long mindfulness meditation curriculum for the BCRP. Last year, Yarden and a team of residents, chief residents and faculty piloted the curriculum for interns. It includes a noon conference series, an evening curriculum, and daily emails that introduce a variety of mindfulness techniques that residents can use on the job to reduce stress, improve sleep, and improve overall wellness by being mindful in the present moment. There are plans to expand into a multicenter randomized controlled trial across the country in pediatric residencies.

Future Educational Initiatives and Personal and Professional Development Program-wide in the BCRP

Currently, we are developing a strategy to address the major initiatives that were identified in the Strategic Plan:

- **BCRP Wellness Committee** – This committee developed activities and programs to enhance the personal and professional development of residents. As an example, we designated February as “**Funuary**” and created a series of fun leisure activities that brought residents and program leaders together.
- **Leadership Curriculum** – We plan to introduce a Leadership Curriculum that spanning all three years that focuses on team leadership within the program and leadership roles in one's future career.
- **Primary Care Immersion** – This year we will pilot an innovative primary care experience across all three years, including plans to design a **longitudinal micro-practice model** and build a **primary care immersion block**.

Brigham NICU Rotation

This year we will pilot a Q4 Call system with interns doing 24 hour shifts in order to provide continuity of care. There will be an additional period of 4 hours after the shift to transition care. This change will enable better communications at morning handoff and will enable interns to follow changes in patient status with improved continuity of care.

Intermediate Care Program (ICP) Rotation

With the geographic separation of the ICP on the 9th and 11th floors, we will feature two teams with an intern and a supervising resident (juniors and seniors) on each floor. This change will enable better communication and immediate access to these higher acuity patients.

Other Program Features

The BCRP Academies: Innovative Academic Homes

The BCRP has a long history of producing academic pediatricians. We identified the need for academic homes consisting of residents, faculty and other trainees who share intellectual interests. We created five BCRP Academies consistent with the interests and intellectual pursuits of our trainees and our faculty:

- Academy of Basic and Translational Investigation
- Academy of Clinical Investigation
- Academy of Clinical Innovation
- Academy of Medical Education
- Academy of Community and Global Medicine

The overarching goals of the BCRP Academies are to:

- Promote formal and informal faculty-resident interactions and mentorship

FUNuary

2016

Evening and weekend events for residents, sig-Os, and kiddos!

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1 FUN AT WORK!	2 FUN AT WORK!	3 Frog Pond Ice Skating Cost: FREE Pick up your passes from Carolyn!	4 FUN AT WORK!	5 HSA FORMAL! Cost: \$30 per guest Loc: Harvard Club Time: 6:30p	6 Pasta-Making with Bob and Tom Loc: Bob's House Time: 3:30pm
7 Post-call Waffles @ BCH Loc: HSL Time: 8a-11a	8 Yoga by Steph Loc: BCH Farley 325 Time: 6:30p-7:30p	9 FUN AT WORK!	10 Bowling Night Loc: Lucky Strike Time: 6p -- ???	11 HAPPY HOUR! Loc: Lansdowne Pub Time: 6p -- ???	12 Saved by the Bell 80s Theme Day	13 Snow Tubing! Loc: Nashoba Ski Valley Cost: \$30 per person Time: 4p-7p
14 Movie Matinee Loc: AMC Boston Time: Up to you! OR Chinatown New Year Celebration! **See below!!	15 Yoga by Sam Loc: BCH Byers A/B Time: 6:30p-7:30p	16 BMC: Chair Massages (SIGN-UP!) BCH: Chair Yoga, Reiki, Meditation	17 Trivia Night Loc: Clery's (South End) Time: 7p	18 FUN AT WORK!	19 Wild West Flannel Friday Theme Day and then... Boxing & Boxed Wine at Kate and Ken's Loc: Kate's apartment Time: TBD	20 Trampoline Dodgeball Loc: SkyZone Boston Time: 2p
21 Mixology with Tom Sandora Loc: Tom's apartment Time: TBD	22 Insanity Workout Loc: BCH Farley 325 Time: 6:30p-7:30p	23 Improv Comedy Show Loc: Improv Asylum (North End) Show Time: 8p	24 FUN AT WORK!	25 Escape the Room Loc: 33 West St, Boston Cost: \$15 per person Time: 7:15p	26 Circus Theme Day	27 BubbleBall Soccer Loc: 28 Quint Ave, Allston Time: 1:30p
28 "How-to Homebrew" and Craft Beer Tasting Loc: Emily's apartment Time: TBD	29 HAPPY HOUR! Loc: Game On! Time: 6p -- ???					



Mixology session at Associate Program Director Tom Sandora's house



Pet therapy



Post call waffle making

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- Promote and support scholarly pursuits
- Develop Academy-specific concrete skills such as grant writing, bedside teaching and participating on project teams
- Assist residents as they make decisions about their academic careers

Faculty within the BCRP Academies are motivated individuals who may serve as project or career mentors and provide residents guidance, advising, coaching, and professional development. Each resident has 6 months of Individualized Curriculum built on the foundation of our longstanding and unique PL3 rotation, the Academic Development Block (ADB). This 3-month block provides each BCRP resident with the opportunity to do a scholarly project. Mentoring residents about their Individualized Curricula (ADB coupled with other clinical experiences) is a focus of the BCRP Academies.

Academy activities begin during Intern Orientation with scheduled time throughout the year. Interns select an Academy at the beginning of the year; however they are able to switch Academies throughout their residency if their interests change. Residents participate in a variety of Academy-related functions and events:

- Intern Orientation – Introduction to the Academies
- Noon Conferences and Journal Clubs
- Afternoon workshops and seminars six times per year
- Evening events such as networking receptions or Data Blitz Sessions (brief presentations by faculty of exciting research) about twice per year
- Individual mentoring by Academy leaders and faculty
- Academy-led sessions at the fall and spring retreats

The Academies are the professional development homes within our training program. They serve the individual needs of our trainees as they launch their academic careers and provide a way to identify mentors and innovative projects.

Interest Groups

Two years ago the BCRP residents and faculty established Interest Groups across a wide range of specialties. The purpose of these groups is to introduce residents to subspecialties they are considering after residency and to faculty in those fields, and to help in identifying mentors. Each interest group is headed by one or more residents and one or more faculty members, who recruit members and organize activities. The activities vary but often include dinners or other social affairs that promote discussion. The interest groups include:

- Adolescent Medicine
- Allergy, Immunology & Rheumatology



Recent changes in the program provide more time with patients

- Cardiology
- Critical Care
- Developmental-Behavioral Pediatrics
- Emergency Medicine
- Endocrinology
- Gastroenterology & Hepatology
- General Pediatrics
- Genetics and Genomics
- Hematology/Oncology
- Hospital Medicine
- Infectious Diseases
- Nephrology
- Newborn Medicine
- Primary Care
- Pulmonology

Geographic Ward Team Structure and Family Centered Rounds

Several years ago, the BCRP created multiple geographic (unit-based) ward teams to improve patient care, optimize communication with the nursing staff, and enhance efficiency of team function. Subsequently, we implemented family centered rounds on our general pediatrics teams at BCH and BMC. The aim of this change was to increase time at the bedside, to empower interns with greater ownership of their patients and direct communication with patients and families on rounds, and to create a more efficient team structure. To facilitate this change in rounds format, we split our traditional four-intern teams (with one Senior and an Associate Senior) into two teams, each with its own Senior. The two projects have been a success and have improved nurse-resident communication (Gordon MB. Arch Pediatr Adolesc Med 2011; 165:424-428).

The I-PASS Handoff Curriculum

As part of our aim to improve communication and patient safety (reduction in medical errors), we piloted and implemented a standardized approach to resident handoffs on the inpatient units with the introduction of the

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I-PASS handoff process. We employ a standard language for our verbal handoffs to focus the discussion at evening sign-out. Using our EMR, we developed an electronic handoff tool that imports medical information

automatically and residents update text fields within the electronic handoff tool to provide timely information about:

- Illness severity
- Patient summary
- Action lists
- Situation awareness and contingency planning
- Synthesis by receiver

This curriculum is evidence-based and ensures a shared mental model for the care of patients on the team. The pilot study demonstrated a 40% reduction in medical errors, a decrease of time at the computer (roughly 30 minutes per day), and increased time at the bedside (30 minutes per resident per day). On the basis of these results, we are implementing the I-PASS handoff process across our program. More information about the I-PASS study and the educational curriculum is available at www.ipasshandoffstudy.com, and in several publications: Sectish TC. Pediatrics 2010;126:619-622, Starmer AJ. Pediatrics 2012;129:201-204, and O'Toole JK. J Peds 2013;162: 887-888, and Starmer AJ. JAMA 2013;310:2262-2270 (Featured article in the annual JAMA Medical Education Issue).

As we have always done, we continue to emphasize educational scholarship in our program and study the impacts of curricular change.

Special Class-wide and Residency-wide Educational Events

Intern Orientation

The BCRP features an intensive orientation process with the specific intention of better preparing interns for the first day of internship. Besides the traditional information sessions, we deliver simulation exercises to enhance the function of interns in their inpatient rotations, and provide modules and clear guidelines about written documentation, oral presentations, procedures, the I-PASS handoff curriculum, and on-call expectations. We also orient new interns to the information systems and have them gain competence in writing orders, viewing medical information, laboratory results and images, and in navigating the electronic health record systems.



Practicing procedures during intern orientation

Intern Boot Camp

Based on feedback from current residents and staff, last year the BCRP added a new clinical boot camp to intern orientation. During the boot camp, incoming interns spent time on the wards taking care of a small number of patients in a highly supervised fashion. Among other topics, there was instruction on how to present a patient on family centered rounds, how to call a consult, how to safely enter orders and how to document effectively and efficiently. Interns were able to practice these skills with increased supervision and guidance and therefore be better prepared for clinical practice on day 1 of their first rotation. The new program was enthusiastically received by the interns who felt it gave them confidence and better prepared them to start internship. This year, we rolled out the boot camp for all new interns.



Breakfast together at intern retreat

Retreats

There are two residency-wide retreats held in the fall and late winter in which we address a variety of topics that are part of the basic culture or values of the residency program. In the past, we addressed themes such as teaching, leadership, feedback, work-life balance, patient centered care, communication skills, the I-PASS handoff curriculum, Patient and Family Centered Rounds based on the I-PASS mnemonic, and skills training. It is an opportunity for all residents to spend a day together to reflect on the topics and have a welcome break from the day-to-day grind of residency.

Residents provide the program with enormous feedback during these retreats, and this feedback drives curricular innovation, renovation and, at times, transformational change for the BCRP.

Rising Class Orientations

In the late spring, we host class-wide orientation for Rising Juniors and Rising Seniors, in which we focus on new aspects of the curriculum, leadership skills, and personal and professional development.

Flexibility: A BCRP Value

The size of the program affords opportunities for residents to personalize their training experience. Many residents have unique educational and career objectives, and the BCRP makes every effort to adapt the standard schedule to accommodate these whenever possible. Requests for individual training experiences must be made well in advance of the next academic year (8-9 months).

Here are some of the ways our residents have used this flexibility:

- Attending national meetings related to pediatrics, pediatric subspecialties, and other areas of interest, and presenting work at these meetings
- Serving on national committees (AAP, AMA, etc)
- Pursuing international research and clinical experiences
- Taking advantage of unique elective experiences, like working for the Medical Unit of ABC News
- Participating in one of the ABP-approved research tracks (Integrated Research Pathway or Accelerated Research Pathway)
- Taking a year off to pursue other training or research
- Focusing on career-specific or subspecialty experiences in the senior year

Finally, size allows for flexibility with family issues, including paid maternity and paternity leave, leaves for illness or family emergencies, and occasionally for part-time schedules (for personal or academic reasons).

Rotations: Year-by-Year Snapshot

Overview

The BCRP curriculum is designed to provide increased responsibility during the first two years, culminating in a strong supervisory year. All rotations occur at either Boston Children's Hospital, Brigham and Women's Hospital, or Boston Medical Center. Residents are not asked to staff other hospitals during their training period. The intern year focuses on building a foundation in general pediatrics, beginning to build a longitudinal ambulatory practice, and gaining experience in advocacy. The junior year introduces rotations on subspecialty and acute care units, experiences that are often more challenging than those in the intern year and more suited to the enhanced capabilities of junior residents. Junior residents also acquire some supervisory experience, formal teaching experiences, and have time to individualize their curriculum. Notably, junior residents are introduced to multiple new learning experiences and are not asked to replicate intern rotations. The senior year focuses on supervisory experiences, acute care, individualized learning opportunities and research.

First Year, PL-1

The intern year experiences are intended to develop a foundation of pediatric knowledge, along with the practical skills and confidence needed to work independently and supervise other residents in the subsequent years of the residency.

Interns take front-line responsibility for the care of patients in the inpatient wards, ambulatory clinics, and emergency departments at both BCH and BMC, as well as in the NICUs at BMC and Brigham and Women's Hospital (BWH). In these settings, interns learn how to care for patients with a wide range of pediatric illnesses and illness acuities. Interns also participate in teaching medical students from Harvard Medical School and Boston University School of Medicine.

Building the foundation: Most of the inpatient experiences during the intern year involve covering the pediatric wards at both BCH and BMC. These teams are geographically based and comprise a mix of general pediatric and subspecialty patients. Interns also cover the Intermediate Care Program (a PICU step-down/floor step-up unit at BCH). Neonatal experiences take place in the newborn nurseries and NICUs at BMC and BWH. Finally, interns work in the Emergency Departments of BMC and BCH. Interns also get an introduction to subspecialty care during their four-week Pulmonary rotation, a primarily inpatient service with one week of outpatient clinic as well.



Ambulatory experiences: All residents belong to a Longitudinal Ambulatory Experience (formerly known as Continuity Clinic), where they care for their personal patient population panel over the course of three years including occasional work in Urgent Care. In addition to this, interns participate in longitudinal ambulatory experiences in Developmental and Behavioral Pediatrics and in Adolescent Medicine during the Keystone Quarter. Interns are also exposed to subspecialty ambulatory clinics with either a longitudinal monthly clinic experience or monthly clinics that match their rotations.

Advocacy experiences: All interns participate in four total weeks of formal advocacy training during their Keystone Quarter. During this time, they gain knowledge of community resources and local and state advocacy programs, skills in media and legislative advocacy, and broader understanding of career opportunities in advocacy, public policy and global health.

Second Year, PL-2

The junior year is when residents get their most concentrated exposure to subspecialty and acute care settings, accompanied by an increase in decision-making autonomy and responsibility for high-acuity, often critically ill patients. The junior year also introduces supervisory roles and affords more opportunities for leadership and teaching.

Increased acuity, increased autonomy: Juniors are the only residents on the following BCH subspecialty inpatient services: GI, Cardiology, Complex Care, and Oncology. Breadth of subspecialty experiences is maintained by building in protected ambulatory experiences into each of these primarily inpatient subspecialty units.

Juniors also work with increased autonomy caring for acutely ill patients in the EDs at BMC and BCH, serve as the main responders to all deliveries requiring a pediatrician at BWH, and cover one of the three main teams in the Medical-Surgical Intensive Care Unit (MSICU). These

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Consulting nuclear medicine

rotations require juniors to build on the clinical skills and knowledge gained during the intern year, become more nuanced in their evaluations and differential diagnoses, and more independent and efficient in patient management.

Supervisory experiences: Juniors supervise interns in the BMC Ward and NICU, in the BCH Intermediate Care Program, on two geographic subspecialty teams (a Hematology, Renal, Pulmonary team and an Allergy, Immunology, Rheumatology, Endocrine, Adolescent, and Toxicology team), and on the General Pediatrics Teams. They are also frequently role models and sources of support for interns in the EDs at BCH and BMC. Many of our residents love to teach and lead, and these experiences are highly valued by juniors as opportunities to participate in shaping the culture of the BCRP.

Resident as Teacher Curriculum: Juniors have a two week TEACH rotation focused on developing residents' supervisory and teaching skills. It includes scheduled activities such as delivering a chalk talk, practicing feedback, and precepting medical students, as well as provides individualized time tailored to each resident's career goals.

Individualized Curriculum: The junior year includes 6-10 weeks of elective time, of which 2 weeks are call-free. Juniors use this time to personalize their training experience by pursuing further exposure to pediatric subspecialties, dedicating time to research or teaching, engaging in global health experiences, and a myriad of other options. Some are structured by the residency program and others are individual and unique.

Expanded UHAT opportunities: UHAT residents have a half-day every month when they can choose between a second continuity clinic and a project in urban health, advocacy, global health or public policy.



Senior teaching at the bedside

Third Year, PL-3

The seniors are the main leaders and teachers for the residents of the BCRP. The General Pediatrics supervisory experiences are highly valued by seniors, allowing them to integrate the knowledge and skills acquired in the previous two years, while taking an active role in promoting the development of interns and medical students.

Individualized curriculum: Seniors are also provided time to focus on individual and career interests through the individualized curriculum which consists of 12 weeks time on the Academic Development Block and eight to twelve additional weeks of elective time. The Academic Development Block is a unique opportunity for senior residents to spend a sustained amount of time focusing on research, education, policy or advocacy projects that fit their clinical interests and future career goals. Our residents have used this time in an incredible variety of ways!

Team leadership and education: Senior residents supervise on the General Pediatric services at BCH and on the Pediatric Ward and NICU at BMC. Categorical track residents generally spend more of their supervisory time at Children's Hospital, while most Urban Health and Advocacy track residents spend more time at Boston Medical Center. However, individual preferences for supervisory experiences are considered whenever possible.

Call-free time: All senior residents have approximately 6 weeks of call-free time during the year.

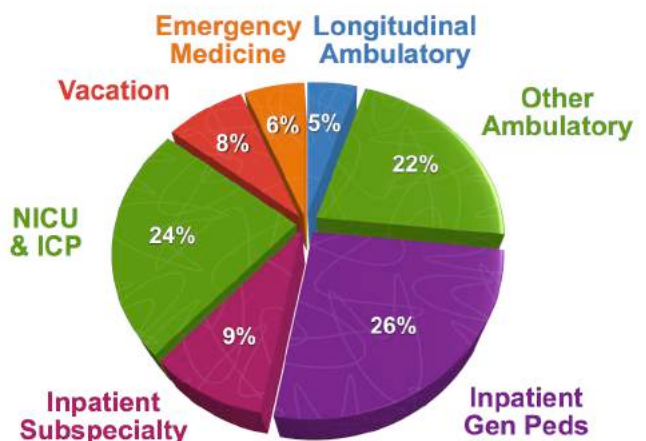
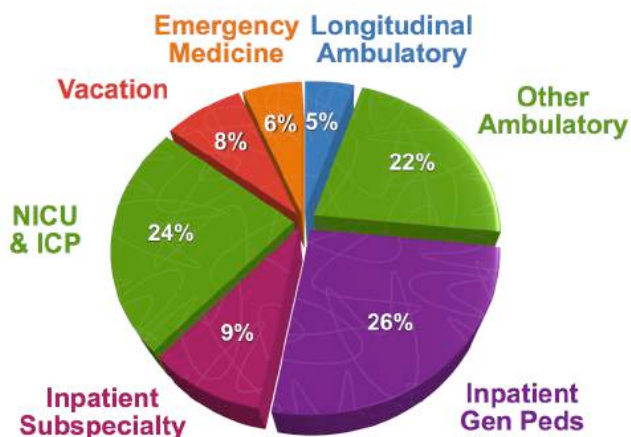
BOSTON COMBINED RESIDENCY

Categorical Track PL-1 Rotation Schedule

Service	Units 1U = 4 wk	Night/Weekend Call
Inpatient Day Service (BCH Gen Peds, 7Subs, BMC Ward)	2-4	Work 2 wknds Off 2 wknds
Inpatient Day Service (6E/6Subs)	0-0.5	No overnights, Work 6 days/wk
Inpatient Day Service (Pulmonary)	1	7-8 nights on night float in 2 segments during month. On 1 wknd, off 2 wknds.
Inpatient Night Service (BCH Gen Peds, 7Subs, BMC Ward)	0-1	Work 5 nights on night float, off 2 nights
Neonatal Intensive Care Unit	1-2	BWH: Every 4 nights for categorical interns BMC: Day shifts. On 2 wknds, off 2 wknds
Newborn Nursery	1	No overnights. Work 2 wknds. Off 2 wknds
Child Development (Keystone)	1	4 to 5 nights in ICP during Keystone block
Adolescent Medicine (Keystone)	1	4 to 5 nights in ICP during Keystone block
Emergency Medicine	0.5-1	Day and evening shifts
Intermediate Care Program (ICP)	0-1	Work 2 wknds Off 2 wknds
Community Health and Advocacy (Keystone)	1	4 to 5 nights in ICP during Keystone block
Vacations	Two 2-wk breaks	---
Longitudinal Ambulatory Experience	---	One afternoon/wk on average

Urban Health and Advocacy Track PL-1 Rotation Schedule

Service	Units 1U = 4 wk	Night/Weekend Call
Inpatient Day Service (BCH Gen Peds, 7Subs, BMC Ward)	2-4	Work 2 wknds Off 2 wknds
Inpatient Day Service (6E/6Subs)	0-0.5	No overnights, Work 6 days/wk
Inpatient Day Service (Pulmonary)	1	7-8 nights on night float in 2 segments during month. On 1 wknd, off 2 wknds.
Inpatient Day Service (BCH Gen Peds, 7Subs, BMC Ward)	0-1	Work 5 nights on night float, off 2 nights
Neonatal Intensive Care Unit	1-2	BMC: Day shifts. On 2 wknds, off 2 wknds
Newborn Nursery	1	No overnights. Work 2 wknds. Off 2 wknds
Child Development (Keystone)	1	4 to 5 nights in ICP during Keystone block
Adolescent Medicine (Keystone)	1	4 to 5 nights in ICP during Keystone block
Emergency Medicine	0.5-1	Day and evening shifts
Intermediate Care Program (ICP)	0-1	Work 2 wknds Off 2 wknds
Community Health and Advocacy (Keystone)	1	4 to 5 nights in ICP during Keystone block
Vacations	Two 2-wk breaks	---
Longitudinal Ambulatory Experience	---	One afternoon/wk on average

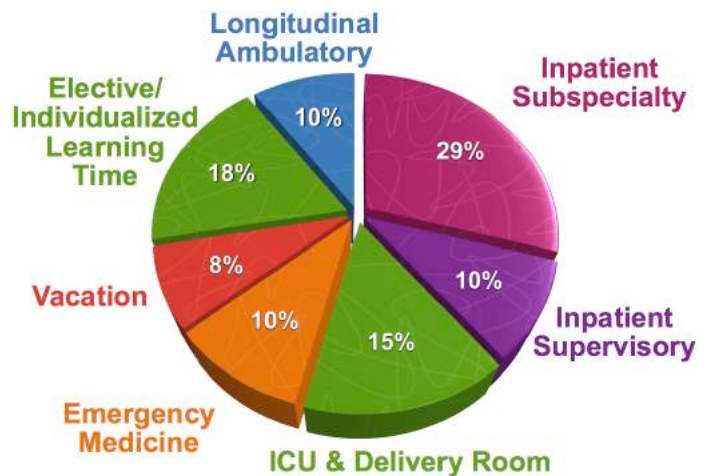
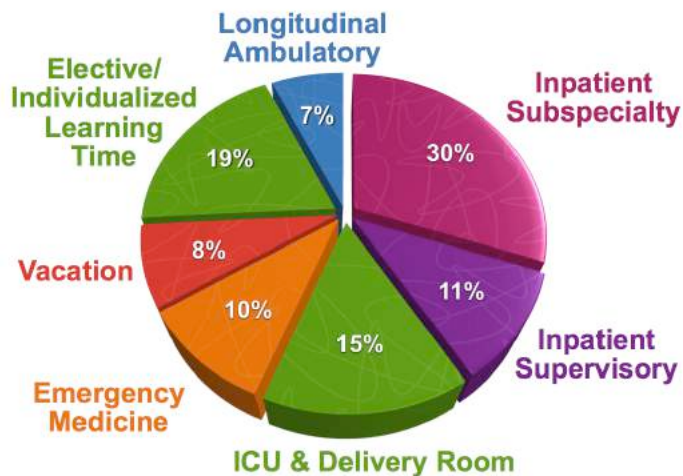


**Categorical Track
PL-2 Rotation Schedule**

Service	Units 1U = 4 wk	Night/Weekend Call
Supervisory Experience: (SSU, BMC Ward, CCS, ICP, 6E/6Subs, 7Subs)	1-2	BCH Gen Peds/BMC Ward/7Subs: 2 Friday calls, 2 Sunday day shifts CCS: Every 4 th night ICP: Night float 6E/6Subs: No call on outpt. On 2 wknds, off 2 wknds while on inpt.
Inpatient Wards (GI, CCS, Cardiology)	2-3.5	Every 4 th night
Medical-Surgical Intensive Care Unit	1-2	Every 4 th night
BWH Delivery Room (DR-1)	0.5-1	Every 4 th night
Oncology	1-2	Every 4 th night
Stem Cell Transplantation Unit	0-0.5	Day shifts 6 days/wk
Emergency Medicine	1-2	Overnight shifts in 2 week blocks (5 nights on, 2 nights off)
TEACH	0.5	2 weeks call-free
Individualized Learning Time	2-3.5	8 wks every 4 th night call. 2 weeks call-free
Vacations	Two 2-wk breaks	---
Longitudinal Amb Experience		1 afternoon/wk on average

**Urban Health and Advocacy Track
PL-2 Rotation Schedule**

Service	Units 1U = 4 wk	Night/Weekend Call
Supervisory Experience: (SSU, BMC Ward, CCS, ICP, 6E/6Subs, 7Subs)	1-2	BCH Gen Peds/BMC Ward/7Subs: 2 Friday calls, 2 Sunday day shifts CCS: Every 4 th night ICP: Night float 6E/6Subs: No call on outpt. On 2 wknds, off 2 wknds while on inpt.
Inpatient Wards (GI, CCS, Cardiology)	2-3.5	Every 4 th night
Medical-Surgical Intensive Care Unit	1-2	Every 4 th night
BWH Delivery Room (DR-1)	0.5-1	Every 4 th night
Oncology	1-2	Every 4 th night
Stem Cell Transplantation Unit	0-0.5	Day shifts 6 days/wk
Emergency Medicine	1-2	Overnight shifts in 2 week blocks (5 nights on, 2 nights off)
TEACH	0.5	2 weeks call-free
Individualized Learning Time	2-3.5	8 wks every 4 th night call. 2 weeks call-free
Vacations	Two 2-wk breaks	---
Longitudinal Amb Experience, 2nd clinic or project		1.5 afternoons/wk on average



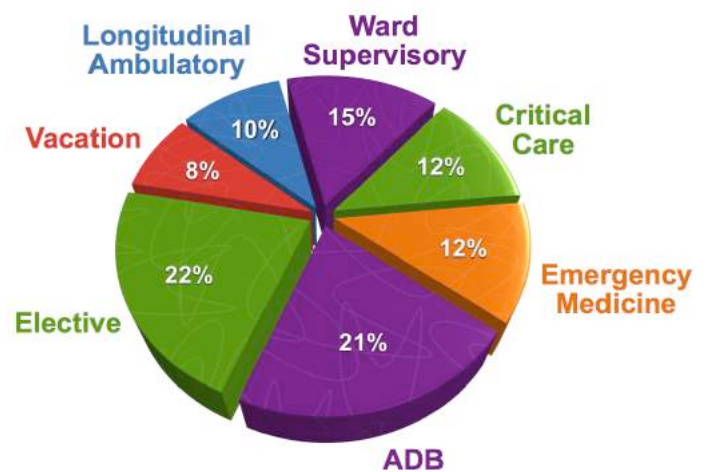
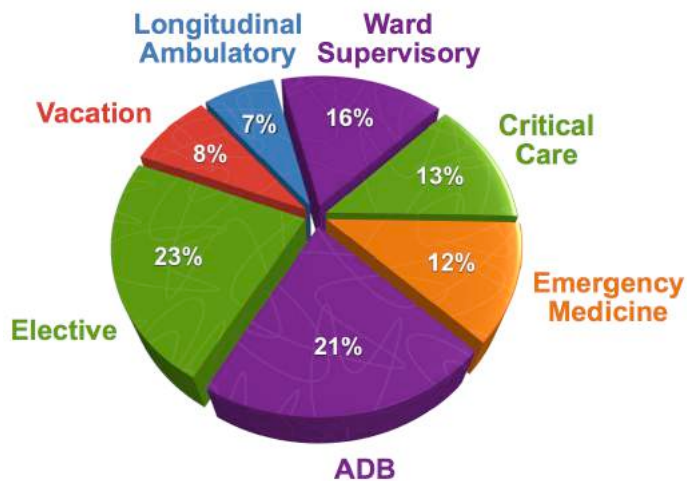
BOSTON COMBINED RESIDENCY

Categorical Track PL-3 Rotation Schedule

Service	Units 1U = 4 wk	Night/Weekend Call
Inpatient Supervisory Experience - Days (BCH Gen Peds, 7Subs, BMC Wards)	1-2	Two Friday calls, 2 Sunday day shifts
Inpatient Supervisory Experience - Nights	0.5-1	Night Float - 5 nights on, 2 nights off per wk
Critical Care (BCH MICU, BMC PICU, NICU)	1-2	Every 4th night
Elective/ Individualized Learning Time	2-3	6 weeks call-free, 6 weeks cross coverage (every 4th night call)
Emergency Medicine	1.5-2	Day and evening shifts
Academic Development Block (ADB)	3	1-2 months every 4 th night; 1-2 months Saturday calls (Gen Peds cross-cover)
Back-up	0.5-1	---
Vacations	Two 2-wk breaks	---
Longitudinal Amb Experience		1 afternoon/wk on average

Urban Health and Advocacy Track PL-3 Rotation Schedule

Service	Units 1U = 4 wk	Night/Weekend Call
Inpatient Supervisory Experience - Days (BCH Gen Peds, 7Subs, BMC Wards)	1-2	Two Friday calls, 2 Sunday day shifts
Inpatient Supervisory Experience - Nights	0.5-1	Night Float - 5 nights on, 2 nights off per wk
Critical Care (BCH MICU, BMC PICU, NICU)	1-2	Every 4th night
Elective/ Individualized Learning Time	2-3	6 weeks call-free, 6 weeks cross coverage (every 4th night call)
Emergency Medicine	1.5-2	Day and evening shifts
Academic Development Block (ADB)	3	1-2 months every 4 th night; 1-2 months Saturday calls (Gen Peds cross-cover)
Back-up	0.5-1	---
Vacations	Two 2-wk breaks	---
Longitudinal Amb Experience, 2nd clinic or project		1.5 afternoons/wk on average



Rotation Descriptions

Keystone Quarter

The Keystone Quarter was formed in 2013 with the goal of unifying ambulatory experiences during the intern year. This rotation was the result of combined efforts of residents, faculty, and program leadership as part of the Residency Program Training Committee's overall re-design of the BCRP curriculum. The block consists of 12 weeks of integrated Child Development, Advocacy, Adolescent and Primary Care experiences. A didactic lecture series compliments residents' outpatient clinic time and focuses on relevant topics ranging from clinical cases to advocacy issues. During the Keystone Quarter, residents will manage pediatric medical problems over time, learn to navigate care delivery systems, and hone skills in the delivery of comprehensive medical care. Residents will complete a capstone advocacy project during the three-month block. Aspects of the individual components that comprise the Keystone Quarter are discussed below.

Keystone Quarter — Child Development

Child Development is a joint rotation between Children's Hospital and Boston Medical Center (BMC). The rotation is designed to provide residents with a rigorous foundation in normal and abnormal infant and child development. Interns and Med-Peds PL-2 residents gain exposure to multi-disciplinary clinical programs providing assessment and follow-up for infants, children, and adolescents with developmental, behavioral and/or learning problems. Residents participate in testing with developmental-behavioral pediatricians, psychologists and educational specialists. Given its prevalence and social impact, there is a special focus on autism.



Nonclinical experiences in child development provide wonderful adjunct opportunities and more complete appreciation for this important discipline. Residents participate in Early Intervention home encounters, visit the Children's Hospital Childcare Center, and observe in classrooms,

including special education settings and an elementary school in the Boston Public School system. Some also attend special education evaluation meetings and special

school events. Also, one morning a month, each intern attends the Comprehensive Care Program, a multidisciplinary primary care outpatient clinic for children with complex medical problems, including children with significant developmental delays, mental retardation, seizure disorders, autism, and former premature infants. Didactics at both BMC and BCH within the framework of the Keystone Quarter augment the clinical experiences of this rotation and include topics such as developmental screening and surveillance in primary care, special education evaluations and services, mental health screening, failure to thrive, discipline, the child's experience of grieving and loss, and the child's experience of interpersonal violence.

Keystone Quarter — Adolescent Medicine

A joint venture between the outpatient adolescent centers at Children's Hospital and Boston Medical Center, the adolescent medicine portion of the Keystone block provides a solid foundation in the primary and specialty care of teenagers. Interns hone their skills in routine health maintenance for male and female patients, family planning, gynecologic care, and STD testing and treatment. Interns also gain skills in screening for substance abuse and responding appropriately to positive screens. During their adolescent medicine clinic time, interns are scheduled to see their own panel of adolescents and are precepted by adolescent medicine attendings. Specialty clinic experiences such as sports medicine, scoliosis, reproductive health and dermatology are incorporated into the Resident's daily practice. Additional experiences to increase understanding of the scope of healthcare for adolescents include: visiting a school-based health center (September-June) and a field trip with an attending to a residential treatment school for teenage girls. A comprehensive didactic curriculum focused on a variety of adolescent issues as well as effective implementation of evidence-based medicine will be covered over the course of the Keystone Quarter.

Cardiology

BCRP junior residents spend one month as part of the inpatient cardiology team at Boston Children's Hospital. The service is composed of 4 primary residents, two first or second year cardiology fellows, two cardiology attendings, nurse practitioners, several medical students, and an administrative medical teams associate. Each resident has primary responsibility for the evaluation and management of patients with a wide range of congenital and acquired pediatric heart diseases, under the supervision of the cardiology attendings and fellows. Each

BOSTON COMBINED RESIDENCY



resident rotating primarily on the cardiology service spends five days in the outpatient clinic evaluating common and uncommon problems encountered in an academic cardiology practice. Daily didactic sessions presented by faculty cardiologists and geared exclusively to residents and medical students focus on core topics in pediatric cardiology from EKG reading and understanding

cardiac catheterization data to care of patients with complex congenital heart disease.

Complex Care Service (CCS)

Due to the increasing number of children with complex health care needs, Children's Hospital has created an inpatient team and an outpatient clinic solely dedicated to the care of these children and their families. These patients have medical problems involving a minimum of 3 organ systems and often participate in cooperative multidisciplinary programs at Children's Hospital such as the Myelodysplasia Program, the Cerebral Palsy Program and others. During the junior year, residents rotate for 2 two-week blocks on the inpatient CCS service composed of 2 residents, a nurse practitioner, a clinical nurse specialist, a CCS social worker and a CCS attending. Patients may be hospitalized for acute medical problems such as aspiration pneumonia or increased seizure frequency, or they may be admitted for intensive management of more chronic issues, such as progressive weight loss. Residents gain proficiency in assessing medication interactions and are exposed to a wide variety of medical devices including gastrostomy and jejunostomy tubes, tracheostomy tubes, urinary stomas, ventriculoperitoneal shunts, and Baclofen pumps. Because many patients need input from multiple subspecialty teams, residents learn to synthesize consultant recommendations to deliver optimal care. A didactic lecture series provides education on the common problems that arise in children with complex medical disorders. Overnight, CCS juniors help to supervise interns on the pulmonary rotation, which adds more supervisory and teaching experiences to the junior year.

Electives

Residents have about 4-5 months of elective time distributed between their PL-2 and PL-3 years. Approximately two months of this elective time will be call free. All pediatric residents must complete 7 months of subspecialty experiences. Because the BCRP curriculum incorporates several months of subspecialty experiences,

residents may pursue a broad array of clinical and research interests during their electives, including rotations in complementary fields such as anesthesia, toxicology, transport medicine, international medicine, or surgery.

Emergency Medicine

In all three years of the training program, residents are exposed to emergency/acute illness experiences at both Boston Medical Center and Boston Children's Hospital. Both emergency departments are access points for Emergency Medical Services (EMS) transports and ambulance traffic, and receive seriously injured and acutely ill pediatric patients.

Boston Medical Center is a busy Level 1 Trauma Center. The Pediatric Emergency Department (ED) provides 24 hour attending coverage by pediatric emergency-trained physicians, emergency medicine physicians, and 3rd year pediatric emergency medicine fellows. The BMC Pediatric ED treats approximately 30,000 patients a year, ranging in age from newborn to 21 years old. It receives more patients by EMS than any other pediatric facility in Boston. It has 12 fully equipped rooms for non-acute care, an acute care/observation area with 4 beds, and a trauma/resuscitation suite.



Dr Fleisher (right) on one of his shifts in the ED

The Emergency Department at Boston Children's Hospital is also a Level 1 Trauma Center and provides 24 hour attending coverage by pediatric emergency-trained physicians and by 3rd year pediatric emergency medicine fellows. The Children's ED sees more than 60,000 ill and injured children per year and has one of the premier



ER patient checking Physician-in-Chief Gary Fleisher for dextrocardia

BOSTON COMBINED RESIDENCY

fellowships in pediatric emergency medicine.

Resident responsibilities in both Emergency Departments include:

- Evaluation, management and disposition of patients.
- Consultation and communication with other services and consultants.
- Discussion of cases with primary care and referring physicians.
- Performance of procedures (e.g., venipuncture, arterial puncture, spinal tap, laceration repair, abscess incision and drainage, foreign body removal, splinting, bag-mask ventilation).



Successful knee tap for Lyme arthritis in the ER

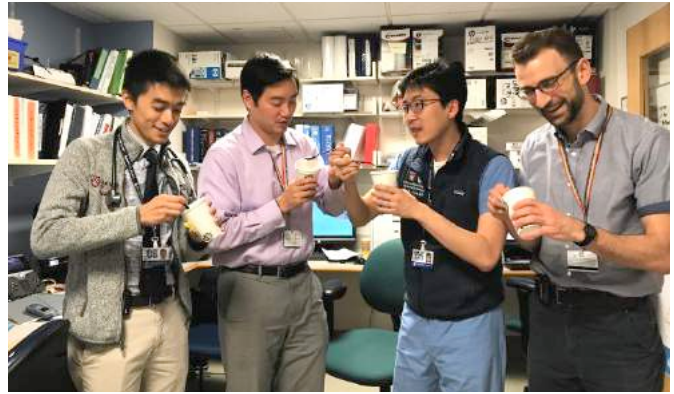
Regular conferences occur at both Boston Medical Center and Children's Hospital, including didactic lectures, mock codes, hands-on practical workshops, and simulations.



Residents having fun during a mock mock code

Gastroenterology

Three primary junior residents rotate through the gastroenterology service at Children's Hospital each month. The rotation incorporates both inpatient and outpatient experiences to maximize resident exposure to the full spectrum of gastroenterology care. The goals of this rotation include assessment of patients with gastrointestinal complaints, the diagnosis and management of common gastrointestinal disorders, and introduction to endoscopy and other procedures unique to this specialty. All residents attend a didactic series that includes a weekly fellow-run seminar and 10 to 12 mini-lectures on basic subjects including gastroesophageal reflux disease, constipation, malabsorption, the pathogenesis of diarrhea, the diagnosis and treatment of inflammatory bowel disease, nutritional assessment, total



Exploring the pharmacokinetics of the chocolate bomb on GI

parenteral nutrition, the approach to abdominal pain, neonatal cholestasis, and the evaluation of liver disease.

On the inpatient service, two residents, a first year fellow, a nurse practitioner, and a gastroenterology attending manage a variety of severe gastrointestinal illnesses.

Built into each month-long rotation is an outpatient block, during which residents attend clinic and observe endoscopic procedures.

General Pediatric Inpatient Services

Every intern has at least three months of general inpatient experience. Inpatient teams at Children's Hospital are typically unit-based, allowing closer relationships with nurses, more contact with families, and less time spent commuting between floors. During the junior and senior years, residents assume a supervisory role in the care of general pediatrics patients. Supervising residents are team leaders and provide much of the bedside teaching to the interns and medical students. Inpatient ward teams are divided into "day" and "night" teams.

Organization of the general inpatient services:

- Boston Children's Hospital 9 East Gen Peds A and Gen Peds B: 1 senior resident (Gen Peds), 1 junior resident



Team Rounds

BOSTON COMBINED RESIDENCY



Dr. Vinci's waffle rounds on the BMC Wards

(Gen Peds B), a nurse practitioner, 4 interns, and up to 4 medical students

- Boston Children's Hospital 7 West Gen Peds C and subspecialty teams (Adolescent, Pulmonary, Endocrinology, Allergy/Immunology, Rheumatology): 1 senior residents, 1 junior resident, 4 interns, a nurse practitioner, and up to 4 medical students. Interns and residents switch between Gen Peds C and the subspecialties after 2 weeks.
- Boston Children's Hospital 6 East subspecialties (Hematology, Renal, Toxicology): 2 junior residents (1 on the inpatient service, one in outpatient clinics and consult services), 1 intern, and up to 2 medical students.
- Boston Medical Center Inpatient Wards: 1 senior resident, 1 junior resident, 3 pediatric interns, one family medicine intern, and 3-4 medical students.

The General Pediatrics teams at Boston Children's Hospital care for patients with a wide variety of general pediatric problems.

The inpatient ward at Boston Medical Center is a 22-bed unit. The pediatric ward team cares for general pediatrics patients and patients from subspecialty services, including endocrinology, gastroenterology, hematology, infectious diseases, neurology, and pulmonology.

Intensive Care Unit

Residents gain experience in Critical Care Medicine during both the PL-2 and PL-3 years. All PL-2 residents complete a four-week rotation in the 30-bed Medical-Surgical Intensive Care Unit (MSICU) at Children's Hospital. In the PL-3 year senior residents rotate as the sole resident in the 6-bed pediatric ICU (PICU) at Boston Medical Center and in the 16-bed Medical ICU (MICU) at



Work room snacks on Oscar Night

Children's Hospital. The MICU is split into two teams composed of 2 residents or nurse practitioners, 1 critical care fellow and 1 critical care attending physician.

In the Children's MSICU, junior residents serve as primary providers for medical and select surgical patients and participate in daily rounds and family meetings. They attend morning conference as part of a comprehensive didactic curriculum that includes formal mock code sessions delivered in the sophisticated simulator suite. Attendings conduct formal debriefings after mock codes using video footage to enhance feedback. There are also weekly sessions focused on procedures and emergency scenarios, with the assistance of simulation.



Practicing procedures

Senior residents also have at least one ICU experience in either the BCH MICU or BMC PICU. During these rotations, the senior resident works directly with the supervising critical care attending or fellow. These experiences help residents develop crucial decision-making skills. Building on concepts introduced in the PL-2 year, residents gain proficiency in the management of severe

status asthmaticus, mechanically ventilated patients, hemodynamically unstable patients, patients with dangerous ingestions or toxic exposures, and patients in status epilepticus. Residents also participate in advanced vascular access, airway management, and delivery of emergency medications. Faculty didactics complement the experiential learning on each unit.

BOSTON COMBINED RESIDENCY

Intermediate Care Program (ICP)

The ICP is a 12-bed unit that cares for patients who are require more intensive nursing than can be provided on the floors. Commonly encountered disorders include diabetic ketoacidosis, severe status asthmaticus, complex medical patients requiring intensive respiratory monitoring or noninvasive ventilation, and significant electrolyte abnormalities (such as diabetes insipidus) requiring close monitoring and frequent blood analyses.

The ICP has 6 beds on the 9th floor and 6 beds on the 11th floor. Each floor is staffed by 1 senior resident and 1 intern. One attending physician staffs both floors. There are also nurse practitioners on the team. One junior or senior resident and 1 intern staff the ICP at night. The nursing staff (who care for 1-2 patients each) and dedicated respiratory therapist participate actively in morning and night rounds. An interdisciplinary approach is emphasized. Given the intimate structure of the team and the higher acuity on the unit, many formal and informal teaching opportunities arise. Daily didactics focus on topics such as management of DKA, airway obstruction and respiratory compromise.



Juniors serve as Team Leaders in the ICP

Newborn Care: Neonatal Intensive Care Unit, Newborn Nursery and Delivery Room

PL-1 year: Newborn Nursery

Interns rotate on either the well newborn hospitalist service at Brigham and Women's Hospital or the Birth Place Newborn Care Service at Boston Medical Center. Interns are responsible for the evaluation and management of healthy newborns with the help of nurses and lactation specialists, and under the guidance of an attending pediatrician. Interns also attend didactic

lectures, discussion sessions and demonstrations that focus on care of the newborn.

PL1 and Supervisory Years: Neonatal ICU

Interns and residents rotate through the NICU at Brigham and Women's Hospital (BWH) and Boston Medical Center (BMC). The BWH NICU is a 60-bed unit divided into two 16-bed acute care pods, and two 16-bed intermediate care pods. Interns in the BWH NICU take q4 24 hour call and spend the majority of their time in the NICU caring for neonates in one acute care pod where they are supervised



NICU duty

by a NICU fellow and attending physician. They also spend about 4-5 days caring for non-critically ill neonates in the short stay unit.

The BMC NICU is a 22-bed unit and the team consists of an attending neonatologist, one senior resident, one junior resident and two interns.

Besides caring for critically ill neonates, residents obtain extensive experience in the resuscitation and stabilization of newborns at high-risk

deliveries. At both sites neonatal attendings are on site 24 hours per day to provide supervision and teaching. Residents participate in a comprehensive educational curriculum including daily lectures by attending neonatologists covering common neonatal problems, such as respiratory distress syndrome, necrotizing enterocolitis, hyperbilirubinemia, and nutrition. All residents are trained in the Neonatal Resuscitation Program during intern orientation and then re-certify during their PL-2 year.

During the junior year residents rotate through the BWH NICU as the "DR1" delivery room resident — the first call to all deliveries requiring a pediatrician. The resident is responsible for attending deliveries with a NICU nurse and respiratory therapist, for triaging newborns in the delivery room and well baby nursery.

Residents in both years recruit newborns from their newborn rotations to their continuity patient panels.

Oncology

Inpatient oncology care at Boston Children's is delivered by disease-specific teams: two hematologic malignancy teams, the solid tumor team, and the neuro-oncology team. There are two hematologic malignancy teams, one with an oncologist, a fellow and two residents, and the other with an oncologist and 2 nurse practitioners. Solid

BOSTON COMBINED RESIDENCY



Halloween on the Oncology Service

tumor and neuro-oncology each have a resident on the team. Residents care for patients with new cancer diagnoses, complications of malignancy or cancer-directed therapies (including febrile neutropenia), relapsed malignancy, and concurrent medical problems. Goals of the rotation include: understanding common presentations of childhood cancer, management of oncologic emergencies, effective communication with families, management of febrile neutropenia, and identification and management of common complications of chemotherapy. The rotation also allows residents to gain an understanding of issues related to end-of-life care in a pediatric population. This rotation is augmented by didactic teaching sessions by oncology fellows and attendings, tumor boards and an outpatient experience in the Jimmy Fund Oncology Clinic at the Dana Farber Cancer Institute.

Pulmonary

Interns spend 1 or 2 months of the PL-1 year on the Pulmonary service. The inpatient Pulmonary team consists of three interns, a pulmonary fellow, a nurse

practitioner with expertise in the care of pediatric pulmonary patients, and an attending. Interns are primarily responsible for pulmonary patients with a wide range of conditions including complicated asthma, interstitial lung disease, pulmonary hypertension, cystic fibrosis, as well as issues surrounding lung transplantation. Pulmonary fellows and attendings teach a morning curriculum Monday through Friday. Interns spend a week of the month in the outpatient pulmonary clinic evaluating and managing new patients. Afternoons during this week are spent in the PFT lab, performing consults, or participating in procedures such as sweat tests and bronchoscopies

Stem Cell Transplantation

Most junior residents spend a two week, call-free block as part of the inpatient hematopoietic stem cell transplantation (SCT) team at Children's Hospital Boston. This is an opportunity to take responsibility, under the supervision of a fellow and attending, for patients preparing for autologous or allogeneic transplants and those readmitted for complications following SCT. Rotation goals include: understanding the indications for SCT, donor selection, anticipated complications and time course relative to transplant, long-term effects of transplant, and the psychosocial challenges faced by children and families undergoing intensive therapy and long hospitalization. Besides the senior resident the team members include: a SCT attending, one first-year fellow, a nurse practitioner, and a pharmacist. The overnight call is covered by a heme/onc attending or fellow. This is a 13-bed unit. The resident and nurse practitioner evenly divide the patients and are responsible for pre-rounding, presenting on rounds, writing daily notes, reviewing all radiologic and pathologic studies and running weekly family meetings. The rotation includes daily morning teaching sessions, a weekly SCT staff development conference and the Longwood Medical Area SCT conference



Practicing on Asthma Day



Dr. Leslie Lehmann (right) and nurses in the Stem Cell Transplantation Unit

BOSTON COMBINED RESIDENCY

TEACH



Teaching practice

TEACH is a two week rotation for junior residents focused on developing supervisory and teaching skills. It is call free with some scheduled activities (including delivering a chalk talk, practicing feedback and precepting medical students) balanced with flexibility to allow individualization of each resident's career goals. Residents receive guidance from a mentorship pair consisting of a faculty member and a Chief Resident.

Night Call and Night Float Teams

Patients admitted to each of the general pediatrics services at Boston Children's and BMC receive care at night from a dedicated "night team" consisting of an intern and supervising resident. Each "night team" rotation lasts two weeks, affording the team continuity of care and consistency between the intern and the supervising resident. On average, interns have two 2-week "night team" rotations on a general pediatric service over the course of the year. On-call rooms and meal allowances are provided for house officers on night duty.

Extended Shifts

For junior and senior year rotations that do not employ "night teams", residents take in-hospital call every 4th night. On-call rooms and meal allowances are provided for house officers on call at all three hospitals. All rotations in the BCRP are in full compliance with the ACGME work hour regulations.



Residents on call on New Year's Eve

Longitudinal Ambulatory Experiences

Primary Care Experience

Longitudinal primary care clinic experiences at a variety of urban sites allow BCRP residents to foster the physical, intellectual and emotional growth of their own panel of patients, as well as to manage the course of certain diseases and therapies over an extended period of time. Residents care for children of all ages and children with diverse medical problems.

Continuity sites are available in hospital and community settings as well as a limited number of private practice locations. From the primarily Spanish-speaking clinics at Martha Eliot Health Center and East Boston Health Care Center to the Young Parent Program (YPP) continuity clinic at Boston Children's Hospital, residents may choose to tailor their longitudinal experiences based on their interests while enjoying exposure to a diverse, multi-cultural patient population.

Residents in the Categorical track devote one afternoon each week throughout the three years to their primary care practice. Similarly in the first year, Urban Health and Advocacy track (UHAT) residents spend one afternoon each week in their continuity sites. Throughout the second and third years of residency, UHAT residents select an additional half-day experience to augment their scholarly or advocacy interests; these may take the form of a second continuity clinic or "project" afternoon.

Longitudinal Subspecialty Experience

The BCRP is invested in developing a longitudinal subspecialty experience whereby residents can achieve early and sustained exposure to outpatient subspecialty



Residents become close to their clinic families



Hard at work in the Children's Hospital Primary Care Clinic

medicine. The BCRP is currently offering this experience to all three residency classes.

During the PL-1 and PL-2 years, a select number of Categorical residents will participate in a subspecialty clinic in addition to their primary care continuity clinic. During the PL-3 year, residents may choose to participate in a longitudinal subspecialty clinic in place of their primary care clinic. In 2016-2017 residents will participate in longitudinal subspecialty experiences at both affiliated hospitals in subspecialties including allergy/immunology, cardiology, endocrine, genetics, gastroenterology, hematology, nephrology, neuro-oncology, neurology, oncology, pain medicine, pulmonary, and rheumatology.

Electives and Funding Sources

Many different elective opportunities are available at both Children's Hospital and Boston Medical Center, including experiences in clinical care, research, medical education, clinical outcomes and advocacy. In addition, residents can select a variety of international experiences. Funding is available through various scholarships including the Von L. Meyer and Schliesman awards. The Department of Medicine at Children's Hospital and the Department of Pediatrics at Boston Medical Center award scholarships for travel to national meetings such as the American Academy of Pediatrics, the Pediatric Academic Societies, and the meetings of subspecialty societies. In addition, funding is available from the Fred Lovejoy Research and Education Fund and the Joel Alpert Fund, for research projects conducted during residency, and from the Alpert Children of the City endowment for community-based research projects. Finally, UHAT residents are granted \$850 annually to invest in tools and experiences that contribute to their pediatrics education, including costs incurred from clinical electives or to support research and community projects.



Elective in Kenya. Sometimes hoofbeats are zebras

Funding sources:

Name	Number per year	Amount per award
Schliesman Third World Travel Award	3 to 4	Up to \$1000
Von L Meyer Travel Award	12 to 13	\$700
Lovejoy Research Award	5 to 8	\$2,000-\$6,000
Alpert Children of the City Endowment Grants	2 to 3	\$5,000-\$7,000

Individualized Curriculum

Each resident will have six months of an Individualized Curriculum consisting of three months of the Academic Development Block and three months of other rotations relevant to his or her future career. The six months are distributed as follows:

PL-2 Year: 1.5 to 2.5 months

PL-3 Year: 4 months (includes 3 months of ADB time)

Mentoring and Individualized Curriculum

Each BCRP Academy is supported by a group of faculty members who have demonstrated an interest in serving as mentors and advisors for residents within the Academies.

Academic Development Block

One of the standout corner stones of the BCRP curriculum is the Academic Development Block (ADB), an innovative, multifaceted experience for PL-3 residents to explore and foster their academic interests. This 3-month rotation is unique to the BCRP and is designed to allow residents to customize their training to attain the skills, experience and knowledge necessary to further their

careers. The ADB contains a core seminar curriculum and allows significant dedicated time for individualized mentored research, education, quality improvement or advocacy projects.

The core curriculum, delivered in the first week of each block, is designed to augment knowledge gained during the first two years of residency and is directed towards fostering lifelong learning and skills-building; topics range from discussions about critical appraisal of the medical literature, understanding health care for children in the context of local, state and federal policies, and navigating academic promotion systems. It focuses on the following specific skills:

- Creating and applying new knowledge — research study design, biostatistics, epidemiology, evidence-based medicine, literature searching and human subjects considerations for children.
- Health care policy and environment — health care disparities, economics and funding, delivery systems, and resource allocation.
- Molecular Medicine — future “hot” areas of basic science research.
- Organization and quality of care — quality improvement, patient safety, and legal issues in the practice of medicine.
- Career-building – writing your CV, negotiating your first job, exploring avenues for future research funding.

These sessions are led by expert faculty from both institutions and include basic and clinical researchers with interests in translational medicine, clinical and outcomes research, public policy and advocacy, and medical education.

The second major component of the block is protected time for residents to focus on research, medical education, or QI projects, community advocacy experiences, or more in-depth, individualized clinical experiences. Residents meet individually with faculty mentors two or more months before the start of ADB to design their projects and organize their time. Senior residents have used their ADB time in a wide variety of ways to explore career alternatives, start or complete a primary research project, or lead a unique endeavor that will enhance and expand their training (and that often contributes to the training of other residents). The diversity of ADB activities reflects the diversity of interests and career paths of our residents.

Over the past six years, the results from approximately half of the projects have been presented at national meetings and/or culminated in a peer-reviewed publication.

Examples of Recent Projects

- Quality improvement project to ensure limited English proficiency families have access to in-person interpreters on family-centered rounds.
- Design of a smartphone app to summarize foundational primary literature in pediatrics for use by supervising residents to enhance teaching.
- Estimating the financial burden of accidental buprenorphine ingestion.
- Retrospective review of cases of aspiration pneumonia in the emergency room setting.
- Investigation of yield of lumbar puncture for meningitis following status epilepticus
- Weight perception and unhealthy weight control behaviors among gay, lesbian and bisexual youth
- Examination of fatty acid binding protein 4 expression in lymphatic malformations
- Retrospective study of risk factors for fatal and non-fatal pediatric firearm injuries in the United States
- Study of vaccine coverage and parental attitudes on immunization in India
- Retrospective clinical review combined with blinded bone marrow re-review to define clinical predictors of failure for patients with aplastic anemia treated with immunosuppressive therapy
- Investigation of seroconversion rates following double dose hepatitis B vaccine among HIV-infected children and adolescents
- Review of colonoscopies to determine agreement between endoscopic assessment of mucosal findings and pathologic findings on biopsy
- Genomics/proteomics approach to characterized differences between adults with acute myelogenous leukemia
- Summary of common practices in diagnosis and treatment of malaria in Nigeria
- Examination of methylenetetrahydrofolate dehydrogenase 2 as a target for treatment in acute myelogenous leukemia
- Chart review on aortic regurgitation after interventions for aortic stenosis in staged palliation of hypoplastic left heart syndrome
- Discovery and validation of role of mobile genetic elements in malignant rhabdoid tumors
- Evaluation of a sign out system and intervention aimed at improving pass off of care among residents
- Educational trial examining different methods of teaching simulation and development of longitudinal residency simulation curriculum
- Completion of a study of procalcitonin as a test for serious bacterial infection among febrile infants

- Investigation of blood product exposure and clinical outcomes in PICU patients requiring ECMO
- Development of a pediatric training curriculum in Liberia
- Effect of hydroxyurea on emergency department visits in patients with sickle cell disease
- Study of long-term pulmonary artery stenosis after repair of aberrant pulmonary artery in infancy
- Effect of cranial radiation on growth hormone and parathyroid hormone abnormalities.
- Prognosis following lung transplantation
- Prospective multi-center study of bronchiolitis admissions
- Health needs assessment of orphaned children in Malawi

Education

Education First

Education is a priority in the BCRP. From Grand Rounds by world-renowned specialists to impromptu overnight clinical instruction, teaching and learning permeate all aspects of residents' daily lives. At both BMC and BCH, there are daily protected teaching rounds and noon conferences that foster discussion and debate between residents and faculty. Through Family Centered Work Rounds, residents benefit by learning directly from senior faculty, fellow residents, and their patients at the bedside.

Residents are also given the opportunity to learn to teach right from the start, cultivating their skills as teachers and reinforcing their own knowledge through the art of teaching. Our Boston University and Harvard medical students consistently identify residents as one of the most important sources of instruction. As part of our commitment to case-based teaching, residents supervise medical student patient encounters all the way from the

initial history through the presentation on rounds.

Resident Involvement in Curriculum Design

Through the Residency Program Training Committee and the Medical Education Academy, resident feedback and input are driving forces behind changes in the curriculum, which is evolving to meet the educational needs of the residents. Recent resident-led innovations in the BCRP curriculum include restructuring the lunch conferences into subspecialty blocks, increasing the number of hands-on/skills-based sessions, adding an intern morning report, developing a TEACH elective, reformatting the Academic Development Block lecture series, providing comprehensive review materials for residents on night rotations or vacation who miss certain teaching sessions, and more. In the fall of 2015, the BCRP held a Strategic Planning Retreat that residents participated in to plan both short term and long term curriculum reform.

Educational Opportunities

Below are brief descriptions of the daily educational opportunities that have been built into the residency. This collection of case presentations, conferences and lectures work in conjunction to augment the learning that occurs organically through patient care. While this list is relatively comprehensive it is certainly not exhaustive. Residents can always avail themselves of the multiple educational opportunities within Harvard, Boston University and the city of Boston itself.

Medical Grand Rounds

Weekly Grand Rounds at both institutions provide exposure to leading clinicians and researchers providing cutting-edge information about their areas of expertise. Grand Rounds features topics from multiple areas of medicine including clinical topics, basic science research, global health, and public policy.



Residents work closely with senior faculty



Dr. Sectish attending and teaching on Gen Peds



All noon time core conferences have a free lunch



Residents learn how to splint at noon conference during the orthopedics subspecialty block

Conferences - Boston Children's Hospital

BCH Noon Conferences

Based on feedback from residents, the Medical Education Academy revamped the noon conference curriculum over the past few years. The new curriculum features two-week subspecialty blocks, with each noon conference covering a topic within the specific subspecialty. The sessions are given by a combination of residents, chief residents, fellows known for their excellent teaching skills and expert faculty. Conferences employ a wide variety of educational formats, including traditional didactic teaching, case-based learning, hands-on/skills sessions, and educational games. A fantastic lunch is provided daily. There are daily e-mails sent out with a boards prep question relevant to that block's subspecialty, and at the end of each two-week block.

Senior Rounds

This daily conference is perennially one of the highest rated educational experiences at the BCRP. A chief or senior resident is charged with presenting a recently admitted patient with an unusual or unknown diagnosis. A discussion between the residents and senior faculty follows, with a focus on differential diagnosis, management and prognosis, as well as nuances in the individual case, which frequently prompt significant discussion. Priorities include developing generalizable lessons from unusual cases as well discussing unusual presentations of common diseases. Faculty from different specialties attend on different days, and are invited at the beginning of the year by the chief residents (considered a true honor by faculty).

Morning Report

This is a weekly conference on Friday mornings that occurs in place of Senior Rounds. One of the senior

residents currently on general pediatrics night float presents an interesting patient admitted during the past week. He or she leads an informal discussion among interns, residents, chief residents and faculty focusing on diagnosis and management. While the conference does not always yield a diagnostic or therapeutic solution, the discussion often aids in the patient's care.

Intern Report

This is a new and very popular conference one morning a week exclusively for interns. An intern presents a case and leads a discussion on differential diagnosis, work-up and management. A chief resident attends to participate in the discussion as well.

Subspecialty Conferences

While on certain rotations – pulmonary, GI, cardiology, oncology, ICP, and MSICU – residents attend daily morning lectures organized by that department. These sessions are led by the subspecialty fellows or faculty and cover a range of topics within that subspecialty.

Conferences – Boston Medical Center

BMC Noon Conferences

Noon Report at BMC occurs daily and the curriculum parallels the two-week subspecialty blocks described above in BCH Noon Conference. Similar topics are covered simultaneously at both hospitals, so residents will have comparable learning no matter what rotation they are on. Chief residents and expert faculty lead the sessions. Residents can draw from the experiences and knowledge of the many senior faculty members who attend. Conferences employ a wide variety of educational formats, including traditional didactic teaching, case-based learning, hands-on/skills sessions, and educational games. Monthly, interns at BMC attend Intern Report, a

case-based conference moderated by a Chief Resident, while junior and senior residents attend the Leadership Series, aimed at developing supervisory skills in the clinical setting. Simulation and mock codes are incorporated weekly. A delicious lunch is provided daily.

Case of the Week

This weekly presentation at Boston Medical Center is organized and moderated by the senior residents rotating in the PICU, the NICU, the ED, and the Ward. The cases are current or recently discharged patients chosen to illustrate specific topics. The resident selects the case and works with a subspecialty faculty member(s) to develop the conference. All residents rotating at BMC, as well as the pediatric faculty, attend the presentation.

Morning Report

This morning conference occurs three times per week. On Monday mornings, the night team presents an interesting admission from overnight and leads a discussion on differential diagnosis, work-up and management. On Tuesday and Wednesday mornings, there are lectures for the interns focused on general pediatrics topics.

Monthly Conferences

Research, Advocacy, and Policy (RAP) Series

RAP is a monthly seminar organized by senior residents for UHAT residents. UHAT residents have protected time to attend these sessions and are freed from their clinical duties for the afternoon when their schedule allows. The seminar topics vary based on senior resident interests, and they invite community leaders to speak with and teach residents. Past topics have included lobbying and health policy, featuring a Massachusetts lobbyist to run a skills session on effective communication with members of Congress. Another topic highlighted youth violence in the Boston area, inviting Street Smart, a local organization that works on the ground with high-risk youth to prevent instances of violence. Another focused on research in obesity using geo-mapping to identify food deserts and high-risk areas of obesity. The RAP series is one of the UHAT residents' favorite seminars of the year, highlighting work that residents are passionate about in addition to introducing community and national leaders to our residency.

Basic Science Journal Club/Seminar

In this monthly conference, a resident selects a basic science article that illustrates a fundamental advance and has translational implications. He or she prepares a seminar designed to teach broadly about the topic as well as focus on the article or articles distributed in advance. One or two experts from the Boston area are selected by



Residents teach at Basic Science and Clinical Science Journal Clubs

the presenter and invited to sit in and contribute to the discussion. Examples of recent topics include: highly specific new anesthetics, pitfalls in analysis of genomic data, auto-inflammation from escaped DNA, genomic screening for autism, microRNAs, diabetic autoimmunity, peptidomimetics, long QT syndrome, use of gene expression in new drug discovery, gene editing, and the molecular basis of gastrointestinal development.

Clinical Science Journal Club/Seminar

Similar to the Basic Science Journal Club, the Clinical Science Journal Club is a monthly conference, moderated by a resident, who selects and presents a clinically based research article with support from specific faculty. He or she prepares a seminar on the topic designed to foster a larger discussion of evidence-based clinical decision making. Besides discussing the clinical material, each session focuses on a specific biostatistics topic. Examples of recent topics include: a new targeted therapy for certain cystic fibrosis gene mutations, acyclovir after neonatal herpes, and screening for neuroblastoma.

Humanism Curriculum

Developed by one of the previous senior residents during her academic development block, this monthly seminar series for the interns and junior residents focuses on many of the difficult issues that physicians encounter regularly. Residents are assigned to a small group and a faculty preceptor with whom they meet throughout the year. The seminars focus on issues such as the difficult patient or family, balancing work and home life, dealing with death and dying, medical errors, and cultural diversity in medicine.

Resident-as-Teacher

The BCRP emphasizes the vital role that residents play in teaching medical students from Harvard and Boston University Medical Schools during their pediatric clerkships and other residents during supervisory



Residents spend a lot of time teaching Harvard and BU students one-on-one

rotations. This important role in teaching helps prepare residents for their future careers as educators to colleagues and patients. To help residents become successful in these roles, educational sessions during rising intern, junior and senior orientations and during program-wide retreats are dedicated to exercises on effective teaching, such as teaching at the bedside, use of the “one minute preceptor”, giving effective feedback, and delivering effective presentations.

In addition, a formal TEACH elective has been developed for junior residents. During this elective, residents learn about adult learning theory and practice many methods of teaching, including leading senior rounds, chalk talks, and bedside physical exam rounds. They will also develop their supervisory and feedback skills, with hands-on experience, including precepting medical students in the primary care setting. Residents are also paired with a faculty mentor and chief resident who are responsible for giving constructive feedback on their teaching methods and helping them discover their supervisory style.

Finally, residents take the lead in presenting at many of our conferences, including Senior Rounds, Morning Report, Intern Report, Basic and Clinical Journal Clubs, and in selected Grand Rounds. These programs and experiences contribute to an atmosphere in which teaching is highly valued. As a result, medical students from both institutions regularly recognize members of our housestaff with accolades and formal teaching awards.

Leadership Seminar

Historically, medical schools and residencies have not given residents adequate skills and teaching to become great managers and leaders. At Boston Medical Center, junior and senior residents participate in a monthly



Chief resident teaching at student's conference

leadership seminar to help develop qualities inherent in strong, effective leaders: self reflection/self awareness, conflict resolution-feedback and vision. It is designed to be case-based, interactive, and relevant to the needs of the pediatrics residents.

A longitudinal leadership curriculum is also being developed to formally train residents to be leaders in the field of pediatrics, both clinically and in career-specific interests. Residents will learn about leadership theories, explore concepts in social and emotional intelligence, and acquire skills in negotiation and managing teams.

Retreats

Semiannual, day-long, house staff retreats allow residents to reflect on their clinical experiences and on the training program. Topics have ranged from how to start a leadership curriculum to how to start a formal resident wellness program. Many important and substantive changes have resulted from these retreats. Interns also attend a protected 2-day retreat in the fall of their intern year to allow for class bonding time. There are also rising junior and rising senior full day retreats in the springtime that cover topics for the upcoming year.

Simulators

Boston Children's Hospital and Boston Medical Center have invested in state-of-the-art, high-fidelity simulator programs to optimize learning in the acute care setting. Children's Simulator Suite is a faithful reproduction of an intensive care unit bed space. The suite is outfitted with gas outlets, medical equipment, and both pediatric and infant patient simulators. Next to the simulated patient room is a video control room linked to a conference room through closed circuit cameras for video-based debriefing sessions. The PL-2 year ICU rotation features weekly mock codes led by the residents with video debriefings. In addition, there are frequent procedure sessions led by the



Practicing in the simulator suite

ICU fellows to practice procedures such as intubation, central line placement, and chest tube placement.

At BMC, simulation sessions occur either in a similar simulation suite or in the PICU by using a portable SimBaby, which can simulate a range of conditions and enables a number of procedures from intubation to IV placement. The PICU senior and chief residents develop a weekly mock code for the ward team, which starts with interns learning to use basic equipment and progresses to the ward junior running a complex cardiac code. Recent cases have included severe myocarditis and status epilepticus.

Given the importance and complexity of running a code well, the practice of mock codes is not restricted to ICU rotations. They are scheduled throughout the intern, junior and senior years. The focus is on increasing skill level over time, knowing how and when to call for help and importantly, the basics of good communication in running a successful code.

Role of Fellows

Many of the fellowships at Boston Children's Hospital are the best in their specialty, and the hospital has many fellows who are exceptional clinicians, teachers and individuals. They provide invaluable assistance in teaching about and caring for complex patients. Fellows are not residents, however, and they do not assume resident roles. Only residents can write orders (and request consults) in the BCRP. Most residents feel that the fellows are an integral part of their education and augment their clinical experience through dedicated and impromptu

teaching sessions. While all subspecialty services have fellows as part of the care team at BCH, there is minimal fellow presence at BMC with a few exceptions (ID, Neurology and Emergency Medicine departments).



Desks with a view at the new Children's Hospital library

Libraries

The Children's Hospital Library and Archives have recently moved to the 5th floor of the Longwood Center at the corner of Brookline and Longwood Avenues, midway between the hospital and the clinical research complex on Autumn Street. It is a quiet respite with private carrels, computer work stations, collaboration rooms for 6 to 10 people with AV capacity for presentations, and other work and reading areas. The library offers a wide range of services including various databases, Up-To-Date, End Note, Mendeley, many electronic journals, free copying, scanning and printing facilities, and interlibrary loans. Laptops are available for loan. Staff librarians can assist you with performing complex literature searches, whether for immediate patient management or for ongoing research. They also offer introductory seminars on the use of EndNote, Mendeley, and PubMed for interested residents.

The Francis A. Countway Medical Library at Harvard Medical School, next door to Children's Hospital, is one of the world's largest medical libraries. The library holds over 630,000 volumes, subscribes to 3,500 current journals, of which over 1,500 are available in electronic form, and houses over 10,000 non-current journal titles. All the library's resources are available to residents, and all electronic journals articles can be downloaded as pdf files. Many electronic textbooks and other electronic databases, such as MD Consult are also available to BCRP housestaff. All electronic resources are available over the internet from home. The Countway also offers access to the extraordinary library resources of Harvard University and an exceptional History of Medicine collection.

The Boston University School of Medicine Alumni Medical Library is a state-of-the-art library that serves the faculty, staff and students of the Boston University schools of Medicine, Dental Medicine, Public Health, and the Boston Medical Center. Besides its excellent medical collection, it has over 1500 online journals and 30 current, clinical electronic textbooks available to all residents.

Medical Information Systems

Timely retrieval of clinical information is a priority for house officers. An integrated electronic hospital information system is available at both institutions to provide state-of-the-art information management. All vital signs and flowcharting, imaging, laboratory results, diagnostic studies, documentation by all outpatient and inpatient clinical services, physician orders, prescriptions, and drug formularies as well as some decision support capabilities exist in our electronic health records (EHR). Children's Hospital recently received HIMSS Analytics Stage 7 award for being completely paperless, putting it in rare company. Integrated email and paging systems facilitate communications across both sites. Residents play an important role in the implementation of the EHR and the improvement of these systems.



Information management is state-of-the-art

Highly secure remote access to both the Boston Medical Center and Children's Hospital systems is available to all residents 24 hours per day, including records, lab results, radiology images, and paging. In addition, the BCRP website provides password-restricted access to useful

information for residents such as colleague contact information, rotation survival guides, upcoming schedules and announcements, and a database of useful articles and presentations.

Research

Boston Children's Hospital

Children's is home to the world's largest and most active pediatric research enterprise and one of the largest research programs of any independent hospital. The hospital has more than \$300 million in research funding per year and more than 750,000 square feet of state-of-the-art laboratory space. The research mission of Children's Hospital encompasses basic research, clinical research, community service programs and the training of new scientists. More than 500 investigators, including 8 members of the National Academy of Sciences, 17 members of the National Academy of Medicine, 23 Fellows of the American Academy of Arts and Sciences, and 11 members of the Howard Hughes Medical Institute

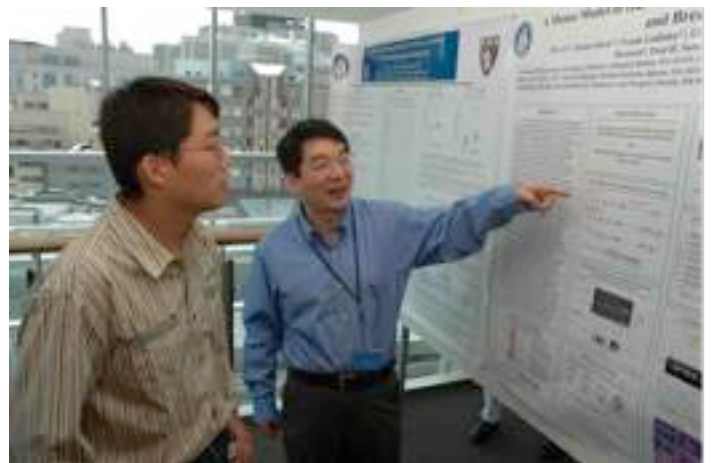
are part of Children's truly extraordinary research community. Four Children's investigators have won the Nobel Prize and six have won the nearly equally prestigious Lasker Award.

Boston Medical Center

BMC is nationally recognized for clinical, health services, and policy research as it relates to low income and minority children. Areas of research include child development and early literacy, perinatal epidemiology, gene-environment interactions and low birth weight, the impact of policy, such as welfare reform, housing and nutrition on health, prenatal drug exposure on child health and development, HIV/AIDS in children, the use of information technology to improve quality, environmental health and international and immigrant health.

Quality of Research

The quality of the research done by Children's Hospital and Boston Medical Center faculty is especially impressive. During the ten years from 2006 to 2015, researchers from Children's published more than 7 times as many papers in the top three basic science journals than any other pediatric program, and 2.4 times more than the top 20 ranked pediatric programs combined! The proportion of papers published in the top 30 basic science journals exceeded all the Boston 'adult' hospitals and all medical schools (including their basic science departments), except for Stanford. Indeed, when the 2006-2015 papers of the full-time faculty at the Whitehead Institute (17 members) and the top 17 faculty researchers at Boston Children's Hospital are compared, the Children's faculty published 13.9% of their papers in Cell, Science or Nature, while the Whitehead faculty proportion was only 4.6%. Similarly, in clinical research BCRP researchers published 2.6 times more papers in the top three clinical journals (New England Journal of Medicine, JAMA and Lancet) than the next best pediatric program. Indeed, at Boston Medical Center 3.8% of pediatric



Resident and fellow Research Day



Fred Alt
BCH
NAS / NAM / AAAS
HHMI

Ed Benz
DFCI / BCH
NAM / AAAS

David Clapham
BCH
NAS / HHMI

George Daley
HMS / BCH
NAM / AAAS

Alan D'Andrea
DFCI / BCH
AAAS

Elizabeth Engle
BCH
HHMI

Gary Fleisher
BCH
NAM

Raif Geha
BCH
AAAS



Todd Golub
Broad / DFCI / BCH
HHMI / NAM

Xi He
BCH
AAAS

Steve Harrison
BCH / HMS
NAS / AAAS / HHMI

Friedhelm Hildebrandt
BCH
NAM

A. Thomas Look
DFCI / BCH
AAAS

Isaac Kohane
BCH / HMS
NAM

Louis Kunkel
BCH
NAS / AAAS

Judy Lieberman
BCH
AAAS

Donald Ingber
Wyss / BCH
NAM / AAAS



Marie McCormack
HMS / BCH
NAM

Marsha Moses
BCH
NAM

David Nathan
DFCI / BCH
NAM / AAAS

Charles Nelson
BCH
AAAS

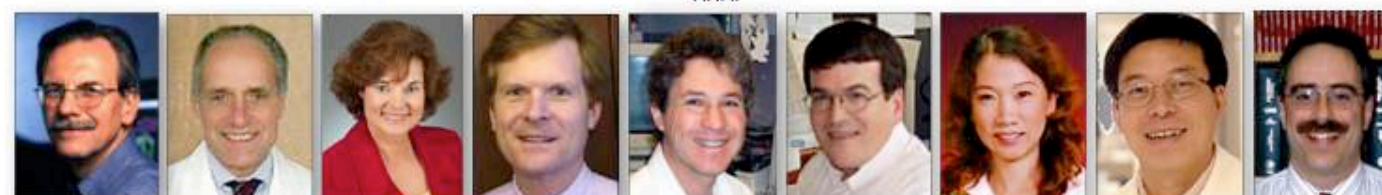
Stu Orkin
BCH / DFCI
NAS / NAM / AAAS /
HHMI

David Pellman
DFCI / BCH
HHMI / AAAS

Hidde Ploegh
BCH
NAS / AAAS

Mark Schuster
BCH
NAM

Yang Shi
BCH
AAAS



Timothy Springer
BCH
NAS / AAAS

Joe Volpe
BCH
NAM

Denisa Wagner
BCH
AAAS

Chris Walsh
BCH
HHMI / NAM / AAAS

Matt Warman
BCH
HHMI

David Williams
BCH
NAM / AAAS

Hao Wu
BCH
NAS

Yi Zhang
BCH
HHMI / AAAS

Len Zon
BCH
NAM / AAAS / HHMI

**BCRP faculty who belong to the National Academy of Sciences (NAS), National Academy of Medicine (NAM),
Howard Hughes Medical Institute (HHMI), or are Fellows of the American Academy of Arts and Sciences (AAAS)**

*(BIDMC, Beth Israel Deaconess Hosp; BMC, Boston Medical Ctr; BWH, Brigham & Women's Hosp; Broad, Broad Inst; BCH, Children's Hosp Boston;
DFCI, Dana-Farber Cancer Inst; HMS, Harvard Med School; HSPH, Harvard School of Public Health); Wyss, Wyss Inst for Biologically Inspired Engineering.)*

papers during 2006 to 2015 appeared in these three journals, compared to an average of just 0.58% for the other top 20 ranked pediatric institutions. Thus, by any measure, the quality of the research in the BCRP is world class.

Research is an active aspect of the residency program as well. This is reflected in the high proportion of residents with previous research experience, the enthusiasm of the residents for their journal clubs and their own research, and just by conversations in the hallways or at rounds. Many outstanding physician-scientists and general academic researchers serve as attendings and they also help focus on the interplay between science and medicine.

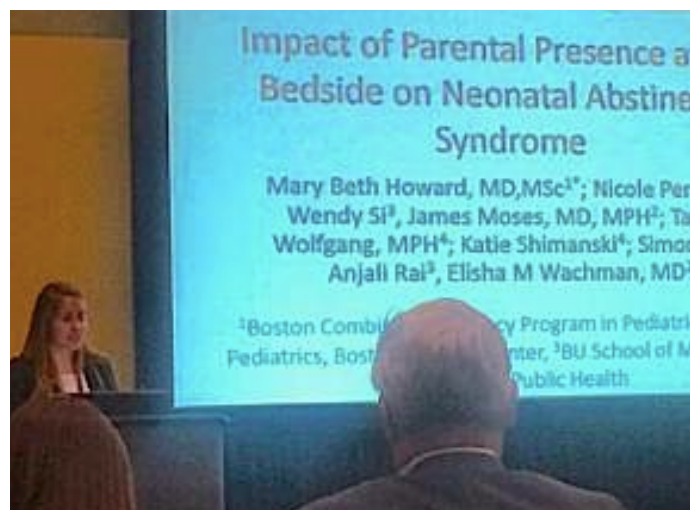
Resident Research

Although there is no formal research requirement, many residents do research, particularly clinical research during their training. Children's Hospital and Boston Medical Center both have federally funded General Clinical Research Centers (called the Experimental Therapeutics Unit at Children's), and outstanding Institutional Centers for Clinical & Translational Research, with biostatisticians, epidemiologists, and other personnel to aid in experimental design. Children's is also part of Harvard Catalyst, a consortium of Harvard hospitals and resources dedicated to clinical research. The Harvard Catalyst provides incredible resources for interconnecting investigators with common interests across the Harvard

community and has introduced very powerful tools that facilitate clinical research, such as the Shared Health Research Information Network (**SHRINE**), an interactive database of patients seen at the Harvard hospitals who meet clinical criteria of interest. Catalyst also provides education and training in clinical research, pilot funding, core facilities and many other services. Faculty members at both Children's and BMC are eager to help residents with research, and many serve as mentors for research projects. The Academic Development Block provides a time to do small projects or conclude larger ones and the new Academy of Investigation and Academy of Clinical Innovation emphasize research. Both the Department of Medicine at Children's Hospital, and the hospital sponsor Research Days where residents and fellows can present their work. In addition, 15-30 current or recently graduated BCRP houseofficers typically submit abstracts of research they did during residency to the Pediatric Academic Societies spring meeting each year. Though not all resident research is published, much of it is, and often it is of high quality. Some examples of research done during residency and published during the past 2.5 years follow (**resident names are in bold**):

2017

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Residents present at national conferences every year

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Autophagy in Development and Disease



**BCRP residents and physician-scientist couple
Darius Ebrahimi-Fakhari and Lara Walster**

Autophagy is an intercellular pathway that is essential to the development and function of all major organs. Disorders of this pathway offer a unique opportunity to understand the importance in health and disease – a concept that current residents Lara Wahlster and her husband, Darius Ebrahimi-Fakhari, explore on a clinical, genetic and molecular level. While Lara's work has focused on congenital anemias and hematopoiesis, Darius is interested in neurogenetic diseases and movement disorders. Their scientific paths often cross around autophagy.

Working with George Daley at Children's Lara generated hematopoietic progenitor cells from induced pluripotent stem cells of patients with Diamond-Blackfan anemia (DBA). Using an unbiased chemical screening she helped identify SMER28, a small molecule inducer of autophagy that enhances erythropoiesis in a range of *in vitro* and *in vivo* models of DBA (*Nat Cell Biol*). These findings point to autophagy as a therapeutic pathway in DBA (*Sci Transl*

Med). As a resident in the accelerated research pathway, Lara is working with her mentor and former BCRP graduate Vijay Sankaran to identify genetic variants that affect engraftment and clinical outcomes after stem cell transplantation.

As a student in the lab of Pamela McLean at MGH, Darius became interested in the role of autophagy in neurons, when he found that the Parkinson's disease associated protein α -synuclein is targeted by this pathway (*J Neurosci, Autophagy*). In Mustafa Sahin's laboratory at Children's, he used Tuberous Sclerosis Complex (TSC) as a genetically tractable model of mTORC1-dependent autophagy in neurons (*Cell Rep*). For this work, Darius was awarded the Outstanding Junior Member Award from the Child Neurology Society and the Outstanding Investigator Award from the German Society for Pediatric Neurology. In addition, Darius has led several clinical research projects aimed at understanding rare genetic movement disorders associated with PRRT2 mutations (*Neurology, Brain*) and more recently hereditary spastic paraplegia type SPG47, a disorder again linked to deficits in autophagy. Most of his work is inspired by patients and families that he cared for as a medical student and as a resident at Children's.

In other studies, Lara and Darius collaborate on diseases that share both hematologic and neurological problems, such as the lysosomal storage disorders (*Hum Mol Gen*). Following their research and clinical interests, Lara is going to fast-track into a Hematology and Oncology Fellowship and Darius will join the Child Neurology Program after graduating from the BCRP.

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Health Outcomes



**BCRP resident
Emily Bucholz**

As an MD/PhD student at Yale, resident Emily Bucholz studied socio-demographic disparities in health outcomes and quantified the long-term impact of quality metrics on patient life expectancy. She has continued her work in quality measurement as a pediatric resident in the Integrated Research Pathway (IRP) studying pediatric readmissions under the mentorship of Dr. Mark Schuster and Dr. Jay Berry. Her work focuses on characterizing the timing and causes of pediatric read-

missions as well as the association of pediatric and adult readmissions and trends over time. The goal of this research is to better understand when children are at great-

est risk of readmission, how patterns of readmission vary by index diagnoses and causes of readmission, and whether large-scale readmission efforts in adult populations have had an effect on pediatric readmissions. In addition, she has continued to investigate sociodemographic disparities in health outcomes among children with single ventricle heart disease and disparities in cardiovascular risk factor awareness among young adults. She has been awarded young investigator awards by both the American Heart Association and the American College of Cardiology; and more recently, her work evaluating the relationship between hospital performance and patient life expectancy (*N Engl J Med*) was awarded one of the Top 10 Clinical Research Achievement Awards of 2017 by the Clinical Research Forum. Emily will be staying at Boston Children's for fellowship in pediatric cardiology.

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Dark Matter of the Cancer Genome



**Recent BCRP
resident
John Prensner**

After completing undergraduate degrees in English literature and history, recent resident John Prensner embarked on a career shift towards the sciences. He took a research position at the then newly-minted Broad Institute of Harvard and MIT and became absorbed in the study of cancer genomics. He followed this by enrolling in the MD/PhD program at the University of Michigan in Ann Arbor, where he completed his dissertation work under the mentorship of Arul Chinnaiyan. For his research, John delved into the "dark

matter" of the cancer genome—the 98% which is not known to produce proteins and has few described functions. John's work pioneered the use of next generation sequencing in human cancer research and used human prostate cancer samples to delineate an unknown network of long non-coding RNAs (lncRNAs). He discovered PCAT1 as a lncRNA that controls cell proliferation (*Nat Biotechnol*), functioning as a sponge that interferes with the ability of one microRNA to degrade the cMYC onco-

gene (*Neoplasia*). He further found a separate function of PCAT1 as a regulator of genome maintenance through antagonism of the BRCA2 tumor suppressor gene (*Ca Resch*). He then defined the SChLAP1 lncRNA as a central mediator of cancer cell invasion and metastasis, functioning by blocking the SWI/SNF epigenetic complex and altering cell gene expression globally (*Nat Genet*). He also showed that SChLAP1 expression is one of the single best clinical predictors of prostate cancer relapse, metastasis, and death (*Lancet Oncol*). He was able to translate these findings into two patents with one commercial biomarker assay developed. As a BCRP resident, John has continued his research efforts back at the Broad Institute, under the mentorship of Todd Golub, where he has been working to characterize a class of unknown proteins, termed micropeptides, and how these micropeptides offer new clinical and therapeutic angles for translational cancer science. In other studies, John has been a collaborator on efforts to translate genomics to pediatric clinical medicine (*JAMA*) and is studying pediatric cancer patients who have had their genomes sequenced (*Pediatr Blood Cancer*). John is currently an incoming pediatric hematology/oncology fellow at Boston Children's/Dana-Farber Cancer Institute.

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Research Tracks

The BCRP supports both research pathways approved by the American Board of Pediatrics.

Accelerated Research Pathway (ARP)

This pathway is for residents committed to an academic career as a physician-scientist. It allows the resident to complete pediatrics training in two years in exchange for adding an extra year of research as a fellow. No exam is required. Since almost all fellows training to be physician-scientists do more than three years of fellowship research anyway, this is an attractive pathway.

Integrated Research Pathway (IRP)

This pathway is open to those with MD/PhDs or PhD-like research experience. The pathway allows residents to combine 24-months of clinical residency with up to 12-months of research, beginning after the PL-1 year. At least 5-months of the research must be in the PL-3 year.

These pathways are described in detail in the American Board of Pediatrics website.

Eligibility for Research Tracks

Technically, intern applicants cannot be guaranteed acceptance into these pathways before the beginning of their internship since clinical performance and PL-1 in-service exam scores are used to judge a candidate's suitability for accelerated training. However, almost all residents who wished to pursue one of these pathways over the past decade have been allowed to do so.

Housestaff who wish to pursue these pathways instead of a senior year, must notify Ted Sectish by January 1st of their internship year and demonstrate superior clinical competence and scores on the In Training Examination of the American Board of Pediatrics that predict successful passage of the general pediatrics certifying examination. The Executive Committee oversees the selection process for interested candidates. Decisions are made in November of the intern year.

Special Tracks

The BCRP makes every effort to allow residents the freedom to pursue special pathways that meet their needs. For example, some residents have extended their period of training for family reasons, and a few have left the program for a year to undertake or complete a project.

Physician-Scientist Fellowship Training

During the past 9 years **96.3%** of physician-scientist residents who have wanted to remain at Boston Children's Hospital for their fellowship training have been able to do so. So, while we do not have a program that guarantees a fellowship position for incoming residents, as some institutions do, for all practical purposes, incoming housestaff who want to remain for fellowship—particularly physician-scientists—are able to do so.

The Personal Touch

The BCRP is a family made up of over 150 residents, program directors, and administrative staff. Many residents have recently moved to Boston, some with partners and young children and all are working hard to balance their busy professional and personal lives. We value providing a strong support network for our residents, and we strive to give the BCRP community as many opportunities as possible to spend time together outside the hospital.

Intern Orientation

New interns participate in a unique 12-day Orientation before their first day of work. This is dedicated to helping interns explore Boston, learn their way around the hospitals, take care of logistics, and – most importantly – get to know their new family so they can hit the ground running having already forged many of the friendships that will continue throughout the rest of their lives.

During Orientation, incoming interns participate in structured modules that highlight a variety of important areas such as communication, professionalism, humanism, resident wellness, individualized learning plans, and procedural competency; complete certification courses in PALS and NRP; get oriented to the wards and emergency departments in which they will soon be working; and enjoy a variety of social activities, including:

- Traditional New England clambake and lobster fest
- Family barbecue and lawn games
- Red Sox games
- Chief Family Dinners
- Happy Hours
- And more...



Intern orientation: new white coats

Advisors and Mentorship

The BCRP strives to provide the best possible educational experience for every resident, to foster personal and professional growth, and to encourage the pursuit of individual passions. Our program prides itself on carefully guiding residents along their chosen career path in order to help them become leaders in clinical care, research, medical education, quality improvement, advocacy, or other areas of their choosing. We take a dual approach, with advising being provided primarily through the five “Chief Families,” and mentorship being accomplished primarily through the five Academies discussed elsewhere.

Advising

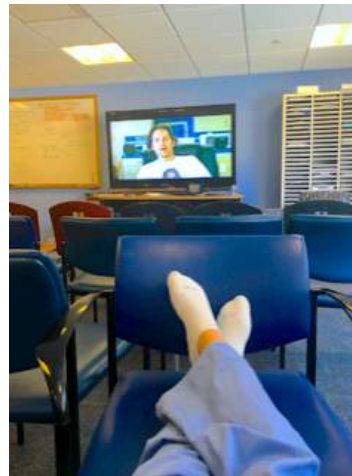
Each of the Chief Families includes about 30 residents and is led by a Chief Resident and two faculty advisors. At least four times per year, residents meet individually with their Chief Family leadership to discuss rotation feedback and peer and faculty Milestones assessments, progress towards individual personal and professional goals, and any issues they may encounter. The advisors often provide guidance on career choices and advocate on behalf of the resident in many forums.

Mentorship

While mentorship overlaps significantly with advising, the primary focus of mentorship through the Academies is professional development and career planning. Indeed, it is a cornerstone of the Academies. The Faculty Advisors, affiliated faculty members, and Chief Residents who lead each Academy organize specific opportunities for residents to identify mentors through networking events, career nights, and research-in-progress events, among others. Residents are encouraged to identify mentors that share their interests, or the Academy leadership may assign a mentor at the resident’s request.

Housestaff Lounge

The Housestaff Lounge at Boston Children’s Hospital is a recently renovated, casual space dedicated to BCRP residents. It contains workspaces with computers, a printer, a fax machine/scanner and individual mailboxes; a Keurig coffee machine with free coffee and tea; a full-size refrigerator and microwave; and a 50-inch HD television with surround sound. Residents use this room to relax, gather for informal meetings, and for various morning and lunchtime conferences.



Relaxing in the housestaff lounge on a slow weekend

Retreats

House officers participate in a variety of different kinds of retreats throughout the three years of residency. These provide time for resident bonding, reflection on education, and discussion of issues important to the entire residency.

Intern Retreat

All interns participate in an overnight retreat in the Fall to relax, reflect, and enjoy each others’ company in a more casual setting after the first three months of residency. It has been held at different locations including faculty members’ summer homes (sans the faculty member), rustic summer camp facilities, or lodges far enough from Boston to serve as a welcome escape from city life. Recently, the interns have spent the night on Cape Ann and Squam Lake, enjoying activities including BBQ, kayaking, swimming, and hiking.

Fall Housestaff Retreat

All residents receive coverage to attend this all-day, all-housestaff retreat, which has traditionally involved activities that promote bonding across residency classes and develop their professional or clinical skills. It occurs at a location remote from each hospital, and fellows and attendings cover clinical services while residents are at the retreat. Resident input is solicited to plan activities and topics of discussion, such as curricular changes, how to be an effective teacher on the wards, and more recently, dedicated time for Academy-specific skills building.

Spring Housestaff Retreat

The Spring all-day, all-housestaff retreat is also held off the hospital premises. This retreat is typically used as a forum for reflecting on the year, discussing new topics in



The Cape Ann site of many intern retreats

pediatrics, and brainstorming ways to improve the residency experience. In recent years, residents have explored and debated cases of medical ethical dilemmas and hosted leaders in pediatric public health such as Judith Palfrey. Each of the Fall and Spring retreats is capped off by a Happy Hour at a location of the residents' choosing.

Rising Junior Orientation

This retreat is an opportunity for interns to enjoy time with classmates before graduating into the PL-2 year. It takes place in the spring and focuses on discussions about new experiences interns can expect in the junior year, including increased autonomy, higher patient acuity, and intern and medical student supervising.

Rising Senior Orientation

This is a springtime junior-only retreat focused on building skills essential to the role of the senior resident. Usual topics include: leadership and communication skills; principles of medical education and "resident-as-teacher" skills; tips on licensure and career planning; and recertification in NRP and PALS. Both the Rising Junior and Rising Senior orientations end with Happy Hour and time to socialize as an entire resident class.

Family Friendliness

Parenting as a Resident

The BCRP actively supports residents who are parenting during their training years. As a program, we recognize the difficulties inherent in managing the dual roles of parent and house officer. We are proud to offer a variety of supports to help residents strike their work-family balance with grace and confidence.

- **Peers Who are Parents.** You will find parents of infants, toddlers, school-age, and even college-age children among fellow residents. As a group they socialize and share information about how to strike the right work-family balance.
- **Maternity and Paternity Leave.** The program offers paid maternity leave and paternity leave. With advance scheduling up anywhere from 8 to 12 weeks usually can be accommodated for the former. Although the maximum time is limited by training requirements of the American Board of Pediatrics, program leadership works with all residents to accommodate additional clinical time if the resident extends the period of training to include the extra leave.
- **Flexible Scheduling.** The BCRP has assisted several residents with arranging half or three-quarter time schedules designed to allow completion of residency at a slower pace over a longer interval. Although we cannot always guarantee flexible scheduling, we try to accommodate such requests to the best of our ability. The BCRP has more residents on flexible schedules than any other program, as noted in an article in Newsweek magazine.
- **Supportive Colleagues and Mentors.** House officers returning to work after the birth of a child report that their colleagues and mentors are supportive during the transition back, including attitudes towards breastfeeding and the short but frequent absences it requires from the wards.
- **Lactation Support.** Both Children's Hospital and Boston Medical Center have extensive lactation resources, including dedicated RN lactation consultants and multiple comfortable, quiet areas in which mothers can pump in private. Pumps and associated accessories can be purchased from the hospital at a discount.



Significant others (here in their Sig-O T-shirts) are included in all social activities

Intern Orientation



Getting to know you games



Famous Dr. Vinci waffles



New name tags



New pagers



Practicing procedures



Learning proper technique for completing the New York Times Crossword



Bad breath protection



REALLY bad breath protection



Scavenger Hunt



Dinner at the Vinci's



New England Clambake

Intern Orientation



Color Coded Chief Families



Softball



Red Sox Game

Intern Retreat



Grilling



Hanging out



Beach football



Playing Scatagories



Breakfast together



Family style meals



Kayaking



Group hikes



Nothing but the finest accommodations



Seniors with babies

- **Child Care.**

Children's Hospital Child Care Center. Children's Hospital has an excellent affiliated day-care center, that is available to Categorical track residents (though there is usually a waiting list). It is directed by Donna Warner (donna.warner@childrens.harvard.edu) and is located 21 Autumn Street, just a short walk from Children's Hospital. It is open year round on weekdays from 6:30 AM to 6:00 PM. Phone: (617) 355-6006.

Bright Horizons Family Center at Landmark. The center is located at 401 Park Drive, 4th Floor West, Boston, MA 02215, only a few blocks from the medical area, is open weekdays from 6:30 AM to 6:30 PM and serves children from infancy to preschool. Phone: (617) 450-0790. The hospital has a contractual relationship that reserves 20 slots for BCH employees.

A subsidy is offered to benefit eligible employees if they enroll at Children's Hospital Child Care Center or Bright Horizons at LandMark and meet the necessary criteria.

The LMA Family Childcare Network is a network of licensed family childcare providers who provide childcare in their homes for families who work in the Longwood Medical area. Network Family Childcare Providers with varying vacancies are in the following towns: Brookline, Roxbury, Milton, Hyde Park, Needham, and Dorchester. Contact Nina Dickerman, Director of Family Child Care Institutional Services Nurtury, directly at (617) 695-0700 x244 or at ndickerman@nurturyboston.org. Nina can also direct you regarding the Bromley Heath Center in Jamaica Plain, as well as other Nurtury owned centers.

Brookline Knowledge Beginnings. This center is located at 5 Brookline Place, between the medical center and Route 9, is open 6:30 AM to 6:00 PM weekdays, and accepts children from 6 weeks to 7 years. Phone: (617) 730-4311.

Backup Care. The hourly cost of adult and childcare through Care.com Back-up care is now only \$7.50/

hour! Once the care is complete and the hours have been confirmed, your credit card will be charged for your hourly co- payment. You may use up to a combined total of 15 days of backup child care and adult care per year (October 1 through September 30). Sign up using your Boston Children's Hospital email address at bch.care.com.

Au Pair Services. Cultural Care Au Pair (CCAP) is the largest Au Pair company in the world, with more than 90,000 au pairs in the U.S. CCAP is an affordable child care option for benefits eligible Boston Children's employees. CCAP is offering a \$500 discount to employees new to their program. They also offer our employees customized consultations and webinars at no cost. For more information, please contact a program consultant at 800-333-6056 x 3605 or at info.culturalcare.com/childrens.

- **Community Offerings for Families.** Boston and the surrounding communities provide a wide array of enjoyable and enriching opportunities for kids, such as playgrounds and parks, the Aquarium, the Children's Museum, the Science Museum, and numerous day trips outside the city.
- **Schools.** Many of the local school systems, including Brookline and Newton, enjoy nationwide recognition for excellence.

Benefiting the Community

The BCRP is actively engaged in the Boston community and committed to providing outstanding care to Boston's children. Both institutions are located near large urban



New intern with flowers from a grateful family

areas with many families living at or below the poverty level. In many ways, our institutions become community hospitals for residents from Roxbury, Dorchester and Mission Hill. The majority of children who live in Boston receive their primary health care from one of our institutions. Boston Medical Center is the largest safety net hospital in New England

and Children's Hospital's Primary Care at Longwood is the largest provider of pediatric primary care to children in the city, with 11,000 patients, 65% from inner city neighborhoods. In addition to serving Boston's urban population in the BCRP's hospitals and clinics, residents

receive additional training and immersive community experiences in the Keystone quarter as part of the Advocacy, Adolescent Medicine, and Child Development curricula.

Residents often organize and participate in other community efforts including supporting local organizations like Forest Hill Runners and Best Buddies, joining with pediatric residents from other programs in the state for the Residents and Fellows Day at the State House, and engaging in fundraising efforts by cycling in the annual Rodman Ride and running in the Boston Marathon

Some Examples of Recent Resident Advocacy Accomplishments

- Founded the “CIR Center for Social Determinants of Health” at Boston Medical Center, a resident-led, interdisciplinary group of providers whose shared mission is to address disparities in healthcare by improving awareness of the social determinants of health.
- Founded the Advocacy through Policy residency group to partner with the Boston Children’s Hospital Office of Government Affairs in advocating for policies to benefit child health.
- Worked with the Center of Medicaid and Medicare Services on health policy issues at a federal level.
- Worked with a community health center to improve travel screening for immigrant patients.
- Received a Picker Gold Challenge Grant to support the development of patient care initiatives and best practices for “Improving Family-Centered Care for Substance Exposed Newborns and their Mothers”
- Started a resident interest group to support urban families around the impact of community gun violence, including a fundraiser to support the community organization L.I.P.S.T.I.C.K
- Designed and implemented a quality improvement project on the BMC pediatric service to facilitate family centered rounds for families whose primary language is not English
- Presented a workshop on social determinants of health screening in pediatric clinic at a national meeting, in collaboration with several other residency programs
- Received an International Elective Grant from the American Academy of Pediatrics to support work on newborn care in Kenya.
- Presented a workshop on writing in residency at a national meeting and served as the Editor of the trainee section of Pediatrics.
- Started a project to bring home visits to children in the community as an alternative to the traditional primary

Pediatricians and Politics: Advocating for Pediatric Research and Children's Health Insurance



UHAT residents on a RAP afternoon

Urban Health and Advocacy Track (UHAT) residents spent a Research, Advocacy and Policy (RAP) afternoon last Fall with Boston Children’s Office of Government Relations staff Amy DeLong and Kate Audette, learning how to lobby and speak to politicians. They put their skills to use that day, meeting with staffers in the offices of Senator Elizabeth Warren and Senator Ed Markey to advocate for legislation that would strengthen the NIH’s commitment to pediatric research.



Elyse Portillo (right) and Amanda Stewart (second from right) at The Massachusetts State House

BCRP residents Elyse Portillo and Amanda Stewart at the Massachusetts State House after they and two other Boston Children’s Hospital providers shared testimony on a bill that would improve the way the Children’s Medical Security Plan—a safety net insurance plan for underserved children—is structured, allowing for a flexible program that would better serve the needs of children in the Commonwealth. Elyse and her fellow advocates from Boston Children’s shared patient stories as they urged policymakers to move forward on this important legislation.

REACH: Resident Education Advancing Communication in Hospitals



BCRP residents Zeena Audi and Neeru Narla (second and third from the right in the front row) and their colleagues

Confronted with the fact that patients with limited English proficiency are more likely to suffer adverse events and the realization that residents in the BCRP are caring for

an increasing portion of non-English speaking patients, BCRP residents Neeru Narla and Zeena Audi created a cultural communication curriculum to improve the quality of care delivered to ethnically and linguistically diverse pediatric patients and their families. After completing a needs assessment of residents and interpreters and conducting focus groups with interpreters from different cultures, they realized that the obstacles to effective communication identified by interpreters were similar across cultures. They distilled these gaps in culture knowledge and interpreter interaction into the theme of a “10 and 10” curriculum – ten tips on working with interpreters and 10 tips on working with multicultural patients. Every BCRP intern rotating on the BMC Pediatric Ward team will now experience this curriculum, which combines interpreter feedback, an online virtual classroom, and simulation to disseminate the “10 and 10” and provide opportunities for residents to practice these skills. Neeru and Zeena also presented their curriculum to a national audience at the Annual Meeting of the Association of Pediatric Program Directors.

StreetCred



Michael Hole and Lucy Marcil

One of every five children in the United States is growing up poor, which means America's future faces increased risk of preventable disease, poor school performance, and loss of future economic productivity. In response, residents Michael Hole and Lucy Marcil teamed up and founded StreetCred (www.mystreetcred.org), a social impact organization highlighted by Forbes Magazine and NPR. StreetCred is building one-stop shops of anti-

poverty tools to help low-income families visiting pediatric clinics access basic resources and build assets while they wait on their doctor. In its first four months, StreetCred prepared tax returns and led voter registration for patients' families, ultimately returning nearly \$400,000 of Earned Income Tax Credit and Child Tax Credit to caregivers raising children. StreetCred's Research Team is studying the program's impact on long-term childhood toxic stress and health outcomes, and the organization has plans to expand its services to setting up savings accounts and bonds, financial literacy, filing for health insurance, and food, housing, utilities, and family budgeting assistance in Boston and other urban settings across the United States. To-date, StreetCred is financially supported by BMC's Department of Pediatrics, BMC's Philanthropic Trust, BMC's Committee on Residents and Interns, a Boston Children's Hospital's Fred Lovejoy Award, the American Academy of Pediatrics, and several private donors. Six BCRP residents devoted their protected advocacy time to StreetCred during the 2016 tax season.



Rodman Ride for Children, which raises money for social services for at-risk youth

care system.

- And numerous residents have published articles in medical journals and public news sources on poverty and health, health disparities, and advocacy training.

Community Health and Advocacy Rotation

The Community Health and Advocacy Rotation is based at Boston Medical Center and is incorporated into the Keystone Quarter during the PL-1 year. The curriculum focuses on screening for and addressing social determinants of health, building familiarity with resources in Boston, and exploring careers in advocacy at the local, national and global levels. Residents also receive training in legislative advocacy, participate in skill building workshops, and learn through structured community exercises that complement targeted didactic training in topics such as disability services, family law, health insurance, housing, hunger and nutrition, and immigration services. In addition, residents learn to seamlessly incorporate their advocacy skills into their primary care clinic, developmental and behavioral pediatrics clinics, and adolescent clinics during the Keystone Quarter so that advocacy is seen as central to being a pediatrician rather than separate from clinical duties.

For residents with a special interest in this area, elective opportunities at both the local and national levels can be arranged.

International Opportunities

BCRP Global Child Health Initiative

The goals of the BCRP Global Child Health initiative are to increase knowledge and awareness of global health issues; to provide specialized knowledge, skills and mentorship to residents with career interests in global child health; and to provide high-quality opportunities for



Examining a patient in Haiti

meaningful international clinical experiences. The initiative offers exposure to international and refugee patients, as well as faculty working on cutting-edge, grass-roots policy and health service delivery implementation in the developing world. It has three major components:

- Global health teaching curriculum for all BCRP residents.
- Global health electives at supervised, affiliated international sites with pre-departure preparation and post-travel debriefing for interested BCRP residents.
- The Pediatric Global Health Research Fellowship, a four year integrated residency track, for one UHAT resident per year, jointly run by the Center for Global Health and Development at Boston University School of Public Health and the Department of Pediatrics at BMC.

Additionally, residents can apply for a traditional post-residency Global Pediatric Fellowship in Health Services Delivery through Boston Children's Hospital.

Global Health Teaching Curriculum

The BCRP global health teaching curriculum provides didactic and case-based instruction on the fundamentals of pediatric international health, integrated throughout existing noon conferences and resident lectures. The curriculum covers topics of current relevance as well core topics such as tuberculosis, HIV, malaria, malnutrition, vitamin and micronutrient deficiencies, parasitic infections, child and infant mortality in the developing world, and management of healthcare systems in resource-poor settings. During the PL-1 year, additional educational sessions occur during the advocacy section of the 12-week Keystone block. Residents in the Urban Health and Advocacy Track are also exposed to topics in global health through monthly Research, Advocacy and Policy sessions.

Global Health Seminar Series

The Global Pediatrics Program at Boston Children's Hospital hosts a monthly seminar series pertaining to child health in low-resource settings. Additionally, the Global Health Initiative Seminar Series, which is jointly held by Dana Farber Cancer Institute and Boston Children's Hospital, has a regular seminar series that residents are welcome to attend. Please contact Ton Tran (Ton.Tran@childrens.harvard.edu) for more information.

Global Health Clinical Skills Week

BCRP residents are invited to participate in many of the sessions offered for BCH Global Pediatric Fellows during a clinical skills week in the summer of each year. Topics include master training for Helping Babies Breathe, trauma simulation for resources limited settings, and a day of didactics on global health topics from area experts.

BMC International Health Clinics

Boston Medical Center has an International Refugee Clinic, Travel Clinic and Tuberculosis Clinic. Residents have the opportunity to rotate through these clinics during their elective time.

BCH Global Health Program

Boston Children's Hospital's Global Health Program is summarized in their downloadable 2016 Annual Report. (<http://www.childrenshospital.org/~media/microsites/global-health/global-health-annual-report-2016.ashx?la=en>)

Global Health Electives

Residents have elective time in their second and third years, during which they can pursue clinical rotations at international sites. Our goal is that all residents interested in global health rotations 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. The purpose of these rotations is to teach residents about health care in an under-resourced setting with a focus on improving their knowledge about major causes of global pediatric morbidity and mortality, improving clinical skills, and increasing residents' understanding of how culture, ethics, policies and health systems can affect pediatric health. Housestaff may take advantage of several established partnerships or they may arrange rotations or research projects at other sites with faculty mentorship. A database of institutional, regional and national grants is available to assist residents with funding. The more established programs are described here. The BCRP can only arrange global health rotations for current BCRP residents.



Central Hospital University of Kigali, Rwanda

Rwanda

Program: University of Rwanda Pediatrics Dept
Site: Centre Hospitalier Universitaire de Kigali (CHUK; University Teaching Hospital of Kigali), Kigali, Rwanda
Minimum Time: 3-4 weeks
Activities: Residents work alongside pediatric faculty from Rwanda or US faculty with the Rwanda Human Resources for Health Program as well as residents, medical students and staff in the main tertiary referral hospital for the country. Residents can choose between the pediatric emergency dept (through which almost all admissions come) and Inpatient wards. The wards include a high dependency unit, a 3-bed PICU with ventilators, a NICU (without ventilators), and general wards including oncology, cardiology, malnutrition, chronic and surgical wards.
Cost: Plane ticket, lodging, \$200 administrative fee
Language: No requirement, French is helpful but all education is conducted in English
Contact: Kim Wilson and Samantha Rosman at Boston Children's Hospital.



Lao Friends Hospital for Children

Laos

Program: Lao Friends Hospital for Children
 Site: Lao Friends Hospital for Children, Luang Prabang, Laos. Luang Prabang (~54,000 pop) is a world heritage site in north central Laos and is the capital of its province.
 Minimum Time: 4 weeks
 Activities: Working alongside Laos physicians and nurses providing clinical care in urgent/outpatient, inpatient, ER and postoperative care.



Muhimbili National Hospital in Tanzania

Cost: Flight (\$2,000), accommodations (~\$500/month)
 Language: Hospital practices in English
 Contact: Michelle Niescierenko at Boston Children's Hospital.

Tanzania

Program: Muhimbili University Pediatrics Dept
 Site: Muhimbili National Hospital, Dar es Salaam, Tanzania
 Minimum Time: 3-4 weeks
 Activities: Residents work alongside pediatric faculty, residents and staff in a large department that serves as a referral center for the country. They can choose to work in subspecialty clinics, the acute care ward, general ward, NICU, or the diarrhea ward. They can also focus on research or quality improvement projects, and enhancing education.
 Cost: Plane ticket, lodging, \$200 administrative fee
 Language: No requirement
 Contact: Christiana Russ at Boston Children's Hospital



Northern Navajo Medical Center

Indian Health Services

Program: Indian Health Services Pediatric Program
 Site: Northern Navajo Medical Center, Shiprock, New Mexico
 Minimum Time: 1 month
 Activities: The pediatric rotation includes mostly outpatient urgent care and primary care visits. Residents may also observe numerous community-based healthcare initiatives, including school visits. This is a unique opportunity to work with a medically underserved community with a distinctive culture while gaining outpatient primary care and public health perspectives.
 Language: No requirement
 Contact: Christiana Russ at Boston Children's Hospital

Fellowships

Pediatric Global Health Research Fellowship

While up to one-fifth of BCRP residents spend some elective time at an international site, the BCRP also recognizes that a smaller number of residents are committed to careers in global child health, research, and service delivery. The BCRP provides a unique integrated training opportunity for these residents. In 2009, the BCRP partnered with Boston University's School of Public Health and Boston Medical Center's Department of Pediatrics to establish a four-year integrated residency for candidates interested in a career in pediatric global health research. This fellowship is only open to applicants in the Urban Health and Advocacy Track, with the application process in the fall of the PGY2 year and fellowship activities to be completed in the PGY3 and PGY4 years. Up to one resident per year is selected to participate in the fellowship.

Fellows work closely with faculty members from Boston University's Center for Global Health and Development (<http://www.bu.edu/cghd/>) in applied global health research as well as pursue advance training in epidemiology, biostatistics, research design through BU's School of Public Health. More about the fellowship and past fellows here: <http://www.bu.edu/cghd/about-us/pediatric-global-health-research-fellowship/>

Core aspects of the fellowship include:

- Completion of pediatric residency training in four academic years
- Master of Science in Epidemiology at Boston University's School of Public Health

Global Health Experiences



Global Health Experiences



- Mentored applied research in global child health with faculty at Boston University's Center for Global Health and Development

Contact Dr. Rachael Bonawitz, the Fellowship Director for more information (rachael.bonawitz@bmc.org).

Boston Children's Hospital Postgraduate Global Pediatric Fellowship in Health Service Delivery

The Global Pediatrics Program offers a postgraduate fellowship program in global health, in collaboration with Partners in Health (<http://www.pih.org/>). Fellows combine work in Laos, Haiti and Rwanda with clinical service and course work in Boston. While abroad, fellows work with local colleagues to improve the quality of pediatric services. Fellows share their clinical experience through bedside and didactic teaching, and work with local staff to implement specific programs and projects. Areas of focus for the fellows' have included prevention of maternal-to-child transmission of HIV, neonatology, oncology, and care of children with chronic and non-communicable disease. This focus on global health service delivery provides critical support to our partners and provides fellows with an opportunity to develop skills and experience in clinical care in low resource settings, in medical education, and in program design, management and evaluation. Contact Kim Wilson (kim.wilson@childrens.harvard.edu), Fellowship Director, at Boston Children's Hospital for more details.

Grants for Global Travel and Projects

The Boston Children's Hospital Global Health Program was founded in 2013 to gather global health practitioners from across the hospital into a multidisciplinary approach to our global work. As part of this initiative the program provides grant funding for residents. Residents can apply for grants of up to \$3,000, \$5,000 or \$10,000. The Schliesman and Von L Meyer Funds are also specifically dedicated to fund overseas experiences of residents and several residents per year receive up to \$1,000 each for this purpose.

Recent Examples of Funded Research Projects:

- Developing protocols for fever in patients with sickle cell disease in West Africa Ghana
- Qualitative research on community care of newborns Tanzania
- Pediatric and endocrine practice with Navajo Indians New Mexico
- Teaching neonatal resuscitations Indonesia

- Developing an OpenPediatrics cardiology module for residents Rwanda
- Evaluation of clinical outcomes and predictors of mortality in an acute care unit Tanzania
- Developing a code card for resident use Tanzania
- Research on neonatal care in the community Indonesia
- Diarrhea illness management and research Bangladesh
- Newborn care improvement at a peri-urban hospital in Nairobi Kenya
- Training nurses in neonatal resuscitation in rural Peru Peru

In the past few years, residents have also participated in rotations in Jamaica, Guatemala, India, South Africa, Haiti and Jordan.



Diversity and Inclusion

The Boston Combined Residency Program in Pediatrics (BCRP) links the pediatric training programs of Boston Children's Hospital and Boston Medical Center. The strength of Children's Hospital, one of the world's

leading pediatric research and training institutions is combined with the passion and commitment of Boston Medical Center's tradition of excellence in clinical research and primary care for underserved populations.

The BCRP is committed to reducing healthcare disparities and creating a workforce that reflects the diversity of our patient populations. Providing children and families with the very best care requires an understanding of their physical, emotional, and cultural needs. For this reason, we seek diverse residents who possess an intellectual curiosity, a passion for medicine, and a compassionate commitment to patients and their families.

The BCRP embraces all forms of diversity including, but not limited to, race, ethnicity, disability, socioeconomic status, gender identity, and sexual orientation. We are committed to recruiting and supporting a diverse resident workforce and have outlined the following goals:

- To increase the number of BCRP housestaff from underrepresented minority groups

BOSTON COMBINED RESIDENCY



Three residents celebrating the end of internship

- To provide support to our trainees that are underrepresented in medicine through faculty engagement, mentorship, education, and resident attendance to national conferences such as SNMA and LMSA.
- To shape the professional development of a cadre of minority physicians who will become leaders in all aspects of pediatrics including patient care, research, medical education, health care policy and child advocacy.

Diversity Council

The Diversity Council is a resident-led and faculty supported group that works to achieve the goals outlined above. The council is made up of residents and faculty who share diverse backgrounds, as well as their allies. All residents and faculty are invited to join the Diversity Council.

BCRP's Diversity Council is divided into three working groups:

- **Recruitment:** Focuses on creating an inclusive environment for incoming applicants while also organizing opportunities for applicants to meet resident and faculty members of the Diversity Council through dinners and hosting programs.
- **Education:** Reviews our curriculum to ensure that we are spending time educating our residents and faculty on topics that will improve their ability to care for our diverse patient populations.
- **Community:** Fosters and supports our community within the BCRP by providing opportunities for mentorship, collaboration with pipeline programs within our partner institutions, and ensuring that our residents are represented at national and regional conferences such as LMSA and SNMA.

The Diversity Council is led by faculty and resident leaders of each working group, as well as a Diversity Chief Resident who is dedicated to these ongoing efforts each year.

We also partner with several groups both in our hospitals and our associated medical schools, including:

- Harvard Medical School's Office for Diversity Inclusion and Community Partnership (<https://mfdp.med.harvard.edu>)
- Office of Diversity and Multicultural Affairs at Boston University School of Medicine (<http://www.bumc.bu.edu/busm/about/diversity/>)
- Boston Children's Diversity and Cultural Competency Council (<http://www.childrenshospital.org/about-us/diversity-and-cultural-competency/dccc>)
- Boston Medical Center's Office of Minority Physician Recruitment (<http://www.bmc.org/minorityphysician.htm>)

Diversity Dinners

On the evenings before interviews, applicants with diverse backgrounds are invited for an informal dinner to meet housestaff, fellows, and faculty. Applicants have rated these dinners very highly because they provide the opportunity to discuss a wide range of issues with current members of the BCRP community in a relaxed atmosphere.

Minority Faculty

- Adolphe, Soukaina MD, BMC, Ambulatory Pediatrics
- Allende-Richter, Sophie, MD, BCH, General Pediatrics
- Alvarez, Norberto MD, BCH, Neurology
- Archer, Natasha, MD, BCH, Hematology/Oncology
- Ballenger, Johnye MD, BCH, General Pediatrics
- Becerra, Lino, PhD, BCH, Anesthesiology
- Bonilla, Francisco MD, PhD, BCH, Allergy/Immunology
- Boynton-Jarrett, Renee MD, ScD, BMC, General Pediatrics
- Brownstein, Catherine, PhD, BCH, Genetics
- Camargo, Fernando, PhD, BCH, Stem Cell Program
- Castro-Aragon, Ilse, MD, BMC, Pediatric Radiology
- Cherry, Marcus, PhD, BCH, Psychiatry/Psychology
- Corzo, Deya MD, BCH, Genetics
- Daniel, Jessica Henderson PhD, ABPP, BCH, Psychiatry/Psychology
- Davis, Carmon J. MD, MPH, BCH, Primary Care
- Del Nido, Pedro J. MD, BCH, Chief, Cardiac Surgery
- Drubach, Laura A. MD, BCH, Radiology
- Epee-Bounya, Alexandra A. MD, BCH, Emergency Medicine
- Estrada, Carlos R. Jr MD, BCH, Surgery
- Figueira, Marisol MD, BMC, Infectious Diseases
- Flores, Alejandro F. MD, BCH, Gastroenterology
- Freundlich, Charise, MD, BMC, Emergency Medicine
- Fynn-Thompson, Francis MD, BCH, Cardiac Surgery
- Gonzalez-Heydrich, Joseph M. MD, BCH, Psychiatry/

BOSTON COMBINED RESIDENCY

Psychology

- Gutierrez, Alejandro MD, BCH, Hematology/Oncology
- Gutierrez, Camilo MD, BMC, Pediatric Emergency Dept
- Harper, Marvin B. MD, BCH, Infectious Diseases
- Hatcher, Cyndie MD, BMC, Primary Care
- Holder-Niles, Faye, MD, MPH, BCH, Primary Care
- Ibeziako, Patricia, MD, BCH Psychiatry
- Ibla, Juan C. MD, BCH, Anesthesiology
- Isong, Inyang, MD, BCH, General Pediatrics
- Jarrett, Delma, MD, BCH, Radiology
- Joseph, Luc F. MD, BCH, Primary Care
- La Roche, Martin PhD, BCH, Psychiatry/Psychology
- LeClair, Elaine G. PhD, BCH, Psychiatry/Psychology
- Lee, Michelle A, MD, PhD, BCH, Hematology/Oncology
- Lopez, Mary Frances, PhD, BCH, Endocrinology
- Louis, Emault MD, BMC, Pediatric Primary Care
- Martin, Camilia R. MD, BCH/Beth Israel Deaconess, Newborn Medicine
- Martinez, Enid MD, BCH, Anesthesiology
- McAlmon, Karen R. MD, Winchester Hospital, Newborn Med
- McKay, Jheanelle, MD, BCH, General Pediatrics
- Morera, Claudio MD, BMC, Gastroenterology
- Mustafa-Kutana, Suleiman MD, BMC, Endocrinology
- Navedo-Rivera, Andres T. MD, BCH, Anesthesiology
- Nethersole, Shari MD, BCH, General Pediatrics, Community Health
- Nurko, Samuel MD, BCH, Pediatric Gastroenterology
- Obeng, Esther, MD, PhD, BCH, Hematology/Oncology
- Ordonez, Claudia L. MD, BCH, Respiratory Diseases
- Ozuah, Nmazuo MD, BCH, Hematology/Oncology
- Peacock-Chambers, Elizabeth, MD, BMC, General Pediatrics
- Perez-Rossello, Jeanette M. MD, BCH, Radiology
- Pierre-Joseph, Natalie MD, BMC, Adolescent Medicine
- Poe, Dennis S. MD, BCH, Otolaryngology
- Poussaint, Tina Y. MD, BCH, Neuro-Radiology
- Prudent, Nicole MD, BMC, Primary Care
- Pursley, DeWayne M. MD, BCH/Beth Israel Deaconess Med.

Ctr., Newborn Medicine

- Ramirez-Schrempp, Daniela MD, BMC, East Boston Neighborhood Health Center
- Redd, Sharon L. MD, BCH, Anesthesiology
- Rey-Casserly, Celiane M. MD, BCH, Psychiatry/Psychology
- Sanchez, Ana BMC Developmental Pediatrics
- Simmons, Esau M., MD, BCH, Primary Care
- Soto, Carmen, MD, BCH, Endocrinology
- Smith, Vincent C. MD, MPH, BCH, Neonatology, Health Services Research
- Soros, Arlette, MD, BMC, Endocrinology
- Taylor, George M. MD, BCH, Chief, Radiology
- Velarde, Jorge, MD, PhD, BCH, Infectious Diseases
- Ward, Valerie L. MD, BCH, Radiology
- Watnick, Paula, MD, PhD, BCH, Infectious Diseases
- Wilson, Celeste R. MD, BCH, General Pediatrics, Child Protection Program
- Wong Quiles, Chris MD, BCH, Hematology/Oncology

Contacts

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BOSTON COMBINED RESIDENCY

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Salaries and Benefits

Residency appointments are for one-year but house officers are accepted with the expectation that they will complete the full course of training needed for board certification. Depending on track, residents receive their salary and benefits from Children's Hospital or Boston Medical Center. Salaries and benefits are not identical, but the program directors continually review the benefits packages work to adjust salaries when needed to ensure benefits are as comparable as possible.

The Categorical and UHAT tracks have different pay scales because they are generated from the institutional pay scales at Boston Children's Hospital and Boston Medical Center. For the last 5 years, the pay scale at Boston Medical Center has been lower than that at Boston Children's Hospital, however each year the hospital leadership has been able to pay this difference to UHAT residents. Although we are not able to predict how salaries will differ between the two institutions in the future, we will make every effort possible to reconcile the salary differences between the two tracks each year.

Salaries

	Categorical (2017-2018)	Urban Health (2017-2018)
PL-1	\$64,308	\$59,845
PL-2	\$66,836	\$62,133
PL-3	\$69,739	\$65,374
PL-4*	\$73,258	\$68,117
PL-5*	\$78,264	---

* Applies to combined programs

Benefits (Both tracks unless noted)

Insurance

- Professional liability (malpractice) insurance
- Life insurance
- Long-term disability insurance
- Short-term disability insurance (Urban Health and Advocacy Track)
- Business travel accident insurance
- Subsidized health insurance, including spouse and children
- Subsidized dental insurance
- HIV supplemental benefit plan



Interns with first paycheck

Other Employment Benefits

- Vacation (4 weeks)
- Leave of absence: medical, family medical or child care/adoption, maternity and paternity, bereavement.
- Child Care Center (Categorical track, subsidized, waiting list)
- Discounted parking in hospital lots with shuttle bus service
- Free night and weekend parking in patient parking garage
- Discounted public transportation (MBTA) pass
- Voluntary tax-deferred annuity and investment (403b) plan
- Lease Guarantee Program (both hospitals will guarantee payment of security deposit and/or advance payment of last month's rent if required by landlord.
- Taxi Voucher Program
- Travel reimbursement for outside continuity clinics

Residency Benefits

- Daily lunches
- On call accommodations, including an on-call meal
- Two hospital (BCH & BMC) and medical school (Harvard & BU) appointments
- Department pays for USMLE III
- Department pays 50% of Pediatric Board Certifying Exam fee
- Department pays American Academy of Pediatrics dues
- Professional Education Allowance (Urban Health and Advocacy track): \$850 per year
- Free BLS training for all housestaff
- Free PALS, NRP training courses during orientation and free refresher courses during senior orientation
- Salary payment during intern orientation
- Five-day break between PL-1 and PL-2 years

BOSTON COMBINED RESIDENCY

- Flex spending account for child and dependent care and out of pocket medical expenses
- Office of Clinician Support for work-related or personal problems
- Reimbursement of \$500 to attending a medical meeting once during residency as well as an additional \$500 if presenting
- Office of Fellowship Training that supports residents and fellows

Social Benefits

- Full day fall and spring retreat for all residents
- Intern overnight retreat in September
- Full day junior and senior orientations
- Faculty dinners
- Winter Formal (dinner-dance)
- House staff show
- House staff auction
- Use of Harvard University and Harvard Medical School athletic facilities

Funding Sources for Academic Pursuits

- Schliesman 3rd World Awards (3-4/yr) (Up to \$1000/Award)
- Von L Meyer Travel Awards (12-13/yr) (\$700/Award)
- Lovejoy Research Awards (5-8/yr) (\$2,000-\$6,000/Award)
- Alpert Children of the City Endowment Grants (2-3/yr) (\$5,000-\$7,000/Award)

Child Care Center

The Children's Hospital Child Care Center provides high quality childcare for children of hospital employees and staff, including Categorical residents. They accept



children three months through five years without regard to race, creed, cultural heritage or religion. They offer a safe, supportive environment that fosters self-esteem, growth and cultural diversity.

The Center is located at 21 Autumn Street, just a short walk from Children's Hospital. It is open year round on weekdays from 6:30 AM to 6:00 PM. The Center is closed on weekends and hospital recognized holidays. The center can accommodate 42 children, but there is nearly always a waiting list. Reduced tuition rates are available based on gross family income.

For more information about the program, or for a tour, please call the Center at (617) 355-6006.

Office of Fellowship Training

Children's Hospital maintains an Office of Fellowship Training that serves both clinical and research fellows and offers a multitude of services. Examples include: conferences and seminars on topics related to career, family, leadership, mentoring and funding; clinical and basic science discussion groups; and journal clubs, social events, group dinners, and a research day poster session. They also have programs devoted to getting settled in the Boston area that address topics such as: housing, finances (Boston on a Budget), transportation, childcare, family, family activities, sports and fitness, and arts and entertainment. And, there are important sections on credentialing, moonlighting, and preparing a Harvard formatted CV on their website. There is also a fellow-to-fellow forum, including a list of housing opportunities. There is an excellent "Welcome to BCH and Boston" section on their website that lists many useful resources. (<http://www.childrenshospital.org/research-and-innovation/research-administration/office-of-fellowship-training/welcome-to-bch-and-boston>).

Cost of Living

Boston is relatively expensive, though less so than many people imagine. The tables below compare: 1) the cost of living in different US cities in 2016 based on an income of \$65,000, which is approximately the salary of a junior resident in the BCRP, and 2) the average monthly rental for a two bedroom apartment. Comparatively, Boston is similar to Oakland, Seattle, New Haven, Los Angeles, and Baltimore, less than New York, Washington, Palo Alto, and San Francisco, and more than Philadelphia, Denver and Cincinnati. BCRP salaries, which are higher than average, and the extensive benefit package make the relative costs even lower. In addition, Boston Children's Hospital is only 4 blocks from the elegant suburb of Brookline, with one of the best school systems in the Boston area, and the hospital is very near two subway lines that serve the downtown and suburban neighborhoods. So residents can live in high quality communities without the expense of a car (or extra car) to get to work. In our experience, the cost of living is only restrictive for couples with multiple children and one salary, particularly if there are extra expenses for schooling or child care or loan repayments. We are happy to connect applicants who wish to explore cost of living with current or recent past residents in similar situations. Though Massachusetts has a reputation as a high tax state, tax-wise it is near the average of all states (<https://wallethub.com/edu/states-with-highest-lowest-tax-burden/20494/#main-findings>). Moreover, Massachusetts is rated as the BEST STATE in terms of the many factors that matter to most people (<https://www.usnews.com/>

TOTAL LIVING COSTS

City	Comparative Living Costs 2016*	Percent Difference	Pediatric Residency
New York, NY	\$81,849	126	Columbia, Cornell, Mt Sinai
San Francisco, CA	\$73,342	113	UCSF
Washington, DC	\$71,123	109	Children's National
Palo Alto, CA	\$68,702	106	Stanford
Oakland, CA	\$65,029	100	Oakland Children's
Brookline, MA	\$65,000	100	BCRP
Rochester, NY	\$52,597	98	Rochester
Los Angeles, CA	\$62,652	96	USC, UCLA
Seattle, WA	\$61,609	95	Univ Washington
New Haven, CT	\$60,450	93	Yale
Providence, RI	\$58,304	90	Brown
Baltimore, MD	\$57,713	89	Johns Hopkins
Burlington, VT	\$56,988	88	Vermont
Philadelphia, PA	\$56,492	87	CHOP
Chicago, IL	\$56,022	86	Northwestern, Chicago
Portland, OR	\$55,968	86	Oregon
Ann Arbor, MI	\$54,698	84	Michigan
Minneapolis, MN	\$54,349	84	Minnesota
Denver, CO	\$53,300	82	Colorado
Cleveland Heights, OH	\$53,550	82	Case-Western
Coral Gables, FL	\$53,621	82	Miami
Atlanta, GA	\$51,986	80	Emory
San Diego, CA	\$63,641	81	UCSD
Charlottesville, VA	\$52,442	81	Virginia
Chapel Hill, NC	\$51,263	79	North Carolina
Pittsburgh, PA	\$51,301	79	Pittsburgh
Houston, TX	\$50,919	78	Baylor
Dallas, TX	\$50,152	77	Texas Southwestern
Milwaukee, WI	\$50,060	77	Med College Wisconsin
Durham, NC	\$49,159	76	Duke
Cincinnati, OH	\$47,931	74	Cincinnati
St Louis, MO	\$47,638	73	Washington Univ
Salt Lake City, UT	\$47,442	73	Utah

*Data are average of cost of living figures from CityRating.com and CNNMoney.com

APARTMENT RENTAL COSTS

City	Median 2-Bedroom Apartment Rent per Month in 2016*	Percent Difference
San Francisco, CA	\$4,741	198
Palo Alto, CA	\$4,095	171
Berkeley, CA	\$3,200	133
Washington, DC	\$2,975	124
Los Angeles, CA	\$2,700	113
Miami, FL	\$2,699	112
New York, NY	\$2,600	108
Seattle, WA	\$2,421	101
Boston, MA	\$2,400	100
San Diego, CA	\$2,235	93
Portland, OR	\$1,925	80
Denver, CO	\$1,857	77
Chicago, IL	\$1,800	75
Minneapolis, MN	\$1,725	72
Atlanta, GA	\$1,719	72
Houston, TX	\$1,658	69
Dallas, TX	\$1,657	69
Philadelphia, PA	\$1,450	60
Baltimore, MD	\$1,443	60
Nashville, TN	\$1,400	58
Ann Arbor, MI	\$1,395	58
Pittsburgh, PA	\$1,350	56
Providence, RI	\$1,300	54
New Haven, CT	\$1,300	54
Raleigh, NC	\$1,242	52
Madison, WI	\$1,225	51
Salt Lake City, UT	\$1,169	49
Chapel Hill, NC	\$1,117	47
Charlottesville, VA	\$1,099	46
St Louis, MO	\$1,000	42
Milwaukee, WI	\$945	39
Columbus, OH	\$929	39
Cincinnati, OH	\$905	38
Rochester, NY	\$888	37
Shaker Heights, OH	\$850	35
Birmingham, AL	\$700	29

*Data from Zillow.com

After Hours

With Colleagues

Winter Formal

Each winter, the House Staff Association organizes a formal dinner and dance for residents, significant others, and invited faculty, either at the Harvard Club of Boston or the Trustee's Ballroom at Boston University. All residents are covered from hospital responsibilities during this event.



The Winter Formal

or a new Vespa. All proceeds go to the House Staff Association to support residency-wide events throughout the year.

The Spring Show

The BCRP houseofficers produce an annual show: a comedy "spoof" of the faculty and vagaries of residency. The show is a long tradition and provides an opportunity for housestaff to showcase their remarkable singing, dancing, instrumental, organizational and comedic talents.



Practicing for The Show

Theme Dinners and Beef Fest

Residency leaders host theme dinners that show off the diversity of backgrounds, geographic origins, and cultures of our residents. Some of the most recent events have included Turkish Night, Caribbean Night, Midwestern Night, and Middle Eastern Night. In addition, every year the male residents gather for a beef-eating and mustache-growing competition. Vegetarian participants are also welcome!



Africa Night theme dinner

Diversity Dinners

Faculty and residents interested in supporting underrepresented minorities in medicine from all backgrounds working at both institutions host and meet at monthly Diversity Dinners at faculty homes or favorite Boston restaurants. These dinners offer opportunities for improved networking, community-building, and socializing.

Chief Family Dinners and Events

Each Chief organizes a quarterly (or more often) dinner or social event for the 25-30 residents in their Chief Family. These dinners and events are excellent opportunities to relax, unwind and enjoy each other's company in a more intimate setting with residents from each class represented. Recent gatherings have included BBQs, cookie-decorating parties, and game nights.

Tox Rounds

The House Staff Association sponsors frequent evening get-togethers at restaurants and bars around Boston. In the past year, the House Staff Association has hosted a Match Day celebration along with many additional Happy Hours

Resident Get-Togethers

The residents arrange many other events together including Halloween parties, engagement parties, karaoke nights, ice cream parties, apple picking weekends, bowling parties, dessert parties, and more.

Malpractice Dodgers



Sports

Many BCRP residents participate in organized sports. In the past, residents have organized BCRP softball, basketball, and soccer teams in leagues throughout Boston, and some have won titles! One example is the Malpractice Dodgers, pictured to the left, a team of BCRP residents, alumni, and significant others that play in the Boston Children's Hospital league in Hyde Park. Other residents take advantage of hiking and biking trails in Boston and the region or have memberships in local gyms such as the YMCA, Crossfit or Boston Sports Club. Harvard University and Harvard Medical School athletic facilities are available to residents for a small fee, and residents enjoy benefits of discounted memberships at many gym facilities across the city. Harvard Medical School has a gymnasium, squash courts, extensive exercise equipment and an outdoor tennis court.

Having Fun Together



Winter Formal



Winter Formal Dinner



BCRP Engagement Party



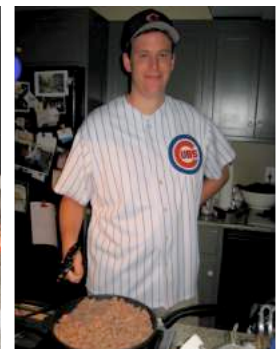
Italian Night



Oktoberfest



Chicago Night



India Night



Chinese Night



Having Fun Together



Halloween Party



Apple Picking Weekend

Ice Skating Party

Ice Cream Party

Thanksgiving



Dessert Contest

Having Fun Together



Housestaff Show



Residents Wailing on Karaoke Night



Housestaff-Faculty Chorale Caroling



Intern Trip to Puerto Rico



Beef Fest and Mustache Contest



Bowling



Two of Many Tox Rounds



Having Fun Together



BBQ



Rooftop shrimp boil



Biking to the beach



Hiking



Sports



Running the Boston Marathon



Ugly Christmas sweater party



St. Paddy's day



Talk like a pirate day in the hospital



Chiefs at Red Sox game



Taylor Swift concert



BCRP on the slopes

Boston

Boston is a medical center like no other, with three major medical schools and about 27 hospitals. Immensely diverse and vibrant, Boston is a city of some twenty neighborhoods with Cambridge and Brookline as bordering communities. Persons of color comprise over 40% of the city's population and over one-third of all students enrolled in Boston Public Schools speak a language other than English at home.

Transportation

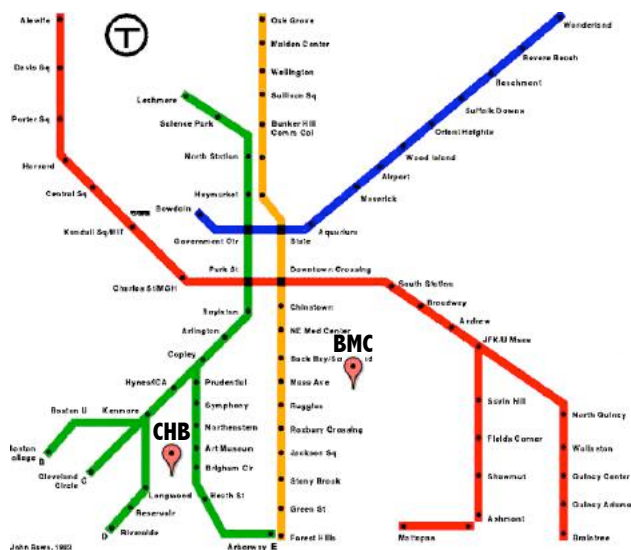
Boston is blessed with excellent public transportation. The MBTA subway system (or just "the T") extends throughout Boston, most of Brookline and Cambridge, parts of Newton, and to near north and south shore suburbs. More distant towns are served by commuter rail. The Longwood Medical area is centered within 2-3 blocks of two different Green line routes. There is also an extensive bus system, including a shuttle bus from Harvard University to the Medical School. Parking is expensive in the Longwood area, but residents who drive can park in cheaper outlying lots and use Children's Hospital shuttles. Residents can park in the patient lot across from Children's for free at nights (6 pm to 10 am) and on weekends. Residents who leave the hospital late at night can also obtain free taxi vouchers. Residents who enroll in the Hospital's T-Pass Program receive a 40% discount on monthly MBTA passes. For those who park in more distant lots, the hospital provides a free shuttle service. There is also a free shuttle (M2 Shuttle) from the



Longwood Medical Area to Harvard Square in Cambridge. Residents who do not have their own cars can obtain Zipcars for occasional use. In addition, Children's Hospital provides a free bike cage in the Patient/Family Garage for employees who cycle to work.

History

Boston was founded in 1630 and is central to American history. History buffs can trek the Freedom Trail, which connects many historically important sites, from the Old State House, where the Declaration of Independence was first read, to Paul Revere's House to the USS Constitution ("Old Ironsides"). Sites of pivotal battles at Bunker Hill, and in Lexington and Concord, are also national monuments and nearly every town has a historical society. Old Sturbridge Village is an authentic recreation of a colonial village, with historic housing and costumed inhabitants that is located in Sturbridge, an hour west of Boston. Plimoth Plantation is a similar recreation of the original Plymouth Colony just south of Boston. And touristy Salem, home of the infamous witch trials, lies to the north.



Schematic MBTA map showing the Green, Blue, Red and Orange Lines and the relative positions of Children's Hospital and Boston Medical Center



**The Old North Bridge in Concord.
Site of the 'shot heard 'round the world'**



The outstanding Longwood Symphony is composed predominantly of doctors from the hospital area

Arts and Culture

Boston is a cultural Mecca. The Boston Symphony and Boston Pops are world-renowned, but there are several other professional symphonies and innumerable civic and college orchestras. In fact, the medical area has its own orchestra, the Longwood Symphony, composed mostly of physicians, that is very high quality. There are also over 150 amateur choral groups, including many outstanding ones: the Cantata Singers, the Boston Cecilia and the Handel and Hayden Society to name just three. The Museum of Fine Arts and the Isabella Stuart Gardner Museum are world-class fine art museums and are only a 3-block walk from Children's Hospital. The Institute of Contemporary Art and the Fogg Art Museum at Harvard are two others of note. The Museum of Science and the Harvard Museum of Natural History and the John F. Kennedy Library and Museum are also outstanding. The Boston Lyric Opera highlights a growing opera scene, and the Boston Ballet is one of the country's best. There are numerous theater companies including the American Repertory Theater, The Huntington Theater Company and the Lyric Stage of Boston. Plus, Boston is a frequent venue for pre-Broadway tryouts and touring national companies.

Sports

Boston is a great sports town. The Red Sox, Celtics, Bruins and Patriots have often been outstanding in recent years. The Revolution (soccer) are usually competitive. Fenway Park is only a 10-minute walk from the hospital (~5 blocks) and the BankNorth Garden, where the Celtics and Bruins play, is a short subway ride. The Patriots and Revolution play in Foxboro, MA, which is about 20 miles south of the city.



Fenway Park is only 5-blocks from Children's Hospital

For those who prefer participatory sports, the Harvard University Athletic Facilities and Harvard Medical School Athletic Facilities are available for a small fee. Harvard University offers facilities for indoor and outdoor tennis, swimming and diving, ice skating, jogging, squash, basketball, baseball, field hockey, lacrosse, rugby, volleyball, rowing, and sailing, plus others, and extensive exercise and weight training. The Medical School has a



Bob Vinci and BCRP residents with the Stanley Cup



Some residents (and resident supporters) participate in the marathon



Shaker Hills public golf course

gymnasium, squash courts, cardiovascular and strength training equipment and an outdoor tennis court. Groups like the Boston Ski and Sports Club organize year round sports leagues, as well as sporting trips.

Boston is a great running and biking city. There are numerous Bikeways, particularly along the Charles River and through the 'Emerald Necklace' string of parks, which lies just 3 blocks from the Longwood area. The same routes are popular for running. For serious runners, the famous Boston Marathon occurs each spring on Patriots Day, which is a local holiday, allowing those who wish to run, to participate. Many housestaff and faculty do.

Golfers have many opportunities in the Boston area. There are 102 18-hole public courses within an hour of Boston including many award winning courses, such as Pinehills in Plymouth, Red Tail in Devens, Shaker Hills in the town of Harvard, Shining Rock in Northbridge, Butter Brook in Westford, Stow Acres in Stow, and George Wright in Hyde Park, the latter a Boston Municipal course designed by Donald Ross.

Housing and Schools

Housing is relatively expensive in Boston, roughly equivalent to Seattle, though less than New York City, Washington, DC, or the major cities in California. To compensate, the BCRP offers higher than average salaries. In addition, Children's Hospital offers a Lease Guarantee program. If a landlord requires advance payment of the last month's rent and/or a security deposit, Children's Hospital will guarantee payment to the landlord. Real estate information is available from a

number of sources including the Boston Globe, which also publishes a useful rental search engine. Other good sources for rental housing are Rental Beast, Craig's List, the Harvard Off-Campus Rentals website (<https://harvardhousingoffcampus.com>), the Harvard Housing Office, and the information on Housing and other topics on the website of the BCH Office of Fellowship Training. For those interested in purchasing property, the Harvard Faculty Real Estate Office provides useful services.

Boston and Cambridge schools are variable but the schools in Brookline, Newton and many other suburban communities are outstanding. The Greatschools website contains considerable information about individual schools.

Kids

Boston is a great city for kids because there are so many things to see and do in the city and nearby, and because the transportation system is safe and extensive. The Children's Museum and the Museum of Science are each among the best in the country. The inexpensive Community Boating Program (\$1 to \$300 per year for kids depending on family income) is also outstanding and is an incredible bargain for many. It offers sailing, windsurfing and kayaking on the Charles (lessons included). A good list of activities for kids can be found at Fairly Odd Mother, Family Days Out, Family Friendly Boston, Mommynearest, and at Boston Central. The latter site also contains lots of useful information about Boston suburban communities.

Children's Hospital has its own Child Care Center and there is a Bright Horizons Family Center at the nearby Landmark Center that is available to employees of Harvard Medical School and the Longwood Area hospitals. Kathleen Greer Associates (KGA, Inc) is Children's Employee Assistance and Information Program.



Construction Zone at the fabulous Boston Children's Museum

They will help residents find childcare services. The Longwood Medical and Academic area (LMA) Family Childcare Network (FCCN) also matches LMA employees with family child care providers.

For those interested in nannies, the Brigham and Women's Hospital's Office for Women's Careers, hosts a Nanny Network list-serve, which offers a forum for faculty and residents to share nanny requests, as well as information on nannies who may be leaving your family once you've 'outgrown them'. To join the list-serve send an email to owc@partners.org with "I want to join the Nanny Network" in the subject line. Care.com also offers listings of nannies.

Cultural Care Au Pair (CCAP) is the largest Au Pair company in the world and offers affordable child care option for benefits-eligible Boston Children's employees (info.culturalcare.com/childrens).

For grown-up kids, the Boston Event Guide is a collection of local events for those nights off. The Mass Vacations website contains scads of useful information about the region and things to do.

Restaurants and Night Life

Boston is a world-renowned center for ideas and learning. Some 65 colleges, universities and other institutions of higher education attract more than 200,000 students. No other major city has such a high proportion of students. Their energy invigorates the city's restaurant and nightlife, from club hopping on Lansdowne Street to the live music scene in the cafes and coffeehouses. Live music includes Latin, jazz, blues, gospel, folk and classical. Boston is a great restaurant town. There are many outstanding restaurants and enormous variety. The restaurant reviews in the Boston Globe and Zagats are particularly useful.

Waterfront

Downtown Boston is a peninsula, surrounded by water on three sides: the harbor on the east and north, and the Charles River on the west. Unlike many cities, much of the waterfront is recreational space. The harbor offers boating of all kinds, fishing, and a number of community beaches. There is a Harborwalk with many parks and other venues. The Harbor Islands are part of the National Park system and are accessible by ferry for day trips and picnicking. The Charles River side is even more scenic, with a 17-mile Esplanade along the shore, the Hatch Shell for summer concerts, the famous Duck Boat Tours and a Community Boating Program that allows individuals or families to sail any of a fleet of 113 boats (or kayaks or wind surfers) in the Charles River Basin and that provides children with instruction and all-summer boating. Every July 4th, the Esplanade is packed with crowds for a spectacular Boston Pops concert and fireworks show. The Charles



Boston side of the Charles River esplanade



July 4th fireworks over the Charles



Community Boating on the Charles River



Georgian homes in Beacon Hill neighborhood

River is also known for its rowing and sculling. The famous Head of the Charles regatta, the world's largest 2-day rowing event, is held every year in October.

Boston Neighborhoods and Nearby Communities

Boston is a city of neighborhoods. Beacon Hill dates from the 18th century and features cobblestone streets, gaslights and brick front Georgian townhouses. Back Bay was built a century later by the Boston elite and contains gorgeous Victorian townhouses with wide streets and small front gardens. It also includes the fanciest shopping area in Boston, along lower Newbury and Boylston streets plus the Prudential Center and Copley Place shopping centers. The old North End, which dates from Colonial times, still retains much of its strong Italian heritage. The South End is a vibrant newly restored, cosmopolitan district and includes the Theater District and many of the best restaurants. Bay Village is a charming historic part of the South End. The Harbor area is also newly renovated. Many wharves have been recycled as high-end condominiums. Chinatown is Boston's center for the Asian community. The Fenway area, which is closest to the hospitals and includes Fenway Ball Park, has a particularly high concentration of student housing, cultural organizations and parkland.

Charlestown, Brighton, Allston, South Boston, East Boston, Roxbury, Dorchester, Mattapan, Jamaica Plain, West Roxbury, Hyde Park and Roslindale are other Boston neighborhoods. Some housestaff have recently purchased



Harvard Square, at the heart of the University, is an area of shops and retail stores, ethnic restaurants and cafés

homes in parts of Jamaica Plain, West Roxbury and Dedham, which are reasonably close to the Longwood Medical Area.

Brookline is a very high quality suburb that begins just 3 blocks west of the Longwood Medical Area. It has superb schools and shops and multiple subway lines. Although homes in Brookline are extraordinarily expensive, condominiums and apartments are more reasonably priced, and many interns and residents live there.

Cambridge lies just across the Charles River from Boston and is home to Harvard University and MIT. Many housestaff enjoy the intellectual ferment of Cambridge and live in the residential areas near Harvard Square. There is a regular shuttle bus from Harvard Square to Harvard Medical School and good subway connections.

For those interested in identifying the most prestigious communities, a list of towns with the most millionaires is available at <http://www.bostonglobe.com/metro/regionals/south/2015/04/24/map-where-millionaires-live-mass/ai0lhVmwO1kb04xfpQgJ6H/story.html>

Suburban Communities

Greater Boston is actually a conglomerate of over 100 small to medium-sized towns and villages, most of which were incorporated in the 17th and 18th centuries. As such it differs greatly from the more homogeneous towns in many other parts of the country, because each of the Greater Boston communities has its own character, government and school system. The range of variation is quite remarkable. Marblehead is centered on sailing, Lincoln and Hamilton on horseback riding, Lexington and Concord on colonial history, and so on.



Horseneck beach



Cisco Beach on Nantucket Island

Within Massachusetts

Beaches

The Massachusetts shoreline is dotted with beaches, some, like Revere Beach, even serviced by the MBTA. Beaches on the outer arm of the Cape and north of the Cape tend to have colder water than beaches on the south coast of the Cape, on Martha's Vineyard and Nantucket, and lining Long Island Sound, which are brushed by fringes of the Gulf Stream. It's difficult to choose the Perfect Beach because tastes and uses vary, but we recommend Horseneck Beach in Westport, MA, near the Massachusetts-Rhode Island border. This 2.5-mile beach features beautiful dunes, warm(ish) water and adequate parking.

The Cape and Islands

Cape Cod is Boston's summer vacation spot. It offers a wide variety of attractions. From quaint, historic old towns like Sandwich, founded in 1638, or charming, gray-shingled Chatham, to the Cape Cod National Seashore, with its 40 miles of ocean beaches, dunes, salt marshes and pine barrens, to free-living, freethinking Provincetown at the tip of the Cape. There is a ferry to Provincetown from Boston.

Nantucket and Martha's Vineyard are reached by ferry from Woods Hole or Hyannis on the Cape. Nantucket Town is historic and charming, with cobblestone streets and 18th century homes. Outside the town one finds an otherworldly landscape of ponds, thickets, moors and heath. There are 80 miles of gorgeous beaches, great biking trails and the village of Scaconset ('Sconset) with its privet hedges and rose-covered trellises. Martha's Vineyard is more varied and more Victorian, but also charming.

Rockport and Cape Ann

Cape Ann, on the North Shore of Boston, extends from the classic fishing port of Gloucester around to the quaint English-like village of Annisquam. It includes Rockport, a charming artist's colony, and the bizarre Hammond Castle.

Marblehead

Lying between Salem and Cape Ann, Marblehead was one of the earliest and richest settlements in America. This charming early Colonial era town with narrow streets has over 300 pre-Revolutionary War homes and overlooks a spectacular harbor filled with boats. Called the Yachting Capital of America, Marblehead was the birthplace of the American Navy and retains its sailing focus.



Marblehead harbor

Berkshires and Tanglewood

The Berkshires refers to the area around Lenox and Stockbridge in the western portion of Massachusetts. It is a region of green hills, quaint New England villages, the Norman Rockwell Museum, and Tanglewood, the summer home of the Boston Symphony Orchestra.

Williamstown



One of 36 Renoir's at the Clark Art Institute

A beautiful New England town in the mountainous heart of the northern Berkshires, Williamstown is home to two extraordinary art museums—the Sterling and Francine Clark Art Institute and the Williams College Museum of Art—and the renowned Williamstown Theatre Festival, arguably America's premier summer theater. The exceptional collection of impressionist paintings alone makes the Clark worth a visit.

Amusement Parks

Canobie Lake Park lies just over the New Hampshire border and is a beautiful, old-time (110-years old), family-oriented park that is especially appropriate for preschoolers to preteens. Lake Compounce in Bristol, CT is another excellent family-oriented park. Six Flags Amusement Park is the big-coaster-type park, near Springfield, MA, that is more oriented to teens and adults. Six Flags also has an excellent water park, but the closest big water parks are Water Country in Portsmouth, NH and Water Wizz, in Wareham, MA. Water Country is especially



Mini-Dodgem cars at Canobie Lake Park



The Fenway, part of the Emerald Necklace system of parks, lies just 3-blocks from Children's

good and not that far. For kids in the winter, Coco Key in Danvers and Great Wolf Lodge in Fitchburg are indoor waterparks.

New England Getaways

One of Boston's gifts is its proximity to great natural beauty. Right in the city is the famous ring of connected parks called the Emerald Necklace, which includes the Arnold Arboretum. A short drive will get you a relaxing weekend in the Berkshire Mountains of Western Massachusetts, or to hiking and biking in the White Mountains of New Hampshire. A free day from the hospital could mean escaping to scenic Vermont, or to miles of rugged coastline in Maine or to the beaches of Cape Cod. Take a ferry ride to the islands of Martha's Vineyard or Nantucket. And, New York City is only four-hour drive from Boston. The Go New England website is a good place to start looking.

Newport

Newport is both a historic town with more 17th and 18th century homes than any other place in the country, and the fabled summering place of the fabulously wealthy during the Gilded Age at the end of the 19th century. The mansions, like the Vanderbilt's opulent 'The Breakers' or 'Rosecliff', of Great Gatsby fame, are worth the trip, as is the Ocean Drive along Newport's spectacular rocky shore.



The Breakers



Bass Harbor light on the Maine coast

Mystic Seaport

Site of shipbuilding since the 17th century, tiny Mystic, CT contains Mystic Seaport, the country's premier maritime museum. There is also an aquarium and, nearby, two of the world's largest casinos: Foxwoods and Mohegan Sun.

Maine Coast

Maine is famous for it's pinewoods, rugged, rocky shore, and lobsters. Southern Maine is more accessible and also beautiful, but 'Downeast' Maine, north of Portland, is even more so, particularly the areas around Boothbay Harbor, Camden, Blue Hill and Bar Harbor. Bar Harbor is located on Mt Desert Island, which also houses Acadia National Park, one of the most popular national parks in the US. Acadia has the highest mountains on the ocean north of Rio de Janeiro and the only fiord in the Americas. The scenery is spectacular and is amplified by an extraordinary variety of outdoor activities (hiking, biking, rock climbing, canoeing, sea kayaking, sailing, deep sea fishing, whale watching), along with outstanding restaurants, art galleries and opportunities for antiquing.

Lakes

There are many beautiful lakes in New England. Indeed many in northern Maine are wilderness lakes, only accessible by floatplane or logging road. Nearer Boston, Lake Winnepesaukee in mid-New Hampshire is a recreational paradise, especially along its western shore. The Squam Lakes, just south of the White Mountains, depicted in the movie "On Golden Pond", are more peaceful. Sebago Lake in southern Maine is also a popular resort area.



Lake Winnepesaukee at sunset

Outdoors Activities

Hiking

The hiking in New England is some of the best anywhere. The Appalachian Trail extends through Massachusetts, Vermont and New Hampshire, terminating at Mt Katahdin in Maine. The White Mountains in New Hampshire are among the very best with 48 peaks above 4000 ft and many dozens of hikes. Some of these are described at Hike the Whites. The Appalachian Mountain Club and Trails.com are also excellent resources. Acadia National Park is another extraordinary place for hiking. The 120 miles of hiking trails were mostly built in the early 20th century and vary from gentle woodland and oceanside walks to exhilarating cliff climbs along ledges assisted by iron ladders and steps cut into the rocks. Mt Monadnock is another excellent spot for hiking. The solitary mountain is located just over the Massachusetts-New Hampshire border, about an hour from Boston, and has excellent views. The surrounding region is charming and contains numerous prototypical New England villages. For kids, the 70 ft high, quarter mile long Purgatory Chasm in Sutton, MA, offers rock caves and many fun climbing challenges.



Beehive Trail in Acadia National Park



Pond along the Cape Cod Rail Biking Trail



Canoeing under the Old North Bridge on the Concord River

Biking

Biking is also excellent in New England, both mountain biking and trail riding, including numerous rides in the Boston area. Acadia National Park has 50 miles of beautiful, fine gravel carriage roads, which wind among the lakes and mountains, with fabulous views and some exciting ups and downs. They were built at great expense by John D. Rockefeller, Jr. between 1913 and 1940, and are now used for biking and horseback riding (no motor vehicles allowed). The trails are listed in the Top 10 biking trails in the US. On Cape Cod, the 22-mile Cape Cod Rail Trail is newly refurbished. It extends from Dennis to Wellfleet along ponds, salt marsh and cranberry bogs. In Rhode Island, the 14.5-mile, paved East Bay Bike Path hugs the coast from Providence to Bristol, passing a wildlife refuge, salt- and freshwater marshes and an open panorama of Narragansett Bay. For mountain bikers, Sunday River Ski Resort in Maine offers weekend lift service to 25 trails covering over 20 miles of terrain.

Ziplines

There are numerous opportunities for zip lining in New England. For adrenaline junkies, some lines are more than a half mile long and 200 ft in the air. Others involve tours combining multiple zip lines, sky bridges, rappels and other challenges.



No fear



Whitewater rafting on the Deerfield River



Jackson Ski Touring

Whitewater Rafting

There are a wide variety of whitewater rafting trips available in Western Massachusetts and elsewhere in New England, varying from Class II-III rapids up to Class IV on parts of the Kennebec and Dead Rivers in Maine.

Skiing and Snowboarding

New England has 59 downhill ski areas, from small family run operations to giant destination resorts. The snow conditions are less predictably excellent than in the West, but the resorts are more accessible to those wanting day trips. The Blue Hills is a small area just south of the city and offers night skiing. Larger areas within 1.5-2 hrs distance include Waterville Valley, Sunapee and Loon in New Hampshire. The largest and most popular areas, like Killington, Stratton, Sugarbush and Stowe in Vermont; Cannon and Wildcat in New Hampshire; and Sunday River in Maine are 2.5-3 hours driving distance. Sugarloaf, a terrific mountain in Maine, is even a bit further. Virtually all New England ski areas also cater to snow boarders.

For cross-country skiing, it's hard to beat the trail system in Jackson, NH, which is also about 2.5-3 hrs away. Imagine a whole New England Village dedicated to Nordic skiing, with a white-steeped church, covered bridges, rivers with cascading waterfalls, sundry eateries, charming country inns and 100 miles of cross country ski trails. Its no wonder that the Jackson Ski Touring Foundation is listed #1 in the US. For cross-country skiing close to Boston, the Weston Ski Track is recommended.



Faculty member Tom Look with a striped bass caught in Boston Harbor on a fly rod

Fishing and Whale Watching

Boston is a worldwide destination fishery for striped bass, blue fin tuna, bluefish, flounder and cod. Salt-water fishing is especially popular, and colleagues with boats and experience are available within the program to introduce interested individuals to the sport. Boston Harbor has been completely cleaned up beginning in the 1980s with the installation of the massive Deer Island water treatment plant, and its waters are now pristine. Striped bass migrate north to Boston harbor in early May, and the 39 Boston Harbor Islands provide ideal structure and a very picturesque venue for striped bass fishing. In August and September, medium sized blue fin tuna (30 to 120 lbs) move into Cape Cod Bay near Boston, and feed actively on the surface, becoming prime targets for light tackle fly and spin fishing anglers. Tuna travel with whales, providing interesting whale watching opportunities on Stellwagen bank while searching for the elusive schools of tuna. Bluefish arrive around the same time as the tuna, and provide exciting surface action as they feed on schools of baitfish in Boston Harbor. Summer is the prime season for salt-water fishing in Boston, but for the dedicated fisherman or woman, large cod fish (up to 50 lbs.) can be successfully targeted with jigs year-around in waters just outside Boston Harbor. All fish species are safe to eat due to the successful harbor clean up. Fresh water fishing is also popular. Freshwater species include: large and small mouth bass, lake trout, perch, walleye, northern pike and land-locked salmon. Fly-fishing for trout in New England streams is also popular. And, for the hardy there is ice fishing in the winter.

Fellowships

A variety of fellowship programs are offered at Children's Hospital and Boston Medical Center for qualified physicians who have completed their residency training and want to prepare for academic careers in pediatrics or allied fields. The fellowships and fellowship contacts are listed here for intern applicants who want to investigate fellowship opportunities as well as the BCRP residency.

We are happy to help applicants who want to explore fellowships and are willing to devote part of an extra day to meeting with faculty or fellows in a particular field.

Boston Children's Hospital

Adolescent Medicine

S. Jean Emans, M.D.

Allergy/Immunology

Hans C. Oettgen, M.D., Ph.D.

Cardiology

David W. Brown, M.D.

Child Neurology Residency

Mustafa Sahin, PhD, M.D., Dir Residency Selection

David K. Urion, M.D., Program Director

Neurodevelopmental Disabilities

David K. Urion, M.D.

Clinical Neurophysiology/Epilepsy Fellowship

Phillip Pearl, M.D.

Critical Care

Meredith van der Velden, M.D.

Developmental Medicine

Developmental-Behavioral Pediatrics

Lisa Albers Prock, M.D., M.P.H.

Emergency Medicine

Joshua Nagler, M.D.

Endocrinology

Joseph A. Majzoub, M.D.

Gastroenterology and Nutrition

Paul A. Rufo, M.D.

Advanced Hepatology and Transplant Fellowship

Paul A. Rufo, M.D.

General Pediatrics

General Academic Pediatrics

Joanne E. Cox, M.D.

Pediatric Environmental Health

Alan D. Woolf, M.D., M.P.H.

Harvard Pediatric Health Services Research

Jonathan Finkelstein, M.D.

Genetics

Amy E. Roberts, M.D.

Global Health Services Delivery

Kim A. Wilson, M.D.

Hematology/Oncology

David A. Williams, M.D.

Neuro-oncology Fellowship

Susan Chi, M.D.

Palliative Care Fellowship

Joanne Wolfe, M.D.

Stem Cell (Bone Marrow) Transplant

Leslie Lehmann M.D.

Infectious Diseases

Tanvi S. Sharma, M.D.

Medical Toxicology

Michele M. Burns Ewald, M.D.

Nephrology

Michael A. Ferguson, M.D.

Newborn Medicine

John A. F. Zupancic, M.D., Sc.D.

Psychiatry

Oscar Bukstein, M.D.

Respiratory Diseases

Debra M. Boyer, M.D.

Rheumatology

Hans C. Oettgen, M.D., Ph.D.

Sports Medicine

Pierre A. d'Hemecourt, M.D.

Boston Medical Center

Child Neurology Residency

Rinat Jonas, M.D.

Developmental and Behavioral Pediatrics

Naomi Steiner, M.D.

General Academic Pediatrics

Megan Bair-Merritt, M.D., M.Sc.

Global Child Health Fellowship

Rachael Bonawitz, M.D.

Infectious Diseases

Ellen R. Cooper, M.D. & Stephen I. Pelton, M.D.

Pediatric Emergency Medicine

David Dorfman, M.D.

Results

What Our Residents Do Next

The BCRP specializes in training academic pediatricians. **Eighty-six percent** of the program's graduates during the past five years have continued on a pathway leading to an academic career. This is an *exceptionally high percentage*. The residents enter a wide variety of fields. Although some go to programs across the country, about 80% continue their training at Boston Children's Hospital.

Careers of Our Residents

The "graduates" of the residency program during the past 40 years best illustrate the success of our approach to training and our ability to achieve our goal of training leaders in American pediatrics. To evaluate our success, one must consider the cohort who completed their residencies between 1968 and 1992. More recent residents are still finishing their training or are relatively early in their academic careers and have not reached their full potential.

Leadership Positions

The 1968-1992 cohort contains 559 individuals of whom we have follow-up information on 87 percent (as of 2007). *Seventy-one percent of these are currently in academic medicine* or are recently retired from academic positions and *44 percent are leaders in academic medicine*. An additional 15 percent hold senior academic ranks. **Thus, 83 percent of the group in academic medicine have reached positions of prominence.** An additional 7% have had major success within the biotech or business community, as authors, or in other medical pursuits.

Select Societies and Awards

As of 2007, a remarkable number of the 1968-1992 graduates of our residency program were members of institutions that guide American medicine and pediatrics and that select their members based on scientific accomplishment.

- National Academy of Sciences and/or National Academy of Medicine - 14 members (currently 20 active members from all years)
- American Society of Clinical Investigation - 36 members
- American Pediatric Society - 84 members
- Society for Pediatric Research - 112 members

What Residents (N=611) Did in the Year Following Residency (2002-15)

	Number	%
Academic Career	556	91
Second residency or fellowship	460	83
Chief residency	67	12
Faculty	29	5

Practice Career (Private practice, neighborhood health centers & HMOs)	55	9
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Residencies and Fellowships Chosen (2002-15)

	No.	No.
Hematology/Oncology	69	Neurology 21
Cardiology	53	Pulmonary 9
Academic Pediatrics	50	Allergy/Immunology 9
Emergency Medicine	42	Global Health 9
Critical Care	38	Rheumatology 7
Neonatology	31	Adolescent Medicine 7
Infectious Diseases	27	Genetics 4
Gastroenterology	27	Nephrology 2
Endocrinology	22	Hospitalist and Other 63

1968-1992 Residents: Current Jobs

• Academic	71%
- Senior Administrator or Dean	4%
- Department Chair	6%
- Division Chief	18%
- Head of Major Clinical Program	9%
- Sr Researcher/Research Administrator	5%
- Educator	2%
- Senior Academician	15%
- Junior Academician	12%
• Nonacademic	29%
- Hospital-based private practice	3%
- Private practice	18%
- Authors	0.5%
- Business, Biotech or Biopharm	4%
- Other	3.5%

BOSTON COMBINED RESIDENCY

National Academy of Science or National Academy of Medicine

Residents (1968-1998) in the National Academy of Sciences and/or the National Academy of Medicine

Nancy C. Andrews, MD, PhD	Anna Huttenlocher, MD
Donald M. Berwick, MD	Isaac S. Kohane, MD, PhD
Diana W. Bianci, MD	Philip J. Landrigan, MD
Jan L. Breslow, MD	Louis J. Muglia, MD, PhD
Atul Butte, MD	Stuart H. Orkin, MD
Jonathan E. Fielding, MD	Philip A. Pizzo, MD
Jonathan D. Gitlin, MD	Bonnie Ramsey, MD
Todd R. Golub, MD	Mark C. Rogers, MD
Alan E. Guttmacher, MD	Mark A. Schuster, MD, PhD
Margaret K. Hostetter, MD	Alan L. Schwartz, MD, PhD

Society for Pediatric Research Young Investigator Award

Since the inception of the SPR Young Investigator award in 1983, Children's Hospital or BCRP-trained Faculty have won 42% of the awards given.

Residents who won the SPR Young Investigator Award (year awarded)

Alan L. Schwartz (1983)	Brian J. Feldman (2008)
Alan M. Krensky (1985)	Loren D. Walensky (2009)
Edward V. Prochownik (1986)	Atul J. Butte (2010)
Roger E. Breitbart (1988)	Kimberly Stegmaier (2012)
Nancy C. Andrews (1994)	Sallie R. Permar (2014)
Todd R. Golub (1997)	Vijay G. Sankaran (2015)
Louis J. Muglia (1999)	Daniel E. Bauer (2017)
Joel N. Hirschhorn (2004)	

E. Mead Johnson Award for Research in Pediatrics

The 1968-1996 graduates won 35% of the E. Mead Johnson awards (the most prestigious research award in pediatrics) that could have been won by their classes. Overall, Children's trainees and faculty have won 37% of the 154 awards given since the inception of the award in 1939.

Residents (1968-2000) who were awarded the E. Mead Johnson award for research in pediatrics (year awarded)

Erwin W. Gelfand (1981)	Nancy C. Andrews (2002)
Samuel E. Lux IV (1983)	David S. Pellman (2006)
John A. Phillips III (1984)	Marc E. Rothenberg (2007)
Jan L. Breslow (1984)	Todd R. Golub (2008)
Raif S. Geha (1986)	Victor Nizet (2008)
Stuart H. Orkin (1987)	Joel Hirschhorn (2011)
Alan L. Schwartz (1993)	Scott A. Armstrong (2012)
Margaret K. Hostetter (1995)	William Pu (2013)
Alan M. Krensky (1995)	Atul Butte (2014)
Donald Y. M. Leung (1997)	Loren Walensky (2015)
Jonathan D. Gitlin (1998)	Kimberly Stegmaier (2016)
Steve A.N. Goldstein (2001)	

Examples of Resident Careers

These examples are chosen from more than 250 leaders who graduated from residency between 1968 and 1992. The data were compiled in August 2007 and have been

updated where changes in status are known. The year of graduation from residency is listed in parentheses.

Senior Administrators

Steven M. Altschuler, MD (1982) - CEO of UHealth and Senior VP of Health Affairs, University of Miami. Previously, President and CEO, Children's Hospital of Philadelphia

Jonathan R. Bates, MD (1976) - President and CEO Emeritus, Arkansas Children's Hospital.

Donald M. Berwick, MD (1977) - Senior Fellow at the Center for American Progress. Previously, Director, US Government Centers for Medicare and Medicaid Services. Previously, President and CEO of the Institute for Healthcare Improvement; Lecturer, Department of Health Policy and Management, Harvard.

Diana W. Bianchi, MD (1983) - Director of the National Institute of Child Health and Human Development (NICHD). Previously, Vice Chair for Research and Executive Director of the Mother Infant Research Institute. Dept. of Pediatrics, Tufts.

Kevin B. Churchwell, MD (1990) - Executive Vice President for Health Affairs and Chief Operating Officer, Boston Children's Hospital. Previously, Sr Vice-President, Nemours and CEO, Nemours/Alfred I. duPont Hospital for Children in Wilmington, DE., and CEO and Executive Director, Monroe Carell Jr. Children's Hospital, Vanderbilt.

Patrick Conway (2005) - Chief Medical Officer and Director of the Office of Clinical Standards and Quality, US Government Centers for Medicaid and Medicare Service.

Alan L. Goldbloom, MD (1976) - President and CEO, Children's Hospitals and Clinics of Minnesota, St Paul, MN, Emeritus Vice President and CEO, Hospital for Sick Children, Toronto, Canada.

Steve A. N. Goldstein, MD, PhD (1989) - University Professor, Senior Vice President and Provost, Brandeis University. Previously Chair, Dept of Pediatrics, Univ. of Chicago.

Raymond S. Greenberg, MD, PhD (1983) - President, Medical University of South Carolina.

Alan E. Guttmacher, MD (1985) - Previously, Director, National Institute of Child Health and Human Development, and before that Deputy Director, National Human Genome Research Institute, Director, Office of Policy, Communications and Education, NIH

Ellis J. Neufeld, MD, PhD (1988) - Executive Vice President, Clinical Director, Physician-in-Chief, of the St. Jude Children's Research Hospital. Previously Associate Chief, Hematology/Oncology Boston Children's Hospital, Harvard Medical School.

Charles W. Roberts, MD, PhD (1995) - Executive Vice President and Director of the St Jude Comprehensive Cancer Center, St Jude Children's Research Hospital, Memphis.

Mark C. Rogers, MD (1972) - Previously, Vice Chancellor of Health Systems, Duke Univ. Med. Ctr, Senior VP, Perkin-Elmer, and CEO Duke Hospital. Chairman and CEO of Bradmer Pharmaceuticals, Chairman of Cardiome Pharma Corp, and Chief Executive Officer of Paramount Capital Inc. Currently, Accounts Manager of AtCor Medical Limited.

John R. Schreiber, MD (1983) - CEO, Baystate Health and President, Baystate Medical Practices. Chair Emeritus, Dept. of Pediatrics, Tufts Univ and Dept of Pediatrics, Univ. of Minnesota.

Stephen P. Spielberg, MD, PhD (1976) - Previously, Dean, Dartmouth Medical School, Vice President of Pediatric Drug Development at Johnson & Johnson, and Deputy Commissioner of the Food and Drug Administration (FDA) for Medical Devices, Drugs, Biologics and Tobacco Products, and Special Medical Programs. Currently, Professor of Pediatrics and of Pharmacology and Toxicology at Dartmouth Medical School.

Donald L. Weaver, MD (1976) - Rear Admiral, US Public Health Service and previously, Acting Surgeon General, Deputy Associate Administrator for Primary Health Care in the Health Resources and Services Administration, and Director National Health Service Corps.

Deans

Herbert T. Abelson, MD (1971) - Previously, Associate Dean of Admissions, Chicago, Chair, Dept of Pediatrics, Univ of Chicago, and Chair, Dept. of Pediatrics, Univ. of Washington, Seattle.

Nancy C. Andrews, MD, PhD (1990) - Dean, Duke University School of Medicine. Previously, Dean for Basic Sciences and Graduate Studies, Harvard Medical School and Investigator, Howard Hughes Medical Institute.

Ellis D. Avner, MD (1978) - Associate Dean for Research and Director, Children's Research Institute, Medical College of Wisconsin. Ex-Chair, Dept. of Pediatrics, Case-Western Reserve Univ. School of Medicine.

W. Edwin Dodson (1970) - Associate Vice Chancellor & Associate Dean for Admissions and Continuing Educ, Washington Univ, St Louis.

S. Bruce Dowton, MD (1984) - Principal of Dowton Consulting International, Inc. Previously, Dean of Medicine, University of New South Wales, Sydney, Australia, and Senior Vice-President and CEO, Partners Harvard Medical International.

Lewis First, MD (1984) - Chair of Pediatrics and, previously, Sr Associate Dean, Educational and Curriculum Affairs, Vermont.

Jody Heymann, MD, PhD (1992) - Dean, Fielding School of Public Health, UCLA. Previously, Canada Research Chair in Global Health and Social Policy and Founding Director, Institute for Health and Social Policy, McGill University.

Alan M. Krensky, MD (1980) - Vice Dean for Development and Alumni Relations, Northwestern Feinberg School of Medicine. Previously, Deputy Director, NIH, and Associate Dean for Child Health, Stanford Medical School.

Philip A. Pizzo, MD (1973) - Dean Emeritus, Stanford University School of Medicine. Emeritus Chair of Pediatrics and Physician-in-Chief, Boston Children's Hospital.

Norman Rosenblum, MD (1984) - Associate Dean, Physician-Scientist Training and Associate Director, McLaughlin Centre for Molecular Medicine. Univ Toronto and Hosp for Sick Children.

BOSTON COMBINED RESIDENCY

Department Chairs

Scott A. Armstrong, MD, PhD (1998) - Chair, Dept. of Pediatric Oncology, Dana-Farber Cancer Institute, Harvard Medical School. Previously, Director, Leukemia Center, Memorial Sloan Kettering Cancer Center

Harvey J. Cohen, MD, PhD (1973) - Chair Emeritus, Dept. of Pediatrics, Stanford.

J. Devn Cornish, MD, PhD (1981) - Chair Emeritus, Dept. of Pediatrics. Currently, Vice-Chair for Faculty Development, Emory.

Paul H. Dworkin, MD (1976) - Chair of Pediatrics and Physician-in-Chief, Connecticut Children's Medical Center.

Eric Eichenwald, MD (1987) - Chair, Dept of Pediatrics, Univ of Texas, Houston.

Erwin W. Gelfand, MD (1970) - Chair, Dept. of Pediatrics, National Jewish Hospital, Denver.

Jonathan D. Gitlin, MD (1981) - Chair Emeritus, Dept. of Pediatrics, Monroe Carell Jr. Children's Hospital, Vanderbilt University.

Margaret K. "Peggy" Hostetter, MD (1978) - Chair, Dept. of Pediatrics, Cincinnati Children's Hospital. Chair Emeritus, Dept. of Pediatrics, Yale.

Isaac S. "Zak" Kohane, MD, PhD (1990) - Chair, Dept of Biomedical Informatics and Director, Countway Library of Medicine, Harvard Medical School. Director, Boston Children's Hospital Informatics Program.

Bruce Korf, MD, PhD (1983) - Chair, Dept. of Genetics, Alabama.

Philip J. Landrigan, MD (1970) - Professor & Chair, Dept. of Preventive Medicine and Director of the Children's Environmental Health Center, Mt Sinai, NY.

Nobutake Matsuo, MD (1971) - Chairman Emeritus, Dept of Pediatrics, Keio University School of Medicine, Tokyo, Japan.

Division Chiefs

Kenneth Alexander, MD, PhD (1991) - Chief, Infectious Diseases, Chicago

Richard G. Bachur, MD (1992) - Chief, Div. of Emergency Medicine, Boston Children's Hospital, Harvard

Charles Berde, MD, PhD (1983) - Chief, Division of Pain Medicine, Boston Children's Hospital, Harvard.

Melvin Berger, MD (1979) - Chief Emeritus, Allergy/Immunology, Case-Western Reserve. Currently, Senior Medical Director, Clinical Research and Development, CSL, Behring, LLC.

Judith E. Brill, MD (1980) - Chief, Pediatric Critical Care, Mattel Children's Hospital, UCLA

Jeffrey P. Burns, MD (1991) - Chief, Critical Care Medicine, Boston Children's Hospital, Harvard

F. Sessions Cole, MD (1978) - Director of Pediatric Newborn Medicine, Vice-Chair, Dept. of Pediatrics, Washington Univ. School of Medicine, St Louis.

Jonathan M. Davis, MD (1984) - Chief, Newborn Medicine, Tufts.

S. Jean Emans, MD (1973) - Chief, Adolescent Med, Boston Children's Hospital, Harvard Medical School

John F. Modlin, MD (1974) - Chair, Dept. of Pediatrics, Dartmouth.

E. Richard Moxon, MB BCh, FRS (1972) - Professor and Chair, Dept. of Paediatrics, University of Oxford.

Richard "Rick" J. O'Reilly, MD (1973) - Chair, Dept. of Pediatrics, Memorial Sloan-Kettering Cancer Institute

Stuart H. Orkin, MD (1975) - Chair Emeritus, Dept. of Pediatric Oncology, Dana-Farber Cancer Institute, Harvard Medical School, Investigator, Howard Hughes Medical Institute.

Scott Pomeroy, MD, PhD (1985) - Neurologist-in-Chief and Chair, Dept. of Neurology, Boston Children's Hospital, Harvard.

DeWayne M. Pursley, MD (1987) - Neonatologist-in-Chief, Beth Israel Deaconess Medical Center, Harvard Medical School

David S. Rosenblatt, MD (1976) - Chair, Dept. of Human Genetics, McGill.

J. Philip Saul, MD (1985) - Chair, Dept. of Pediatrics, Nationwide Children's Hospital, Ohio State Univ., Columbus, OH

Nina F. Schor, MD, PhD (1984) - Chair, Dept. of Pediatrics, Rochester.

Alan L. Schwartz, MD, PhD (1979) - Chair, Dept. of Pediatrics, Washington Univ., St Louis.

Gary A. Silverman, MD, PhD (1987) - Chair, Dept of Pediatrics, St Louis Children's Hospital, Washington Univ. in St Louis.

Charles F. Simmons Jr, MD (1983) - Chair, Dept. of Pediatrics, Cedars-Sinai Medical Center, Los Angeles.

Mitchell J. Weiss, MD, PhD (1991) - Chair, Dept. of Hematology, St Jude Children's Research Hospital, Memphis.

Christopher B. Wilson, MD (1975) - Chair, Dept. of Immunology, Univ. of Washington, Seattle. Previously, Interim Director, Global Health Discovery, Bill and Melinda Gates Foundation.

James J. Filiano, MD (1985) - Chief, Pediatric Critical Care, Dartmouth.

Raif S. Geha, MD (1971) - Chief, Div. of Allergy and Immunology, Boston Children's Hospital, Harvard Medical School.

Stephen E. Gellis, MD (1976) - Chief, Division of Pediatric Dermatology, Boston Children's Hospital, Harvard Medical School.

Jeffrey S. Gerdes, MD (1980) - Chief, Section of Newborn Pediatrics, Associate Chair, Dept of Pediatrics, Pennsylvania Hospital.

Ira H. Gewolb, MD (1979) - Chief, Neonatology and Assoc Chair for Research, Michigan State

Catherine M. Gordon, MD (1994) Chief, Division of Endocrinology, Brown

Ian Gross, MD (1972) - Chief, Div. of Perinatal Medicine, Yale.

Jin S. Hahn, MD (1985) - Chief Emeritus, Div. of Neurology, Stanford

Jeffrey S. Hyams, MD (1978) - Head, Div. of Gastroenterology and Nutrition, Connecticut Children's Medical Center

BOSTON COMBINED RESIDENCY

Lawrence C. Kaplan, MD (1984) - Chief Emeritus, Developmental Pediatrics, Wisconsin (Madison). Director Emeritus, Div of Genetics and Child Health, Dartmouth.

Janice D. Key, MD (1983) - Director, Div. of Adolescent Medicine, Medical Univ. of South Carolina.

Barry Kosofsky, MD, PhD (1988) - Chief, Div. of Pediatric Neurology, Cornell.

Karl Kuban, MD (1978) - Chief, Pediatric Neurology, Boston Medical Center, Boston Univ.

Andrew L. Kung, MD, PhD (1996) - Chief, Division of Hematology, Oncology and Bone Marrow Transplantation, Columbia

Roger L. Ladda, MD (1972) - Chief, Human Genetics, Growth & Development, Penn State.

Edward Lawson, MD (1975) - Director, Neonatal-Perinatal Medicine, Johns Hopkins.

Donald Y.M. Leung, MD, PhD (1980) - Head, Div. of Pediatric Allergy and Immunology, National Jewish Medical and Research Center, Denver,

Michael Link, MD (1977) - Chief, Pediatric Hematology/Oncology, Stanford

Jeffrey M. Lipton, MD, PhD (1978) - Chief, Hematology-Oncology and Stem Cell Transplantation, Schneider Children's Hospital, Albert Einstein.

Samuel E. Lux IV, MD (1970) - Chief Emeritus, Div. of Hematology/Oncology and Vice-Chair for Research, Boston Children's Hospital, Harvard Medical School.

William Maniscalco, MD (1975) - Chief, Div. of Neonatology, Rochester.

Peter E. Newburger, MD (1977) - Chief, Pediatric Hematology/Oncology, Univ. of Massachusetts

John A. Phillips III, MD (1975) - Director, Div. of Genetics and Genomic Medicine, Vanderbilt.

David A. Piccoli, MD (1983) - Chief, Gastroenterology, Hepatology and Nutrition. Children's Hospital of Philadelphia

David G. Poplack, MD (1972) - Chief, Pediatric Hematology/Oncology, Baylor.

Leonard A. Rappaport, MD (1980) - Chief, Division of Developmental Medicine, Boston Children's Hospital, Harvard.

J. Routt Reigart II, MD (1970) - Director Emeritus, General Pediatrics, Medical Univ. of South Carolina.

Clement L. Ren, MD (1990) - Chief, Div. of Pediatric Pulmonology/Allergy, Rochester.

Mark E. Rothenberg, MD, PhD (1992) - Director, Div of Allergy/Immunology, Cincinnati.

David H. Rowitch, MD, PhD (1992) - Chief, Div. of Neonatology, UCSF.

Philip J. Saul, MD (1985) - Chief, Div. of Pediatric Cardiology, Medical Univ. of South Carolina.

Charles D. Scher, MD (1972) - Chief, Pediatric Hematology-Oncology, Tulane

Mark A. Schuster, MD, PhD (1991) - Chief of General Pediatrics, Boston Children's Hospital, Harvard Medical School. Formerly, Chief of General Pediatrics and Vice Chair for Health Services, Policy, and Community Research, UCLA.

Robert D. Sege, MD, PhD (1991) - Previously, Director, Div. of Ambulatory Pediatrics, Boston Medical Center, Boston Univ.

Yao Sun MD, PhD (1992), Chief, Division of Neonatology, University of California, San Francisco.

Victor C. Strasburger, MD (1978) - Chief, Div. of Adolescent Medicine, New Mexico

Stephen J. Teach, MD (1991) - Chief, Div. of Allergy and Immunology, Children's National Medical Center

William R. Treem, MD (1980) - Section Chief, Pediatric Gastroenterology, Hepatology and Nutrition, SUNY Downstate.

Alan S. Wayne, MD (1988) - Chief, Division of Pediatric Hematology/Oncology, Univ of Southern California. Previously, Head, Hematologic Diseases Section, Pediatric Oncology Branch, National Cancer Institute, NIH.

Lawrence C. Wolfe, MD (1979) - Chief Emeritus, Div. of Pediatric Hematology/Oncology, Tufts. Currently at Schneider Children's Hospital, New Hyde Park, NY.

Peter F. Wright, MD (1970) - Chief Emeritus, Div. of Pediatric Infectious Diseases, Vanderbilt. Currently at Dartmouth-Hitchcock Medical Center.

Heads of Major Clinical Programs

Corrie T. M. Anderson, MD (1985) - Previously Clinical Program Director, Pain Management, Dept. of Anesthesia, Univ. of Washington, Seattle

Marc Baskin, MD (1986) - Chief, Short Stay Unit, Boston Children's Hospital, Harvard

Leslie V. Boyer-Hassen, MD (1988) - Medical Director, Arizona Poison Control Center, Medical Director, Toxicology Laboratory, Arizona

Lisa R. Diller, MD (1988) - CMO, Dana-Farber/Children's Hospital Cancer and Blood Disorders Center. Clinical Director of Pediatric Oncology, Dana-Farber Cancer Institute and Boston Children's Hospital, Harvard Medical School

Jonathan Finkelstein, MD (1991) - Vice-Chair for Quality and Outcomes, Dept of Medicine, Boston Children's Hospital, Harvard Medical School, Boston

Alan M. Leichtner, MD (1980) - Vice-Chair for Clinical Services and Associate Chief, Div. of Gastroenterology and Nutrition. Boston Children's Hospital, Harvard Medical School

Edgar K. Marcuse, MD (1970) - Associate Medical Director of Quality Improvement, Univ. of Washington, Seattle

Lynne M. Mofenson, MD (1980) - Chief, Pediatric, Adolescent and Maternal AIDS Branch. Center for Research for Mothers and Children, NICHD, NIH.

D. Holmes Morton, MD (1986) - Director, Clinic for Special Children, Strasburg, PA.

James Moses, MD MPH (2005) - Director of Quality and Patient Safety, Department of Pediatrics, Boston Medical Center

Jane Newburger, MD (1977) - Associate Chief for Academic Affairs, Dept. of Cardiology, Boston Children's Hospital, Harvard Medical School

BOSTON COMBINED RESIDENCY

Hans C. Oettgen, MD, PhD (1990) - Associate Chief, Div. of Allergy/Immunology, Boston Children's Hospital, Harvard Medical School.

Peter C. Phillips, MD (1981) - Director, Pediatric Neuro-oncology, Children's Hosp of Philadelphia

Thomas N. Robinson, MD (1991) - Director, Ctr for Healthy Weight, Div of General Pediatrics, Stanford

Jonathan J. "Jack" Rome, MD (1986) - Director, Cardiac Catheterization Laboratory, Associate Chief for Clinical Affairs, Children's Hospital of Philadelphia

Stephen J. Roth, MD (1989) - Director of Pediatric Cardiovascular Intensive Care, Stanford

Benjamin L. Shneider, MD (1989) - Director, Hepatology Center, Children's Hospital of Pittsburgh.

Anne M. Stack, MD (1991) - Director of Clinical Operations, Div of Emergency Medicine, Boston Children's Hospital, Harvard Medical School.

Elizabeth Woods, MD (1982) - Associate Chief, Div of Adolescent/Young Adult Medicine, Boston Children's Hospital, Harvard Medical School.

Senior Researchers and Research Administrators

Jan L. Breslow, MD (1971) - Head, Lab of Biochemical Genetics and Metabolism, Rockefeller Univ. Past-President, American Heart Association.

Todd R. Golub, MD (1992) - Director, Cancer Program, The Broad Institute of Harvard and MIT. Professor, Pediatrics, Boston Children's Hospital and Dana-Farber Cancer Institute. Investigator, Howard Hughes Medical Institute.

Lisa Guay-Woodford, MD (1986) - Director, Center for Translational Science, Children's National Medical Center, Washington, DC. Previously, Director, Division of Genetic and Translational Medicine and Vice Chair, Dept of Genetics, Univ. of Alabama.

Mark A. Israel, MD (1976) - Director, Norris Cotton Cancer Center, Dartmouth.

Julie R. Korenberg, MD, PhD (1982) - Director, Center for Integrated Neurosciences and Human Behavior at the Brain Institute, Utah. Previously, Director of Pediatric Research and Director of Neurogenetics, Medical Genetics Inst. Vice-Chair for Pediatrics Research, Cedars-Sinai, Los Angeles

Stephan Ladisch, MD (1976) - Previously, Director, Ctr for Cancer and Transplantation Biology and Scientific Dir., Children's Research Inst., Vice-Chair, Pediatrics, George Washington.

Roderick R. McInnes, MD, PhD (1978) - Director of Research, Lady Davis Institute of Medical Research, Jewish General Hospital, McGill. Previously, University Professor, Chair, Dept of Molecular Medicine and Scientific Dir., Inst. of Genetics, Hospital for Sick Children, Toronto.

Louis J. Muglia, MD, PhD (1991) - Co-Director, Perinatal Institute, Division of Neonatology and Director, Center for Prevention of Preterm Birth, Cincinnati Children's. Previously, Vice Chair for Research Affairs in Pediatrics, Vanderbilt and Director, Div. of Pediatric Endocrinology and Diabetes, Washington University, St Louis.

Stuart H. Orkin, MD (1975) - Investigator, Howard Hughes Medical Institute, Boston Children's Hospital. Chair, Dept. of Pediatric Oncology, Dana-Farber Cancer Institute. Harvard Medical School

David S. Pellman, MD (1989) - Investigator, Howard Hughes Medical Institute. Professor, Pediatrics. Dana-Farber Cancer Institute and Boston Children's Hospital. Harvard Medical School

Edward V. Prochownik, MD, PhD (1981) - Director of Oncology Research, Pittsburgh.

Bonnie W. Ramsey, MD (1979) - Director, Center for Clinical and Translational Research, Univ. of Washington.

Evan Y. Snyder, MD, PhD (1983) - Program Director, Stem Cells and Regeneration, Burnham Institute, LaJolla.

Anne E. Trontell, MD (1990) - Program Director, Center for Education & Research on Therapeutics. Agency for Healthcare Research and Quality, Dept. of Health and Human Services

Linda Van Marter (1983) - Vice Chair for Research, Dept of Newborn Medicine, Brigham and Women's Hospital

Paul H. Wise, MD (1981) - Director, Center for Policy, Outcomes and Prevention, Stanford.

Education Leaders

William A. "Jerry" Durbin, MD (1977) - Vice Chair and Residency Program Director, Dept. of Pediatrics, Univ. Massachusetts.

Alan M. Leichtner, MD, MSHPEd (1980) - Chief Medical Education Officer in the Dept of Medical Education at Boston Children's Hospital.

Frederick H. Lovejoy Jr, MD (1969) - Vice Chair for Academic Affairs and Associate Physician-in-Chief. Previously, Residency Program Director, Boston Children's Hospital, Harvard Medical School

Theodore C. Sectish, MD (1980) - Vice Chair for Education and Pediatric Residency Program Director, Boston Children's Hospital, Harvard Medical School. Executive Director, Federation of Pediatric Organizations. Previously, Residency Program Director, Stanford. Past-President of the Association of Pediatric Program Directors.

Emmett V. Schmidt, MD, PhD (1984) - Previously, Pediatric Residency Program Director, MassGeneral Hospital for Children, Harvard Medical School.

Edwin Zalneraitis, MD (1978) - Assistant Dean for Medical Education and Residency Program Director, Connecticut.

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Biotech or Other Business Leaders

Spencer Borden IV, MD, MBA (1971) - Senior Managing Scientist, Exponent Consulting and Director of Employer Outcomes Research, Johnson & Johnson Health Care Systems, Inc. Previously, Senior Medical Consultant of Watson Wyatt Worldwide; Medical Director of Value Health Sciences, MediQual Systems and of Aetna Life Insurance Company; and CEO, Integrity Consulting. Emeritus Chair, Depts of Pediatric Radiology, CHOP & MGH.

Kenneth M. Borow, MD (1977) - President and CEO Encomium Group, Inc. Previously, President and CEO, Covalent Group, Inc.

Michael J. Brownstein, MD, PhD (1974) - Co-Founder and Chairman of the Board, Alluvium Biosciences. Previously, Chief Scientific Officer, Exponential Biotherapies, Bethesda, MD. Director of Functional Genomics, J Craig Venter Institute, Rockville, MD, and Chief, Laboratory of Genetics, NIMH/NHGRI.

R. Alan B. Ezekowitz, MB ChB, DPhil (1988) - President, Co-Founder and CEO, Abide Therapeutics. Previously, Senior Vice President and Franchise Head, Immunology, Respiratory and Endocrine, Merck Research Laboratories. Chief, Dept of Pediatrics, Massachusetts General Hosp, Harvard Medical Sch.

Roslyn Feder, MD, PhD (1988) - Previously, Senior Vice President for External Development at Bristol-Myers Squibb.

William H. Harris, MD, PhD (1984) - Co-Founder, President and Chief Scientific Officer, MariCal, Inc., Portland, ME.

Allen J. Hinkle, MD (1979) - Executive Vice President and Medical Affairs Officer, MVP Health Care. Previously, Sr VP and Chief Medical Officer, Tufts Health Plan and Senior Medical Director and Vice President of Health Care Quality, Policy and Innovations at Blue Cross Blue Shield of Massachusetts.

David S. Hodes, MD (1972) - Previously, Medical Director, Roche Laboratories. Chief Emeritus, Pediatric Infectious Diseases, Mt Sinai

Authors

Perri Klass, MD (1989) - Professor of Pediatrics and Journalism, and Director, Arthur L. Carter Journalism Institute, New York University, and award winning author of three novels, two other books, two short story collections and three essay collections. Regular contributing author: New York Times, Washington Post, Boston Globe, and many magazines.

Other Leaders

David M. Bell, MD (1980) - Sr Medical Officer, Maternal and Child Health Branch, Division of HIV/AIDS, National Center for Infectious Diseases, Centers for Disease Control and Prevention.

Jonathan E. Fielding, MD, MPH, MBA (1972) - Director of Public Health and Public Health Officer, Los Angeles County, and Professor of Public Health and Pediatrics, UCLA. Previously Vice President, Johnson & Johnson; and Massachusetts Commissioner of Public Health.

Jed Gorlin, MD (1985) - Medical Director, Memorial Blood Centers, Minneapolis.

Richard A. Insel, MD (1972) - Chief Scientific Officer, Juvenile Diabetes Research Foundation International. Previously, Director of the Center for Human Genetics and Molecular Pediatric Disease, Rochester.

Anula Jayasuriya, MD, PhD, MBA (1992) - Life science private equity and venture capital investor with ATP Capital in San Francisco. Co-founder and Managing Director of the Evolve India Life Science Fund, based in Hyderabad. Previously a partner with Skyline Ventures, a principal with Techno Venture Management, and Vice President and Head of Corporate Development for Genomics Collaborative.

Cameron "Geoff" McDonough, MD (1997) - Chief Executive Officer and President at Swedish Orphan Biovitrum AB. He also held several senior leadership positions at Genzyme Corporation and is currently its President of the organization in Europe.

Linda McKibben, MD, DrPh (1986) - Medical Officer, Food and Drug Administration. Principal, Linda McKibben Health Policy & Research Consulting. Previously, Vice President, The Lewin Group (Health Care and Human Services Consulting) and Senior Advisor on Health Services Research in the Office of the Director of the Division of Health Quality Promotion at the CDC's National Center for Infectious Diseases.

Mark C. Rogers, MD (1972) - Accounts Manager of AtCor Medical Limited. Previously, CEO of Paramount Capital, Chairman and CEO of Bradmer Pharmaceuticals; and Chairman of Cardiome Pharma Corp; Founder, Officer or Director at Genta Inc., Adherex Technologies Inc., PolaRx Biopharmaceuticals Inc., and Aptamera; Sr VP and CTO, Perkin-Elmer Corp; President, Paramount Capital; Chairman of Anesthesiology and Critical Care, Johns Hopkins; Vice Chancellor of Health Systems, Duke Univ. Med. Ctr and CEO Duke Hospital.

James (Jim) Woody, MD, PhD (1971) - Venture Capital Partner, Latterell Venture Partners, Menlo Park, CA. Formerly President of Roche Bioscience in Palo Alto, California. Previously Chief Scientific Officer and Senior Vice President of R&D for Centocor.

Claire McCarthy, MD (1991) - Medical Communications Director, Boston Children's Hospital and Senior Medical Editor for Harvard Health Publications. Author of two books ("How the Heart Beats" and "Everyone's Children") and frequent contributor to Newsweek and other magazines. Previously, General Pediatrician Director, Martha Eliot Health Center, Boston Children's Hospital, Harvard.

Nabil M. Kronfol, MD (1972) - Professor, Health Services Administration, American University of Beirut; Senior Consultant, Health Systems and Health Manpower, President of the Lebanese Health Care Management Association, Beirut.

Jon E. Rohde, MD (1973) - International Public Health Consultant. Professor and Co-chair of the Board of the James P Grant School of Public Health, BRAC University, Dhaka, Bangladesh. Former Director of the EQUITY Project, South Africa and Emeritus Professor, University of Cape Town, SA.

Lauren A. Smith, MD (1996) - Director Emeritus and before that Medical Director of Massachusetts Department of Public Health.

David N. Sundwall, MD (1973) - Previously, Executive Director, Utah Department of Health; Vice President and Med Director, American Healthcare Systems; Administrator in the Health Resources and Services Administration; and Assistant Surgeon General, U.S. Public Health Service.

Application Process

What Are We Looking For?

Graduates of medical schools in the United States and other countries are eligible to apply. We seek applicants who are intelligent, curious, creative, energetic, personable, and accomplished. We are very interested in having a diverse residency class and wish to attract exceptional applicants with wide-ranging interests and talents from all parts of the country and beyond. We are especially interested in those who will become leaders in one or more of the many areas of academic pediatrics: medical care, laboratory or clinical research, teaching, patient advocacy, public policy or global health.

PL-1 Applicants

Three Year Pediatric Residency Positions

We accept up to 35 PL-1 residents in the Categorical Track and up to 11 residents in the Urban Health and Advocacy Track. For PL-1 positions, the Boston Combined Residency Program in Pediatrics (BCRP) participates in the National Resident Matching Program (NRMP) through the Electronic Residency Application Service (ERAS). Applications will only be accepted through ERAS.

Candidates may apply to either one or both tracks. **We recommend applying to both.** Each track has its own NRMP match number. The tracks are listed in the NRMP Directory as follows:

Boston Combined Residency Program in Pediatrics

- Peds/Boston Children's Hospital: #1259320C0
- Peds-Urban Health Advocacy/Boston Medical Center: #1259320C1

Two Year Pediatric Residency Positions

- **Fast-tracking**

We allow residents to enter both of the "fast-tracking" research pathways offered by the American Board of Pediatrics.

- **Combined Pediatrics-Medical Genetics**

The BCRP is one of the few residency programs in the country that offers combined training in pediatrics and medical genetics. The program is described in more detail at <https://www.childrenshospital.org/bcrp/application/four-year-pediatrics-genetics-residency-training-program>. We can accommodate



We start recruiting future interns early

up to two such positions a year. Applicants interested in this option should contact Dr Amy Roberts (amy.roberts@cardio.chboston.org). The application is submitted as described above for PL-1 applicants. Please clarify in either your personal statement or by separate communication with Drs. Roberts and Lux (lux@enders.tch.harvard.edu) that you are interested in the combined program. Those invited for a BCRP interview will have additional interviews with the clinical genetics faculty. The combined program has its own NRMP Match number listed in the NRMP Directory as: Pediatrics/Medical Genetics #7652444017. **Applicants interested in the combined Pediatric-Medical Genetics program should also apply to the BCRP and make their interest in genetics clear in their personal statement.**

- **Child Neurology–Boston Children's Hospital**

We offer 2-year positions for a subset of residents who match in the child neurology residencies at Boston Children's Hospital or Boston Medical Center, but who first need to complete two years of pediatric residency training.

There are two types of positions available in the Child Neurology program at Boston Children's Hospital:

- ▷ "Boston Children's Hospital offers a combined BCRP Pediatrics-Child Neurology program (termed the "Categorical Child Neurology" program) in which the match is for 2 years of general pediatrics (beginning 2018) in the Categorical Track of the Boston Combined Residency Program in pediatrics, and three years of child neurology at

BOSTON COMBINED RESIDENCY

Boston Children's Hospital (beginning 2020). We have four positions in this program. Applicants who match in this track are guaranteed a position in the BCRP. The NRMP Match number for the combined BCRP Pediatrics-BCH Child Neurology program is #1259185C0. **Applicants to the categorical child neurology track should also apply to the Categorical Track of the BCRP (#1259320C0) as this simplifies processing of the combined application.** They should make their intentions clear in their personal statement.

- ▷ The Children's Hospital Neurology Department also offers an additional one "Advanced Child Neurology" positions for 3 years of child neurology, which will begin in 2019. The applicant who matches in the Advanced position must match independently in pediatrics as he or she will not have a position in the BCRP residency class. The NRMP Match number for this track is #1259185A0.
- ▷ The total number of Categorical and Advanced Child Neurology positions is five.
- ▷ Applicants may apply for both the combined (categorical) track in child neurology as well as the advanced track. Similarly, applicants who apply for the combined track may also apply to the Categorical or UHAT tracks in pediatrics, independent of child neurology.

- **Child Neurology–Boston Medical Center**

The **child neurology program at Boston Medical Center** offers one Categorical and one Advanced position. Applicants who match in the Categorical position are guaranteed a position in the UHAT track in the BCRP beginning in 2018 and will begin their child neurology training in 2020. Applicants who match in the Advanced position will also begin their child neurology training at BMC in 2020 but must match independently in pediatrics. The NRMP Match number for the Categorical track is 1257185C0. The number for the Advanced track is #1257185A0.

Applicants interested in either of these Child Neurology programs should also apply to the UHAT track in the BCRP and make their interest in child neurology clear in their personal statement.

Each of the various neurology tracks can be ranked independently in the match.

- **Neurodevelopmental Disabilities Preliminary Position**

The BCRP offers one two-year Preliminary-NDD position (#1259320P1) in the Categorical track of the BCRP to those who match in the Boston Children's

Hospital Neurodevelopmental Disabilities (NDD) training program (#1259186A0). NDD is an ACGME-accredited program combining 2-years of pediatric training with 1-year of adult neurology and adult NDD, 18-months of clinical NDD and child neurology, and 18-months of basic and clinical sciences. Upon completion of the training, the resident is board eligible for Pediatrics, Neurology, and Neurodevelopmental Disabilities with Special Competency in Child Neurology.

The Boston Children's Hospital NDD position is of the "Advanced" type, meaning a four-year NDD position, which begins in 2019. However, the hospital also offers a linked two-year BCRP Preliminary position, open only to NDD applicants, that allows applicants who match in NDD to complete their entire six-year NDD training in Boston.

NDD applicants should contact Dr. David Urion (david.urion@childrens.harvard.edu), who leads both the NDD and Child Neurology training programs at Boston Children's Hospital.

NDD applicants interested in the Preliminary pediatrics position **should apply for a Categorical position in the BCRP as well as to the Preliminary match. This is very important as it makes it much easier for us to process the application.** They should also make their interest in NDD clear in their personal statement.

- **Combined Pediatrics-Anesthesiology**

The BCRP was one of the first residency programs to offer combined training in Pediatrics and Anesthesiology. Residents begin their first year in pediatrics residency. The following year is the first year of anesthesiology training, followed by three years of integrated residency training in both pediatrics and anesthesiology. Throughout the three years of integrated training, while residents are doing core training in Pediatrics or Anesthesiology, they will be expected to attend conferences and participate in core clinical activities once a month in the other discipline to make the combined program fully integrated.

Individuals ideally suited for this combined training will likely pursue careers at the interface between critical care, pediatrics, and anesthesiology. Examples of such careers include hospitalist medicine, pain and palliative care, out-of-operating room procedural and sedations services, and members of integrated subspecialty teams in pediatrics, critical care and anesthesiology.

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Applicants interested in Pediatrics-Anesthesiology should make their interest evident in their personal statement or by separate communication with Dr. Sam Lux. They should also notify Dr. Morana Lasic, who directs resident selection in Anesthesiology at the Brigham and Women's Hospital. **Applicants should apply to *both* Pediatric Anesthesiology in ERAS (#1259726C0) and to the Categorical Pediatrics Track of the BCRP (#1259320C0). This is very important as it is difficult for us to process and keep track of an application that is not in the Categorical Pediatrics database.** We will forward a copy of the application to Dr. Lasic.

Applicants may also apply to the UHAT pediatrics track in the BCRP if they wish. Applicants who also wish to apply to Categorical Anesthesiology at the Brigham should submit a separate application to that program and make their interest in the combined program as well as the categorical anesthesiology program clear in their personal statement in that application.

One Year Pediatric Residency Positions

We currently do not offer one-year preliminary positions in pediatrics.

Deadline

All PL-1 applications should be received by October 31, 2017. While we will consider applications received after that date, interviews are only occasionally granted to late applicants. Because of the volume, we appreciate receiving applications early.

Applicants should update their applications anytime they have significant new information (e.g., election to AOA or other honors, Step II scores, acceptance of a major paper, etc.). To ensure the information is noted, they should also email Dr. Sam Lux.

Applicants who accept an appointment elsewhere, or who for any reason wish to withdraw, are requested to notify Dr. Lux and the NRMP immediately.

Requirements

The application must include the following:

- Dean's letter (MSPE) and transcript
- Application form
- At least three letters of reference. At least one should be from someone who worked closely with you on a pediatrics rotation and who writes many letters for



students, such as the student clerkship director, the director of inpatient services, a senior clinician, or one of the residency program directors. A pro forma "departmental letter" is not requested or desired unless the writer(s) know the applicant well.

- Curriculum vita, including honors and publications
- USLME scores (Step I required, Steps II and III if available)
- Personal statement. While we recognize that most applicants use a generic personal statement for all applications, **we are much more interested in learning about you personally, than about why you chose pediatrics.** We want to know where you grew up and your accomplishments (things you're proud of), your passions, key research experiences, leadership experiences, creative or unusual things you've done, and **what you are thinking of doing beyond your residency.** Please attach an addendum to your generic personal statement discussing these things if they are not otherwise covered.
- Good quality color photograph (ideally head and shoulders with a plain background).
- Applicants with an MD/PhD or other comparably extensive research experiences should also include a letter from their research supervisor.

We do **not** use board scores, grades or other metrics to filter applications. All applications are examined and the majority are read thoroughly and summarized in a 200 to 700 word paragraph that incorporates all the information we have. Decisions as to whether to interview or how highly to rank an applicant depend on the totality of the applicant's record from college onward, including extracurricular accomplishments, passions, personality, leadership and other factors as well as academic achievement.

International Applicants

We are very interested in training the **very** best international medical graduates and have a long record of doing so. All international medical graduates must apply through ERAS.

- To be seriously considered, international medical graduates must have an **exceptional** medical school record and **have received the kinds of prizes, medals or awards that are given to the very top students**. In most cases they will also have a **strong record of accomplishment in research, or prior residency training in pediatrics, or both**.
- International applicants should be **ECFMG certified** by October 31, 2017, our application deadline, and must be ECFMG certified by the completion of interviews on Jan 16th or they will not be considered by the selection committee. In rare cases an exception will be made for candidates who will graduate at the end of the calendar year and cannot apply for ECFMG certification until they have graduated. In these cases the applicant must obtain the approval of Dr Lux and must pass all ECFMG examinations by Jan 16th. This includes USMLE Step 1, the Step 2 Clinical Knowledge test, and the Step 2 Clinical Skills test.
- USMLE scores **must be above 210 on the first attempt** and ideally should be above 230.
- Applicants must demonstrate excellent spoken and written English and the ability to work in a modern, high complexity medical center. This is best done by one or more rotations during medical school involving direct patient contact on a pediatric or internal medicine inpatient or consult service at a major teaching hospital in the United States or other English-speaking country. Applicants who lack such rotations will be considered if they have an **exceptional** academic record in medical school, have trained at other outstanding medical centers, have high USMLE scores, and have extensive research experience.
- At least two of the letters of recommendation must be from physicians who are very familiar with the applicant's clinical skills. Letters from physicians at the applicant's medical school or other training institution(s) who have trained in the US are especially useful. **We rarely find "observerships" useful in evaluating applicants** and suggest that applicants not have letters sent from those who

observed them on such experiences unless the applicant worked very closely with the letter writer for a considerable period in caring for patients.

Our two hospitals are able to sponsor both H1b and J1 visas, assuming there are no changes in US Immigration policies. An H1b visa requires that an applicant successfully complete USMLE Step 3. With rare exceptions, we require that the USMLE step 3 examination be completed by January 16, 2018 for us to obtain an H1b visa.

Couples Match

Applicants who are participating in the couples match and are invited to interview should email Dr Lux the name of the Boston-area hospital(s) to which their spouse or significant other is interviewing.

Student Rotations

Children's Hospital

Students interested in doing rotations in pediatrics or pediatric subspecialties at Boston Children's Hospital should contact the Registrar's Office at Harvard Medical School. Students can select up to 3 rotation month blocks and specify up to 15 course selections. The Registrar gives priority to Harvard Medical students, so outside students sometimes won't know their elective until 4-6 weeks before it begins. If all their choices are full, the Registrar will check if there are any vacancies in the less popular electives.

Phone: (617) 432-1515

Email: exclerks@hms.harvard.edu

Boston Medical Center

Students interested in doing elective rotations at Boston Medical Center should contact the Registrar's office at Boston University School of Medicine. BUSM does not accept international medical students for elective rotations.

Phone: (617) 638-4160

Minority Recruitment

Boston Medical Center and Harvard Medical School have well-established Minority Recruitment Programs. These programs provide housing and financial assistance for travel.

Observerships

Neither Children's Hospital nor Boston Medical Center encourage rotations where students function simply as observers. However, a few divisions and departments at Children's Hospital offer observership opportunities. (<http://www.childrenshospital.org/clinician-resources/education-and-training/office-of-graduate-medical-education/observerships>)

Interviews

We issue invitations for interviews when enough information is available for us to make a decision. In most cases this is not until after Dean's Letters arrive on October 1st. This is almost always the case for institutions where clerkship grades are only revealed in the Dean's Letter. **However, we usually do not finish reading all our applications until early November, so applicants should not expect to hear from us before then. We expect that all applicants will be notified about their interview on or before November 6th** unless applications are incomplete at that time. As noted earlier, we review applications that are received after the October 31st deadline, but interviews are rarely granted to those who apply late unless there are extenuating circumstances.

Interview days for 2017-2018

- Thursday, November 16th
- Monday, Nov 20th
- Tuesday, Nov 28th
- Friday, Dec 1st
- Friday, Dec 8th
- Friday, Dec 15th
- Tuesday, Dec 19th
- Friday, Jan 5th
- Friday, Jan 12th
- Tuesday, Jan 16th (optional if needed)

Approximately 32 candidates are invited for each interview day.

MD/PhD Days

Candidates with MD/PhD degrees or PhD-like research experiences who plan research careers following residency are invited to participate in additional sessions on one of the Thursday afternoons before the December 15th and January 12th interview days. These sessions have been very popular in the past. They are designed to acquaint applicants with the research and fellowship opportunities in the Boston area and give them a chance to meet several scientists in their areas of interest. The

applicants also have dinner with residents who plan to become physician-scientists. The MD/PhD days are entirely optional and are not part of the evaluation process.

Diversity Dinners

The BCRP embraces all forms of diversity, including but not limited to race, ethnicity, disability, gender identity, and sexual orientation. Applicants who identify as a member of one or more of these or similar groups are invited to an informal dinner the evening before their interview to familiarize them with special opportunities available within the BCRP and discuss any questions they may have about the program or the local community.

The Interview Day

Orientation for the day begins with breakfast at 7:30 AM. Half the group starts at Children's Hospital and half at Boston Medical Center. There is a single interview and a tour at each hospital by one of the BCRP residents. The interviews are low key and are meant to be an opportunity for applicants and faculty to get to know each other. An effort is made to choose interviewers who have something in common with the applicants, though this is not always possible. Applicants also attend one of the morning teaching conferences and participate in informal information and question-answer sessions. They are then transported to the other hospital, where they lunch with the residents and repeat the itinerary. The day officially ends at 4:30 PM; however, there is an optional Happy Hour from about 5:30 pm to 8 or 9 PM, hosted by the residents. This is a great chance for those who can stay to talk with the residents and is **highly recommended**. Most applicants tell us this is one of the most important parts of the day. Some applicants may wish to extend their visit, or come a day early to allow more time for observation on the clinical services or to meet individuals in their specific areas of interest. We are happy to help make such arrangements, if desired.

Second Visits

Second visits can be arranged to attend rounds, meet with selected faculty or residents, and explore housing or other issues. We are happy to do this if the visit will assist you in evaluating the BCRP. Second visits are not expected and do not play a role in the selection process. If you are interested in a second visit contact Elayne Fournier (bcrp@childrens.harvard.edu), who will work with the chief residents and Dr Lux to arrange it.

BOSTON COMBINED RESIDENCY

The Selection Process

Separate selection committees evaluate candidates for each of the two tracks. Both committees include chief residents, as well as junior and senior faculty who are clinicians and researchers from a broad range of specialties. The selection process is entirely subjective. No formulas of boards scores, grades, or other criteria are used, either for selecting applicants for interviews or in preparing the rank order list. Similarly no attention is paid to the likelihood that a candidate will or will not rank the BCRP favorably. The committees are looking for candidates who are perceived to have a strong likelihood of success in an academic career involving advocacy, community service, public policy or international health (Urban Health and Advocacy Track) or success in an academic career focusing on clinical care and/or research in traditional subspecialty pediatrics, including academic or community general pediatrics (Categorical Track). There is considerable overlap in these two missions. Most applicants are suitable for both tracks and many candidates are highly ranked on both rank order lists. For this reason, and because the tracks are very similar from a resident's point of view, **most applicants should apply to both tracks.**

PL-2 and PL-3 Applicants

Applications for PL-2 or PL-3 positions for 2018 will be accepted if positions are available. There are usually several open positions in each year. Interested applicants should mail their CV and Personal Statement to Theodore Sectish, MD (Department of Medicine, Boston Children's Hospital, 300 Longwood Ave, Boston, MA 02115; theodore.sectish@childrens.harvard.edu) as early as possible, as decisions about these positions are made between November and February. Competitive applicants will be asked to come to Boston for a day of interviews.

Med-Peds Applicants

The Harvard BWH/BCH Medicine-Pediatrics Residency is located at the Brigham and Women's Hospital and Boston Children's Hospital. Interviews occur in December and January and are independent of pediatric and internal medicine interviews at the two hospitals. For more information about the program and how to submit an application please visit: http://www.brighamandwomens.org/Departments_and_Services/medicine/medical_professionals/residency/MedPeds/default.aspx?sub=1



MBTA Green Line subway car

How To Get Here

Transportation

Boston Children's Hospital and Boston Medical Center are accessible by car, bus or subway. For those who wish to take public transportation (the MBTA or just "The T"), the Blue line stops at the airport (shuttle buses run from each terminal to the T stop). The MBTA trip-planning site (http://www.mbtta.com/rider_tools/trip_planner/) is particularly useful in choosing which subway trains and/or buses to take. Just enter "Logan Airport" and "Children's Hospital" or "Boston Medical Center" in the boxes where addresses are requested. For those who drive, parking garages are available at each institution.

Maps

- **Children's Hospital Directions**

<http://www.childrenshospital.org/patient-resources/getting-here>

- **Children's Hospital Buildings**

<http://www.childrenshospital.org/~media/bch/locations/bchcampusmap062013.ashx?la=en>

- **Harvard Medical School & Longwood Medical Area**

<http://hms.harvard.edu/sites/default/files/assets/Sites/Parking/files/HvdCampusMap.pdf>

http://www.brighamandwomens.org/about_bwh/locations/directions/map2.aspx

http://campustour.hms.harvard.edu/#UMAP_2014022756162

- **Boston Medical Center**

<http://www.bmc.org/patients/map.htm>

Children's Hospital also had a new downloadable iPhone/Android app for families called MyWay Mobile App (<https://itunes.apple.com/us/app/boston-childrens-hospital-myway/id516158817?mt=8>) that contains useful information about how to get around the hospital and local places to stay, among other things.

Where To Stay

- **Hotels near Children's Hospital**

<http://www.childrenshospital.org/~media/Patient%20Resources/Accommodations/Hotels%20inns%20and%20short%20term%20rentals/BostonandWalthamHotelsupdate071414.ashx>

The Inn at Longwood next to the hospital (342 Longwood Ave, Boston) and The Marriott Courtyard (40 Webster St, Brookline) offer hospital-discounted rates.

- **Inns and Bed & Breakfasts near Children's Hospital**

http://www.childrenshospital.org/~media/Patient%20Resources/Accommodations/Inns_3%2027%2013.ashx

- **Hotels near Boston Medical Center**

http://hamptoninn.hilton.com/en/hp/hotels/maps_directions.jhtml?ctyhocn=BOSHSX

- **Hosting Service**

Many applicants also stay in the homes of friends. In addition, the residents offer a hosting service where they invite applicants to stay in their homes. They will contact applicants directly about this after interview invitations are extended.

Contacts

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