Contents

5 Division Mission Statement
7 Introduction: Changing Times
9 Three Decades of Fellowship Training: A Celebration
17 Faculty and Programs 2004-2005
19 Research, Training and Clinical Intervention Projects 2004-2005
43 Federal and Other Funding
45 Fellows 1974-2005
53 Selected Faculty and Fellows Bibliography 1994-2005
Mission Statement

The Division of General Pediatrics at the Children’s Hospital, Boston seeks to enhance the lives of children and families, through service, research, and teaching.

To accomplish this overall mission, the Division strives to:

• Provide a full range of medical and habilitative services for children and their families so that they may optimize the quality of their lives in the community
• Conduct research to develop innovative methods for providing support and assistance to children and their families
• Build the capacity of the community, the family and health services to support children at all stages of their development;
• Provide training and career development support, through mentorship and structured training activities, for professionals who are providing, or will provide, health and habilitative services to children and their families.

These activities expand our opportunity to ensure the quality of the life for children and their families and to further the core body of knowledge to help children realize their full potential—now, and in the future.

The Division’s activities are organized around the three areas of service, teaching and research. The major target audiences served by these activities are the child and family, health care providers, and the community. It is the goal of the Division and its various programs to enhance, both directly and indirectly, the quality of life of children and families in our own community, region, and throughout the United States.
Changing Times

Pick any day, March 10, 2005, for example, and the Boston Globe is filled with stories about children and children’s health. A hair-raising story about child maltreatment and death in foster care tops the list, but its pages also report on steroid use in young athletes, overweight and obesity, the need for universal child health insurance and the wide disparity in health outcomes for blacks and whites. The political cartoon depicts two children listening to a TV commentator who shouts out, “It’s gross indecency! A national disgrace! An assault on our kids! It demands action!” The voice in the TV box is talking about “cable broadcasters.” The children look puzzled. They cannot believe he isn’t railing about child poverty.

Children and youth at the beginning of the millennium are in the vortex of a complex societal transformation. New forces of technology and know-how are bumping up against old customs and outright ignorance. Child health concerns are changing with changing times. Those who care for children and youth need to change, too.

Recognizing that the threats to children’s health are multifaceted, the Division of General Pediatrics at the Children’s Hospital, Boston is all about change. It is about building on the lessons of the past, meeting the present as it occurs and doing the best we can to anticipate the direction of the future. We are able to meet the Division’s mission by continual re-evaluation, adjustment and planning.

Every two years, we take a formal look at the Division. We review our accomplishments, scan the areas of promise, and determine where we need to adapt our ways of operating. We catalog our products and celebrate our graduates. This year, we report on 30 years of fellowship training. The Division has much to be proud of.

The Division of General Pediatrics strives to foster multidisciplinary care and collaboration with parents, other professionals and community-based organizations. The theme of this year’s retreat is Collaborations in Pediatrics, underscoring our commitment to forming and sustaining partnerships to improve the care of children, to strengthen the teaching of the next generation and to inform our research.
Our clinical programs in primary care, developmental-behavioral pediatrics, the care of children with chronic illness and disability, child protection and environmental health are strong. We have established an inpatient hospitalist program for children with chronic conditions and are providing inpatient pediatric care for children on our psychosomatic ward. The clinical programs are all growing in breadth and depth. They directly address the millennial morbidity concerns that fill each day's newspaper columns. We are working with colleagues throughout the hospital to reach out further into the city, the state and the nation with these services.

The teaching programs at the medical student, resident and fellow levels are thriving. We have received ACGME certification from two new subspecialty boards – one in Developmental-Behavioral Pediatrics and one in Neurodevelopmental Disabilities. Our faculty in these areas has all become sub-board certified. We continue to provide postgraduate training through CME programs both locally and nationally.

The research and program development efforts of the Division are continually breaking new ground. Some of the topics are substance abuse, obesity, asthma, teen pregnancy, school problems and autism. Our research efforts are also directed at the development of effective service delivery systems for children with special health care needs. Our research teams are multidisciplinary, collaborative groups who work together to understand the dimensions of child health and well-being.

Changing times require flexibility, adaptability and readiness to meet new challenges head on. The Division of General Pediatrics works hard to prepare and sustain our faculty, trainees and staff with the skills and attitudes to keep abreast of the latest news, to address the latest problems and to make a difference for children and families.

Judith S. Palfrey, MD
Division Chief
Three Decades of Fellowship Training: A Celebration

The Division of General Pediatrics at Children’s Hospital is home to a large number of talented and committed physicians, nurses, psychologists, and other professionals. We aim to improve the health of the children we care for, and to find new ways to advance health care delivery in Boston and throughout the United States.

Our fellowship programs now include General Academic Pediatrics, Developmental and Behavioral Pediatrics (DBP), Neurodevelopmental Disabilities (NDD), and Health Services Research. DBP and NDD are now accredited as subspecialties by the American Council of Graduate Medical Education (ACGME).

This year we celebrate 30 years of fellowship training. Our graduates are now in 27 states and seven other countries, continuing the work they began here: enhancing the lives of children and their families through service, research, and teaching. Among them are 26 full professors, five department chairs and deans, and 19 associate professors. They have spearheaded pioneering research and authored many significant articles and books. We are proud of their accomplishments. They stand as role models for all who care for children and families. On this very important anniversary, we looked in on a few of them to find out what they are doing.

Paul Dworkin
About 30 years ago, Paul Dworkin, MD (1976-1978) ran into Mel Levine at an Ambulatory Pediatrics Association meeting. Levine offered him a fellowship “just like that” and an opportunity to follow his diverse interests. “It was luck and serendipity,” Dworkin notes, because those experiences formed his commitment to knit developmental services into primary care.

At West Virginia University School of Medicine and now as Chairman of the Department of Pediatrics at University of Connecticut School of Medicine and Vice President and Chief Medical Officer of Connecticut Children’s Medical Center in Hartford, Dworkin has always worked in a general pediatrics context. He sees no more important place to advocate for practices such as developmental surveillance (which he studied on sabbatical in England) and anticipatory guidance (about which he co-authored a controlled study published in Pediatrics calling for such counseling to be tailored to parents’ cognitive, psychological, and cultural readiness).

Dworkin’s many honors include the C. Anderson Aldrich Award in recognition of achievement in the field of Child Development from the American Academy of Pediatrics. But one of his proudest accomplishments is working on the Help Me Grow initiative that links children at risk with programs and services. Connecticut is currently the only state with a single point of access—one 800 number—that connects concerned parents, via caseworkers, to all its developmental and behavioral services. And all its young clients will be linked to an Ages and States program to help with developmental surveillance.
“This project is an amazing integration of resources for children and families,” says Dworkin. “It is an example of infrastructure and system reform promoting lasting change, as opposed to a funded, time-limited initiative that is discontinued when funding expires.”

**Paul Wise**

Paul Wise, MD, MPH (1980-1981) was also a fellow in Ambulatory Pediatrics. Working in nutrition programs in Guatemala and Jamaica before he received his MD and in pediatrics in urban Boston, South Africa, and India afterward, he has had ample opportunity to witness social disparities in child health. They have informed and inspired his work in many positions including Director of Perinatal Epidemiology and Vice-Chief of the Division of Social Medicine and Health Inequalities at Brigham and Women’s Hospital, Special Assistant to the Surgeon General working on HIV policy, and his current position as the Richard E. Behrman Professor of Child Health and Society and Director for the Center of Policy Outcomes and Prevention at the Stanford University School of Medicine.

This issue has also motivated much of his research. Wise conducted a 6-year study of welfare reform’s impact on child health. He helped develop and evaluate a multi-state review program and the national fetal and infant mortality review programs with the American College of Obstetrics and Gynecology looking at, among other things, the ways social disparities affect infant mortality.

Some groups worry about child health inequalities and disparage modern pediatrics, Wise explains. Others prize medical innovation without regard for widening social disparities. “Having articles come out that were seen as relevant to both made all the work and struggle worthwhile,” he says. “The work we’ve done showing that clinical innovation can widen social disparities rather than reduce them is so important for those deciding policy.”

**Elsie Taveras**

Addressing social disparities has remained an important theme for fellowships, especially for the Harvard-wide Research Fellowships in Health Services Research, and especially for Elsie Taveras, MD, MPH (2001-2003). At the time Taveras finished her fellowship, little was being done to research obesity in low-income children. The need for this work had been clearly reinforced by her clinical experience. Taveras decided to focus upon nutrition and physical activity as a way to help address the health disparities in underserved children and their families.

Working at Harvard Medical School’s Department of Ambulatory Care and Prevention, Taveras has tackled many research projects. She has received a grant from the Deborah Noonan Fund to examine ways to improve clinical practice for preventing and managing overweight in children. She recently presented the results of a longitudinal study examining the determinants of weight gain and diet quality among 10,000 adolescents to the American Heart Association Council on Epidemiology. These studies are the first steps in her long-term goal to design intervention studies to prevent childhood overweight in primary care.

While this objective will have a national impact, Taveras may feel proudest of her very local involvement with Children’s Hospital’s One Step Ahead program. She directs this program, which provides coordinated care for overweight children and their families by emphasizing, among other things, community involvement, exercise, and culturally-focused discussion of eating and nutrition.

“The fellowship prepared me for taking a leadership position,” says Taveras, “but the program development aspect of the clinic was new to me. It’s been a wonderful learning experience; I’m so proud to be working with this population of patients.”
**Ranee Leder, MD**

One recent graduate of the Developmental and Behavioral Pediatrics (DBP) program is Ranee Leder, MD (1995-1998). Leder’s fellowship was uniquely suited to her interest in working with child sexual abuse. Her training not only prepared her clinically in developmental and behavioral pediatrics and child sexual abuse issues, says Leder, it also taught her “to ask the hard questions and seek the answers.”

She is tackling many of these questions in Columbus, Ohio—at Ohio State University’s College of Medicine and Children’s Hospital’s Section of Developmental-Behavioral Pediatrics and their Center for Child and Family Advocacy. One focus has been improving resident training in child sexual abuse. Residents, for example, traditionally are not taught how to examine children’s genitalia. Yet physicians unfamiliar with the wide range of normal conditions can too easily overinterpret signs of abuse. Leder is working to make this and other procedures part of standard resident curriculum.

Much of her research has the additional goal of making treatment more comfortable for patients. One study has looked at the potentially calming effects that the comfort and confidence of physicians trained in genital exams can pass on to their young patients. Leder is currently analyzing the feasibility of using newer, less invasive, more effective tests for sexually transmitted diseases, which have not yet been established as effective for children. “I’ve found that you make progress in little steps,” says Leder. “If you can accept that and forge ahead, you will make great progress in the end.”

**Tim Oberlander**

Directly following his Developmental and Behavioral Fellowship, Tim Oberlander, MD (1991-1993) was recruited by University of British Columbia’s Department of Pediatrics, Faculty of Medicine. Tenured in 2000, Oberlander is currently Acting Head of their Division of Developmental Pediatrics.

As an academic developmental pediatrician, Oberlander’s research concentrates upon how early biological and behavioral factors influence infant and child development. For almost a decade, he and others from his university have collaborated with Yale’s Child Study Center to create the first longitudinal studies of biobehavioral outcomes following prenatal SSRI antidepressant medication exposure. They are currently analyzing data from a follow-up of their cohort at three to five years of age, looking at maternal mood, child attention regulation and developmental outcomes, and comparing them to infants of depressed, but untreated mothers and healthy controls.

Oberlander’s other major clinical and research focus has evolved from his fellowship’s specialization in pediatric pain management. As Medical Director of the Chronic Pain Service, he has helped establish an inpatient and outpatient Complex Pain Consultation service at Children’s and Women’s Health Centre of British Columbia. His research centers on understanding the pain experience in children with such developmental disabilities as cerebral palsy and autism. In fact, he has co-authored the first textbook chapter in this field. “I am totally thrilled by the chance to ask great questions,” says Oberlander, “and to find people to help me answer them!”

**Robert Garofalo**

Another fellow in Advocacy/DBP was Robert Garofalo, MD, MPH (1995-2001). In 1995, Garofalo came to Boston knowing he wanted to work with high-risk youth. The timing was right. The adolescent program at the Sidney Borum Jr. Health Center in Boston was in its infancy and looking for a pediatrician to take a more permanent role. Garofalo’s Dyson Advocacy Fellowship and his subsequent one in Adolescent Medicine allowed him the freedom to sign on. Eventually, he became the Center’s Director of Adolescent Medicine overseeing a program that provided barrier-free care to HIV-infected youth and others at risk.

When Garofalo moved to Chicago in 2001, he used his appointments at Children’s Memorial Hospital and the Howard Brown Health Center to develop a program similar to Sidney Borum’s. He also founded the Broadway Youth Center, Chicago’s first comprehensive drop-in center for at-risk-youth. In Chicago as in Boston, Garofalo has maintained close ties with academia. In 2003, for example, he received a 3-year NIH-supported Mentored Clinical Scientist (K12)
Award to examine mechanisms of risk for acquiring HIV among lesbian, gay, bisexual, and transgender youth. He has also received an individual RO3 from the NIMH to test the utility of a social-personal theoretical model in explaining HIV risk behaviors in the same group.

Garofalo credits his abiding work philosophy to his time in Boston and the mentorship of Judy Palfrey. “Judy always encouraged me to be ‘of Harvard’ and ‘of Sidney Borum’ and ‘of the community’ where I worked,” he says. “Working with and being part of the community creates a job that I love. I’m extremely busy, but can’t imagine giving up any of it.”

Richard Pan
This focus on the pediatrician’s role in the community also characterizes the career of Richard Pan, MD, MPH (1995-1998). “Science is advancing very quickly,” says Pan. “To improve child health, we need to focus on community building and improving social and physical environments.”

Pan’s overriding goal is building these bridges between health care and other community systems. Consequently, at the University of California, Davis, he has many positions from sitting on the Community Development Graduate Group to being Executive Director of PC-AWARE, a practice-based research network. He is PI and Director of Communities and Physicians Together, part of the University’s Dyson Community Pediatrics Training Initiative. Pan also actively participates in the Sacramento community. As a commissioner for First 5 Sacramento, a county commission funding programs for children aged 0 to 5 years, he helped develop a strategic plan to increase social capital and provide universal health care for children. As a United Way board member, he supported funding outreach and enrollment for children’s health care coverage. Consulting to the school district, he is working to improve care for children with ADHD and to create an obesity project.

Pan’s bridge-building spans his state and nation. As the youngest president of the Sierra Sacramento Valley Medical Society, he advocated to boost physician involvement in civic affairs. He sits on many national boards and committees; he is, for example, an American Academy of Pediatrics delegate to the American Medical Association (AMA) and on the AMA Council on Medical Education.

Asked what drives him to play so many different roles, Pan says simply, “There is no division between medicine and public health. Physicians need to be community leaders.”

Peter Smith
Like Robert Garofalo, Peter Smith, MD, MA (1998-2002) has also completed two fellowships. When he finished his Developmental Disabilities Fellowship in 2000, he continued on as a Dyson Advocacy Fellow, with clinical training in developmental and behavioral pediatrics. Then, after earning his MA in Theology (Medical Ethics) at Boston College, Smith moved to his new home base of Chicago.

Smith holds many appointments there including a teaching position at University of Chicago’s MacLean Center for Clinical Medical Ethics and Program Director of the Developmental and Behavioral Pediatrics Fellowship in its Department of Pediatrics. He is also the Clinical Coordinator of the University’s Cardiac Transitional Program, which will open this summer, following the opening of the University’s new pediatric hospital this past spring. This program, the first of its kind in the United States, will provide comprehensive, coordinated care to children with ongoing medical or developmental issues as the result of significant cardiac intervention.

One of Smith’s primary goals is raising the quality of care for local children with developmental-behavioral conditions to the standards he experienced in Boston. He is excited by this challenge and has already made essential inroads. Recently he helped procure funding for a fellowship in developmental and behavioral pediatrics, the first in Chicago. This award will not only significantly expand the research of the field with this important inner-city population, he says, but, more importantly, “it will change the Chicago landscape in terms of public awareness of kids with developmental-behavioral needs.”
Stephen Sulkes
Stephen Sulkes, MD (1981-1983) considers his experience as a fellow at Children's Developmental Evaluation Clinic (DEC) to be a cornerstone of his career. His training helped define his professional life, create opportunities, and provide him with a model of what a successful fellowship program can be. Sulkes used this model when, in 1985, he created his own fellowship program in developmental disabilities at the University of Rochester School of Medicine and Dentistry in New York. About a decade later, Sulkes became the Program Director for the Maternal and Child Health Bureau Leadership Education in Neurodevelopmental Disabilities (LEND) Program at University of Rochester, using a structure similar to the program run by Allen Crocker at Children's Hospital. He currently is Professor of Pediatrics at University of Rochester and has twice been given the Outstanding Pediatric Faculty Teaching Award by its medical students. His experience with the DEC's Down Syndrome Clinic has led to his ongoing service and research activities with children with Down Syndrome and their families in western New York state.

Sulkes' leadership role in the field of developmental disabilities has been nationally recognized by other leaders in the field. He also is the International Rett Syndrome Association's Medical Advisor for New York, Connecticut, and Vermont. He serves as the Chairman of the Resource Based Relative Value System Workgroup for the American Academy of Pediatrics' Section on Developmental-Behavioral Disabilities. He has authored many peer-reviewed articles and book chapters, and has presented at national meetings on topics that include Rett Disorder, ADHD, Dysphagia, and Early Intervention, along with the experience of working in interdisciplinary teams, has greatly influenced the way he practices medicine today.

In 1995, Contompasis teamed up with colleagues from ten other departments at University of Vermont College of Medicine to create Vermont Interdisciplinary Leadership Education for Health Professionals. The research focus of this program, funded by a LEND grant, has been to develop new ways to coordinate and provide health services for children with disabilities in Vermont and nationwide. Using Children's Neonatal Intensive Care Unit follow-up program as inspiration, Contompasis worked with his colleagues to revamp a similar program in Vermont. But his proudest accomplishment has been using his experience on Children's feeding team to create a Vermont-based version through the Children with Special Care Needs Program.

"It has been challenging but very rewarding," says Contompasis, "to deliver such comprehensive services when the number of patients is so small and you need to maintain your skills in many areas of neurodevelopmental disabilities."

Christopher Landrigan
The American hospitalist movement was new in the late 90s, but the fellowship of Christopher Landrigan, MD, MPH (1998-2000) was guided by his interest in the delivery of treatment and services on inpatient wards. "Judy agreed to try it," he recalls. "We made it up as we went along and everything I've done since has evolved from those years."

Landrigan's research at Children's and Brigham and Women's Hospital (BWH), for example, began with patient safety and pioneering studies to determine rates of medication errors and adverse drug events in inpatient pediatrics. His interest in sleep deprivation came from his own training experience. He has conducted many studies in this area including an AHRQ and NIOSH-funded project investigating the effects of sleep deprivation on intern and patient safety. He has recently been appointed Director of BWH's Sleep and Patient Safety Program.

Landrigan's hospitalist research has led to his being named Research Director of Children's Inpatient...
Pediatrics Service and Director of their Pediatric Hospitalist Fellowship, the first formal fellowship for pediatric hospitalists in the U.S. He was also the first Chair of the PRIS Research Network, a consortium of hospitals studying inpatient pediatric care nationwide.

Three months a year, Landrigan provides patient care as a hospitalist and mentors students (for which he has received Harvard’s Medical Student Teaching Award). “It’s nice to have a balance in my work,” Landrigan says. “While I’m focusing on research, I miss clinical work. But toward the end of clinical, I’m ready to get back to research.”

Rajendu Srivastava
Rajendu Srivastava, MD, MPH (1998-2000), another graduate from the Health Services Research Fellowship, has kept his ties with the fellowship program while taking on the roles of a health services researcher and pediatric hospitalist at University of Utah in Salt Lake City. Utah’s Division of Pediatrics has received two grants from AHRQ to build research infrastructure and capacity. This funding has allowed Srivastava to collaborate with his old program.

Much of Srivastava’s clinical work focuses on inpatient treatment for children who need medically complex care; and, his research looks for ways to measure and improve that care. He’s just completing a study, for example, that will supply new data to help physicians make better decisions in the treatment of reflux and the prevention of aspiration pneumonia. He has also collaborated on developing a method to identify medically complex children prospectively.

“Dramatically improving care for highly vulnerable children is so rewarding to me,” says Srivastava. “Additionally, the implications of what we learn through hospitalist studies are huge. They represent a major shift in the delivery of care to children in the U.S. I’m thrilled to have the opportunity to make a difference in the directions we choose.”

Srivastava also improves care by training new physicians at University of Utah’s Primary Children’s Medical Center. He has been influential there as well. He has received many commendations including the hospital’s Excellence in Teaching Award in 2003.

Gregory Blaschke
Gregory Blaschke, MD, MPH (1996-1999) is also interested in medical education. But his first commitment is clinical care—“doing the right thing for the kid in front of you,” and then “thinking about the larger picture of population-based medicine.” He uses both perspectives as a pediatrician and behavior and developmental consultant at the Naval Medical Center San Diego (NMCS).

His dedication to medical education, however, is a close second. As Program Director of the Pediatric Residency Program and the Uniformed Services University Pediatric Faculty Development program, he has visited multiple military and civilian residency programs, bringing back the best ideas to his own. “Training residents and faculty has a ‘multiplier effect,’ influencing the care of children in the context of their family and communities,” Blaschke says. As Co-Principal Investigator of the Anne E. Dyson Community Pediatrics Training Initiative at NMCS and University of California, San Diego, he has helped coordinate this joint venture to improve physicians’ community-based skills. He has also served as co-Chair of the National Dyson Curriculum Committee, which recently identified core competencies in Community Pediatrics and produced a publication: [Community Pediatrics Curriculum](#). Blaschke also serves on several of the MCHB Bright Futures’ committees including the Training Implementation Project and Pediatric Education Center.

Being in the Navy, Blaschke has had an opportunity to prepare pediatricians for a different kind of frontline medicine. During the past four years, he has worked with Military Medical Humanitarian Assistance to train over 200 providers in the required skills and knowledge for complex disasters. Several of his program’s graduates recently assisted in the tsunami relief effort.
Sam Zinner
Upon finishing his Developmental Behavioral fellowship, Sam Zinner, MD (1997-1999) has added two chapters to his career. In St. Louis, he taught at St. Louis University School of Medicine and practiced as one of three developmental pediatricians at Cardinal Glennon Children's Hospital. Starting in 2003, he moved to Seattle, joining the faculty at the University of Washington School of Medicine's Division of Genetics and Developmental Medicine, where he is currently Director of Residency Training in Developmental-Behavioral Pediatrics. His clinical and teaching work take place at the University's Center on Human Development and Disability and at Children's Hospital and Regional Medical Center in Seattle.

In both locales, Zinner has worked on projects near to his heart. In St. Louis, he developed a 700-page directory of resources for primary care providers under the American Academy of Pediatric's Medical Home Initiative. “It became a resource for providers and schools in Missouri and Illinois,” he notes. This directory also became the basis for a research project on medical home management. Zinner also developed a monthly focus group with general pediatricians in St. Louis, exploring topics of developmental-behavioral pediatrics. The group was modeled after the “COR” (Collaborative Office Rounds) program of the Maternal & Child Health Bureau.

In Seattle, Zinner has focused on Tourette syndrome. By organizing a two-day symposium and various other outreach activities, Zinner has built a substantial clinical and resource base regarding Tourette and associated difficulties. He will create another resource as he uses recently awarded CDC funding to examine the quality of life for adolescents with Tourette syndrome. Zinner is also active nationally on the medical advisory board to the Tourette Syndrome Association and involved in the new Autism Treatment Network, a national collaboration of clinicians and researchers who will explore medical issues germane to autism spectrum disorders.

Vibha Krishnamurthy
Vibha Krishnamurthy, MD (1994-95, 1997-98) spent 1994 and 1995 in the Developmental Disabilities fellowship at Children's, which whetted her interest in developmental pediatrics. When she subsequently repeated her pediatric residency training at Massachusetts General Hospital (where she also received the Donald Medearis Teaching Award), she realized she wanted a career in this field. She returned to Children's for additional training in Developmental Disabilities, working with the LEND program and many interdisciplinary teams. “I am what I am today because of Children's,” she says. She has since obtained board certification in Neurodevelopmental Disabilities.

Returning to India in 1999, Krishnamurthy became a developmental consultant at Jaslok Hospital and Research Center in Mumbai (Bombay). Still, she had another ambition: to create a nonprofit developmental assessment team that welcomed all children and reinforced the philosophy of parental empowerment. In 2001, she began the Ummeed Child Development Center, adapting her clinical model to be effective in the Indian culture. With no educational laws mandating therapies and educational programs and no community developmental services, Ummeed is a unique center with its comprehensive assessments and service offerings.

Ummeed started with four staff seeing about 10 children a week. Today, 12 staff see about 80 children per week. Their research projects include collaborating with another nonprofit agency to provide a multisystem approach to deal with challenging behaviors in high risk children living in the slums, and developing a model to train and empower parents of autistic children. Krishnamurthy's next goal is to develop satellite centers to service families living too far from the Center. She continues to teach young physicians in her consultant role, and has other professional students spend time at the Ummeed Center.
Faculty and Programs 2004-2005

Division
Chief: Judith S. Palfrey, MD, T Berry Brazelton
Professor of Pediatrics
Leonard Rappaport, MD, Mary Deming Scott
Associate Professor of Pediatrics, Associate Chief
Joanne Cox, MD, Associate Chief
Noelle Huntington, PhD, Research Office
Christopher Landrigan, MD, MPH

Children’s Hospital Primary Care Center
Director: Joanne Cox, MD
Johnye Ballenger, MD
Henry Bernstein, DO
Morris Borten, MD
Anthony Compagnone, MD
Carmon Davis, MD, DSc
Edward Gross, MD
Jonathan Finkelstein, MD, MPH
Jocelyn Joseph, MD
Luc Joseph, MD
Robert Markowitz, MD
Shari Nethersole, MD
Veronica Peterson, MD
Wanessa Risko, MD, SD
Ronald Samuels, MD, MPH
Esau Simmons, MD
Elise Taveras, MD, MPH
Mary Torchia, MD
Susan Trubilla MD
Patricio Vives, MD
Romi Webster, MD, MPH

Developmental Medicine Center
Director: Leonard Rappaport, MD
Lisa Albers, MD, MPH
Ronald Becker, MD
Carolyn Bridgemohan, MD
Eugenia Chan, MD, MPH
Ellen Hanson, PhD
Rachel Hundley, PhD
Tina Lafiosca, PhD
Elaine LeClair, PhD
Michael Neessen, PhD
Judith Palfrey, MD
Alison Schonwald, MD
Nancy Sullivan, PhD
Janice Ware, PhD

Coordinated Care Service
Director: Jane O’Brien, MD
Jo-Ann Bier, MD
Emily Davidson, MD, MPH
Laurie Glader, MD
Robert Graham, MD
Nedda Hobbs, MD
Sangeeta Mauskar, MD, MPH

Institute for Community Inclusion
Director: Allen Crocker, MD
Sandra Friedman, MD, MPH
David Helm, PhD
William Kiernan, PhD
Kerim Munir, MD, D Sc
Meera Sukumaran, MD
Ludwig Szymanski, MD
Family Development Program
Director: Andrea Vandeven, MD, MPH
Jennifer Denton, MD
Alice Newton, MD
Celeste Wilson, MD
Mark Sapp, MD
Richmond Medical Service (Psychiatry)
Director: Iris Silverstein, MD
Alan Nauss, MD

Pediatric Environmental Health Program
Director: Alan Woolf, MD, MPH
John Maypole, MD
Megan Sandel, MD
Michael Shannon, MD

Martha Eliot Health Center
Medical Director: David Holder, MD, MPH
Ashley Ackerman, MD
Kelly Chiu, MD
Claire McCarthy, MD
Colleen Monaghan, MD
Emily Roth, MD
Jessica Roth, MD
Kim Wilson, MD, MPH

Child Development Unit
Director: Ed Tronick, PhD
Marjorie Beeghly, PhD
T Berry Brazelton, MD
Constance Keefer, MD
Kevin Nugent, PhD
Katherine Weinberg, PhD

Center for Adolescent Substance Abuse Research
Director: John Knight, MD
Sharon Levy, MD, MPH
Bridget Vaughan, MD
Sion Harris, PhD

Health Services Research Program
Sharon Muret-Wagstaff, PhD
Don Goldmann, MD
Childhood Obesity Prevention: Which Behaviors Are Parents Ready to Change?

Philomena Asante, MD, MPH, Joanne Cox, MD, Jennifer Rein, Cynthia Hannon, Ronald Samuels, MD, MPH and Elsie Taveras, MD, MPH.

This study describes which nutrition and physical activity behaviors parents are more ready to change to prevent obesity. We performed a cross-sectional study of 330 parents of children aged 3 to 13 years arriving for well child visits in an urban primary care clinic. The response rate was 77%. Parents were presented with a list of the following 8 changes that they and their families could make to help their child eat healthier and be more active: doing more exercise together as a family, watching less TV, eating more fruits, eating more vegetables, drinking less soda, eating less fast food, and decreasing their meal portion sizes. We calculated children's body mass index (BMI) from height and weight measured at the time of their clinic visits. The study group was 54% Black, 28% Hispanic, 9% white and 9% multiracial/other. Approximately 26% of children were overweight (BMI = 95th percentile). Many parents reported they needed advice on nutrition (31%) and physical activity (32%) and the majority (65%) said they wanted their medical provider to counsel them about healthy lifestyle choices for their children. Parents were generally more likely to report they would make dietary changes such as eating more fruits (88%), drinking less soda (85%), eating more vegetables (85%), eating more meals together as a family (85%), and eating less fast food (78%) than changes aimed at increasing physical activity such as watching less TV (73%) and exercising as a family (71%). Parents were least likely to report they would decrease meal portion sizes (58%).

Is In Utero Cocaine Exposure (IUCE) Related to a Higher Level of Depressive Symptoms in Preadolescent Children?

Marjorie Beeghly PhD, Howard Cabral, PhD, Ruth Rose-Jacobs ScD, Marilyn Augustyn MD, and Deborah A. Frank, MD

In utero cocaine exposure (IUCE) is linked to alterations in brain neurotransmitters, which may be associated with psychiatric conditions such as depression. The aim of this study is to evaluate whether IUCE is related to the level of children's self-reported depressive symptoms at 9.5 and 11 years of age, after controlling for relevant covariates.

Participants were 127 term, low-income, urban children (50% male, 91% African American/Caribbean, 52% with IUCE). Level of IUCE was assessed in the newborn period using infant meconium and maternal report. HIV+ infants and those exposed prenatally to illicit substances other than cocaine and marijuana were excluded. Generalized estimating equations based on pooled data from 127 children (198 observations) were used to evaluate the longitudinal association between IUCE and the Children's Depression Inventory (CDI) total t scores at each age, controlling for prenatal exposure to alcohol, tobacco, and marijuana, age at test, gender, Tanner stage, VEX-R total score, and caregiver's psychological distress. No significant main or interaction effects of IUCE on children's CDI scores were observed. Regardless of IUCE status, children with greater violence exposure (p < 0.0001) and girls (p < 0.002) had higher CDI scores. Violence exposure and female gender, but not IUCE or prenatal exposure to other substances, were associated with a higher level of depressive symptoms in preadolescent children from low-income, urban backgrounds.
Cognitive, Motor, and Behavioral Functioning of Children Born VLBW With and Without White Matter Disorder at 6, 18, and 30 Months

Marjorie Beeghly PhD, Karen L. Olson PhD, Linda Fetters, Edward Tronick PhD, M. Katherine Weinberg PhD & Lisa Fhagen

The aim of this study was to evaluate whether VLBW infants with White Matter Disease (WMD) exhibit poorer cognitive, motor, or behavioral functioning at 6, 18, or 30 months corrected age than gestational age-matched VLBW infants without WMD or full term (FT) infants.

The sample consisted of 91 infants (60% male, 53% VLBW) and their primary caregivers from a large prospective study of infant motor development. Of the 48 VLBW infants, 28 (58%) had documented WMD. At 6, 18, and 30 months corrected age, infants were administered the Bayley Scales II by testers unaware of group status. Results of mixed linear analyses indicated that VLBW infants with WMD had significantly lower scores on all BSID-II variables than VLBW infants without WMD or FT infants (all p's <= .01). In contrast, VLBW infants without WMD did not differ significantly from FT infants on MDI or PDI, and infants in both VLBW groups had significantly lower scores than FT infants on two qualitative measures of test-taking behavior: task orientation (p < .05) and quality of movement (p < .05). Two significant main effects for age were found. The task orientation scores of infants in each group improved with increasing age (p < .05), whereas their emotion regulation scores were lowest at 18 months (p < .05). In addition, higher SES was related to significantly higher performance on all BSID measures except quality of movement. The SES effect for MDI was qualified by a significant interaction of SES with age such that SES exerted a stronger effect with increasing child age (p < .05).

Results support the hypothesis that WMD is a marker for heightened developmental risk among VLBW infants. Regardless of WMD status, VLBW was associated with qualitative differences in task-taking behavior (poorer orientation to task and quality of movement). The significant SES effects suggest that the developmental and behavioral functioning of even high-risk VLBW children is amenable to environmental interventions.

The Effect of Maternal Religiosity, Social Support, and Parenting Style on the Mother-Child Relationship in Black Families

Andrea G. Gurney, Marjorie Beeghly PhD, Deborah Greenwald, Debra Franko, Edward Tronick PhD, Lisa Fhagen, & Snaltze C. Pierre

The goals of this study were to evaluate, in a single-racial cohort of Black mother-preschooler dyads from heterogeneous SES backgrounds: (1) interrelations among mothers’ self-reported religiosity, social support and parenting style and their association with the quality of the mother-child relationship as rated from videotapes of mother-child interaction during a series of problem-solving tasks; (2) whether social support or child rearing attitudes of warmth or strictness mediates this relation, if present, and (3) whether SES moderates this relation.

The sample consisted of 70 healthy, adult Black mothers (64% married; M age = 33.7 ± 5.8 years, M education = 14.6 ± 1.9 years, M Hollingshead SES = 43.7 ± 11.4) and their term, healthy preschool-aged children (47% male, M age = 47.8 ± 4.2 months) from heterogeneous SES backgrounds.

Results of multivariate regressions controlling for SES and gender indicated that maternal religiosity was significantly associated with the observed quality of the mother-child relationship (b = .25, p = .024) and maternal warmth (b = .26, p = .028). However, the relation between religiosity and the quality of the dyadic relationship was not mediated by maternal reports of social support or parenting style, nor was it moderated by SES. The findings suggest that religiosity is associated with supportive and responsive family relationships, regardless of level of socioeconomic risk. Results also are consistent with literature demonstrating significant relations between maternal psychosocial characteristics and dyadic outcomes and add further support to theorized connections between religiosity and parent-child relationships.
Preschool Follow-up of Black Children: Factors Predicting Cognitive Competence and Adaptation

Marjorie Beeghly, PhD

This ongoing project is a continuation (preschool follow-up) of “Early development of African-American infants: Factors predicting cognitive competence and adaptation”, a longitudinal study that followed healthy, term infants and their mothers of African heritage from 2 to 18 months infant age (M. Beeghly: PI). The aim of both phases (infancy and preschool) is to identify child, maternal, familial, and socio-ecological contextual factors from the child's first 48 months of life that are predictive of children's cognitive performance and socio-emotional adaptation at preschool age. Data collection has been completed in the infancy phase and is still ongoing in the preschool phase. Data reduction and analysis are ongoing in both the infancy and preschool phases of the study. Recent papers from this project focused on (a) the prevalence and stability of maternal depressive symptoms in this cohort and their association with socio-demographic factors; (b) the prevalence, stability, and correlates of parent-child joint book reading during the first 18 months of the child's life, and (c) the relation of variations in maternal living arrangements to demographic variables, maternal psychosocial adaptation, and child functioning at 6 months postpartum. A recent doctoral dissertation on the preschool data (by Andrea Gurney) evaluated the associations among mothers' self-reported religiosity, social support, and the quality of the mother-child relationship during a videotaped challenging problem-solving interaction.

Mutual Regulation Between Mothers and Preschoolers

Marjorie Beeghly, PhD

In collaboration with colleagues at the Child Development Unit this project evaluates the mutual regulation processes that take place in the interactions of healthy mothers at low socio-medical risk and their young preschool-aged children. Data collection has been completed and data reduction and analysis continue. A recent paper from this project concerns children's reaction to a perturbation in maternal behavior (still-face) during mother-child free play at 30 months of age.

Cocaine Exposure In Utero: Adolescent Follow-up

Marjorie Beeghly, PhD

I am collaborating with colleagues at Boston Medical Center (D. Frank, M. Augustyn, R. Rose-Jacobs) on a prospective cohort study of the effects of in utero cocaine exposure on children's behavior and development from birth to adolescence. The current phase (follow-up to adolescence) is a continuation of “Cocaine exposure in utero: Birth to age two” and its successors “Cocaine exposure in utero: Pre and Primary School Follow-up” and “Cocaine exposure in utero: 8-11 year follow up” (D. Frank, PI). The aim of current phase (adolescent follow-up) is to evaluate the relation between level of in utero cocaine exposure and children's initiation of substance abuse and other risky behaviors, as well as children's developmental and socio-emotional outcomes from 13 to 18 years of age. Recent papers from this project that I have authored or co-authored to date have focused on relation between level of prenatal cocaine exposure and (a) infant-parent attachment behavior, (b) general developmental functioning in infancy (BSID-II scores at 6, 12, and 24 months); (c) IQ (WPPSI-R) at 48 months; (d) children's language and play outcomes at age 2 and at 6 and 9 years of age; (e) the association between disorganized attachment in infancy and children's PTSD symptoms following violence exposure at 8 years, and (f) the prevalence of psychiatric disorders, symptomatology, suicidal ideation, and their and correlates in this cohort at 8 years to 11 years.
In-Hospital Mortality for Children with Hypoplastic Left Heart Syndrome Following Stage I Surgical Palliation: Teaching vs. Non-Teaching Hospitals

Jay Berry, MD, Collin Cowley, MD, Charles Hoff, PhD, Raj Srivastava, MD, MPH

The objective of this study is to compare the operative mortality of stage I palliation for children with hypoplastic left heart syndrome (HLHS) between teaching and non-teaching hospitals, based on a retrospective cohort using the Kids Inpatient Database (KID) 1997. The KID includes over 1.9 million inpatient hospitalizations of children ages 0 to 17, from 22 states during the year 1997.

A weighted sample of 754 patients with HLHS undergoing stage I palliation within 50 hospitals in 1997 were identified. 143 operations (20%) were performed within 7 non-teaching hospitals. In-hospital mortality was significantly higher in non-teaching compared to teaching hospitals [42% vs. 24%, OR 2.26 (1.15, 4.32)]. In multivariate analysis, after controlling for hospital caseload and condition severity, in-hospital mortality remained significantly higher in non-teaching hospitals [OR 2.87 (1.48, 5.58)]. Children with HLHS undergoing stage I palliation in non-teaching hospitals are experiencing unnecessary mortality. Efforts to lower the mortality within these centers, or improve access to teaching hospitals must be investigated.

The Relationship of Maternal Methadone Dose to Infant Developmental Outcome.

Jo-Ann B. Bier, MD, Doranne Grenon, Theresa Johnson, Ellen Mullane.

We evaluated 50 infants with a history of in-utero methadone exposure in a prospective fashion. Infants were divided into groups based on maternal methadone dose: < 80 mg/d (n=21) and >80 mg/d (n=29). Results show that infants of mothers on high dose methadone are at increased risk for developmental delay and that this risk persists at 8 months corrected age.

Implementation of a Medical/Social/Developmental Home for Families

Jo-Ann B. Bier, MD, Ellen Mullane

The objective of this study is to set up a collaboration of the Developmental Pediatric Program at St. Luke’s Hospital in New Bedford, MA with the community program, Positive Action Against Chemical Addiction, Inc. (PAACA).

Can Pediatricians Identify Language Delay in Bilingual Children?

Eugenia Chan, MD, MPH

The objective of this study is to determine whether pediatricians correctly identify and refer for language delay in bilingual children with delayed language development.

A mail survey of 710 primary care pediatricians included clinical vignettes describing a boy's language abilities. Respondents were asked to assess the boy's language status (normal, possible delay, definite delay) and indicate their next step (reassurance, observation, referral). Table 1 shows the percentage of respondents who correctly identified definite language delay across all vignettes and across vignettes stratified by language exposure. Table 2 shows respondents’ next step in management across the same vignettes.

Pediatricians correctly identify language delay less often in bilingual compared to English-only children. However, they refer bilingual as well as English-only children with language delay for speech/language evaluation at similar high rates.
Anecdotal evidence suggests pediatricians may over-refer bilingual children for speech/language problems because of difficulty distinguishing normal from delayed language development in children exposed to multiple languages. This study will determine to what extent pediatricians refer for suspected language delay in bilingual children with normal language development.

We conducted a mailed, cross-sectional survey of 710 primary care pediatricians. The survey included 1 of 8 clinical vignettes describing a boy’s language abilities. Vignettes varied by age (24 or 36 months), language exposure (bilingual or English-only), and language development (normal or abnormal for age). Respondents were asked to assess the boy’s language status (normal, possible delay, definite delay) and indicate their next step (reassurance, observation, referral). We tabulated frequencies and used chi-square to examine the relationship between language exposure and respondents’ clinical decisions. Of the 426 (60%) who responded, 46% were male and 72% were white, with a mean of 13 ± 9.3 years in practice. Table A shows the percentage of respondents who correctly identified normal language development across all vignettes and across vignettes stratified by language exposure. Table B shows respondents’ next step in management across the same vignettes.

Pediatricians are less likely to suspect possible language delay in bilingual children than in English-only children with normal language development. There is no evidence of increased referral for bilingual children with normal language development.
The objective of this study is to develop a new scale to measure developmental assets and parenting strengths in a population of young fathers. A theory based Youth Assets Scale (YAS) was developed from the Search Institute’s 40-item Developmental Assets Checklist and a clinically devised 7-item parenting subscale. Elicitation interviews refined the 47 assets into 48 items divided into 8 subscales with 4-point Likert Scale (1=disagree to 4=agree) responses. The scale was administered to 36 fathers whose children attended a hospital based primary care program. Fathers were age 21.4 ± 2.6 years; 53% Black, 28% Hispanic, and 19% other. The mean items scores and Sd for each subscale were calculated; and, interclass correlation (ICC), internal consistency, content validity and factor analyses assessed. Asset subscales mean items score and Sd were: support 3.0 ± 0.38, boundaries/expectations 3.1 ± 0.42, constructive use of time 2.7 ± 0.45, commitment to learning 3.1 ± 0.52, positive values 3.5 ± 0.33, social competencies 3.4 ± 0.47, positive identity 3.5 ± 0.33, and parenting 3.3 ± 0.46. ICC for 23 fathers (64%) with retest data was 0.87 overall and ranged from 0.56 (positive values) to 0.91 (positive identity) across subscales. Overall Cronbach’s alpha was 0.91, subscale alphas ranging from 0.24 (constructive use of time) to 0.79 (commitment to learning). The new parenting subscale had an alpha of 0.70. Factor analyses indicated some subscales assessed multiple constructs and had lower alphas.

### Table A

<table>
<thead>
<tr>
<th>Vignette</th>
<th>Respondent Assessment of Language Status (%)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Boy with Delayed Language Status</td>
<td>Definite Delay</td>
<td>Possible Delay</td>
</tr>
<tr>
<td>All boys</td>
<td>4</td>
<td>51</td>
</tr>
<tr>
<td>English-speaking only</td>
<td>7</td>
<td>61</td>
</tr>
<tr>
<td>Bilingual*</td>
<td>2</td>
<td>43</td>
</tr>
</tbody>
</table>

* Chi-square p=0.024

### Table B

<table>
<thead>
<tr>
<th>Vignette</th>
<th>Respondent Next Step in Management (%)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Boy with Delayed Language Status</td>
<td>Reassurance Only</td>
<td>Observation</td>
</tr>
<tr>
<td>All boys</td>
<td>21</td>
<td>62</td>
</tr>
<tr>
<td>English-speaking only</td>
<td>16</td>
<td>61</td>
</tr>
<tr>
<td>Bilingual*</td>
<td>24</td>
<td>63</td>
</tr>
</tbody>
</table>

* Chi-square p<0.18

**Preliminary Validation of a Youth Assets Scale in a Young Fathers Program**

*Joanne E Cox, MD, Matthew P Buman, MS, Mollie K Sherry, MSW, Anna T Michonski, BA, Sion Kim Harris, PhD and Elizabeth R Woods, MD, MPH*

The objective of this study is to develop a new scale to measure developmental assets and parenting strengths in a population of young fathers. A theory based Youth Assets Scale (YAS) was developed from the Search Institute’s 40-item Developmental Assets Checklist and a clinically devised 7-item parenting subscale. Elicitation interviews refined the 47 assets into 48 items divided into 8 subscales with 4-point Likert Scale (1=disagree to 4=agree) responses. The scale was administered to 36 fathers whose children attended a hospital based primary care program. Fathers were age 21.4 ± 2.6 years; 53% Black, 28% Hispanic, and 19% other. The mean items scores and Sd for each subscale were calculated; and, interclass correlation (ICC), internal consistency, content validity and factor analyses assessed. Asset subscales mean items score and Sd were: support 3.0 ± 0.38, boundaries/expectations 3.1 ± 0.42, constructive use of time 2.7 ± 0.45, commitment to learning 3.1 ± 0.52, positive values 3.5 ± 0.33, social competencies 3.4 ± 0.47, positive identity 3.5 ± 0.33, and parenting 3.3 ± 0.46. ICC for 23 fathers (64%) with retest data was 0.87 overall and ranged from 0.56 (positive values) to 0.91 (positive identity) across subscales. Overall Cronbach’s alpha was 0.91, subscale alphas ranging from 0.24 (constructive use of time) to 0.79 (commitment to learning). The new parenting subscale had an alpha of 0.70. Factor analyses indicated some subscales assessed multiple constructs and had lower alphas.
The YAS has strong potential as a tool for assessing strength based young fathers programming. The subscales demonstrated strong correlations on test/retests; and, internal consistency was good for most subscales. Some of the subscales will require further definition to separate constructs and expand questions related to different domains.

**Barriers to Family-Centered Home Health Care for Children with Chronic Home Nursing Needs: A Qualitative Study**

Emily J. Davidson MD, MPH, Dawn Cook, Todd Lesser, Judith S. Palfrey, MD

The American Academy of Pediatrics recognizes Family-Centered Care as a key element in the medical home for children with special health care needs (CShCN). Achieving family-centered care is particularly important when the care takes place in the child's home. The objective of this study is to identify barriers to family-centered home nursing care and suggestions for improving care. Four separate focus groups were held for a total of 25 participants including parents of CSHCN receiving on-going home nursing services, physicians/nurse practitioners prescribing home care, and home care nurses.

Three types of barriers emerged: 1) shortage of nursing hours (attributed to lower salaries, lack of benefits, no overtime and overall nursing shortage); 2) inadequate family education (families discharged from hospital with inadequate information, families not aware of eligibility for services, families not aware they can reject proposed services or nurses); 3) nurses not carrying out family-centered care (nurses not understanding central role of the family, nurses resisting participation in community activities). Suggestions for improving home care fell into seven major categories: 1) nurse recruitment (involve families, educate nurses that homecare is a positive experience, recruit from hospitals); 2) nurse training (provide home care exposure in nursing school, ICU or ER training, continuing education, involve families in orienting new home nurses); 3) nurse retention (pay); 4) broaden options for home care (e.g. allow respiratory therapist instead of RN); 5) family education (teach families to be involved in child's care, improve pre-discharge teaching); 6) increasing the nurse's role in community inclusion (participate in educational planning, help with resources e.g. transportation); and 7) increasing communication between nurses and families (communication log, family available by page or phone at all times).

In conclusion, families, nurses and physicians report significant barriers to family-centered home care but also identify numerous strategies to improve family-centered home nursing care. Several strategies could be implemented without significant additional funding.

**Caring Perspectives: Students Motivation for and Experience in Providing Respite Care for Children with Special Health Care Needs.**

Emily J Davidson, MD, MPH, Anne Mullin-Kuczma, Sheryl Soukup, Nedda Hobbs, MD and Judith S Palfrey, MD

Caring for children with special health care needs and developmental disabilities is challenging for parents. Respite care temporarily relieves parents of care-giving duties mitigating against parental exhaustion. Project Respite Care trains undergraduate and graduate students to provide in-home respite for children with special health care needs.

The objective of this study is as follows: 1) To assess motivations of students participating in Project Respite Care; 2) To assess the impact of the training on students preparedness to provide respite care; 3) To assess the impact of providing respite care on participating students.

Students completed written surveys before and after training and after 6 months of providing respite care. Surveys included the Attitudes Toward Disabled Persons Scale (ATDPS), the Disability Rights Attitudes Scale (DRAS), demographic information, 20 knowledge questions and open-ended questions. Qualitative methods were used to analyze open-ended questions for themes. The end result showed 63 undergraduate and graduate students completed surveys at baseline. 51 students completed surveys after training (80%); 21 (33%) completed surveys after participating in respite care. Students motivations to provide respite care included: working with children, gaining understanding of disability experi-
ence, developing hands-on skills, helping others, building a relationship with a child/family, and career development. At baseline students had high scores on the ADTP and DRAS. After 18 hours of training, students felt prepared to provide respite care. After providing respite care, students reported learning about caretaking skills and the challenges and positive aspects of caring for a child with special health care needs. They also reported influences on their career development including increased empathy and confirmation of career choice.

In conclusion, with their high levels of motivation and baseline knowledge, students can be a valuable resource for parents of children with special health care needs after only a brief training. In addition, the personal benefits reported by students who provided respite care indicate that this arrangement can be mutually beneficial for both parents and students.

**Emerging Disabilities Project Studies**

*Susan Foley, PhD*

- **Follow-Along Study of African-Americans with Diabetes:** Susan Foley and Doris Hamner are collecting interview data from 30 to 50 African-Americans with diabetes who reside in either Newark, New Jersey or Boston, Massachusetts. The project is currently recruiting participants and will ask about the use of public employment services, work issues, and career goals.

- **State Agency Survey (SAS) on Demographic Pressures:** The SAS will investigate the demographic pressures (aging workforce, poverty issues, recent immigration, and changing nature of disability) on employment supports provided by seven state agencies (vocational rehabilitation, workforce development, mental health, developmental disabilities, welfare, vocational rehabilitation blind, and Medicaid).

- **Employment Supports Profiles of Emerging Disability Conditions:** The profiles use rehabilitation services administration data (RSA 911) to analyze employment outcomes and services of subpopulations of people with disabilities (diabetes, asthma, over 50 years old, people concurrently receiving welfare benefits, etc.) who use the vocational rehabilitation system for services.
Model Development Project for Advancing Parent-Professional Leadership in Education (APPLE)

Susan Foley, PhD

• Evaluation of APPLE: The Institute for Community Inclusion has received a subcontract with the Federation for Children with Special Needs to evaluate through a randomized controlled design the parent-professional leadership program that will instruct parents of children receiving special education services how to be community leaders.

• Model Development Project: College Career Connection (C3) to a Pathway to Success for Students with Intellectual Disabilities

Evaluation of C3

Debra Hart, Susan Foley, PhD

Debra Hart at the ICI has received a model development project to develop an intervention that assists students with intellectual disabilities pursue higher education. Dr. Foley will provide research assistance to the randomized controlled evaluation study on student outcomes of the intervention.

Special Kids/Special Care: An Innovative Program to Care for Children with Special Health Care Needs in Foster Care

Ann Marie Foustoukos, PNP, Emily Jean Davidson, MD, MPH

Special Kids/Special Care is an innovative collaboration between a state Medicaid program, the state’s Department of Social Services and a private insurer to provide intensive care coordination and clinically directed benefits management for a high risk population of children with complex health care needs in foster care. In 1998, Massachusetts Medicaid (MassHealth) and the Department of Social Services agreed that children with intense and complex medical needs would benefit from some type of managed care. Neighborhood Health Plan and its clinical practice affiliate, Community Medical Alliance, had successfully developed a specialized care management model for certain adult MassHealth recipients with complex health care issues including those with severe physical disabilities and people with advanced HIV/AIDS disease. This model has been effective in improving access to care, improving the quality of care delivered and providing the support essential for patients to remain in the community at the maximum level of independence. In Special Kids/Special Care, nurse practitioners perform home visits to assess the needs of the children in the foster home, and provide acute episodic care, teaching, and support to the foster and biological parents. They also attend selected medical appointments with their patients and families and serve as the key liaison between the medical system and the foster care system. They are uniquely empowered to manage all the insurance benefits for their patients, thus ensuring comprehensive and timely delivery of services and equipment to the children. Additionally, a nurse practitioner is on-call 24/7 to respond to concerns of the foster parents.
The diagnosis of Autism Spectrum Disorder (ASD) has been increasing over the past 20 years. Consistent with this finding has been a significant increase in the number of children referred to the Developmental Medicine Center (DMC) at Children's Hospital, Boston for evaluation of possible ASD. Ten years ago less than one new case of possible autism was evaluated per week. In the past year, over 100 children were diagnosed with autism and 60 were diagnosed with PDD. The Phenotyping Center in the DMC provides an opportunity to identify genes and gene pathways that lead to the ASD phenotype and puts forward ways to subdivide the patients into diagnostic categories based on their phenotypic features. We are collaborating with the Program in Genetics led by Lou Kunkel PhD and Ingrid Holm MD and Medical Informatics Program directed by Isaac Kohane, MD, PhD and Michael Greenberg PhD, Director of the Neuroscience Program at Children's is also a collaborator. These studies could lead to improved diagnosis of ASD and to possible rational interventions in the disease process. We are currently collaborating with the MIT Brain and Cognitive Sciences Department focusing on furthering our understanding of basic processes in motor function, vision and language in autism spectrum disorder. Our current collaborations are described below:

**Diagnosing and Treating a Motor Component in Developmental Disorders**

*Emilio Bizzi, Robert Ajemian*

Children with a variety of developmental disorders exhibit motor deficits. For some of these disorders, such as cerebral palsy, motor dysfunction serves as a defining characteristic. However, for other disorders, such as Asperger's Syndrome, it is unclear whether motor dysfunction constitutes a primary disease symptom or instead arises as an ancillary consequence of executive dysfunction. We are developing a set of motor tests to probe for the biomechanical signatures of the neural control of movement, in a manner as free from the confounding influences of executive dysfunction as possible. We intend to assess—to the fullest degree possible—the competence of a child’s neural control of movement apart from the superimposed influence of cognitive impairment. This includes: 1) Point-to-point reaches, 2) Curved reaching movements, 3) Motor adaptation and motor learning, 4) Reaction time and 5) Motor Sequencing.

**Characterizing and Improving Face-Processing Skills in Autistic Children**

*Pawan Sinha, Ben Balas, Yuri Ostrovsky, Christine Waite*

One of the most marked correlates of autism is ‘an impairment in the use of multiple nonverbal behaviors such as eye-to-eye gaze, facial expression, body posture, and gestures to regulate social interaction’ (DSM-IV). To understand such visual impairments and to design rehabilitation procedures for mitigating them, it is imperative that we precisely characterize the visual skills of the affected children. Our goal is to experimentally characterize the nature and extent of face-perception impairments in children with autism, and to determine the processing deficiencies that may cause the observed impairments. This includes: 1) Identifying core deficits in face processing, 2) Determining the processing abnormalities underlying deficits in face perception, and 3) Designing training routines for improving visual skills.

**Cortical Development: Genes, Plasticity and Autism**

*Mriganka Sur, Damon Page, Daniela Tropea, Sam Horng*

The Sur team is using a combined approach of microarray screening and bioinformatic analysis to identify molecules that are involved in the normal development of cortical areas and plasticity. Insight gained from this approach will provide a basis for subsequent comparative studies into the genetic and neurobiological mechanisms of autism.

An example of a gene identified using this approach is one that encodes a putative transmembrane protein with structural similarity to Neuroligin, which is involved in synapse formation. While working to characterize the expression and function of this gene, we have found that it is expressed in a cortical cell type that is involved in controlling eye movements. We have also found that altering normal expression levels of this gene in the cortex causes these cells to send out aberrant projections. Given the eye move-
ment problems associated with attentive tasks in autism, further investigating the function of this gene will help us understand the development of a cell type that may be involved in autism.

**Language Acquisition and Modular Deficits in Children with Developmental Disorders**

Ken Wexler, Alex Perovic

Our project aims to study the linguistic development of children with developmental disorders in order to understand the biological features of their language development. The major hypotheses to be investigated involve the degree to which a particular disorder involves a particular (modular) deficit, how this deficit changes over time, what are the developmental contributions and what are the learning contributions. In particular, for a given syndrome, does the computational system emerge delayed, even severely delayed, but essentially not completely deviant, or, on the other hand, is it deviant, completely unlike what a typically developing child shows.

**Risk Factors for Missing Influenza Vaccination Among Medicaid-Insured Children with Asthma**


Influenza vaccination is recommended for children with asthma, but only 10% to 30% of these children receive the vaccine. The objective of this study is to identify risk factors influencing receipt of influenza vaccination; 2) to evaluate the effect of adding a telephone reminder to a mailed reminder on vaccination rates; and 3) to evaluate the effect of heightened media attention on vaccination rates. We randomly assigned children aged 5 to 18 years with asthma to 3 groups: 1) interview-a telephone interview plus a reminder (N=500); 2) Reminder - a telephone reminder (N=300); or 3) Usual Care - a mailed brochure only (N=1640). The Interview and Reminder groups also received a mailed brochure. The influenza vaccination rate for children with asthma was 44% in 2003-04 compared with 27% in 2002-03. Comparison of weekly influenza vaccination rates in 2003-04 with those in 2002-03 suggested that the increased media attention to influenza in fall 2003 was associated with the increase in rates. The Reminder group had a higher vaccination rate (50%, p = 0.01) than the Usual Care group (43%), but the Interview group did not (44%).

Children were more likely to be vaccinated if they were younger (OR 1.1, 95% CI 1.0 - 1.2) or if their parent recalled a physician recommendation (OR 2.6, 95% CI 1.5 - 4.5), believed the vaccine worked well (OR 2.0, 95% CI 1.4 - 2.8), expressed little worry about vaccine adverse effects (OR 1.3, 95% CI 1.0 - 1.6), or knew that evening or weekend vaccination clinics were available (OR 1.8, 95% CI 0.9 - 3.7).
Use of Complementary and Alternative Medicine Among Children Diagnosed with Autism Spectrum Disorder

Ellen Hanson, PhD, Leslie A Kalish, ScD, Emily Bunce, BA
Christine Curtis, BA, Samuel McDaniel, M Phil,
Janice Ware, PhD, Judith Petry, MD

This study examined the prevalence of the use of different types of conventional, complementary and alternative therapies by children diagnosed with an autism spectrum disorder (ASD) at the Children's Hospital, Boston. Of particular interest was the percentage of children using complementary and alternative medicine (CAM). 112 families were surveyed. Overall, 74% reported having used some type of CAM. CAM use was most strongly associated with severity of the diagnosis. Most CAM was reported by families to be either helpful or without effect, but not harmful. The main reasons for choosing the different therapies were related to concerns with the safety and side effects of prescribed medications.

Enhancement by Disulfiram on Trichloroethylene Induced Neurotoxicity in a Murine Model

April A Harper, MD, Tim J Maher, PhD, Larry S Quang, MD, Michael W Shannon, MD MPH and Alan D Woolf, MD MPH.

Trichloroethylene (TCE) is a volatile organic solvent used in industrial degreasing operations. Because of widespread use and improper disposal, TCE has become a major environmental pollutant. The metabolism of TCE is primarily through the cytochrome p450 system, principally the isoenzyme CYP2E1. Disulfiram has been identified previously as a selective mechanism-based inhibitor of human and animal liver microsomal CYP2E1 in vitro. This investigation explored the effect of disulfiram, as an inhibitor CYP2E1 activity, on in vivo TCE induced neurotoxicity following acute exposure.

Groups of male B6C3F1 mice were pretreated with disulfiram 600 mg/kg intraperitoneal (i.p.) injection or with vehicle alone. One-hour later mice from both groups received i.p. injections of 2250 mg/kg TCE. Animals from both groups were evaluated for neurotoxicity by outcome measures the righting reflex and the rotarod test prior to pretreatment, 1 hour after pretreatment and then at 15-minute intervals until 4 hours after acute exposure. Mean time in minutes till loss of righting reflex and rotarod ability was not significantly different between mice pretreated with disulfiram and controls. Pretreated mice did have significantly increased mean time of recovery (p < 0.01) and mean total time of impairment (p < 0.01) for both the righting reflex and rotarod test as compared with controls.

Pretreatment with disulfiram significantly increased TCE induced neurotoxicity in mice. CYP2E1 activity can vary considerably among individuals, which can contribute to the bioactivation and detoxication of TCE. Further investigations are needed to better define the role of individual variation of CYP2E1 and augmented toxic responses to TCE.

Modulation of Murine CYP2E1 by Disulfiram on Trichloroethylene Induced Neurotoxicity- A Pilot Study

April A Harper, MD, Tim J Maher, PhD, Larry S Quang, MD, Michael W Shannon, MD MPH and Alan D Woolf, MD MPH.

Trichloroethylene (TCE), a volatile organic solvent, is primarily metabolized through the cytochrome P450 system, principally the isoenzyme CYP2E1. Up to 1% of the general population have a genetic polymorphism in CYP2E1, which could contribute to an impaired metabolism of TCE altering toxic response. The purpose of this study was to investigate whether impaired CYP2E1 activity would modify TCE-induced neurobehavioral toxicity.

Male B6C3F1 mice (n = 5-10/group) were pretreated with the CYP2E1 inhibitor disulfiram 600 mg/kg intraperitoneal (i.p.) (dose based on our preliminary studies) or with vehicle alone. One-hour later mice from both groups received incremental doses of TCE i.p. to complete dose-response curves. Two standard neurobehavioral outcome measures were used to assess the Toxic Dose-50 (TD50) of TCE: the righting reflex and the rotarod test. Pretreatment with disulfiram decreased the TD50 of TCE for the righting reflex from 3222 mg/kg (95% CI, 2971-3494 mg/kg) in control mice to 1261 mg/kg (95% CI, 966.2-1645 mg/kg) in pretreated mice (p < 0.0001). Pretreatment with disulfiram also decreased the TD50 of TCE for the rotarod test from 1720 mg/kg (95% CI, 1358-2133 mg/kg) in control mice to 703 mg/kg (95% CI,
437.7-1129 mg/kg) in pretreated mice (p<0.0001). Pretreatment with disulfiram significantly increased the toxicity of TCE in mice. The presence of a genetic polymorphism in CYP2E1 could contribute to an unexpected tolerance or conversely an unexpected exaggerated toxic response to TCE exposure. Since disulfiram has actions other than CYP2E1 inhibition, further studies are needed to characterize more precisely the mechanisms underlying the effects on the TCE-induced toxicity observed in this study.

Effects of Sleep Loss and Night Work on Patient Safety
Christopher Landrigan, MD, MPH

- Time of day, time on duty and sleep inertia
  Dr. Landrigan is developing expertise in the impact of sleep deprivation and night work on patient safety. He is acquiring further training in sleep physiology, patient safety, and human factors engineering to optimally understand the interaction of sleep deprivation with error. His work leading many of the research projects below are an element of this training. His first distinct K08 research project is focusing on understanding the independent contributions of time of day, time on duty, and sleep inertia to medical error. Using data collected in the Intern Sleep and Patient Safety Study (described below), Dr. Landrigan is quantifying the relative contribution of each to medical errors.

- Pediatric ACGME Duty Hours Study
  We are also conducting a tri-center study of the effects of the new ACGME Duty Hour Standards on patient safety, resident safety, and resident education. This study is investigating the effects of the ACGME standards on patient safety, medical education, mood, and resident safety among approximately 300 residents enrolled before and after institution of the ACGME duty hour standards. Subjects have completed daily logs of work hours and sleep, validated using actigraphy. In addition, they have reported their educational experiences, needlestick injuries, and MVAs. Rates of medication errors on hospital units staffed by subjects were collected by daily chart review augmented by reports from clinical staff. Data collected before and after institution of the standards are currently being analyzed.

Testing the Effectiveness of a Comprehensive Police Fatigue Management Program
Christopher Landrigan, MD, MPH

We are conducting a randomized, prospective study of the effect on the safety, health, and performance of Boston Police of a Comprehensive Police Fatigue Management Program (CPFMP) consisting of the following interventions:

1) Scheduling improvements and policy developments to mitigate the adverse effects of extended duration work shifts and long work weeks;

2) Identification and treatment of police with sleep apnea (see companion project funded by CDC below);

3) Caffeine re-education; and

4) Initiation of a sleep, health and safety educational program.
We are simultaneously conducting a nationwide, prospective Police Health and Safety Study (PHHS) to expand understanding of the nature, scope, etiology and consequences of police fatigue, and to increase our ability to develop guidelines from our local demonstration project that can be generalized across police jurisdictions nationwide.

Sleep Disorders Management, Health and Safety in Police
*Christopher Landrigan, MD, MPH*

This is a companion project to the NIJ project described above. The CDC is funding Operation Healthy Sleep, a randomized study of the effects of a comprehensive sleep disorders screening and treatment program on police officer safety, health, and job performance.

Effects of Extended Work Hours on ICU Patient Safety
*Christopher Landrigan, MD, MPH*

This intervention study evaluated the impact of instituting a schedule that eliminated interns’ extended shifts and shortened weekly work hours. We found that interns on a traditional schedule suffered twice the rate of attentional failures and made 36% more serious medical errors (including 5-fold more diagnostic errors) than interns whose consecutive work was limited to 16 hours. This work was recently published in the New England Journal of Medicine.

Implementation of a Pediatric Intermediate Care Unit: Effects on Patient Safety
*Christopher Landrigan, MD, MPH*

This is a prospective cohort study that is measuring differences in rates of errors and adverse events for patients with target medical conditions in a pediatric hospital before and after implementation of a step-down ICU. Analyses are ongoing.

Intercepting Near-Miss Adverse Events: The Critical Care Nursing Safety Net
*Christopher Landrigan, MD, MPH*

This is a prospective study that was run in conjunction with RFA-HS-01-005 (Czeisler) that is measuring rates of nursing intercepts in a cardiac care unit, and exploring the nature of these intercepts. Analyses are ongoing.

Primary Care Physicians Urine Drug Testing Knowledge and Practices
*Sharon Levy, MD, MPH, Sion Harris, PhD, Lon Sherritt, MPH, Michelle Angulo and John R. Knight, MD.*

This study sets out to determine physicians urine drug testing practices and technical knowledge. Tailored design method multi-modal survey (Dillman, 2000) consisting of 20 forced-choice response items was conducted in 2004. Participants were practicing physicians selected from the national membership rolls of the American Academy of Pediatrics (AAP), the Society of Adolescent Medicine (SAM) and the American Academy of Family Physician (AAFP). Physicians were eligible if they provided primary or urgent care for an average of 10 or more adolescents per week. We computed simple frequencies for each item, and proportions with sample design adjusted 95% confidence intervals are reported. Three hundred fifty nine eligible physicians (43%) completed the survey; response rates were similar for all 3 societies. Over 94% (93.1%, 95.2%) of respondents had ordered urine drug tests. However, only 24% (11.7%, 35.7%) of respondents used an accepted method of urine collection; only 7% (0.7%, 12.5%) used specific gravity and creatinine to ensure sample validity, and only 26% (18.8, 33.8%) reported ordering a confirmatory test all or most of the time as recommended by national guidelines. Only 10% (7.4%,12.3%) of respondents knew that Oxycodone, Ecstasy and Nitrous Oxide are not detected by routine urine drug screen panels. Almost 75% of respondents made at least one error in identifying drugs detected by routine screens.

The conclusion is that primary care physicians are ill-prepared to use urine drug tests. Physicians who use this procedure should seek further training in this area or assistance from a consultant.
Referrals to an Integrated Model of Social Work and Mental Health Services in Primary Care: Analysis of Patterns and Development of Services in Response

S. Missal MSW, J.E. Cox MD, T. Avery, R. Samuels MD, MPH

This descriptive study uses medical provider referrals to social work and psychology over a 7 year period to profile the frequency and distribution of behavioral health issues and resource needs in a large urban pediatric practice. Currently serving 10,000 patients with 35,000 visits per year. Children are typically followed birth through 12 years. Ethnicity is 37% African American, 39% Latino, 10% Caucasian, and 14% other. Medicaid or Free Care accounts for 65%. Each clinical session has a consistent social worker accessible to providers on-site 56 hrs/wk. The Social worker is available on-call for urgent issues, or family can be referred for service at a later time.

Interventions combine work to improve resources and supports in the environment with a variety of mental health treatment approaches. Psychology is available 16 hrs/wk for scheduled treatment patients. Social work and psychology referrals are triaged together. All referrals from 1997-2003 (N=2746) were coded for 26 problems with up to 3 problems per referral. Data from on-call requests is available only for 1998-99 (N=734) and is reported separately. Most frequently referred issues were Behavioral Problems 30.4%, Noncompliance 24.9%, and Request for Counseling 18.9%. Most frequent On-call requests were Resources (including Housing) 45.8%, Behavioral Problems 14.4%, and Family Needs Support 8.8%. Frequency of problems remained consistent over the years. Referrals were for all ages, but the most frequently referred problems changed by age: Noncompliance and Abuse/Neglect were most frequent from birth to age 3; Behavioral Problems were most frequent for ages 4-11. Request for Counseling was second most frequent for ages 5-11. Referrals were 60% for males and 40% for females with variability by age.

Frequency and distribution of referral patterns has been used to develop programmatic responses: a clinic for behavioral and school problems, a Resource Specialist, and a rapid mental health triage system. In future, the information may be useful in designing age specific interventions.

International Mental Health and Developmental Disabilities Program

Kerim Munir, MD, MPH, DSc

Behavioral and Emotional Problems Among Turkish Children At Ages 2-3

Nese Erol, PhD, Zeynep Simsek, PhD, Ozgur Oner, MD, Kerim Munir, MD, MPH, DSc

Within the framework of the “Mental Health Surveys of Turkey” we investigated the distribution and prevalence of parent-reported behavioral and emotional problems in a nationally representative sample of two-to-three year old children. We conducted a cross-sectional population-based survey using a self-weighted and equal probability sample of Turkish toddlers (N=638). The Child Behavior Checklist (CBCL/2-3) problem scores and Household Questionnaire reports by parent informant source (response rate, 94.3%) were examined for the effects of child gender, age, urban/suburban/rural residence, and geographical region using multiple regression analyses.: Overall, the Total Problem scores placed 11.9 % of the children in the clinically significant and 18.6% of the children in the borderline range. Urban residence was significantly correlated with Total Problem, Internalization and Externalization scores, as well as the six CBCL syndrome-scale scores. The child age, gender or parental employment status did not effect the Total Problem scores. With respect to CBCL syndrome scale, girls had higher Anxious/Depressed scores than boys, and two-year olds had higher Somatic Complaints than the three year old children. None of the children with reported emotional and behavioral problems were referred to any mental health services.

Effects of Internal Displacement and Resettlement on the Mental Health of Turkish Children and Adolescents

Nese Erol, PhD, Zeynep Simsek, PhD, Ozgür Oner, MD, Kerim Munir, MD MPH, DSc

The aim of this study is to evaluate the effects of internal displacement and resettlement within Turkey on the emotional and behavioral profile of children, age 5–18 after controlling for possible confounding and demographic variables. We conducted a national population survey using a self-weighted, equal probability sample. We compared the CBCL, TRF and YSR...
responses regarding children with (n = 1644) and without (n = 1855) experience of internal displacement. We examined the effects of gender, age, paternal employment, resettlement, urban residence and physical illness. The children and adolescents with internal displacement had significantly higher internalizing, externalizing and total problem scores on the CBCL and YSR, and higher internalizing scores on the TRF. The effect of displacement was related to higher internalizing problems when factors like physical illness, child age, child gender and urban residence were accounted. The overall effect was small explaining only 0.1–1.5% of the total variance by parent reports, and not evident by teacher reports. To our knowledge the present study is the first to examine Turkish children and adolescents with and without experience of internal displacement. The results are consistent with previous immigration studies: child age, gender, presence of physical illness and urban residence were more important predictors of internalization and externalization problem scores irrespective of informant source.

**Measurement Structure of the Turkish Translation of the Child Behavior Checklist Using Confirmatory Factor Analytic Approaches to Validation of Syndromal Constructs**

Levent Dumenci PhD, Nese Erol, PhD, Thomas M. Achenbach, PhD and Zeynep Simsek, PhD

The new correlated 8-factor measurement structure of the Child Behavior Checklist for ages 6–18 (CBCL/6-18; T. M. Achenbach & L. A. Rescorla, 2001) derived from an American sample was used as a benchmark to evaluate its generalizability to Turkish general population (N D 5; 195) and clinical (N D 963) samples. Item-level confirmatory factor analysis (CFA) was used to evaluate the adequacy of the correlated 8-factor model across 3 sample conditions (general population, clinical, and combined sample whose Total Problems scores were above the Turkish national median). The results supported the generalizability of the overall measurement structure of the CBCL to the Turkish population.

**Attentional and Neurocognitive Characteristics of High-risk Offspring of Parents with Schizophrenia Compared with DSM-IV Attention Deficit Hyperactivity Disorder Children**

Ozgur Oner, MD, Kerim Munir, MD, MPH, DSc

In this study, we compared the executive functioning and general intelligence among three groups: (i) children and adolescents with DSM-IV ADHD (n=41), (ii) high-risk (HR) offspring of parents with DSM-IV schizophrenia, and (iii) normal comparison subjects (n=35). Our results indicated that both HR and ADHD groups had lower Verbal IQ scores. ADHD cases had significantly lower percent correct and total errors in Wisconsin Cart Sorting Test when compared with normal comparison subjects. The HR cases also had lower Performance IQ scores as well as worse abstraction–flexibility and comprehension performance. The HR group was further stratified with (HR-A) and without (HR-NA) comorbid ADHD, and HR-A subjects were significantly noted to be more impaired on most tests. The overall worse performance of HR offspring was attributable to significantly lower performance among the HR-A youth. Further, our results suggested that the most profoundly impaired HR subjects were in fact children and adolescents who also met criteria for ADHD. Future studies with broader neuropsychological test batteries are necessary to investigate the differences and similarities between ADHD and the HR-A subgroup.

**Proton Magnetic Resonance Spectroscopy in Asperger's Syndrome: Correlations with Neuropsychological Test Scores**

Ozgur Oner, MD, Halise Devrimci-Ozguven, MD, Ferhunde Oktem, PhD, Banu Yagmurlu, MD, Senay Olmez, PhD, Bora Baskak, MD, Kerim Munir, MD, MPH, DSc

The objective of this study is to compare neuropsychological profiles of adult AS cases with healthy controls and evaluate the correlations of brain neurometabolites with cognitive variables in AS subjects and controls, separately. Design: Case-control study. Setting: Referral center. Participants: 12 right-handed, Caucasian male AS subjects (age 17-37) diagnosed by DSM-IV criteria and 12 controls matched for age, gender, handedness, and education. Main Outcome Measures: Theory of mind, tower, emotion recogni-
tion and naming, unexpected consequences tests and Weschler Adult Intelligence Scale (WAIS) scores of were compared. Correlations of N-Acetyl-Aspartate (NAA)/Choline (Cho), NAA/Creatine (Cre), and Cho/Cre values revealed by 1H Magnetic Resonance Spectroscopy with neuropsychological test scores were investigated. Results: AS cases had significantly worse scores in most of the neuropsychological tests, particularly WAIS Full Scale IQ ($z=-3.16, p=.002$), Theory of Mind (ToM) ($z=-3.51, p=.001$) and Unexpected Consequences Test ($z=-3.25, p=.001$) scores. Anterior cingulate NAA/Cho levels were inversely correlated with tower z scores ($r=-.694, p=.018$) (that is, with better performance). Dorsolateral prefrontal cortex Cho/Cre levels were correlated, and NAA/Cho levels inversely correlated, with tower z scores ($r=.604, p=.049$, and $r=-.618, p=.043$, respectively). Dorsolateral prefrontal cortex Cho/Cre levels were correlated, and the NAA/Cho levels inversely correlated, with theory of mind z scores ($r=.653, p=.029$, and $r=-.635, p=.036$, respectively). Conclusions: Our results suggested that the neural organization in dorsal prefrontal cortex might be related to better performance in tests that relied on planning and thus may decrease theory of mind performance by disrupting the integration of information in other connected brain regions.

Post Traumatic Stress Disorder and Comorbid Depression in the Aftermath of the Marmara Earthquakes: An Epidemiological Study

Tamer Aker, MD, Ümit Tural, MD, Emin Önder, MD
Gülah Yüksel, MD, Cengiz Kılıç, MD; Eylem Özten, Cem Cerit, MD.

Objectives: The presence of comorbid depression appears to predict chronicity of PTSD, greater symptom severity, and lower levels of functioning. This study aims to determine the prevalence of comorbid depression with PTSD and the pattern of illness in Turkey after the Earthquake 1999. Method: This study was carried out as part of an epidemiological research study assessing psychiatric disorders in Kocaeli city. Sample size was randomly estimated as total city population and calculated as 683. Participants were assessed by CIDI, GHQ-12 Beck Depression Inventory-BDI, Traumatic Stress Symptom Checklist-TSSC, Revised Form of the Multidimensional Scale of Perceived Social Support-MSPSS. Data collection continued between September 2002 and February 2003. Apart from the descriptive statistics, comparisons were made using Student t–test and chi-square tests. Results: There were no significant differences between the comorbid group and pure PTSD group in relation to demographic characteristics. The prevalence of PTSD, MDD, and comorbid depression with PTSD in the last 1 month was 11.7%, 14.9% and 4.4% respectively. The rate of depression was significantly higher in participants with PTSD than in participants without PTSD (40% v. 11.6%). The comorbid depression group had a significantly greater level of psychological distress, a weaker perceived social support, a higher PTSD severity, and higher depression levels. The recovery rates of pure PTSD and comorbid depression compared with PTSD groups were not significantly different (20% v. 30%). Conclusion: Rates of comorbid depression and earthquake related PTSD were high in this Turkish sample. Comorbid Depression with PTSD seems to worsen the severity of psychopathology, however, it does not have an effect on chronicity of PTSD.

Approach to Psychological Trauma in Primary Health Care: A Training Model in Turkey

Tamer Aker, MD, Kültegin Ögel, MD, Özlem Mestciolu, MD, Emrem Be-tepe, MD, Ayla Yazici, MD, Pınar Limnili, MD, Melih Özeren, MD

Earthquakes experienced in Turkey in 1999 have led to a serious public mental health problem. Development of mental health programs in primary care is essential to improve the negative impacts of disasters. This study aimed to assess the educational effectiveness of the Psychological Trauma-Primary Health Care Program. Method: 353 physicians participated in the study. The questionnaire focused on issues such as the phenomenology of traumatic stress, risk factors of developing PTSD, comorbid conditions, and psychopharmacological and psychological treatments to various psychiatric morbidities. Pre- and post-test questionnaires were completely answered by 108 physicians. T-tests and McNemar tests were done in order to compare the pre-and post-test scores and the right answers. Two groups were then compared: those who benefited from the questionnaire and those who did not. For the comparison of these two groups, Mann Whitney U and
Chi Square tests were done. The predictor variables of benefiting from the training were analyzed by logistic regression. Results: There were significant differences between the pre and post test scores. A considerable increase on the knowledge of physicians after the training was observed. Approximately, 83% of participants answered at least one more question correctly in the post test. Most frequently, questions about the psychological approaches of trauma were answered incorrectly indicating a dire need for training on this topic. Conclusions: Training programs targeting primary health care professionals regarding the management of traumatic stress will have a great functional role in Turkey, a country prone to natural disasters. In terms of psychological approach to trauma the physicians remain poorly trained, and is a question that needs to be emphasized in future training programs.

Clinician Knowledge and Confidence About Newborn Screening for Sickle Cell Disease: Randomized Assessment of Educational Strategies

Suzette O Oyeku, MD, MPH, Henry A. Feldman PhD, Kathleen Ryan, RN, MPH, Sharon Muret-Wagstaff, PhD, MPA, Ellis J. Neufeld, MD, PhD

The objective of this study is as follows: (1) To describe clinicians knowledge, confidence (as assessed by self-efficacy), and practices regarding newborn screening for sickle cell disease (SCD); (2) To compare the impact of mailed educational materials vs. interactive seminars on knowledge and confidence. Randomized intervention trial was conducted at 15 community health sites in Massachusetts. All centers received mailed educational materials, and 8 were randomly chosen to receive a 1-hour interactive seminar on the management of NBS results for hemoglobinopathies.

Responses came from 95 of 170 eligible providers (56%). 49 (29%) provided both pre and post tests. Responders were 90% white and 80% female. 63% were pediatricians with median 10.5 yrs in practice at community health centers (90%) in urban areas (92%). Most (59%) receive written SCD newborn screening results for their patients by 2 weeks of age. 67% refer patients with SCD for genetic counseling, but 80% of clinicians refer their families with S-trait seldom or never. Reported barriers to discussion of NBS results with families included: limited visit time, limited administrative support for NBS, limited expertise, and difficulty identifying referral sources for genetics. In respondents with paired data, knowledge on a 5 point scale (1 =all incorrect to 5=correct) increased from 2.4 2.0 (mean SD) to 4.8 0.9 in the seminar group and from 2.9 1.7 to 4.3 1.4 in the mailing only group (p=0.4 between interventions, and p<0.0001 overall). Self-efficacy on a 16 pt scale (4 =not confident to 16 =very confident) increased from 7.1 2.6 to 7.8 2.1 in the seminar group and from 7.0 2.1 to 8.7 2.4 in the mailing only group (p=0.9, p<0.0001 overall).

Saying No to Post Call Clinics - Impact of an Alternative Clinic Day Model on Residents Experiences.

Wanessa Risko MD SD, Taliser Avery BS, Ronald Samuels MD MPH and Joanne Cox, MD

The ACGME's new work rules for physicians in training in 2003 significantly affected continuity clinics as post call afternoon clinics are no longer acceptable. The objective of this study is to determine the impact of switching clinic to an alternative day when residents are post call. Residents clinical activity and site ratings were evaluated for 12 months before and after the model’s implementation in a hospital-based continuity site. Data was abstracted from the scheduling system for 55 residents in 2002 and 58 in 2003, means were compared using a two-tailed T-test in SPSS. Residents’ responses to a 17-item annual survey were compared for these two periods in time. Answers to open ended questions were reviewed by 3 independent analysts to reveal recurring and discordant themes. The residents schedules were unchanged during the study, but there were practice-wide efforts to improve productivity.

Despite the alternative day model, residents in all 3 years had fewer sessions in 2003: PL1s 39 vs. 43 in 2002 (p<.001), PL2s 32 vs. 37 in 2002(p<.001), and PL3s 31 vs. 34 in 2002 (p =.042). However, there was no statistically significant difference in the number of clinical encounters for PL1s, PL2s, and PL3s for 2003 vs. 2002. In 2003, PL2s and PL3s saw more patients of other providers (cover visits) than in 2002 (p<.05 for both groups). The response rate for the
residents’ annual survey was 64% in 2002 and 74% in 2003%. No significant difference was seen with ratings of preceptor availability, feedback, getting to clinic on time. Analysis of open-ended questions showed satisfaction with ending post call clinics; concerns included increase in cover visits and discontinuity, and appreciation for meeting other preceptors and residents by switching clinic day. An alternative clinic day can preserve the residents’ volume of clinical exposure and availability to patients when coupled with initiatives to increase clinical productivity.

Identification of and Intervention in the Preschool Period for Former Low-Birthweight Children at Risk for School Age Academic Difficulties
Gehan Roberts MB BS, Emily Mann MSSW, PhD, David Bellinger PhD

Low birth weight children are at significant risk for academic and behavioral difficulties at school age. Current knowledge suggests that these children can be identified as ‘at-risk’ during the preschool period, providing a window of opportunity to intervene.

We are conducting a prospective pilot study of an intervention during the preschool period to optimize school readiness skills. We hypothesize that intervention during the preschool years can promote school readiness skills. These data will be used in the design of a more definitive, large randomized placebo controlled trial to further investigate the efficacy of this program.

Identifying Predictors in the Preschool Period for School Age Academic Difficulties in former Low Birthweight Infants
Gehan Roberts MB BS, David Bellinger PhD, MSc, Marie McCormick MD, ScD

The objective of this study is to identify predictors of academic difficulties at age 8 in preschool. We hypothesize that a model constructed from five sets of variables drawn from a review of the literature (sociodemographic, neonatal, maternal mental health, and early childhood variables at age 3 and 5) will accurately identify children at risk.

This is a retrospective cohort study, using data from the Infant Health and Development Program, a multi-site placebo controlled trial examining the effect of early intervention in low-birth-weight infants. The subjects of this study are the two-thirds of enrollees (N= 666) who were randomized to receive standard-of-care routine follow-up. The primary outcomes for this study are the broad reading and mathematics scores from the Woodcock-Johnson Tests of Achievement at age 8. The five sets of variables were entered into a linear regression model hierarchically, taking a temporal perspective. Preliminary results indicate that factors indicative of all five domains were significant in predicting low achievement scores in reading (R2 of .47, model p-value <.0001) and mathematics (R2 of .43, model p-value <.0001). Reading and math scores <85 were predicted with c-statistics of .85 and .86 respectively, and children identified by their schools with academic difficulties, with a c-statistic of .74. The results suggest the possibility of instituting targeted preventive educational remediation in the preschool period to minimize future academic difficulties is suggested.

A New, Experiential and Longitudinal Curriculum in Child Advocacy for Pediatric Residents
Emily J. Roth, MD, Patricia Barreto, MD, MPH, Lon Sherritt, MPH, Judith S. Palfrey, MD, Wanessa Risko, MD, DSc, John R. Knight, MD

Residents and faculty designed a longitudinal curriculum in child advocacy for continuity clinic which included community-based and legislative experiences for individual residents as well as clinic-based group activities. Residents reported their experiences to their entire clinic group at weekly pre-clinic conferences. In addition, residents presented posters at their year-end residency retreat and wrote grants to fund community projects based on their original findings.

Residents who received the intervention had greater increase in advocacy knowledge (2.62 vs. 0.19, p=0.005), ability to identify community resources (0.62 vs. 0.16, p=.03), self-reported advocacy skills (2.0 vs. -0.21, p=0.002), and perceived value of...
advocacy training (0.31 vs. -0.19, p = .03), compared with residents who did not. In focus groups, intervention residents reported being surprised by community groups’ and legislators’ responsiveness to resident inquiries and they expressed enhanced confidence in engaging these groups in dialogue about child policy issues.

Does improved technology reduce errors in data entry for immunizations and reduce time for data entry?

Ron Samuels, MD, MPH

We are adapting existing bar code scanner technology to enter immunization data into the hospital system at the point of service (where the nurses draw up the vaccines) and are examining whether this reduces data entry errors, is liked by the nurses and saves time in data entry.

Just ASK: A school problems program in a primary care setting

A Schonwald, MD, K Engel, MSW, MPH, S Missal, MSW and J Cox, MD

School problems are among the most common concerns discussed with pediatricians. ASK (Advocating Success for Kids) was developed in a primary care setting to better respond to parents’ developmental and behavioral concerns. ASK’s interdisciplinary model provides screening and advocacy for children with school problems. The objective of this study is to describe the profiles of children seen in one year of ASK.

Of 82 participants, 68% were male, aged 9.2 ± 2.7 years. 55% were Black, 29% Hispanic, 9% White, 7% other. 68% received Medicaid/hospital free care, 94% attended public school. Although all patients were referred with school problems, 40% were never evaluated through Early Intervention or the public schools. Learning problems were strongly suspected or diagnosed in 61%, behavior problems in 48%, emotional disorders in 17%, and developmental disabilities in 8.5%. After initial review of academic profile and services by the specialist, 30% of students were identified as inappropriately served at school (i.e. insufficient or no services). 32% needed initial or repeat school evaluation. Mean student perception of academic abilities on the Perception of Ability Scale for Students (PASS) was significantly lower than reported for a US normative sample (35.63 vs. 46.49, p<.001), typical of students receiving special education. Mental health referrals were made for 28% of children.

Children referred to the ASK program have school problems due to a variety of etiologies, and have great needs for school-based and mental health services. Easily accessible services within primary care centers facilitate assessment, but further studies are required to assess advocacy, school placement, and outcomes.

Toilet School: A promising intervention for difficult and late toilet training

Alison Schonwald, MD, Todd Lesser, Elaine Leclair, PhD, Noelle Huntington, PhD and Leonard Rappaport MD.

The objective of this project is to analyze success rates for an intervention for late toilet training, and identify factors predicting success for participants. A survey was administered to parents of children who participated in Toilet School (TS). Medical charts were reviewed to confirm symptoms of and use of medications for constipation. A child “graduated” from TS if he used the toilet for a bowel movement at least once within 2 weeks of TS completion. Success was defined as fully toilet trained for stool within 3 months of TS completion. 54 of 62 eligible parents completed the survey (87% response rate). Mean age of children at start of TS was 4.98 yrs. 72% were male. 61% percent graduated, 54% of children succeeded. Children were equally likely to “succeed” in TS regardless of the duration of failed toilet training efforts prior to TS (p=.48), age (p=.36), gender (p=.97), constipation status (p=.72), or concerns with the child’s medical (p=.58), psychiatric (p=.74) or school issues (p=.20). Mean parent satisfaction with toilet school was 4.26 (sd 1.12) on a 1-5 scale (5 = extremely satisfied). Satisfaction with toilet school was correlated with the child’s success in toilet training (t52=4.352;p<.001).
Association of Maternal Overweight with Childhood Overweight Risk Factors

Elsie M Taveras, MD, MPH, Talisier Avery, Kendrin Sonneville, Mary Jean Sullivan, Ronald C Samuels, MD, MPH and Joanne Cox, MD

The objective of this study is to examine the relationship of maternal overweight with childhood overweight risk factors. We performed a cross-sectional study of 330 parents of children aged 3-13 years at well child visits in an urban primary care clinic. The response rate was 77%. Parents completed a survey that included questions on the number of hours their child watched TV on an average weekday and weekend day and whether their child had a TV in his/her bedroom. Parents also reported on their child's 1) weekly servings of sugar-sweetened beverages and 2) fast food intake using the question, “In the past 7 days, how often did your child eat food from a fast food restaurant (like McDonalds, Taco Bell, Burger King)?” dichotomized to never or 1 time vs. 2 or more times in the past 7 days. We calculated mother's body mass index (BMI) from self-reported height and weight and defined overweight as a BMI 25 kg/m². We also calculated the child's BMI from measured height and weight at the time of their visit and defined overweight as a BMI > 95th%. Associations between maternal overweight and topics of interest were assessed using Pearson's chi square analyses.

The study group was 54% Black, 28% Hispanic, 9% White, 9% multiracial/other and 39% had a HS degree or less. The mean (SD) age of children was 8.5 (3.1). Approximately 64% of mothers and 26% of children were overweight. Children whose mothers were overweight were more likely to be overweight (38% vs. 20%, p = 0.002). In addition, children whose mothers were overweight were more likely to have a TV in their bedroom (65% vs. 48%, p = 0.01) and watch > 2 hours of TV on weekdays (64% vs. 43%, p = 0.002) and weekend days (85% vs. 69%, p = 0.005). Children with overweight mothers had greater weekly servings of sugar-sweetened beverages (13.8 (4.2) vs. 11.8 (4.1), p = 0.04) but were not more likely to consume fast food 2 or more times in the past 7 days (26% vs. 32%, p = 0.29).

Standardization of the NRN-Neurobehavioral Scale (NNNS)

Ed Tronick PhD

The primary goal of this project is to develop standardized norms for newborn neurobehavioral performance for gestation age, gender and race/ethnicity group using a newly developed comprehensive scale (NNNS).

The Prognostic Value of BNP Levels in Patients Undergoing Surgical Palliation of Single Ventricle Congenital Heart Disease.


We hypothesized that B-type natriuretic peptide (BNP) levels can provide useful prognostic information in children with single ventricle congenital heart disease (CHD) undergoing Norwood, Glenn, or Fontan palliation. BNP levels were measured following general anesthesia induction (baseline), following cardiopulmonary bypass, 6-12 hours postoperatively, and then daily until indwelling vascular catheters were removed.

Sixteen subjects underwent 19 surgical procedures (9 Norwood, 5 Glenn, and 5 Fontan. One patient died 13 days following a Norwood procedure. Baseline BNP levels were higher in the Norwood group than in the Glenn or Fontan groups (median [interquartile ranges], 500 pg/ml [402-925], 26.2 pg/ml [12.1-55.7] and 10.8 pg/ml [9.5-46.5] respectively, p=0.0015). In 89% of patients, BNP levels peaked within 24 hours. There was a weak but statistically significant correlation between duration of cardiopulmonary bypass and 6-12 hour BNP level (r=0.5620, p=0.0152). BNP levels measured 6-12 hours postoperatively also correlated with subsequent duration of inotropic support (Milrinone, r=0.8618, p<0.0001; Dopamine, r=0.7623, p=0.0006) and hospital stay (r=0.6637, p=0.0051). Additional post-operative increases in BNP level were observed in association with extubation and diaphragm plication. In 1 subject the BNP level increased to 1200 pg/ml on post-operative day 13 for no apparent reason. The patient subsequently became bradycardic and died.
Describing Teen Suicide: The First Step in Prevention

Romi A. Webster MD MPH, Deborah Kacanek and Catherine Barber.

Suicide is the third leading cause of death for Americans aged 10-19. Vital statistics provide only basic information regarding the victim demographics, incident location and cause of death. The complex circumstances that often surround teen suicides pose challenges for assessments of causation and construction of effective prevention strategies. Population-based detailed surveillance information is newly available that has the potential to overcome this barrier and guide teen suicide prevention efforts. This study describes the victim and incident characteristics as well as precipitating circumstances in teen suicide.

We performed a cross sectional secondary analysis of 2001 data from a pilot for the National Violent Death Reporting System (NVDRS). NVDRS is a national population-based surveillance system that links death certificate, medical examiner, police and crime lab information in standardized data elements. Preliminary pilot data from four states and three metropolitan areas were available on 1,500 suicide victims; of these, 87 victims were less than 18 years of age. Male teens predominated (79%). Most teen suicides took place in the victim’s residence (75%). Equal numbers of teens used hanging and firearms (45% each), with the remainder dying by poisoning or falls. Of the 26 firearm suicides where the owner of the firearm was known, 21 (81%) belonged to the victim’s parent. Victims expressed their intent to someone before the incident in 28% of cases. However 55% had no documented history of prior attempts, and only 24% were known to have been diagnosed with a mental health disorder. Twenty percent of the teen suicides had a documented same-day crisis that was thought to be involved in precipitating the suicide. Relationship problems, predominantly with family and intimate partners (56%), and school problems (23%) were important precipitating circumstances.

Detailed description of teen suicide is the first step in targeting further research and preventive efforts. Preliminary analysis of the above data suggests opportunities for primary prevention by decreasing children’s access to firearms and for secondary prevention when children express suicidal ideation. However, the relative impulsivity, lack of warning mental health history and use of household objects for hanging pose significant prevention challenges.

Mental Health Referrals in a Primary Care Practice

Romi A. Webster, MD, MPH, Laura Clarke, Talifer Avery, Joanne Cox, MD and Ronald Samuels, MD, MPH.

This study on mental health referrals was conducted at a large urban hospital-based primary care practice with an over-representation of racial and ethnic minorities, as well as publicly funded health insurance and hospital free care. We performed retrospective chart review on the 136 patients referred within the hospital system for mental health services in 2003 (internal referrals). Data from chart review and the hospital scheduling system were analyzed using chi square and Fisher’s exact test as appropriate to determine statistical significance. Of the patients referred internally in 2003, 96% (131/136) of the charts were available for review. The average age at referral was 8 years and 58% were male. Similar to the overall practice, the race distribution was 56% African American, 24% Hispanic, 9% White. Medicaid or free hospital care accounted for 76% of insurance coverage for internal referrals, as compared to 60% of the overall practice. The majority of patients referred internally scheduled an appointment to see a mental health professional (75/131, 57%). Of these, 69% completed the first scheduled appointment, and 85% completed at least one appointment. Patients with public or private insurance were more likely than patients receiving free care to schedule a first appointment (63% vs. 42%, p = .032) and complete at least one appointment (82% vs. 63%, p = .009). Regarding primary care follow up, 72% (77/107) of internally referred patients had a scheduled appointment with their primary care provider within 6 months of the mental health services referral. The majority completed this visit (57/77, 74%).
The objectives of this project are: 1) Estimate the prevalence of problem drinking and demographic distribution of parents bringing their children for routine pediatric care to a network of clinical sites; 2) Assess parents’ attitudes about being screened for alcohol problems by their child’s pediatrician; and 3) Assess parent’s attitudes about having the pediatrician ask their children about their parents’ drinking habits; and, 4) Assess parents’ preferences for alcohol intervention methods, specifically among the subgroup of parents who are problem drinkers; and, 5) Assess providers’ reactions to screening parents for problem drinking as part of pediatric practice.

To enhance diversity of the sample, participants will be recruited from a minimum of three ambulatory pediatric clinic sites, each of which will primarily serve an urban, suburban, or rural population. For this study, we will recruit 900 subjects over a 3-month planned enrollment period. Subjects will be approached by a research associate and invited to participate in the study while waiting for the physician to see their child. Those who agree will be given a general information sheet explaining the study, the questionnaire and an envelope. Participants will have the option of completing the questionnaire in clinic or returning it by mail. We will also conduct a series of focus groups with the providers at each site to gain qualitative information regarding their views of parental alcohol screening.

The assessment battery for parents will contain items to assess: 1) demographics; 2) alcohol prevalence—two validated alcohol screening tests (TWEAK and AUDIT); 3) parents’ attitudes and preferences about alcohol screening and having the pediatrician ask their children about the parents’ drinking habits; and, 4) attitudes and preferences about intervention methods. We will develop a discussion guide that will be used to structure the format for each of the focus group sessions with providers. Data will be entered into Microsoft ACCESS ’97 and analyzed in SPSS v11. We will compute frequencies of demographic characteristics, AUDIT and TWEAK scores, and screening preference items. We will analyze data in aggregate, by alcohol screening categories (e.g., positive vs negative screen), across ambulatory sites, and by gender and race/ethnicity. We will use regression analysis and comparative statistics to identify variables associated with specific screening preferences. The focus groups will be audiotaped and field notes recorded. We will analyze these data by tabulating proportions and identifying common themes raised by the providers. The results of this study will inform policymakers regarding the best methods of screening parents for alcohol problems during pediatric office visits for their children.
<table>
<thead>
<tr>
<th>Name</th>
<th>Institution</th>
<th>Project Title</th>
<th>Funding Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lisa Albers, MD MPH</td>
<td>Healthy Tomorrows Partnership for Children</td>
<td>Federal and Other Grants 2004-2005</td>
<td>DHHS/Health Resources &amp; Services Administration</td>
</tr>
<tr>
<td>Henry Bernstein, D.O.</td>
<td>Safety and efficacy of Pentavalent (G1, G2, G3, G4, and P) human-bovine reassortant rotavirus</td>
<td>Merck Research Laboratories</td>
<td></td>
</tr>
<tr>
<td>Henry Bernstein, D.O.</td>
<td>A phase IIIb, open, randomized, controlled, multicenter study of the immunogenicity and safety of GlaxoSmithKline Biological's inactivated Hepatitis A vaccine (Havrix) [720 E1.U/0.5 Ml dose] administered on a 0, 6-month schedule concomitantly with Wyeth Lederle's GlaxoSmithKline Biological</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Henry Bernstein, D.O.</td>
<td>Immunogenicity assessment of Pentacel when given at different times from or concurrently with a pneumococcal conjugate vaccine</td>
<td>Aventis Pasteur, Inc.</td>
<td></td>
</tr>
<tr>
<td>Henry Bernstein, D.O.</td>
<td>Safety and immunogenicity of Daptacel (CP 10/5/5/3DT Aventis Pasteur classic 5 component pertussis vaccine in combination with tetanus and diphtheria toxoids</td>
<td>Aventis Pasteur Inc</td>
<td></td>
</tr>
<tr>
<td>Henry Bernstein, D.O.</td>
<td>A phase II, single-blinded, randomized, controlled, multicenter primary and booster vaccination study to evaluate the immunogenicity, reactogenicity and safety of GSK Biologicals’ Haemophilus influenzae type b and Neisseria meningitides serotypes C and Y-tetanus toxoid conjugate vaccine combined (Hib-MerCv-TT) compared to ActHIB, each co-administered with Pediatrix and Prevnar, in healthy infants at 2, 4, and 6 months of age and in healthy toddlers at 12 to 15 months of age (booster dose), when co-administered with Prevnar</td>
<td>GlaxoSmithKline Pharmaceuticals</td>
<td></td>
</tr>
<tr>
<td>Henry Kiernan, PhD</td>
<td>National Network of UCEDD Education, Research &amp; Service (90AA0575)</td>
<td>DHHS/Admin. on Developmental Disabilities</td>
<td></td>
</tr>
<tr>
<td>Allen Crocker, MD</td>
<td>Interdisciplinary Training for MR Personnel</td>
<td>Maternal &amp; Child Health Bureau</td>
<td></td>
</tr>
<tr>
<td>Allen Crocker, MD</td>
<td>Educating Providers about Down Syndrome via Integrated Markets</td>
<td>Children’s Hospital of Los Angeles</td>
<td></td>
</tr>
<tr>
<td>Allen Crocker, MD</td>
<td>Children’s Extended Care Center</td>
<td>Seven Hills Inc.</td>
<td></td>
</tr>
<tr>
<td>Emily Davidson, MD, MPH</td>
<td>Family-Centered Home Care for Children</td>
<td>Noonan Fund</td>
<td></td>
</tr>
<tr>
<td>Jonathan Finkelstein, MD MPH</td>
<td>National Research Service Award</td>
<td>DHHS/Health Resources &amp; Services Administration</td>
<td></td>
</tr>
<tr>
<td>Emily Davidson, MD, MPH</td>
<td>Steps to Success: An Innovative Project to Promote Physical Activity and Friendship in Children with Down Syndrome</td>
<td>Noonan Fund</td>
<td></td>
</tr>
</tbody>
</table>

**Note:** The table includes a list of grants and projects funded from 2004 to 2005, with details on the researchers, institutions, and funding agencies. The projects cover various fields, including health and pediatrics, with a focus on immunology, hepatitis, and vaccines.
John Knight, MD
Academic Career Award in Adolescent Alcohol Use (1 K07 AA013280-01A2)
NIH/NIAAA

John Knight, MD
A Medical Office Intervention for Adolescent Drug Use (1R01 DA014554)
NIH/NIDA

John Knight, MD
Children’s Hospital Collaborative Office Rounds (5 T21MC00122-02)
Maternal & Child Health Bureau

John Knight, MD
Screening and Brief Advice to Reduce Teen Substance Abuse
NIH/NIDA

John Knight, MD
Implementation of Medical Office Screening for Adolescent Substance Abuse
Robert Wood Johnson Foundation

Sharon Levy, MD, MPH
A National Survey of Physicians’ Adolescent Drug Testing Practices
Robert Wood Johnson Foundation

Kerim Munir, MD
Mental Health and Developmental Disabilities Program (5 R25 MH59247)
NIH

Kerim Munir, MD
International Mental Health and Developmental Disabilities (5 D43 TW005807)
NIH/Fogarty International Center

Kerim Munir, MD
Medical Research Training Collaboratory (N43 MH32073)
NIMH/AZ Technology

Sharon Muret-Wagstaff, PhD
Intermountain Child Health Services Research Consortium
Agency for Health Care Research & Quality/UNUT

Sharon Muret-Wagstaff, PhD
LSU Health Service Research Program
(2 R24 HS011834)
Agency for Health Care Research & Quality/LSU

Judith Palfrey, MD
Dyson Initiative – Production of Supplement
Dyson Foundation

Judith Palfrey, MD
MASSstart
Massachusetts Dept of Public Health

Judith Palfrey, MD
Faculty Development in Primary Care
(1 D14 HP 00192)
HRSA/Bureau of Health Professions

Judith Palfrey, MD
Stranahan Foundation Fund
Stranahan Foundation

Judith Palfrey, MD
Anne E Dyson Community Pediatrics Training Initiative
Dyson Foundation

Leonard Rappaport, MD
MCH Leadership Education in Behavioral Pediatrics (2 T77 MC 00011)
Maternal & Child Health Bureau

Gehan Roberts, MD
Bridge the Gap: Identification of and Intervention In the Preschool Period for Former Low-Birthweight Children at Risk for School Age Academic Difficulties
Noonan Fund

Gehan Roberts, MD
Identification of and Intervention in the Preschool Period for Former Low-Birthweight Foundation/Harvard Children at Risk for School Age Academic Difficulties
Robert Wood Johnson Harvard School of Public Health

Elsie Taveras, MD MPH
One Step Ahead
Noonan Fund

Ed Tronick, PhD
Standardization of the NNR-Neurobehavioral Scale (NNNS) (R01HD37138)
NIH/NICHD

Andrea Vandeven, MD MPH
Children's Hospital Child Protection Program
Massachusetts Dept of Social Services

Romi Webster, MD MPH
Teen Suicide: Attributes and Opportunities For Prevention
Ambulatory Pediatric Association

Katherine Weinberg, PhD
Mutual regulation between mothers and Preschoolers (R01 HD/MH3973)
NICH/NIIMH

Celeste Wilson, MD
Parental Alcohol Screening in Pediatric Practices
Robert Wood Johnson Foundation

Celeste Wilson, MD
Harvard Medical School Center of Excellence in Minority Health and Health Disparities (D34 HP04083)
HRSA/Harvard Medical School

Alan Woolf, MD MPH
Center for Pediatric Integrative Medical Education (5 R25 AT000538)
NIH/National Center for Complementary & Alternative Medicine

Alan Woolf, MD, MPH
Development of Pediatric Environmental Health Specialty
AOEC/Cambridge Hospital

Alan Woolf, MD, MPH
Pediatric Environmental Medicine Fellowship Training Program
Ambulatory Pediatric Association
Fellows 1974 – 2005

Paul McCarthy, MD (1974)  Director, Section of General Pediatrics, Yale University School of Medicine; Professor of Pediatrics, Yale University

Joel Bass, MD (1974)  Chair, Department of Pediatrics, Newton-Wellesley Hospital; Associate Clinical Professor of Pediatrics, Harvard Medical School

Judith S. Palfrey, MD (1975)  Chief, Division of General Pediatrics, Children’s Hospital Boston; T. Berry Brazelton Professor of Pediatrics, Harvard Medical School

Susanna R. Alvarez, MD (1975)  Physician, Harvard Vanguard Medical Associates, Burlington, MA; Clinical Instructor, Harvard Medical School

David Kaplan, MD (1975)  Chief, Adolescent Medicine, Children’s Hospital of Denver; Professor of Pediatrics, Professor of Preventive Medicine, University of Colorado

Jack P. Shonkoff, MD (1976)  Dean, The Heller School for Social Policy and Management, Brandeis University, Waltham, MA; Lecturer in Pediatrics, Harvard Medical School

Lucian DeNicola, MD (1976)  Chief, Division of Pediatrics, Critical Care Medicine, University of Florida Health Sciences Center; Professor of Pediatrics, University of Florida

Mark Friedman, MD (1976)  Pediatric Practice

Howard Spivak, MD (1977)  Chief, Division of General Pediatrics & Adolescent Medicine; Vice President, Community Health, New England Medical Center; Professor of Pediatrics & Community Health, Tufts University

Donald Berwick, MD (1977)  President and CEO, Institute for Healthcare Improvement, Boston, MA; Clinical Professor of Pediatrics, Harvard Medical School; Professor of Health Policy, Harvard School of Public Health

Paul Dworkin, MD (1978)  Vice President and Chief Medical Officer, Connecticut Children’s Medical Center; Professor and Chair of Pediatrics, University of Connecticut School of Medicine

Bernard Guyer, MD, MPH (1978)  Zanvyl Krieger Professor of Children’s Health, Johns Hopkins University, Baltimore, MD

Richard Mervis, MD (1978)  Director, Newborn Nursery, Cook County Hospital, Chicago, IL; Assistant Professor, Rush University, Chicago, IL

Ronald Barr, MD (1978)  Head, Child Development Program, Montreal Children’s Hospital; Professor of Pediatrics and Psychiatry, McGill University, Montreal

Peter Heymann, MD, MPH (1978)  Division Head, Pediatric Allergy and Pulmonary Medicine; Professor of Pediatrics, University of Virginia School of Medicine

Mark Puczynski, MD (1978)  Chairman, Department of Pediatrics, Mercy Children’s Hospital, Toledo, OH; Professor, Medical College of Ohio

Ernest Krug, MD (1978)  Chief, Division of Developmental-Behavioral Pediatrics, William Beaumont Hospital, Royal Oak, MI; Clinical Associate Professor, Wayne State University

Michael Macknin, MD (1978)  Chairman, General Pediatrics Department, The Cleveland Clinic Foundation; Professor, Cleveland Clinic Lerner College of Medicine

Michael Sussman, MD (1979)  Staff Physician, Williamstown Medical Associates, Williamstown, MA; Associate Professor of Pediatrics, University of Massachusetts Medical School, Worcester, MA

Richard C. Wasserman, MD, MPH (1979)  Attending Pediatrician, Fletcher Allen Health Care, Burlington, VT; Professor of Pediatrics, University of Vermont College of Medicine

Neil Schechter, MD (1979)  Director, Developmental & Behavioral Pediatrics, St. Francis Hospital, Hartford, CT; Professor of Pediatrics, University of Connecticut School of Medicine

Frank Oberklaid, MD (1979)  Centre for Community Child Health & Ambulatory Pediatrics, Victoria, Australia; Professor of Pediatrics, University of Melbourne

Simon Clarke, MD (1980)  Medical Director, Adolescent Medicine, Westmead Hospital, Westmead, Australia; Lecturer in Pediatrics, Sydney University, Australia

David Stifler, MD (1980)  Physician, Essex Pediatrics, Eastern Essex Junction, Vermont; Clinical Associate Professor of Pediatrics, University of Vermont
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Joan Mansfield, MD (1980)</td>
<td>Associate in Medicine, Children’s Hospital Boston; Assistant Professor of Pediatrics, Harvard Medical School</td>
<td></td>
</tr>
<tr>
<td>Louise Kiessling, MD (1980)</td>
<td>Professor of Pediatrics and Family Medicine Emeritus, Brown University Medical School, Rhode Island</td>
<td></td>
</tr>
<tr>
<td>Julia Lockwood, MD (1981)</td>
<td>Director, Development Training, Maine Medical Center</td>
<td></td>
</tr>
<tr>
<td>Raun Melmed, MD (1981)</td>
<td>Director, Melmed Center, Scottsdale, AZ; Medical Director, Southwest Autism Research and Resource Center, Arizona</td>
<td></td>
</tr>
<tr>
<td>Walt Karniski, MD (1981)</td>
<td>Director, Florida Children’s Center, Tampa, FL</td>
<td></td>
</tr>
<tr>
<td>Sarah O. Colwell, MD (1981)</td>
<td>Staff Physician, Pediatricians for Health, Maplewood, MN; Clinical Assistant Professor of Pediatrics, University of Minnesota</td>
<td></td>
</tr>
<tr>
<td>Paul Wise, MD, MPH (1981)</td>
<td>Clinical Professor of Pediatrics, Stanford University School of Medicine, Center for Health Policy/Center for Primary Care and Outcomes Research</td>
<td></td>
</tr>
<tr>
<td>James Blackman, MD, MPH (1981)</td>
<td>Medical Director, Kluge Children’s Rehabilitation Center, Charlottesville, VA; Professor of Pediatrics, University of Virginia School of Medicine</td>
<td></td>
</tr>
<tr>
<td>Louisa Alvarado, MD (1981)</td>
<td>Director, Pediatric Residency Program, Hospital Episcopal San Lucas/Ponce School of Medicine Consortium, Puerto Rico; Associate Professor of Pediatrics, Ponce School of Medicine</td>
<td></td>
</tr>
<tr>
<td>Robert Moss, MD (1981)</td>
<td>Director of Children’s Center for Attention Problems, UCLA, Department of Pediatrics; Assistant Clinical Professor, UCLA</td>
<td></td>
</tr>
<tr>
<td>Marc Lerner, MD (1982)</td>
<td>Staff Pediatrician, UCI Child Development Center, Irvine, CA; Professor of Clinical Pediatrics, University of California, Irvine</td>
<td></td>
</tr>
<tr>
<td>Dena McFadden, MD (1982)</td>
<td>Senior Vice President/Medical Director, Health Dialog, Boston, MA</td>
<td></td>
</tr>
<tr>
<td>Leonard Rappaport, MD (1982)</td>
<td>Associate Chief, Division of General Pediatrics; Director, Developmental Medicine Center, Children’s Hospital Boston; Mary Deming Scott Associate Professor of Pediatrics, Harvard Medical School</td>
<td></td>
</tr>
<tr>
<td>John Chessare, MD (1983)</td>
<td>Sr. Vice President for Medical Affairs, Chief Medical Officer, Boston Medical Center; Professor of Pediatrics and Health Services, Associate Dean for Clinical Affairs, Boston University School of Medicine</td>
<td></td>
</tr>
<tr>
<td>Easton Robert Caldwell, III, MD (1983)</td>
<td>Staff Pediatrician, Winchester Pediatric Clinic, Winchester, VA</td>
<td></td>
</tr>
<tr>
<td>Janice Lowe, MD (1983)</td>
<td>Clinical Professor of Pediatrics, Division of General Pediatrics, Stanford University School of Medicine</td>
<td></td>
</tr>
<tr>
<td>Daniel Kessler, MD (1983)</td>
<td>Director of Developmental &amp; Behavioral Pediatrics, St. Joseph’s Hospital; Clinical Associate Professor of Pediatrics, University of Arizona</td>
<td></td>
</tr>
<tr>
<td>Stephen Sulkes, MD (1983)</td>
<td>Professor of Pediatrics, Strong Center for Developmental Disabilities, Golisano Children’s Hospital at Strong, University of Rochester School of Medicine and Dentistry</td>
<td></td>
</tr>
<tr>
<td>Jack Lasche, MD (1984)</td>
<td>Chief, Pediatrics Department, Harvard Vanguard Health Care, West Roxbury, MA; Clinical Instructor in Pediatrics, Harvard Medical School</td>
<td></td>
</tr>
<tr>
<td>Heidi Feldman, MD (1984)</td>
<td>Consulting Staff, The Children’s Hospital of Pittsburgh; Professor, University of Pittsburgh School of Medicine, Department of Pediatrics, Pittsburgh, PA</td>
<td></td>
</tr>
<tr>
<td>Carol Lewis, MD (1984)</td>
<td>Attending Physician, Director of Team 3/Primary Care RIH/Hasbro Children’s Hospital, Providence, RI; Clinical Assistant Professor of Pediatrics, Brown University, Rhode Island</td>
<td></td>
</tr>
<tr>
<td>Barry Zallen, MD (1984)</td>
<td>Medical Director, Provider Partnerships, Blue Cross Blue Shield of Massachusetts, Boston, MA; Clinical Instructor, Harvard Medical School</td>
<td></td>
</tr>
<tr>
<td>Michael Shannon, MD, MPH (1984)</td>
<td>Chief, Division of Emergency Medicine, Children’s Hospital Boston; Professor of Pediatrics, Harvard Medical School</td>
<td></td>
</tr>
<tr>
<td>William Coleman, MD (1984)</td>
<td>Staff Member, The Clinical Center of the Study of Development and Learning, The Univ. of North Carolina; Professor of Pediatrics, University of North Carolina School of Medicine and UNC Hospitals, Chapel Hill, NC</td>
<td></td>
</tr>
<tr>
<td>Randy Rockney, MD (1985)</td>
<td>Pediatrician, Ambulatory Division, Department of Pediatrics, Hasbro Children’s Hospital, Providence, RI; Associate Professor, Pediatrics and Family Medicine, Brown University Medical School; Director, Undergraduate Medical Education in Pediatrics, Brown University Medical School, Rhode Island</td>
<td></td>
</tr>
</tbody>
</table>
Thomas Hathaway, MD (1985)  Pediatric Practice; Instructor in Pediatrics, Harvard Medical School
Ellen Elias, MD (1985)  Director, Special Care Clinic, The Children’s Hospital, Denver, CO; Associate Professor, University of Colorado School of Medicine
Lydia Sarro, MD (1986)  Pediatrician, Riverbend Medical Group, Chicope, MA
Linda Riordan, MD (1986)  Pediatric Pulmonary Practice, Tucson, AZ; Clinical Associate Professor, University of Arizona
Jane Brown, MD (1986)  Staff Physician, Needham Pediatrics, Needham, MA
Charles Robertson, Jr., MD (1986)  Private Practice, North Mississippi Pediatrics, Tupelo, MS; Assistant Professor, University of Mississippi Medical Center
Nancy Kloczko, MD (1986)  Pediatrician, Division of General Pediatrics, Baystate Medical Center, Springfield, MA; Assistant Professor of Pediatrics, Tufts University, Boston, MA
Alberto Kriger, MD (1986)  Physician, Pediatric Associates, Pembroke Pines, FL; Assistant Professor, Health Professions Division, Nova Southeastern University
William Barbaresi, MD (1987)  Chair, Division of Developmental and Behavioral Pediatrics and Co-Director, Mayo Clinic-Dana Child Development and Learning Disorders Program, Rochester, MN; Assistant Professor of Pediatric and Adolescent Medicine, Mayo Clinic College of Medicine, Rochester, MN
Siobhan McNally, MD (1987)  Medical Staff at Berkshire Medical Center, Lee, MA; Associate Professor at University of Massachusetts Medical School
Mark Handley-Derry, MD (1987)  Assistant Professor of Pediatrics, University of Toronto
David Ansel, MD (1987)  Staff Pediatrician, Children’s Medical Office of Andover, MA and Children’s Hospital Boston; Instructor, Harvard Medical School
Christopher DeGraw, MD, MPH (1988)  Deputy Director and Medical Officer, Division of Research, Training and Education, Maternal and Child Health Bureau, Health Resources and Services Administration, U.S. Department of Health and Human Services
Michael McManus, MD (1988)  Senior Associate in Medicine, Anesthesia and Critical Care, Children’s Hospital Boston; Chief of Pediatrics, South Shore Hospital, Massachusetts; Associate Professor, Harvard Medical School
Amy Ryan, MD (1988)  Staff Pediatrician, Longwood Pediatrics, Boston, MA; Instructor, Harvard Medical School
Alix Handelsman, MD (1988)  Staff Pediatrician, Child Health Services, Bedford, NH
Julian Orenstein, MD (1989)  Clinical Attending Physician, Department of Emergency Medicine, Shady Grove Adventist Hospital, Rockville, MD; Clinical Assistant Professor, Georgetown University; Clinical Assistant Professor, George Washington University; Clinical Assistant Professor, University of Virginia
Andrea Vandeven, MD, MPH (1989)  Medical Director, Child Protection Team; Staff Physician, Young Parents Program, Crisis Response Program, Children’s Hospital Boston; Instructor in Pediatrics, Harvard Medical School
Esau Simmons, MD (1989)  Assistant in Medicine, Children’s Hospital Primary Care Center, Boston, MA; Assistant Professor of Pediatrics, Harvard Medical School
Francis Hickey, MD (1989)  Staff Pediatrician, Group Health Associates, Cincinnati, OH; Adjunct Assistant Professor of Pediatrics, University of Cincinnati College of Medicine
Joseph Carrillo, MD (1989)  Active Staff, Queen of the Valley Hospital, Napa, CA; Active Staff, St. Helena Hospital, St. Helena, CA; Assistant Professor of Pediatrics, Harvard Medical School
Jennifer Bowen, MD (1989)  Director, Department of Neonatology, Royal North Shore Hospital, St. Leonards, Australia; Clinical Lecturer, Sydney University, Australia
Kristin Hannibal, MD (1990)  Clinic Director, Primary Care Center, Children’s Hospital of Pittsburgh; Assistant Professor, University of Pittsburgh School of Medicine
Barbara Duffy, MD (1990)  Pediatric Practice
James Powell, MD (1990)  Director, Behavioral Services, Department of Pediatrics, Kaisar-Permanente Northwest; Associate Clinical Professor, Oregon Health Sciences University
Stephen Contompasis, MD (1990)  Developmental pediatrician, Vermont Department of Health, Children with Special Health Needs; Associate Professor of Pediatrics, University of Vermont College of Medicine
Winona Chua, MD (1991)  Assistant in Pediatrics, Division of Child Development and Rehabilitation, The Children's Hospital of Philadelphia; Clinical Assistant Professor of Pediatrics, The University of Pennsylvania School of Medicine


Margot Davey, MD (1991)  Staff Pediatrician, Royal Children's Hospital/Monash Medical Center, Australia

Ann Niec, MD (1991)  Director, Child Advocacy and Assessment Program, Director, Child Psychiatry Inpatient Consultation Service, McMaster University, Associate Professor of Pediatrics, McMaster University, Hamilton, Ontario

Marie Kim, MD (1991)  Medical Director, Developmental Follow-up Clinic, Joseph's Health Center; Assistant Professor of Pediatrics, University of Western Ontario, Canada

Renee Band, MD (1991)  Pediatric Practice, Israel

John Knight, MD (1992)  Director, Center for Adolescent Substance Abuse Research, Children's Hospital Boston; Associate Professor of Pediatrics, Harvard Medical School

Elizabeth Mickelson, MD (1992)  Developmental Pediatrician, Sunny Hill Health Center for Children, Vancouver, BC; Clinical Assistant Professor of Pediatrics, University of British Columbia, Canada

Elisa Alter Zenni, MD (1993)  Associate Pediatric Residency Program Director, University of Florida Health Science Center, Jacksonville, FL; Associate Professor of Pediatrics, University of Florida College of Medicine

Tim Oberlander, MD (1993)  Developmental Pediatrician, Child Development Rehabilitation Program, and Pediatrician, Complex Pain Service, British Columbia Children's Hospital; Associate Professor, Acting Division Head, Division of Developmental Pediatrics, Department of Pediatrics, University of British Columbia

Gregory Toussaint, MD (1993)  Staff Pediatrician, United States Air Force; Assistant Professor of Pediatrics, Uniformed Services University of Health Sciences

Michael McDowell, MB BS, MPH, PhD (1993)  Private Practice, Developmental Pediatrician, The Child Development Network, South Brisbane, Australia, Visiting Medical Officer, Mater Children's Hospital, Brisbane Queensland; Senior Lecturer, University of Queensland

Benjamin Scheindlin, MD (1993)  Primary Care Pediatrician, Burlington Pediatrics, Burlington, VT; Clinical Instructor in Pediatrics, Harvard Medical School

Jonathan Finkelstein, MD, MPH (1994)  Staff Physician, Division of General Pediatrics, Children's Hospital Boston; Associate Professor, Department of Ambulatory Care and Prevention, Harvard Medical School and Harvard Pilgrim Health Care

Dominique Cousineau, MD (1994)  Chief, Developmental Pediatrics, Hospital St. Justine, Montreal, Canada; Professor, University of Montreal

David Warwick Smith, MD (1994)  Pediatric Practice, New Zealand

Ronald Samuels, MD, MPH (1995)  Attending Physician, Children's Hospital Primary Care Center, Boston, MA; Instructor in Pediatrics, Harvard Medical School

Donna D’Alessandro, MD (1995)  Staff Physician, Children's Hospital of Iowa; Associate Professor of Pediatrics, University of Iowa College of Medicine

Thomas Silva, MD (1995)  Staff Pediatrician, East Boston Neighborhood Health Center; Instructor in Pediatrics, Harvard Medical School

Laurel Wills, MD (1995)  Director, Hennepin Developmental Pediatrics Clinic, Staff Pediatrician, Department of Pediatrics, Minneapolis, MN; Assistant Professor, University of Minnesota

Ari Brown, MD (1995)  Medical Staff, Children's Hospital of Austin, Austin, TX

Carolyn Bridgemohan, MD (1995)  Attending Physician, Developmental Medicine Center, Children's Hospital Boston; Instructor in Pediatrics, Harvard Medical School

Andria Ruth, MD (1995)  Staff Physician, Santa Barbara Neighborhood Clinics and Santa Barbara Public Health Department, Santa Barbara, CA

Tasnawat Thomas Sombuntham, MD (1995)  Attending Physician, Division of Developmental and Behavioral Pediatrics, Ramathibodi Hospital, Thailand; Instructor in Pediatrics, Mahidol University, Thailand

Lisa McKay, MD (1995)  Pediatric Practice, Australia
Grace Caputo, MD, MPH (1996) Director, Phoenix Children’s Hospital/Maricopa Medical Center Pediatric Residency Program, Phoenix, AZ; Clinical Professor of Pediatrics, University of Arizona

Michael Marks, MB BS, MD (1996) Pediatrician, Department of General Medicine, Royal Children’s Hospital, Australia; Senior Lecturer, University of Melbourne

Kim Wilson, MD, MPH (1996) Director of Pediatrics, Martha Eliot Health Center, Children’s Hospital Boston; Instructor in Pediatrics, Harvard Medical School

Nichara Ruangdaraganon, MD (1996) Staff Physician, Division of Developmental-Behavioral Pediatrics, Ramathibodi Hospital; Associate Professor, Mahidol University, Bangkok, Thailand

Philippe Compagnon, MD (1996) Staff Physician, General Pediatrics, Epernay Hospital, France

Kenneth Mandl, MD, MPH (1996) Faculty, Division of Emergency Medicine, Children’s Hospital Boston; Assistant Professor of Pediatrics, Harvard Medical School

Ludwig Von Hahn, MD (1997) Developmental-behavioral Pediatrician, Crotched Mountain Rehabilitation Center, Greenfield, NH; Instructor in Psychiatry, Harvard Medical School

Robert Garofalo, MD, MPH (1997) Director of Adolescent HIV Program, Children’s Memorial Hospital, Chicago, IL; Director of Youth Services, Howard Brown Health Center, Chicago, IL; Assistant Professor of Pediatrics and Preventive Medicine, Northwestern University Feinberg School of Medicine

Robert Kahn, MD, MPH (1997) Attending Physician, Cincinnati Children’s Hospital Medical Center, Cincinnati, OH; Assistant Professor of Pediatrics, University of Cincinnati College of Medicine

John Rodman, MD, MPH (1997) Private Practice, First Physicians Group, Sarasota Memorial Hospital, Sarasota, FL

Richard Pan, MD, MPH (1998) Attending Physician, UC Davis Medical Center, Sacramento, CA; Assistant Professor of Clinical Pediatrics, University of California

Ronald Becker, MD (1998) Staff Pediatrician, Developmental Medicine Center, Children’s Hospital Boston; Instructor in Pediatrics, Harvard Medical School

Frida Wosk, MD (1998) Medical Director, Roxbury Comprehensive Community Health Center, Boston, MA

Lisa Albers, MD, MPH (1998) Staff Pediatrician, Developmental Medicine Center, Children’s Hospital Boston; Instructor in Pediatrics, Harvard Medical School

Joanne Wolfe, MD, MPH (1998) Attending Physician, Dana Farber Cancer Institute and Children’s Hospital Boston, Boston, MA; Assistant Professor of Pediatrics, Harvard Medical School

Vibha Krishnamurthy, MD (1998) Director, Ummeed Child Development Center, Mumbai, India; Consultant, Developmental Pediatrician, Jaslok Hospital, India

M. Ranee Leder, MD (1988) Attending Pediatrician, Section on Developmental-Behavioral Pediatrics, Center for Child and Family Advocacy, Columbus, OH; Assistant Professor of Clinical Pediatrics, The Ohio State University

Dilek Bishku, MD, MPH (1998) Staff Physician, La Rabida Children’s Hospital, Chicago, IL; Assistant Professor of Pediatrics, University of Chicago

Christine Freemer, MD (1998) Staff Physician, Framingham Pediatrics, Framingham, MA

Sandip Godambe, MD, PhD (1998) Associate Medical Director, LeBonheur Children’s Emergency Department, Memphis, TN; Assistant Professor, University of Tennessee

Tisa Johnson, MD (1999) Staff Physician, Henry Ford Hospital, Detroit MI

Stephen Porter, MD, MPH (1999) Staff Physician, Department of Emergency Medicine, Children’s Hospital Boston; Assistant Professor of Pediatrics, Harvard Medical School

Samuel Zinner, MD (1999) Attending Physician, Autism Center, Child Development Clinic, University of Washington Medical Center, Seattle, WA; Attending Physician, Birth Defects Clinic, Children’s Hospital & Regional Medical Center, Seattle, WA; Assistant Professor of Pediatrics, University of Washington School of Medicine

Sharon Levy, MD, MPH (1999) Assistant in Medicine, Children’s Hospital Boston; Instructor in Pediatrics, Harvard Medical School

Gregory Blaschke, MD, MPH (1999) Program Director, Pediatric Residency Program; Faculty Development Coordinator, General Pediatrics Division, Naval Medical Center, San Diego; Clinical Asst Professor of Pediatrics, Uniformed Service University of the Health Sciences, Bethesda MD; Assistant Clinical Professor of Pediatrics, University of California San Diego
<table>
<thead>
<tr>
<th>Name</th>
<th>Specialty and Affiliations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Victoria Fierro-Cobas, MD</td>
<td>Private Practice, Happy Kids Pediatrics, Miami, FL</td>
</tr>
<tr>
<td>Nathaniel Beers, MD, MPA</td>
<td>Continuity Clinic Director, Children's Health Center, Children's National Medical Center, Washington, DC; Assistant Professor of Pediatrics, George Washington University</td>
</tr>
<tr>
<td>Stephen Joffe, MD, MPH</td>
<td>Attending Physician, Dana Farber Cancer Institute; Attending Physician, Children's Hospital Boston; Assistant Professor of Pediatrics, Harvard Medical School</td>
</tr>
<tr>
<td>Sharon Brodie-Wright, MD, MPH</td>
<td>Staff Physician, Beth Israel Deaconess Medical Center, Boston, MA; Assistant Professor of Medicine, Harvard Medical School</td>
</tr>
<tr>
<td>Rainu Kaushal, MD, MPH</td>
<td>Associate Physician, Brigham and Women's Hospital, Boston, MA; Instructor in Pediatrics, Harvard Medical School</td>
</tr>
<tr>
<td>Christopher Landrigan, MD, MPH</td>
<td>Research and Fellowship Director, Children's Hospital Boston Inpatient Pediatrics Service; Director, Sleep and Patient Safety Program, Brigham and Women's Hospital; Assistant Professor of Pediatrics, Harvard Medical School</td>
</tr>
<tr>
<td>Rajendu Srivastava, MD, MPH</td>
<td>Staff Physician, Primary Children's Medical Center, Salt Lake City, UT; Assistant Professor, University of Utah</td>
</tr>
<tr>
<td>James Glauber, MD</td>
<td>Medical Director, Neighborhood Health Plan, Boston, MA; Clinical Instructor, Department of Ambulatory Care and Prevention, Harvard Medical School</td>
</tr>
<tr>
<td>Emily Davidson, MD, MPH</td>
<td>Assistant in Medicine, Children's Hospital Boston; Instructor in Pediatrics, Harvard Medical School</td>
</tr>
<tr>
<td>Ron Keren, MD, MPH</td>
<td>Attending Physician, The Children's Hospital of Philadelphia; Assistant Professor, University of Pennsylvania</td>
</tr>
<tr>
<td>Alison Schonwald, MD</td>
<td>Staff Pediatrician, Developmental Medicine Center, Children's Hospital Boston; Instructor in Pediatrics, Harvard Medical School</td>
</tr>
<tr>
<td>Emily Roth, MD</td>
<td>Staff Pediatrician, Martha Eliot Health Center, Children's Hospital Boston; Instructor in Pediatrics, Harvard Medical School</td>
</tr>
<tr>
<td>Eugenia Chan, MD, MPH</td>
<td>Assistant in Medicine, Children's Hospital Boston; Instructor in Pediatrics, Harvard Medical School</td>
</tr>
<tr>
<td>Lawrence Quang, MD</td>
<td>Staff Physician, University Hospitals of Cleveland</td>
</tr>
<tr>
<td>Celeste Wilson, MD</td>
<td>Assistant in Medicine, Children's Hospital Boston; Instructor in Pediatrics, Harvard Medical School</td>
</tr>
<tr>
<td>Grace Lee, MD, MPH</td>
<td>Staff, Division of Infectious Diseases, Department of Medicine, Children's Hospital Boston; Instructor in Ambulatory Care and Prevention, Harvard Medical School and Harvard Pilgrim Health Care; Instructor in Pediatrics, Harvard Medical School</td>
</tr>
<tr>
<td>Jennifer Friedman, MD, MPH</td>
<td>Assistant Professor of Pediatrics (Research), Brown University, Rhode Island</td>
</tr>
<tr>
<td>Cheryl Tierney, MD, MPH</td>
<td>Staff Physician, High Street Health Center Pediatrics; Assistant Professor, Tufts University, Boston, MA</td>
</tr>
<tr>
<td>Peter Smith, MD, MA</td>
<td>Medical Director, Illinois Center for Rehabilitation and Education, Chicago, IL; Program Director, Fellowship in Developmental and Behavioral Pediatrics, University of Chicago, Department of Pediatrics; Assistant Professor of Pediatrics, University of Chicago, Chicago, IL</td>
</tr>
<tr>
<td>Meera Sukumaran, MD</td>
<td>Staff Physician, Perkins School for the Blind; Instructor in Pediatrics, Harvard Medical School</td>
</tr>
<tr>
<td>Leonardo Trasande, MD, MPP</td>
<td>Assistant Director, Center for Children's Health and the Environment; Assistant in Pediatrics and Community and Preventive Medicine, Mount Sinai School of Medicine; Staff Physician in General Pediatrics, Children's Hospital Boston; Instructor in Pediatrics, Instructor in Community and Preventive Medicine, Mount Sinai School of Medicine; Lecturer in Pediatrics, Harvard Medical School</td>
</tr>
<tr>
<td>Marc Rosenthal, MD</td>
<td>Staff Physician, Harvard Vanguard Medical Associates, Burlington, MA</td>
</tr>
<tr>
<td>Siv Fasci, MD</td>
<td>Staff Physician, Trinity Children's Clinic, Tyler, TX</td>
</tr>
<tr>
<td>Roula Choueiri, MD</td>
<td>Pediatric Resident, Massachusetts General Hospital, Boston, MA; Clinical Fellow, Harvard Medical School</td>
</tr>
<tr>
<td>Jehanna Peerzada, MD, MPH</td>
<td>Bioethics Fellow, National Institutes of Health, Bethesda, MD</td>
</tr>
</tbody>
</table>
Elsie Taveras, MD, MPH (2003)  Assistant in Medicine, Children's Hospital Boston; Instructor in Pediatrics, Department of Ambulatory Care and Prevention, Harvard Medical School

Nina Sand, MD (2003)  Active Clinical Staff, Akron Children's Hospital; Akron, OH

Wendy Ross, MD (2003)  Staff Physician, Department of Neurology, Children's Hospital Boston; Instructor in Neurology, Harvard Medical School

Ruchi Gupta, MD, MPH (2004)  Staff Physician, Children's Memorial Hospital, Chicago, IL

Katerina Theodoropoulos, MD, MPH (2004)  Staff Academic Pediatrician, Hopital Ste-Justine; Assistant Professor, Universite de Montreal


Jeryl Kershner, MD (2004)  Fellow, Department of Psychiatry, Children's Hospital Boston; Clinical Fellow in Psychiatry, Harvard Medical School

Suzette Oyeku, MD, MPH (Current Fellow)  Health Services Research Fellow; Instructor in Pediatrics, Harvard Medical School

April Harper, MD (Current Fellow)  Pediatric Environmental Health Fellow; Clinical Fellow, Harvard Medical School

Gehan Roberts, MD (Current Fellow)  Developmental-Behavioral Pediatrics Fellow; Clinical Fellow, Harvard Medical School

Adihaa Spinks, MD (Current Fellow)  Developmental-Behavioral Pediatrics Fellow; Clinical Fellow, Harvard Medical School

Philomena Asante, MD, MPH (Current Fellow)  General Pediatrics/Primary Care Research Fellow; Clinical Fellow, Harvard Medical School

Ramzi Nasir, MD (Current Fellow)  Developmental-Behavioral Pediatrics Fellow; Clinical Fellow, Harvard Medical School

Neal Rojas, MD (Current Fellow)  Developmental-Behavioral Pediatrics Fellow; Clinical Fellow, Harvard Medical School

Laura Weissman, MD (Current Fellow)  Developmental-Behavioral Pediatrics Fellow; Clinical Fellow, Harvard Medical School

Pixie Plummer, MD (Current Fellow)  Neurodevelopmental Disabilities Fellow; Clinical Fellow, Harvard Medical School

Javed Hussain, MD (Current Fellow)  Pediatric Environmental Health Fellow; Clinical Fellow, Harvard Medical School

Jay Berry, MD (Current Fellow)  Health Services Research Fellow; Clinical Fellow, Harvard Medical School

Mark Sapp, MD (Current Fellow)  General Pediatrics/Advocacy Fellow; Instructor in Pediatrics, Harvard Medical School

Patricia Schram, MD (Current Fellow)  Developmental-Behavioral Pediatrics Fellow; Clinical Fellow, Harvard Medical School

Srilakshmi Gnanasekaran, MD (Current Fellow)  Health Services Research Fellow; Research Fellow in Ambulatory Care and Prevention, Harvard Medical School
Selected Bibliography of Faculty & Fellows 1994 – 2005

Breath and blood ethanol following use of a cough-cold preparation. 


66. Bierle T, Porter S. Planning for students assisted by medical technology; didactic and clinical training for school nurses. Boston: Children’s Hospital, 1996.


83. Brazelton T. Fetal observations: could they relate to another modality, such as touch? In: Field T, ed. Touch in early development. Los Angeles: Lawrence Erlbaum; 1995:11-8s.


123. Butterworth J, Fesko S, Ma V. Because it was the right thing to do: changeover from facility based services to community employment. J Voc Rehab 2000.


156. Connolly P, Kiernan W, Marrone J. An analysis of the one stop career center system as it relates to persons with disabilities: to consolidate or not consolidate, that is the question. Boston: Institute for Community Inclusion, Children’s Hospital; 1996.


477. Kiernan WE. Factors affecting individuals with developmental disabilities or significant mental illness. ProEd. 2000.


521. Landrigan C. Development of the Pediatric Research in Inpatient Settings (PRIS) Network. AAP Section on Hospital Care News 2003;1:4.


552. Levy S, Knight J. Drug tests should be used. in context of other findings. AAP News 2003.


695. Quang L, Desai MC, Shannon M, Woold A, Maher T. 4-methylpyrazole (4-MP, Fomepizole, Antizol) decreases 1,4 butanediol (1,4-BD) toxicity by blocking its in vivo biotransformation to gamma-hydroxy butyric acid. Proc NY Acad Sci 2004.

696. Quang L, Shannon M, Woold A, Desai MC, Maher T. 4-methylpyrazole (4-MP Fomepizole, Antizol) is an antidote in CD-1 mice for the delayed and additive toxicity from ethanol and 1, 4-butanediol (1,4-BD) overdose. Life Sciences 2002;8871:771-8.


821. Tronick EZ. Of course all relationships are unique: how co-creative processes generate unique mother-infant and patient-therapist relationships and change other relationships. Psychological Inquiry 2003.


829. Vandeven AM, Emans SJ. Commentary on "colposcopic genital findings in prepubetal girls assessed for sexual abuse". Arch Disease Childhood 2000.


872. Woolf A. Child Labor. Children’s Environmental Health 2002;World Health Organization (European Region).


