This newsletter gives us the opportunity to summarize the past year’s Clinical Research Fellowship (CRF) program and highlight some of the fellows’ accomplishments.

The CRF program has grown considerably since the first class of 42 medical students began their one-year fellowships in June 2000. This June, 81 fellows matriculated at 47 different medical schools completed fellowships at the ten CRF schools listed on the right. Most fellows (74%) had completed their third year of medical school when they began their fellowships. Their research projects covered the entire spectrum of clinical research — from evaluating new breast imaging technology, to examining the role of a novel gene in HIV-associated nephropathy, to research on health literacy and decision making. Page two highlights fellows from the 2004-2005 class whose research projects investigated health disparities in underserved populations.

Each year, there are a few fellows whose research projects bring them to the developing world, so we are also highlighting a fellow whose research experience in Brazil helped confirm his commitment to pursuing a career in infectious diseases and global health. Please see page 3 for the interview.

The 2004-2005 fellows met twice as a group, the first time in November 2004 at the Clinical Investigator Student Trainee Forum, held at the National Institutes of Health. The last page of the newsletter briefly describes the second meeting, where fellows convened to present their research findings in Tarrytown, New York. Similar meetings are being planned for the 2005-2006 class of fellows.

For those interested in more details on the CRF program, we published a paper summarizing much of the outcome data from the program’s first three and a half years (Journal of Investigative Medicine, March 2005). This can be accessed through our website, www.ddcf.org/mrp.

Finally, and most importantly, the foundation thanks the program leaders, program administrators and mentors at each of the ten CRF schools for their continued commitment to the program.

Elaine K. Gallin, Ph.D.
Program Director for Medical Research
Clinical Research Fellows: Investigating Health Disparities

Adrian Kenny was a world-class soccer player when he broke his leg during a trial for the U-20 Jamaican National Team. Coming from a long line of athletes, Adrian knew about overcoming injuries. Still only nineteen, he knew it was possible for him to represent Jamaica in the World Cup, something he’d trained for since he was very young.

But Adrian also had a special affinity for healthcare and an appreciation for service to others, which he learned through his mother, a physical therapist. His hiatus from soccer led him to conclude that a career in medicine was the best choice, and ultimately he went on to study medicine at Harvard. Adrian’s observations on the wards during his third year at Harvard Medical School fed his curiosity about disparities in healthcare. He sought out training and mentorship that would allow him to investigate further. The Clinical Research Fellowship at Harvard Medical School provided exactly what Adrian was looking for.

Adrian’s fellowship focused on the improvement of patient care through measuring benchmarks such as surgical outcomes for vulnerable populations. Under the mentorship of Jeffrey N. Katz, M.D., M.Sc., Associate Professor of Medicine and Orthopaedic Surgery at Brigham and Women’s Hospital and Harvard Medical School, Adrian is completing a study on “Racial and Ethnic Disparity in Outcomes of Orthopaedic Procedures,” an area that has received little formal research attention.

Adrian particularly appreciates the guidance of established faculty.

“My mentor knows the level of guidance that will keep me on track, and his network of professional associations is critical to bridging academia and the community.”

The evidence Adrian and Dr. Katz collected indicates that African-Americans and Hispanics have poorer outcomes after total joint replacement and spinal procedures. For example, after total knee replacement, African-Americans had greater odds of non-infection-related and infection-related complications than white/Caucasians. Hispanics had similar outcomes.

Adrian plans to continue his work with Dr. Katz, investigating two possible reasons for disparate outcomes: first, by modeling utilization of low- and high-quality hospitals by vulnerable populations; and second, by proposing to conduct a prospective study assessing health literacy and utilization of total joint replacement by vulnerable populations.

Adrian’s fellowship year has provided tremendous insight into the field of health service research. He is now considering further graduate training and plans to pursue primary care medicine. “I have gained extremely valuable exposure to health services research, and tools that will eventually enable me to contribute to the field,” he said.

The “Eureka!” moment in Tonya Walker’s career came early in life. She was only eight years old when her diabetic sister lapsed into unconsciousness and was rushed to the hospital. When a physician finally appeared and reassured her that her sister was going to be fine, Tonya realized that she too wanted to be a doctor.

One of the first members of her family to attend college, Tonya took a year off from her studies at Johns Hopkins University School of Medicine to complete a Clinical Research Fellowship at the University of Pennsylvania.

With her mentor Katrina Armstrong, M.D., M.S.C.E., at the Center for Clinical Epidemiology and Biostatistics, Tonya pursued her interests in health disparities and women’s reproductive health by conducting a study of the influence of health literacy and distrust of the health system on reproductive health outcomes.

Following medical school, Tonya intends to enroll in programs to earn master’s degrees in both public health and business administration. Although she is interested in one-on-one delivery of care, her long-term goal is to enter the public health arena and make a broad impact on public policy.

In addition, well aware of the critical guiding role that key individuals have played in her own personal life and professional career, Tonya intends to become a mentor to individuals in the younger generation of medical professionals.

“The fellowship has opened my eyes to the many options that medicine has to offer and has given me a much greater understanding of what is necessary to become a successful researcher and clinician. I am profoundly grateful for this opportunity,” said Tonya.
What was the focus of your research?

I studied visceral leishmaniasis in Natal, a city in northeast Brazil. Visceral leishmaniasis is an infection caused by a parasite transmitted by sandflies. The infection primarily affects poor people in the developing world, including those living in the peri-urban areas of Natal. I was drawn to the issue when I read an article in *The Lancet* about the lack of study concerning diseases that fall outside of the big three (Malaria, TB, and HIV/AIDS).

Did your interest in international research influence which CRF school you applied to?

My desire to work in a developing country drew me to the University of Iowa since they have such a well-established connection to Brazil.

What were the difficulties of adjusting to life abroad?

Portuguese! I took an accelerated course before I went, but that’s very different than talking with people on the street. At first it was very difficult just buying groceries and taking the bus. But I have to say eventually one of the primary joys of my study was working with the Brazilian students and professors. Some of my best memories there are when they invited me into their homes or when they showed me their local sights and beaches.

“When I visited homes in peri-urban Natal, it truly gave me a window into their lives and in doing so, I got an idea of the people whom I will ultimately serve and just how they might benefit from my work. I saw how ‘bench to bedside’ can be applied to real clinical problems of the population.”

What were the difficulties of adjusting to life abroad?

Portuguese! I took an accelerated course before I went, but that’s very different than talking with people on the street. At first it was very difficult just buying groceries and taking the bus. But I have to say eventually one of the primary joys of my study was working with the Brazilian students and professors. Some of my best memories there are when they invited me into their homes or when they showed me their local sights and beaches.

“...”

Was there anything unusual or compelling about Brazil as a place to live and conduct your research?

Brazil is a land of contrast. The apartment where I stayed was very nice and looked out over a beautiful beach, but for my research I visited homes with poor sanitation and people living alongside horses, cows and stray dogs. In Natal, favelas (squatter settlements) sit nearby well-to-do neighborhoods with completely different surroundings. The sprawling expansion of urban areas contributes to the spread of *Leishmania chagasi*, as people are moving into peri-urban areas that are ideal habitat for the sandfly.

Do you see yourself going back to Brazil to conduct clinical research?

Yes, I do; I have. At Iowa, travel funding was available for the year following my CRF grant and I returned for a single month with definite benefits. I also returned for a third time to do a clinical rotation. In each subsequent visit I was really able to use a lot of the things I learned in my first DDCF-funded trip, especially as it related to clinical research.

What can students do to prepare for conducting their research abroad? What recommendations would you make to other students?

I can think of five specific things:

1. Learn the language!

2. Be sure to study health issues from a global perspective.

3. Find a way to develop your cultural sensitivity. I was thankful for previous overseas experiences prior to my placement.

4. Collaboration with an academic host partner is key. Translational research may take many years to get good results, and it helps to collaborate from the start.

5. Humility. Keep in mind that there are plenty of brilliant people in developing countries, and that they are often just as gifted if not more so than yourself.
The fourth annual Clinical Research Fellowship meeting took place June 8-10, 2005 in Tarrytown, New York. Eighty-one fellows gathered with CRF program leaders and administrators to showcase their research accomplishments. Helen Hobbs, M.D., Professor of Internal Medicine and Molecular Genetics at the University of Texas Southwestern Medical Center, and a member of the Medical Research Program’s Scientific Advisory Council, gave the opening keynote address.

The second day, Dr. Philip Rosenthal, Professor of Medicine at the University of California, San Francisco and a DDCF Distinguished Clinical Scientist grantee, discussed malaria and his work in Uganda. He also led a discussion on the challenges of conducting international clinical research. That evening culminated with a trip to Birdland Jazz Club in New York City.

The liveliest discussions of the meeting occurred during the last day, in response to a timely and provocative talk on “Embryonic Death and the Creation of Human Embryonic Stem Cells” by Donald Landry, M.D., the program leader from Columbia University College of Physicians and Surgeons.

Thanks to all the program leaders and administrators and a special thanks to Karen Zier, Ph.D., program leader from Mount Sinai School of Medicine, for helping us plan the meeting.

2005 Clinical Research Fellowship Meeting

As a member of the first class of Clinical Research Fellows in 2001, Karen Kolln conducted research at the University of Iowa Molecular Otolaryngology Research Laboratory, an internationally known laboratory that studies hereditary hearing loss. Her research focused on Forkhead mutations and their relationship to Pendred syndrome, a disorder that accounts for up to 10 percent of hereditary deafness.

Today, Karen’s interest in otolaryngology research continues. She recently completed her second year of otolaryngology training at the University of North Carolina at Chapel Hill, where her research focus has been understanding the cellular immune response in chronic sinusitis.

Raymond Givens, a student at the Duke University School of Medicine, was awarded a Clinical Research Fellowship in 2001-2002 at the University of North Carolina at Chapel Hill. During his fellowship, he researched pharmacogenetics, studying the genetic basis of interindividual differences in drug metabolism with Paul Watkins, M.D. Ray continues to conduct research as a Ph.D. candidate at the UNC School of Public Health, where he is investigating drug metabolizing enzymes and their role in blood pressure control using both clinical and basic approaches, including developing novel transgenic mouse models. Ray will return to medical school after completion of his graduate studies and plans a career in academic cardiology and research.

Where Are They Now?
Updates from Past Clinical Research Fellows

Clockwise from top: Fellows and program leaders line up to take a bow following the talent show at the annual meeting; Elaine Gallin, Ph.D. and Karen Zier, Ph.D., Mount Sinai School of Medicine program leader; fellows Roopali Bansal (L) and Karina Arbatova (R); fellows Puneet Masson (L) and Brian Bateman (R).