

under way in the intensive care unit (ICU). Like the HSCU and the ICN, “we’re taking a systems approach,” says Dr. Athos Rassias, who is leading the initiative with clinical nurse specialist Ingrid Mroz. “We’re analyzing . . . the most minute little details,” he adds. Among the changes already made are a new training video on aseptic techniques, a PowerPoint presentation on best catheter-insertion practices, new procedure checklists and protocols, and lots of observations to identify aspects of care that can be improved.

The ICU will also be working with the Cardiothoracic Intensive Care Unit, of which Rassias is the medical director, and the Coronary Care Unit. Although in the past the ICU has had central-line infection rates safely below national benchmarks, in 2005 its rates rose. So far, 2006 is tracking well but it will be several months before Rassias and Mroz can determine if their efforts are having an effect.

Yet the potential for making a difference is great—since hospital-acquired infections affect approximately 2 million people annually, according to the Centers for Disease Control and Prevention, and such infections can be avoided.

Key: “Many health-care infections are preventable if we just pay attention to every detail along the way,” says Dr. Kathryn Kirkland, associate director of the Infection Control Program at DHMC. The key, she says, is to recognize that “the smallest thing actually matters.”

JENNIFER DURGIN

INVESTIGATOR INSIGHT



In this section, we highlight the human side of biomedical investigation, putting a few questions to a researcher at DMS-DHMC.

Angeline Andrew, Ph.D.
Research Assistant Professor of Community and Family Medicine

Andrew, a molecular epidemiologist, studies combinations of genetic factors and exposures to toxic metals that may increase the risk of bladder cancer or affect the prognosis of the disease.

How did you decide to become a scientist?

I started working in environmental risk assessment and realized that there was a need for more toxicologic research to set safe exposure limits.

And when did you become interested in epidemiology?

My thesis project in molecular toxicology utilized cell lines grown in the laboratory. My post-doctoral experience in epidemiology has helped me to translate this research into real human exposures.



If you weren't a scientist, what would you like to be?

I spent a couple of years in teaching—but being a ski bum would be more fun!

What do you consider your most important work and why?

My most important work is in disease prevention. I feel that effective communication of the risks associated with certain exposures and behaviors is critical. Elevated levels of arsenic are occasionally found in unregulated private drinking water wells, even in parts of the U.S. This exposure may be a health concern, particularly when combined with smoking.

What is the greatest joy in your work?

Working on collaborative research projects with scientists from around the world. For example, I am participating in an international bladder

cancer consortium that fosters collaboration among studies.

And the greatest frustration?

Writing grants instead of doing science.

If you could change one thing about your career, what would it be?

Increase the level of job security—living from “grant to grant” is stressful.

What famous person, living or dead, would you most like to spend a day with?

Leonardo da Vinci. I am particularly impressed by his observational skills and his ability to communicate with so many generations of people.

What's your favorite nonwork activity?

I enjoy skijoring with my dogs in the winter and horseback riding in the summer.

What kind of music do you listen to most?

Right now I am into Green Day and the Red Hot Chili Peppers.

Hollywood is doing a movie of your life. Who plays you?

Angelina Jolie.

What advice would you offer to a graduate student contemplating going into epidemiology?

Take some formal coursework in the field early on. Focus on a specific scientific question, but don't limit the tools that you can use to try to answer it. Interdisciplinary training has allowed me to take advantage of scientific advances in multiple fields and combine them in new ways. Dartmouth is a wonderful place to do molecular epidemiology because of its size, collegial atmosphere, and buildings like the Norris Cotton Cancer Center that integrate disciplines such as population sciences and laboratory research.

What misconceptions do people have about epidemiology?

Epidemiology is not limited to “black box” association studies between exposure and disease. Collecting tissue samples allows investigators to assess multiple intermediate biomarkers of exposure and disease-relevant biologic effects.