A cornucopia of evidence points to proper nutrition as a key to good health. Cornell graduate students in dietetics learn to translate these findings into policies and interventions that patients and the public will find appetizing.

Thought for Food

BY SHERI HALL

Sarah Wilson knows that obesity and poor dietary choices raise one's risk of various chronic diseases and health conditions—many types of cancer, Type 2 diabetes, heart disease, high blood pressure, and even mental health ailments. Eating right can be a major difference between a lifetime of good health and one plagued by a slew of health problems.

But Wilson also realizes that there are many barriers to proper nutrition—cultural attitudes, limited access to fresh foods, economic insecurity, and just plain old bad habits that are hard to break.

“Most people by now recognize that their diet is connected to their overall health,” Wilson said. “But that does not necessarily translate into healthy dietary choices. Thus, dietitians are challenged to make the evidence relevant to the choices people have to make.”

As the first student in the Division of Nutritional Sciences’ new combined PhD/RD program in dietetics, Wilson is researching how to help people overcome such obstacles to achieve better health. Her dissertation work focuses on helping parents and communities to prevent childhood obesity—a major public health concern with 17 percent of all U.S. children and adolescents obese, according to the Centers for Disease Control and Prevention. While kids face many of the same barriers to proper nutrition as adults, reaching them early is important because their eating habits are often solidified for a lifetime.

Last fall, as part of her community rotation in Cornell’s Dietetic Internship (DI) program (which all PhD/RD students complete in their second year), Wilson visited Parkchester Greenmarket in the Bronx, where many shoppers are low-income residents who receive government assistance to help put food on their tables. There, Wilson overturned people’s assumptions about the high cost of fresh produce and demonstrated how to make tasty meals with fruits and vegetables at the center, not the edges, of their plates.

“You can encourage people to eat more fruits and vegetables, but if they...”

Left: At a cooking workshop for the Cornell campus, dietetic intern Divya Aggarwal shows how to make simple and healthy dishes using kale and other seasonal produce. Above: Led by Cornell dietetic interns, University of Rochester medical students discuss dietary changes for unhealthy patients. Photos by Mark Vorreuter.
“Most people by now recognize that their diet is connected to their overall health. But that does not necessarily translate into healthy dietary choices. Thus, dietitians are challenged to make the evidence relevant to the choices people have to make.”

—Sarah Wilson

Don’t know how to obtain and cook them in a way that they and their family will want to eat, what good is it?” added Wilson, who visited the site while working on programming for the statewide Cornell Cooperative Extension Food & Nutrition Education in Communities program.

Her focus is on translating findings into workable policies and interventions—a hallmark of the combined registered dietitian-doctoral dietetics program and also the Dietetic Internship program. By blending evidence with programs and policy, the college’s graduate programs are preparing the next generation of dietitians to make a meaningful impact on family and individual health.

The stakes are high: each year, chronic diseases account for more than 1.5 million deaths in the United States and lower the quality of life for about 25 million Americans. Improved nutrition, program leaders believe, is at the center of treating and preventing many chronic diseases.

“We know that diet is an important part of preventing chronic disease, and yet many Americans are not achieving the recommendations that promote health,” said Patsy Brannon, professor of nutritional sciences and director of the Cornell Dietetic Internship. “There is a tremendous need for dietitians who can contribute to translating research into practical policies and programs.”

Funded in part for more than 30 years through a training grant from the National Institutes of Health, Cornell’s dietetics program is one of the longest-running in the nation.

It includes the undergraduate Didactic Program in Dietetics, preparing students for careers in nutrition; the post-baccalaureate Dietetic Internship, for those students intending to become registered dietitians; and the joint PhD/RD program.

The programs are united by a strong translational research component that teaches students to connect research with practice. Students in the internship and joint doctoral program study the latest evidence on nutrition, and then complete rotations at community sites and the University of Rochester Medical Center, where they learn to apply the evidence to real-life situations.

“There is no substitute for experiential learning to achieve an in-depth understanding of community needs, program delivery approaches, and the challenges faced by individuals and families,” said Jennifer Wilkins, senior extension associate and community coordinator for the DI program.

“Furthermore, the food systems approach we take helps our interns put these challenges into broader contexts.”

Blending research and practice

In 2011, the Division of Nutritional Sciences launched its combined PhD/RD dietetics program to equip nutrition research leaders with the knowledge and skills to influence practice and policy. It stands alone nationally as the only academic program to integrate the practical components of a dietetics internship with a research-focused doctoral curriculum.

“There is a growing demand for clinically trained dietitians,” said Wilson. “We are committed to providing our students with the education they need to address the health needs of the world.”

Dietetic intern Kirby Moore credits the program with teaching her how to tailor her nutrition knowledge to help people eat right. Photo by Rocco Laurenzo.
scientists in nutrition who understand both research and the practice of dietetics in the community and clinical settings,” said Patrick Stover, director of the Division of Nutritional Sciences. “Nutrition continues to be essential for improving public health.”

The new program focuses on a broad range of disciplines including genetics, molecular biology and biochemistry, epidemiology, sociology, psychology, and economics. The five-year program includes graduate coursework, one year spent in the Dietetic Internship, and a third practical experience focused on national nutrition policy or advanced clinical research. Students focus their thesis research on one of four specialties: molecular nutrition, human nutrition, community nutrition, or international nutrition.

In addition to the combined PhD/RD program, Cornell offers a Dietetics Internship, which prepares students to become registered dietitians through the Commission on Dietetic Registration of the Academy of Nutrition and Dietetics. The program, accredited for 10 students, has been filled to capacity since 2008 thanks to its stellar reputation. During the past five years, 100 percent of Cornell DI graduates have passed the RD exam on their first try and gone on to find employment.

The program begins with graduate coursework and translational research, along with a community placement where students aid in program development. Interns work in roles at employee wellness programs; the Women, Infants, and Children Supplemental Nutrition Program; school meal programs; grocery stores; food banks; and nutrition programs for the elderly.

“The interns are placed at well-established community sites and are mentored by experienced and highly skilled food and nutrition practitioners,” Wilkins said. “They learn through direct experience and observation the many roles and responsibilities these professionals perform in a community nutrition setting.”

Interns often make a sizable impact at their sites. One intern presented a plan for lowering the sodium content of school lunches to a group of regional school lunch managers. Another intern created a seminar on the growing number of grocery stores employing nutritionists, which was broadcast online through the Academy of Nutrition and Dietetics.

Kirby Moore, an intern this year, spent her community rotation in the corporate office of Wegmans grocery store, where she worked on the company’s initiative to expand its offerings of gluten-free foods. Her responsibilities included teaching Wegmans employees about gluten-free diets and answering questions on the topic from the public.

“It related to a class we took about understanding the population you are treating— the barriers they face to good nutrition, the diseases that impact them, and the nutrition tricks that would work best for them,” Moore said. “It’s interesting to see how people understand the information out there in the media and apply it to their lives.”

Eat Smart: Dietetics Education at Cornell

The Cornell Dietetics Program, one of the longest-running in the country, provides training for undergraduate, professional, and doctoral students through three main programs:

Didactic Program in Dietetics, which provides undergraduates with broad perspectives in nutrition (ranging from chemistry to public policy to the social sciences) and prepares them for careers in nutrition;

Dietetic Internship, a joint program with the University of Rochester Medical Center to offer in-depth community, clinical, management, and research experience to students seeking to become registered dietitians;

Combined PhD/RD Program in Dietetics, with a focus on translational research to enhance the effectiveness and impact of clinical and public health nutrition.

Food as medicine

Cornell Dietetic Interns spend the second half of the year in a clinical nutrition and management rotation at the University of Rochester Medical Center, where they work with patients to treat and prevent disease with proper nutrition. They rotate through a range of practices including cardiology, oncology, surgery, pediatrics, and others. They also spend six weeks in a management rotation that includes food service management and employee nutrition education.

As part of the clinical rotation, the interns also work together to conduct a daylong workshop, dubbed the Culinary Lab, for University of Rochester medical students to teach them the basics of dietetics and demonstrate to them the role of registered dietitians to the team charged with treating a patient.

During the workshop, the dietetics interns provided case studies for the medical students, who then had to suggest

For more information:
Patsy Brannon
pmb22@cornell.edu
Patrick Stover
pjs13@cornell.edu
Jennifer Wilkins
jlw15@cornell.edu
www.human.cornell.edu/dns/dieteticinternship/index.cfm

Interns Dish Out Nutrition and Cooking Knowledge at Culinary Lab

BY TED BOSCIA

On a bright midwinter morning, 100 or so University of Rochester medical students may need to be fitted for a different sort of white coat. They’ve traded in their stethoscopes and scalpels for spatulas and skillets as part of their annual Culinary Lab, becoming chefs for a day to learn how to advise patients on eating well for good health.

Guiding the future doctors are ten Cornell Dietetic Interns, who lead them through four different case studies of hypothetical patients—such as a middle-aged Mexican American man with rising blood pressure and a palate for spicy, salty foods and a woman with celiac disease who recently suffered a stroke and is desperate to improve her diet.

Interns Kirby Moore and Gabrielle Gambino are advising a group of seven medical students on dietary changes for an obese African American teen girl who complains of fatigue, admits to drinking lots of soda and eating vending machine snacks, and shows early signs of diabetes. On the menu is pizza, but with a healthy twist: one with whole wheat crust, low-fat mozzarella, tomato puree in place of a canned sauce loaded with sugar and salt, ground turkey rather than pepperoni, black beans, and a bounty of vegetables on top.

Before the cooking begins, Moore quizzes them on the nutritional basis for their recipe substitutions. Noting the girl’s lethargy, they determine her diet is probably lacking vitamin D, calcium, and iron. Her pre-diabetes makes them want to cut down on her carbohydrate intake. And they recommend more whole grains, fruits, and vegetables as a fiber boost.

Moore agrees, and then asks, “What is the mechanism of fiber in the body?”

“It sequesters cholesterol,” says a student next to her.

“Right. And it also decreases the absorption of carbohydrates,” Moore replies.

After a few more minutes of discussion, the medical students roll up their sleeves and enter the kitchen. They chop onions, red peppers, and tomatoes; sauté the veggies and cook the meat; and arrange exact amounts of cheese, puree, and other toppings on the crust before sliding their pizza into the oven.

As the pie bakes, Moore recaps their discussion and reminds the students of the many barriers to healthy eating. In this scenario, the young girl often snacked away from home and her mother complained about limited access to fresh fruits and vegetables available in their neighborhood. Patients may balk at making major dietary changes, may not know how to cook, or may have a fondness for cultural comfort foods high in sugar and salt.

“You can’t just tell people to eat more fruits and vegetables,” Moore says. “You have to understand the psychology of the patient and be willing to start in a place they’re comfortable with. You can design the perfect meal plan for a person, but if they don’t follow it, it won’t work.”

The pizza is ready, just in time for lunch. The groups of medical students around the room sample their healthy dishes, while two Cornell interns recap each of the case studies and explain the role of registered dietitians in patient care.

As a final thought, they close with a Hippocrates quote that reflects their belief in the importance of nutrition and diet to overall health: “Let food be thy medicine and medicine be thy food.”

“…There is no substitute for experiential learning to achieve an in-depth understanding of community needs, program delivery approaches, and the challenges faced by individuals and families. Furthermore, the food systems approach we take helps our interns put these challenges into broader contexts.” —Jennifer Wilkins

diet modifications for patients with a variety of health conditions. The interns explained the importance of minding barriers that might prevent patients from eating healthier, including the cost of food, lack of mobility, and inability to commit to a major lifestyle change (see related story).

“This was a unique and incredibly valuable part of the internship,” explained Wilson, who is scheduled to complete her PhD and RD certifications in 2016. “It’s also a way to make a connection with doctors and help them understand that dietitians can be a fabulous resource for them and their patients.”

Divya Aggarwal, currently enrolled in the Dietetics Internship, also helped coordinate the Culinary Lab. As an undergraduate at Case Western Reserve University, she originally considered medical school before becoming interested in nutrition as a career.

“It’s been exciting to see physicians bring nutritionists into the health care team,” she said. “Nutrition is associated with so much more that just obesity. There is a nutrition component with every condition, and the preventive aspects of eating healthy are important too.”

Aggarwal came to Cornell interested in clinical nutrition, and found that her rotation at the University of Rochester Medical Center confirmed her interest in working in a medical setting.

“Since starting the clinical rotation, I’m even more excited about it,” she said. “My personal hope and vision is that we see medicine moving toward using food as treatments.”