

# A LOOK AHEAD TO A LIFE IN MEDICINE

by Erin Post | photographs by Raj Chawla

## The Premedical Enhancement Program from the College's Office of Primary Care and the UVM Honors College gives promising undergraduates an early immersion in the healing arts.

In his sophomore year at the University of Vermont, Tyler Van Backer walked into Fletcher Allen Health Care for his first day shadowing a trauma surgeon. Just after he arrived, the physician — amidst the bustling of the surgical intensive care unit — pointed to a room and suggested he might want to watch a team insert a chest tube in a patient.

As he watched the scene unfold, something clicked with Van Backer. “I found that I love the environment of the OR — the teamwork, the collaboration,” said the Wilmington, Vt., native. “I like the idea of being able to fix something with my hands.”

Van Backer visited the hospital nearly every week he was on campus that year, observing and asking questions. After graduating from UVM with a neuroscience degree in 2011, he's now a second-year medical student at UVM. And the surgeon he worked with as a sophomore undergraduate wrote him a letter of recommendation for his medical school application.

UVM's Pre-Medical Enhancement Program (PEP) helped make Van Backer's academic path possible. Founded in 2004, the highly-competitive program matches ten academically gifted UVM undergrads

each year with medical student mentors and physician mentors. Through observing different specialties and participating in activities at the College of Medicine, PEP students enter medical school with a deep understanding of the rewards and challenges of the field.

Mildred Reardon, M.D., professor of medicine emerita and former associate dean for primary care, describes PEP as a chance for undergraduate students to see themselves in the role of doctor.

“This is a wonderful opportunity for an undergraduate student to see what medicine is like,” she said.

Reardon spearheaded the program at its inception; she has since retired and passed the reins to Charlotte Reback, M.D., associate professor of medicine and director of medical student programs in the Office of Primary Care. Reback says the experiences PEP students bring to medical school stick with them well into their



professional careers, helping to shape how they practice medicine.

“It makes a strong impact on them when they become physicians,” Reback said.

“They have an early understanding of what it means to be a doctor.”

### Finding a Balance

Running the PEP Program is a collaborative effort: The UVM Honors College advertises the program and gathers applications; the College of Medicine Office of Primary Care coordinates placements with physicians and tracks the progress of PEP students. Students who meet all PEP requirements and MCAT expectations for the College of Medicine can apply in their junior year and are given the chance to interview. The Admissions Committee for the College makes final decisions. About half of the PEP students

Above: UVM undergraduate Greg Roy (at left) shadows his PEP mentor, medical student Tyler Van Backer.

who have graduated in the past three years have entered medical school at UVM. Others have attended medical school at the University of Pennsylvania and University of Massachusetts, or have gone on to veterinary, dentistry and chiropractic schools, and physician assistant and graduate dietetics programs.

The relationship between each PEP student and their medical student mentor lasts for the three years PEP students are in the program, and often much longer. It's a program that requires careful planning. And every academic year, PEP students spend a minimum of 16 hours per semester with their physician mentor; rotating through specialties including everything from primary care and surgery to dermatology and infectious diseases.

Laurie McLean, program specialist in the Office of Primary Care, tracks each undergraduate student's progress. She watches grades and makes sure students submit written reflections. McLean said her office supports students as they learn how to manage their time and navigate college requirements. Although it's rigorous, the goal is to make sure students have the academic preparation they need for future success in medical school.

"We want students to stay healthy and find a good balance," she said.

The ten students who enter the PEP Program annually have already proven themselves to be high achievers. PEP applicants are required to have a cumulative GPA of 3.5 after their first two semesters at UVM, and a 3.5 GPA in math and science classes. They must submit letters of recommendation and sit for an interview.

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— Charlotte Reback, M.D., Associate Professor of Medicine and Director of Medical Student Programs in the Office of Primary Care

Once they are in the program, students are expected to meet GPA requirements, take required pre-med classes, attend two medical seminars per semester and log the required time with their physician mentors.

The admissions process is governed by a six-member committee, which includes Charlotte Reback; Faith Rushford, UVM's pre-health advisor; Lisa Schnell, Ph.D., associate dean of the Honors College; and leaders in the College of Arts and Sciences and the College of Agriculture and Life Sciences. With roughly 25 applicants from across the university annually, the committee is tasked with determining which students will fit well and benefit most from the program. Academic achievement is certainly important, but so are factors such as maturity level and critical-thinking ability. The committee asks questions that tease out students' perceptions of medicine, focusing on how applicants relate the field to issues that may not seem immediately pertinent to the doctor's office.



"We want to see them make connections between the outside world and the practice of medicine," said Reback. "Medicine is becoming such an integrative discipline; we're looking for original thinkers."

It's a sentiment echoed by Rushford. Authenticity and seriousness of purpose are important to the committee, she said. In her work with students in all pre-health fields she helps them seek out opportunities that put them in work settings, getting to know practitioners. PEP is especially beneficial for first-generation college students and others who may be building those connections from the ground up.

"Students vary in the kind of network they have to begin with," Rushford said. "PEP is a great opportunity to develop professional mentors."

The PEP Program is a "big recruiting tool," said Schnell, and students often hear of it through word of mouth before the Honors College even sends out notices to undergrads. Although in the past, recruitment has focused on students in hard science majors, now all first-year students with a 3.3 GPA or higher after their first semester receive information about PEP.

Above: PEP Program founder, Professor of Medicine Emerita Mildred Reardon, M.D.'67.

## PEP: the Vision of "Gifted Leaders"

As one of many programs under the umbrella of the Office of Primary Care (OPC), students in the PEP Program benefit from the OPC's focus on education and awareness. Founded by Reardon in 1993, the OPC supports the state's healthcare workforce and links UVM academic healthcare programs with communities, in part through a network of Area Health Education Centers.

This same spirit of community involvement infuses the PEP Program, said Reback, and is one of the reasons every student shadows a primary care physician for at least one year. As an undergraduate, students can absorb what they experience, and enter medical school grounded in what primary care practice and other specialties are all about. "The program teaches them to take some responsibility," Reback said. "It also gives them some autonomy while being accountable." Each semester, PEP students must attend four clinical sessions and two academic medical seminars.

There are few, if any, models for a pre-medical program as comprehensive as PEP, said Reardon, and that it exists at all is thanks in large part to the "vision of two very gifted leaders at the University," both of whom have since passed away.

Joseph Warshaw, M.D., who served as dean of the College of Medicine from 2000 to 2003, and Joan Smith, Ph.D., former dean of the College of Arts and Sciences, created the program in an effort to support talented and motivated UVM undergraduates pursuing medicine, and to encourage them to apply to the UVM College of Medicine. They saw the opportunity to shepherd students through the sometimes daunting process of becoming a physician, said Reardon. In the



At left: Soon to be a graduate of the College of Medicine, Gwen Fitz-Gerald '14 found that PEP gave her a more realistic view of life as a med student. Above: Current PEP student Rob Rudy at Burlington's Community Health Center.



years since its founding PEP has also become a community.

"A special attribute of the program is its ability to connect undergrads, medical students and physicians and get them all working together," Reardon said.

## A Day in the Doctor's Office

During her three years in the PEP Program, Heather Lutton (UVM '10), now a third-year UVM medical student, witnessed a baby's birth. She was also present in moments of crisis, and when doctors delivered life-changing news to patients. The gravity of these situations helped her understand the responsibility and privilege inherent in being a doctor.

"I saw patients rely on their doctors and confide in them," she said. "Seeing them in that moment — as hard as it was — made me realize the special nature of the physician's role."

A Cambridge, Vt., native who has no immediate family members in the medical field, Lutton said the PEP Program gave her connections she might not have made otherwise. Participation helped her decide that medicine was right for her. It also

piqued her interest in mentoring. As a medical student she helped with another program run by the Office of Primary Care, called MedQuest, that introduces high school students to health careers.

Gwen Fitz-Gerald (UVM '08), a fourth-year medical student from Vergennes, Vt., learned a lot from her medical student mentor. She remembers her surprise at walking into her mentor's apartment for dinner to see a group of her classmates chatting and relaxing. Some of the mystique of the medical school — that they are filled with super-achievers who are supremely focused and always on task — lifted a little.

"Nothing is really preparation for med school until you're in it," she said. "But it was nice to have a bit of the anxiety relieved. I could see people not only survived medical school, they could actually thrive there."

Some PEP students find their intuitions confirmed. Rob Rudy, a senior undergraduate from Palo Alto, Calif., said his time shadowing physicians in neurology/sleep medicine, breast cancer surgery, and primary care gave him the experience he craved. It also turned him on to mentoring. He's one of the first pre-med peer mentors on campus. Combined with international public health volunteer work, he's on his way to finding his calling.

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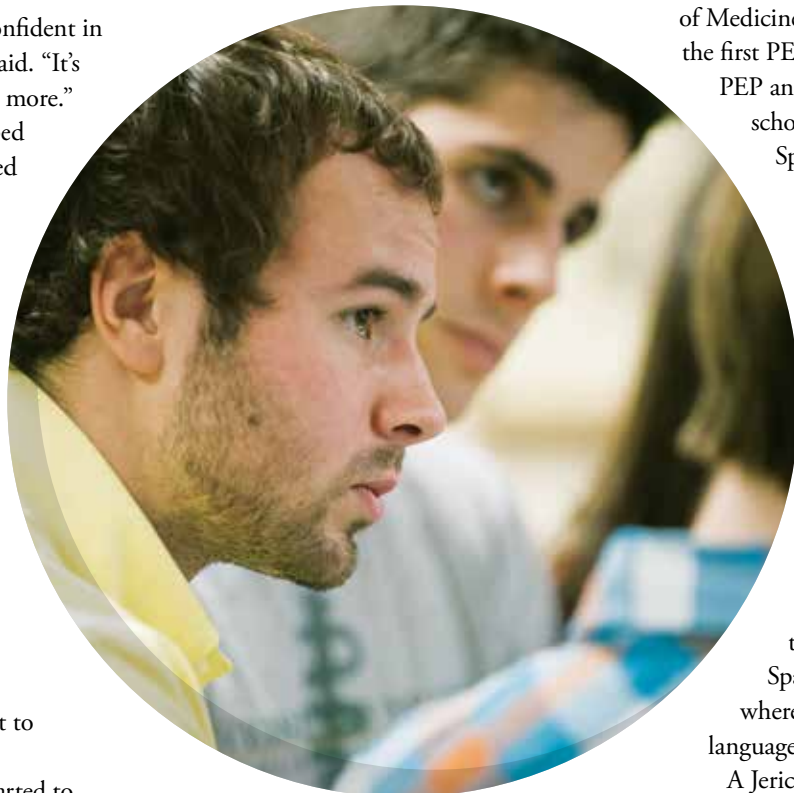
— Faith Rushford, UVM Pre-Health Advisor

“PEP makes you really confident in what you’re getting into,” he said. “It’s only made me want to do this more.”

Tyler Van Backer developed a similar passion that has stayed with him into medical school. After enjoying his time with the trauma surgeon while an undergraduate, he joined the Surgery Interest Group as a medical student. This led to an opportunity working in the research lab of Professor of Surgery Peter Cataldo, M.D. Van Backer credits PEP with helping to steer his focus.

“There is no way I would have gotten where I am today without help,” he said. “I want to continue to give back.”

Van Backer has already started to return the favor. He’s served as a MedQuest counselor and now he’s a PEP mentor himself, paired up with sophomore UVM engineering major Greg Roy. Roy, a Rutland, Vt., native, has attended labs, Grand Rounds, and a panel discussion that introduced him to the ethical dilemmas involved with *in vitro* fertilization. He spent time shadowing a physician at Burlington’s Community Health Center, where doctors see many recent immigrants and refugees. One afternoon, Roy watched as his physician-mentor communicated with a patient from Thailand through a translator. Roy said it opened his eyes to the nuances of primary care; in fact, he enjoyed the Community Health Center so much he is planning to spend additional time



there in his final semester — beyond the required 16 hours.

That students want to spend as much time as they can with their mentors is no surprise to Mary Stanley, M.D., a surgeon who has served as a PEP mentor at various times for more than a decade. She said students have scrubbed in on surgeries and talked about everything from the science of breast cancer to



Above: UVM undergraduate PEP student Greg Roy listens to a Pathology Lab instructor. At right: Lindsay Christensen Corse, M.D.’12, opens her residency match letter in 2012. The PEP alumnus is now a resident at Boston Medical Center.

the importance of working as a team in the operating room. The goal, she said, is to make sure students feel comfortable asking all of the questions they need answered.

“They’re like sponges,” she said. “They soak it all up.”

Lindsay Christensen Corse graduated from UVM in 2008 and from the College of Medicine in 2012. She was one of the first PEP students to complete the PEP and graduate from medical school. A biology major and a Spanish minor, her time in PEP helped in unexpected ways.

The experiences she had shadowing — in pediatrics, emergency medicine, and oncology — all fed into the choice she made to become a primary care physician.

Now she’s a resident at Boston University Medical Center, working in a clinic in East Boston where roughly 70 percent of the patient population speaks Spanish. She’s been on rounds where translators for five different languages have participated.

A Jericho, Vt., native, she hasn’t ruled out coming back to Vermont to practice at some point, although she’s keeping her options open. She knows, however, that primary care was the right choice for her, and PEP helped her see that.

“Having gotten an early look at medicine, I knew I wanted to do everything and see everything and work with different age groups. I love the scope of practice and the emphasis on preventative care,” she said. “It was really helpful to have a picture of what daily life as a physician is like.”

# A Deeper Understanding

Rob Rudy UVM '13

Every year, students who take part in the Premedical Enhancement Program are asked to write a reflection on their time as a PEP student. The following are some typical submissions from PEP participants.

“I thought everything would be so serious and sad at the Breast Care Center, but Dr. Sowden, with her gift of humor, skillfully managed to make the topic of breast cancer funny to her patients and made them laugh and smile. Out of all the experiences I had with her and the patients that’s what I’ve come away with and that’s what has really made an impression on me — the smiles that she put on her patients’ faces... Dr. Sowden often said that she was both a psychiatrist and a surgeon. She had to pick up on the personalities of her patients very quickly, to explain a painful topic to them, to offer them support and reassurance, and to perform the surgery. This gave her a close relationship with her patients, one that any good doctor would want. Most of the patients I saw were already aware of their disease and were either going into surgery very soon or had already been through surgery. However, I remember one woman in particular who was waiting to hear for the first time from Dr. Sowden about her disease. It was

very emotional for both her and her husband. Dr. Sowden’s entire body language changed. She sat close to the patient and leaned in as if to let her know that she’s not alone. I saw the incredibly serious and truly caring side of Dr. Sowden. It was a reminder of the most basic part of being a doctor — being a supportive caretaker. Thank you for giving me the chance to witness the special relationships that Dr. Sowden had with all her patients. She is truly an inspiration.”

— Inessa Manuelyan UVM’14

“I spent the past four months shadowing Dr. Garrick Applebee, a pediatrician by training who, after further fellowship training, now specializes in sleep medicine. Over the course of my shadowing experience, I began to understand the complexity and necessity of treating people who have extraordinary difficulty getting a good night’s sleep... I had a great semester with Dr. Applebee, and was

introduced to a new realm of medicine with which I previously had no experience. Like the previous PEP doctors I have shadowed, Dr. Applebee is a fantastic teacher; we were frequently accompanied by medical students, residents, and a sleep fellow working in the clinic. As I get closer to medical school and to medicine in general, I greatly appreciate time with doctors who are not only incredibly knowledgeable and skilled in their trade, but are also great at working with others, and helping others to learn as much as they can about their specialty. Dr. Applebee, like Dr. Goering and Dr. Stanley, will serve as a role model for how I would like to practice medicine one day.”

— Rob Rudy UVM’13



Read more comments from PEP students, as they reflect on the value of the program, and see additional photos from their encounters. Go to: [uvm.edu/medicine/vtmedicine](http://uvm.edu/medicine/vtmedicine)