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Different Prescriptions: Philosophy? Dance? Economics? The path to medical school doesn't always start with science

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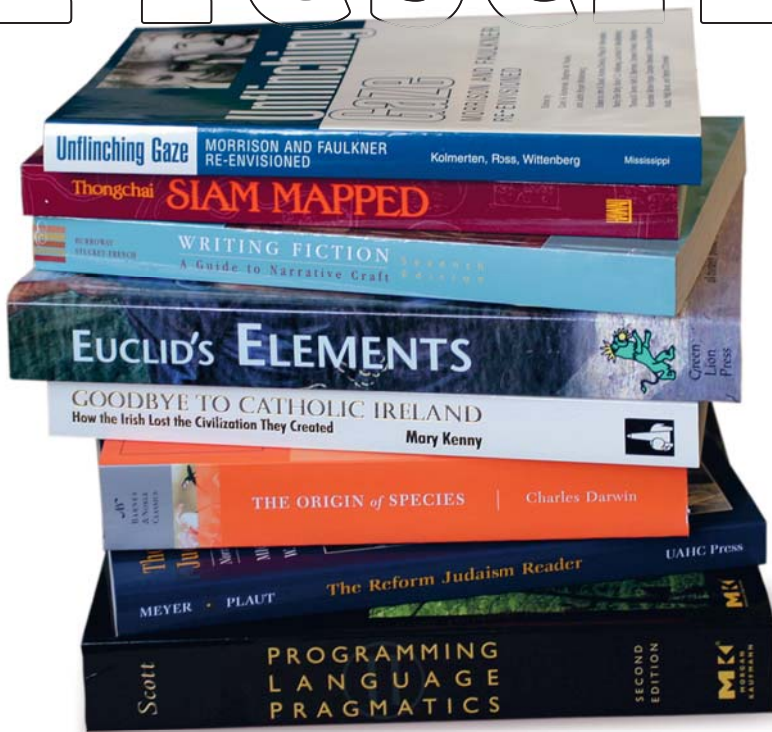
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Different Prescriptions



Philosophy?
Dance?
Economics?
The path to
medical school
doesn't always
start with science.

By Alexis Grant '03



In the hospital that has become her latest classroom, Emily Heiss Roan '97 makes rounds daily, checking on patients, implementing skills she learned during four years in medical school.

Now a first-year resident at New England Medical School in Boston, Roan also uses a less obvious set of skills—skills she gained at Colby, where she majored in a seemingly unrelated discipline: religious studies.

Roan's background in religion adds an important dimension to her treatment of patients, she said, because she understands how to connect with them spiritually. "I think it's just so relevant to medicine, because it has to do with people's attitudes toward the world and themselves and faith," she said. "Medicine really is dealing with issues of life and death."

Roan is part of a cohort that medical school administrators say they're happy to cultivate: students with humanities backgrounds.

She's still in the minority. Most aspiring doctors who graduate from Colby still focus primarily on science during their years on Mayflower Hill. But about a quarter of those who apply to medical school have some sort of humanities major on their résumé.

Of the 47 Colby students and graduates who applied to begin medical school in 2006—the largest number ever—at least nine were non-science majors, according to the College's Office of Career Services. "It's still a majority, by far, who were biology or chemistry majors, no question about it," said Cindy Parker, senior associate director of career services. "But is [medical school] available and accessible to a non-science major? Absolutely."

Nationwide, students who major in humanities as undergraduates are becoming more attractive to medical school admissions committees, said Gwen Garrison, assistant vice president of student and application studies for the Association

of American Medical Colleges. Medical schools want students who can both excel in their studies and become people-friendly doctors, she said, and humanities majors are likely to have had experiences that have versed them in compassion.

"All of us, as people, want to go to a doctor who's both competent and compassionate," Garrison said.

Although they attend medical schools all around the country, most Colby doctors-to-be gravitate toward New England schools. The more popular choices include medical schools at the University of Vermont, Dartmouth College, Boston University, Tufts University, the University of New England, and the University of Massachusetts.

Like most colleges and universities, Colby doesn't offer a premed major. Students who consider themselves premed usu-

James Albright '92, a pediatric ear, nose, and throat surgeon in Houston, was a government major at Colby.



ally major in biology or chemistry and fulfill the basic requirements for medical school while working their way through the major. Most medical schools require a minimum of a year each of biology, chemistry, organic chemistry, and physics. Some also require a year of math, others a year of English. And Colby science majors also benefit from extensive undergraduate research opportunities that increasingly are leading graduates to admission to highly competitive M.D./Ph.D. programs, faculty members say.

Admissions officers at those schools don't necessarily expect to see a college résumé full of science, said Parker, who also serves as chair of Colby's Health Professions Preparation Committee, which helps students navigate the application process. Instead they look for signs that the student has seriously tested her or his interest in medicine and devoted time to the community, Parker said. At the University of Massachusetts Medical School, in Worcester, entering classes are typically made up of half science majors and half non-science majors, said John Paraskos, associate dean of admissions. "We don't see any huge difference in the grades, and some of our best graduates are people who just took the bare minimum of biology and chemistry in undergraduate school," said Paraskos, whose son graduated from Colby in 1991. "When people ask me, 'Should I be a [science] major?' I tell them, 'Absolutely—unless there's something else that attracts your attention more.'"

A liberal arts college offers myriad opportunities, both academic and extracurricular—for humanities, social-science, interdisciplinary and science majors. Kevin Selby '05, now a third-year student at Harvard Medical School, took the premed route, majoring in chemistry. Because he attended a liberal arts school, he said, he was able to delve into other interests, including a minor in music and rowing for the crew team.

Liberal arts students tend to have multiple interests, which medical school administrators expect. At Dartmouth Medical School, about a third of students are non-science majors, said Andrew Welch, director of admissions. "We don't care what the student majors in," Welch said. "Most of the students who make it through a place like Colby and

Getting In

The percentage of applicants from Colby accepted to medical school is increasing steadily, up 12 percent from a decade ago.

A record 47 students and alumni applied to enter the medical school class beginning in 2006, with 68 percent accepted. That is 21 points over the national acceptance rate of 47 percent.

Impressive, when you know how competitive med schools are. But delve into the murky world of admissions statistics and you will find colleges that boast admissions rates nearing 100 percent. How can that be?

Well, it depends on which applicant a college cares to claim.

Colby's method is straightforward, according to Vice President and Dean of Faculty Ed Yeterian, former chair of the Health Professions Preparation Committee. The number of applicants admitted is divided by the total number of students who applied.

All current and recent Colby students planning to apply to medical school are told what the committee thinks of their chances, and letters of recommendation are "appropriately frank," Yeterian said.

And other colleges? Some "pick winners" in advance, Yeterian said, support only those students as applicants, and then claim high acceptance rates. Colby supports each and every applicant to the fullest possible extent, he said.

"I can recall numerous times when we supported an applicant who had 'low numbers' by national standards (i.e., an academic record that seemed marginal), but who was strong in other ways, and then had the pleasure of seeing that student admitted and becoming a successful physician," Yeterian wrote in an e-mail. "In short, our way of reporting our admit rate to medical school is consistent with the way that we support all of our students as they work toward their professional goals."

With that in mind, here are more numbers from Colby's Office of Career Services for medical school classes entering from 2002 to 2006:

- 78 percent of Colby applicants majored in science: biology, chemistry, biochemistry, psychology, and physics. Biology was the most common major, with 100 applications out of a total of 156.
- Of the 45 humanities majors applying to medical school, nine majored in a foreign language, seven in English, and seven in history.
- 67 percent of science majors were admitted, and 64 percent of non-science majors got in.

—Gerry Boyle '78

through our admissions process are going to be just fine."

And those future doctors go through Colby in different ways.

Michelle Stone '05 started at Colby expecting to be in the premed group. The daughter of two doctors, she had planned to major in biology to prepare for medical school. But early in her first year, she realized she had other interests she wanted to pursue and declared a very different focus: Spanish literature. "I knew that I wanted to go to medical school—that had been the plan all along—so I figured I should do other stuff that I wanted to do, since I was at a liberal arts college," she said.

Stone managed to feed both interests: she

studied Spanish, spent a semester in Ecuador, and also fulfilled basic premed science requirements. But instead of taking the Medical College Admission Test (MCAT) during her junior year, a necessary step to go directly to medical school from Colby, Stone took the test during her senior year, with plans to take a year off.

She worked as a ski instructor (among other things) in Colorado before entering the University of New England College of Osteopathic Medicine in Maine, where she's now in her second year.

"I could have taken more science classes at Colby and been better prepared," Stone said. "In the long run, I think it's not going to make a difference."

There are a variety of ways to meet medical school science requirements without majoring in biology or chemistry. Some students take only basic science courses and major in another subject, while others skip hard sciences altogether and hope to acquire that knowledge later.

Most humanities-majors-turned-medical-students interviewed for this story said they don't have problems keeping up with their science-major peers, despite having taken fewer science classes before medical school. But not all.

"Right now I definitely feel like I'm at a disadvantage not being a science major," said

blond hair, wheeled herself into Albright's operating room mid-morning in a red toy car, her feet propelling her toward the room where she would receive anesthesia. In just 10 minutes, Albright had inserted tubes in her ears and removed her adenoids. That will help her hear and breathe better and avoid the persistent ear infections that had plagued her over the last year, he said.

How does his government major help him now? It helped make him a strong writer, a skill he said some doctors lack. But most important, he said, is the way it helps him communicate with his patients and their parents.

Albright fulfilled his basic science re-

swer," Clark said. "It was a matter of degree—how much you knew."

But at medical school he either knows the answer or he doesn't. Though his first trimester was tough, Clark said that, once he figured out how to manage his time and sort through the tremendous amount of information he was expected to learn, he did well.

Medical school is a challenge for nearly everyone, regardless of the route taken to get there. Some say it's the complexity of the material; others point to the huge volume of information. "Medical school is very difficult," said Nick Markham '04, a third-year student in the M.D./Ph.D. program at Van-

"I think I'm one of the only med students who thinks they worked harder in undergrad. Other guys, even from Ivy League schools, are struggling with the load, but I think it's pretty manageable."

biology major Doug Melzer '03, second-year student, University of Colorado School of Medicine

Kate Ginty '03, an environmental policy major who started at the University of Pennsylvania School of Medicine last fall. "But I think all that's going to even out within the next month or two."

Recognizing this trend, Colby recently began offering a course called Medical Biochemistry, intended for non-chemistry majors who are considering medical school. Some may decide that medicine is not for them. That can be a good thing, because the physician's life is not something to enter into without deliberation.

James Albright '92, now a pediatric ear, nose, and throat surgeon in Houston, began practicing after medical school, a five-year residency, and a two-year fellowship. "It's a long road," said Albright, a government major. "My twenties were pretty much taken up with training and school. It was eleven years after Colby before I could collect a paycheck."

Albright sees patients three days a week at his private practice in Houston and spends two days a week in the operating room at Texas Children's Hospital. On a recent workday, one of his patients, a toddler with

quirements at Colby, and he chose to go directly to medical school afterwards. But he's in the minority for Colby graduates: nearly three quarters of those who attend medical school take at least a year off before starting the long process of becoming a doctor. "We have many students who have known they are going to apply to medical school, but they choose to work for several years before they do it," Parker said.

Nationally, the average age of students entering medical school is 24, according to the Association of American Medical Colleges. Once enrolled, medical students take about two years of classes before the transition into clinical rotations. The workload and schedule can be challenging in a variety of ways. Tim Clark '03, a second-year student at the Philadelphia College of Osteopathic Medicine, said his biggest adjustment was learning to take multiple-choice tests. As a history major at Colby (he also worked for the ambulance service in Waterville while an undergraduate), most of his Colby exams were short answers or essays.

"At Colby, you never *didn't know* the an-

derbilt University School of Medicine and a biology major at Colby. "Anyone who tells you otherwise isn't working hard enough."

Indeed, medical school doesn't leave much time for anything else. Once students become residents, they work 12- and 18-hour days, with some shifts going even longer.

Christy Person Cummings '02, a French literature and biology major who is now a second-year pediatric resident at Yale-New Haven Children's Hospital, said she has moments when she realizes all her hard work was worth it. "Sometimes after a thirty-hour shift you get to play with a newborn baby and [be with] their parents," she said, "and you realize why you're doing [medicine]."

And yes, Cummings still uses her French. In fact, her language skills make her a better doctor, she said, because she can communicate with non-English speaking patients who visit the clinic.

There are, of course, plenty of aspiring doctors who make their way to medical school the traditional way—the majority who tackle a full load of biology and chemistry at Colby. And they say they are well pre-

Answering the Call

Last fall, to get ready for her first class at the University of Vermont, Megan Gossling '02 needed school supplies. Not books. Surgical tools.

"I'm used to going to Bobs and getting my psych books," Gossling said. "Now I'm going to the bookstore and [saying], 'I need five twenty blades.'"

A so-called 20 blade (the 20 refers to size) is a surgical tool she would soon use to dissect a cadaver at the UVM College of Medicine.

Learning as much as possible from the donated body is a responsibility Gossling doesn't take lightly. "If I don't get my butt in gear and know what I'm doing, I've completely wasted their dying wish," she said. "That's a lot of pressure. But I guess that's what medicine is—pressure."

Unlike some of her peers who have been on the fast track to a career in medicine, the psychology major detoured a bit after college before realizing she wanted to become a doctor. But now she's ready for the challenge.

After Colby, she enrolled in a master's program in student affairs and counseling psychology at Ohio State University. Partway into the second year of the program, when she began working directly with patients, Gossling realized she wasn't satisfied. "When I started counseling patients, I realized there was more than just talking," she said. "It wasn't just a mind thing, it was a body thing, too."



Megan Gossling '02

Gossling had no experience in medicine. She had never volunteered at a hospital or clinic. At Colby she had taken one chemistry course and biology for non-science majors, to fulfill the science distribution requirement. Then, rather suddenly, she wanted to become a physician.

Eighteen months into her studies at Ohio, Gossling left. She moved to Boston, where she worked in an allergy clinic for a year to confirm her interest in medicine. Then she fulfilled her science prerequisites through a post-baccalaureate program at Wellesley while working weekends as a patient-care associate, tending to surgical patients. Soon she was applying to medical schools.

"I was told a million times when I was applying that it's not going to hurt you when you're not a science major," Gossling said. "I didn't necessarily believe that, but a lot of [my medical school classmates] aren't science majors."

Her broad background turned out to be an asset; UVM was one of her preferred schools. It gave her the opportunity to return to New England, where she's hoping to settle.

Several months into her first semester, Gossling said she's right where she wants to be. Medicine may not have been the obvious choice at graduation, she says, but it was the right one.

—Alexis Grant '03

pared for both the nature of work in medical school and the load.

"I think I'm one of the only med students who thinks they worked harder in undergrad," Doug Melzer '03, a biology major, wrote in an e-mail after his first year at the University of Colorado School of Medicine in Denver. "Other guys, even from Ivy League schools, are struggling with the load, but I think it's pretty manageable."

Students who didn't delve into prerequisites in undergraduate school can get them in a post-baccalaureate program. Those programs—about 100 exist across the country—pack all of the necessary science knowledge and skills into one or two years, then help students apply to medical schools.

Plenty of students also take science classes after Colby without enrolling in a special program, an option that can be less costly than a post-bac but may lack guidance through the admissions process.

The post-baccalaureate option appealed to Alex Browne '03 because he had always considered a career in medicine but wasn't ready

to commit at Colby. The philosophy major enrolled in Bennington College's Postbaccalaureate Premedical Program in Vermont after taking two years off to work as a paralegal. At Bennington Browne fulfilled the requirements necessary to apply to medical school as well as electives like genetics and microbiology. As at many post-baccalaureate programs, students were expected to learn the basics quickly, over just a 12-month period.

"It was the hardest academic year of my life," said Browne, who's originally from New York City. "If you went to the bathroom, you could miss a day's worth of information."

In February all that hard work began to pay off. Browne was accepted at Robert Wood Johnson Medical School in New Jersey and was waiting to hear from several others. "I feel like the weight of the world is off my shoulders," he wrote in a post-interview update e-mail.

Some medical schools offer programs designed to attract liberal arts students with minimal science backgrounds. Mount Sinai School of Medicine in New York City, for

example, every year offers admission to a group of humanities students who aren't required to take the MCAT.

That worked out well for Meade Barlow '03, a theater major. Now in his fourth year at Mt. Sinai, Barlow recently began a rotation in surgery, the specialty he hopes to enter as a fully trained doctor. "I thought that I wanted to be a pediatrician," the former Colby actor said. "Then I did my surgery portion and I loved working with my hands. It just sort of spoke to me."

Regardless of choices made in undergraduate school, experiences outside of what used to be considered directly applicable to medicine pay off for doctors in the long run.

Communication skills are largely what have made Albright, the ENT, successful in his practice, he said. As a result, he has the opportunity to be close to his patients during the best—and sometimes worst—days of their lives.

"That's really awesome," he said. "Not too many people in everyday life have that experience." *