Example of Language for Tiered Consent.*

With your permission, we would like to store your blood sample for use in future research. You do not have to agree to this in order to be in the study, and your decision will not affect the care you receive from the study doctors.

Please pick one of the choices below:

- My blood may be kept and used in research to learn about, prevent, or treat diabetes.
- My blood may be kept and used in research to learn about, prevent, or treat diabetes or other health problems (e.g., heart disease and mental illness).
- My blood may not be used in future research unless researchers contact me to tell me about the study and ask my permission.
- My blood may not be used in future research. I do not want researchers to contact me about future studies.

* Adapted from the National Cancer Institute's informed consent template for cancer treatment trials.

ment may lead to changes in research practices. It suggests that researchers need to ensure that the study population's perspectives are understood and considered. When research involves a defined community, community consultation during study planning can help to identify areas of concern regarding possible future uses of biospecimens so that tiered-consent options reflect what matters to study participants. Although future research directions are not usually known, consultation can help in identifying sensitive topics and evaluating the need for ongoing partnership with community representatives.

The storage and ongoing research use of biospecimens have long raised troubling questions about informed consent. Although practices have evolved considerably, conflicts such as the Havasupai case suggest they have not yet fully risen to the ethical challenges of the genomic age.

Disclosure forms provided by the authors are available with the full text of this article at NEJM.org.

From the Department of Health Policy and Management, Harvard School of Public Health, Boston (M.M.M.); and Georgia State University College of Law, Atlanta (L.E.W.).

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BECOMING A PHYSICIAN

The Case for Primary Care — A Medical Student's Perspective

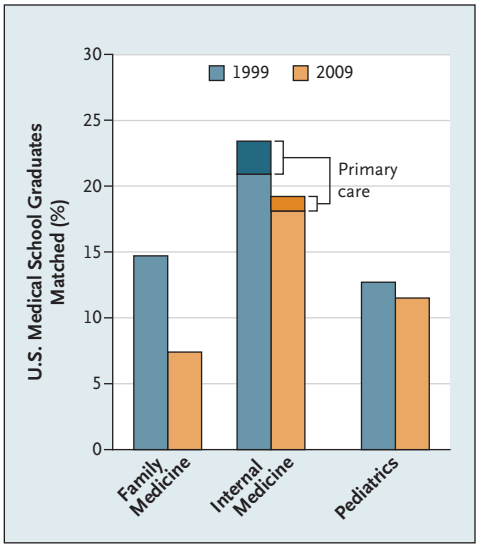
Ishani Ganguli, B.A.

Ms. J. was no stranger to medical students. The year before I came along, she'd worked with another student, and she took unabashed pleasure in sharing the teachable complexities of her health problems — diabetes, depression, obesity, and osteoarthritis. She arrived at our first appointment, in the fall of my third year, adorned in a hot-pink feathered hat with matching sweatshirt and oversized hoop earrings. She labored to the exam room using a walker, and as we chatted, the buoyancy of her Trinidadian lilt was undercut with a sadness that would take months for me to even begin to unpack.

"You gonna fix me?" she asked with a chuckle. I told her I'd do my best.

Over the course of our visits, we spent hours discussing how to cut out the sugar, shed the pounds, and control the pain. I worked my way down her problem list, adjusting medications and setting up specialists' appointments, as other students and doctors had done before me. I looked forward to seeing her each month, but part of me was also exhausted by the prospect — the roots of her problems seemed hopelessly tangled, and the quick fixes she had half-jokingly asked for were nowhere to be found.

Ms. J. was part of my first longitudinal experience of primary care at Harvard Medical School — an experience that left me conflicted. On the one hand, I understood the pressing need for primary care. I liked the idea of making fresh diagnoses at the gateway of the health care sys-



Percentages of U.S. Medical School Graduates Matched to Residencies in Primary Care–Related Specialties, 1999 and 2009.

Data are from the National Resident Matching Program.

tem, of integrating broad swaths of medical knowledge, and of truly knowing my patients. And in my less cynical moments, I believed in the positive impact of counseling patients about lifestyle issues and focusing on wellness rather than disease.

At the same time, I was realizing that primary care was hard — hard in ways that I hadn't been prepared for and that weren't valued by the culture in which I was training. Though I am lucky to have a few wonderful mentors in primary care, there is an overwhelming ethos of subspecialization at academic medical centers like Harvard. The predominance of specialists among our teachers reflects a health care system that affords such practitioners more money and prestige, and we students are subtly and frequently entreated to get that for ourselves, not to waste our talent. But despite the popular image of primary care as a jack-of-all-trades career that renders it impossible to become master of one, I discovered that it in fact requires a unique skill set — an ability to link complex information, patience, a sophisticated knowledge of the health care system, and an appreciation of social context.

Primary care, with its sweeping vistas of the health spectrum, is what many of us understood as the essence of doctorhood when we entered medical school. Yet fewer and fewer of us actually commit to this track 4 years later. Although the 2009 residency match saw the largest number of applicants in its history, the proportion of U.S. medical students matching in primary care fields, including internal medicine, pediatrics, and family medicine, continues to drop (see graph) — from 55.8% in 1998 to 41.0% in 2005 and to 40.0% in 2009.[1] In a recent survey of 1177 fourth-year students, only 2% of the 274 who were interested in internal medicine said they intended to pursue general internal medicine.[2]

According to a recent report by the Robert Graham Center for Policy Studies in Family Medicine and Primary Care, the factors associated with students' choice of primary care include experience training in rural or inner-city settings, a desire to treat underserved populations, and attending a public medical school.[3] Conversely, studies show that the income discrepancy between primary care and subspecialties — an average gap of $3.5 million over a 35-to-40-year career — has a significantly negative effect on the likelihood of students' choosing the path of primary care.[3]

The pros and cons of practicing primary care have received national attention during the health care debate. Whereas the profession was once associated with a Rockwellian image of the consummate benevolent provider, its reputation shifted in the era of managed care and superspecialization. The arguments against practicing primary care are familiar: too little pay and too little time for too many patients and too much paperwork. But as the cause of primary care gains political momentum, I believe there is reason for optimism.

As the realities of our failing system set in, primary care is being reframed as the hero's path. It now seems to be the purview of trainees who are interested in a broad perspective on the health care system and have the itch to fix it. From what I've seen, this cohort is an energetic group that embraces team-based practice and believes in the value of good primary care: improved health outcomes at lower cost for more people.[4]

Recent national consideration of the dearth of primary care practitioners has focused on the medical school graduates who might fill these roles, and medical schools have an opportunity to build on this energy — in part, it seems to me, by exposing students to primary care earlier in their training and reducing the massive debt loads that deter many from entering the field. Most students have little sense of primary care from the perspective of the practitioner, rather than the patient, until they have already latched on to more specialized fields, and they aren't exposed to the field in ways that highlight its many strengths: longitudinal relationships, diagnostic mysteries, and the opportunity to impart social justice. Since these lessons are difficult to convey in the setting of inpatient wards with rapid turnaround, it

makes sense to take advantage of community health centers and allow students to do more in outpatient settings, where most U.S. health care is practiced. (The Accreditation Council for Graduate Medical Education, recognizing this need, requires that at least one third of residency training in internal medicine occur in ambulatory settings.)

Choosing primary care would be easier for students who are drawn to the field from the start if medical schools established a primary care track[5]; provided more financial support for clinicians and students to participate in primary care mentorship, research, and clinical innovation; and recognized champions of primary care, the way medicine has recognized prominent cardiologists and transplantation surgeons. Financial and other measures to encourage students to choose primary care are helpful and may be the only way to quickly augment the primary care workforce. But ultimately, I think the real money lies in fixing the system in which we will work — making primary care better for doctors and patients and engaging future doctors in that process.

On a chilly March day toward the end of my third year, I had the opportunity to visit Ms. J. in her home. We sat down to chat on her cream-colored couch, near the Christmas tree that — dressed, like Ms. J., in pink — still crowded the living room. She led me on a tour of her kitchen, where high-fiber cereals had recently replaced the sugary varieties but a king-size Hershey bar was still stashed in the refrigerator door. As I kept pace behind her walker and looked around, at the plastic commode installed in the bathroom and at the basement bar where her husband entertained female guests, I began to connect Ms. J.'s constellation of problems, and I realized how much I could still do to "fix" her.

Most primary care doctors don't have the time for home visits these days. But for a medical student, it was a reminder of how interesting, meaningful, and vital the field has the potential to be. Primary care is not a backup plan for trainees who stopped short of specialization; it is a worthwhile challenge and should reflect a deliberate choice for doctors-to-be who want to have a positive impact on both health and the health care system. It's a challenge I look forward to undertaking when I apply for a residency in primary care this fall.

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From Harvard Medical School, Boston.

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