

Important Proposals for Education-Service Exchange Programs

In this issue of the journal you will find ten essays responding to my 2010 Question of the Year, *What are the most effective ways to make medical school tuition and fees free to students in exchange for public service?*¹ The many essays that were submitted generated considerable discussion among editorial board members and the journal's professional editorial staff as we deliberated about which ones to publish. The choices were not easy. But I believe you will agree that the ten that were chosen offer an impressive array of ideas that could lead to new and expanded initiatives to make medical school tuition and fees free to students in exchange for public service.

Some essays describe functioning programs; others offer fresh, innovative ideas. For example, Waechter et al. at the Uniformed Services University of the Health Sciences describe the longstanding military-related and Public Health Service options in the United States, including the Health Professions Scholarship Program. Likewise, Shoucri and Hanson discuss the Medical Officer Training Program of the Canadian Forces as an option for Canadian medical students to participate in a return-of-service program.

Alternatively, Shomaker proposes a new idea built on a historic one—the Medical Marshall Plan—that combines federal funding of medical school tuition with service in federal health professions shortage areas or other settings. Wagoner and Suriano present a new idea to reduce both the time and cost of a medical school education while providing incentives for individuals to pursue a career in primary care.

Medical students weighed in with their own innovative ideas. Vohra and Sylla propose reducing a physician's educational debt through a novel point

system that takes into account factors such as the physician's specialty choice and attributes of his or her practice locale (e.g., the degree of medical need and how much time the physician spends in the area). And Izenberg suggests the inventive notion of a "service residency" that would make a few years of service part and parcel of the training requirement of residency programs.

Existing programs described in the essays draw from both public and private funding. For instance, Humphrey et al. describe the Repayment for Education to Alumni in Community Health program, a joint effort of the Pritzker School of Medicine and the University of Chicago Medical Center—a privately funded program focused on improving health in the neighborhoods around the University of Chicago. In contrast, Chumley et al. describe the Kansas Medical Student Loan program, a publicly funded initiative of the State of Kansas aimed at producing more primary care doctors who will practice in Kansas.

Additionally, you will find that the programs and ideas discussed in the essays cover multiple venues. Bittrich et al., as a case in point, invoke the use of Veterans Administration outpatient clinics along with public health departments in their proposal.

Finally, one essay is from an enterprising medical student, Sidney Morgan, who engaged in a partnership with his rural hometown community. The community is paying his medical school tuition in exchange for his promise to return to his hometown to practice.

As I have stated previously, the purpose of the Question of the Year "is to foster deeper, more comprehensive thinking about issues important to medical schools and teaching hospitals, to open

new avenues of exploration, and to engage readers with the journal in a new way."² While the authors of these ten essays achieve these goals by describing efforts to subsidize medical school tuition and fees in exchange for service, there is an implicit theme woven through every essay: education-service exchange programs have the potential to improve care in underserved areas, for active-duty military personnel, for veterans, in the immediate vicinity of a teaching hospital, in public health clinics, and even in a student's own rural hometown.

I extend my appreciation to each member of the journal's editorial board and professional editorial staff for helping me judge the submitted responses and for their enlightened perspectives and thoughtful comments.



We are nearing the end of the centennial celebration of Flexner's 1910 report, *Medical Education in the United States and Canada: A Report to the Carnegie Foundation for the Advancement of Teaching*. Thus, in this issue of the journal, you will find more on Flexner. To complement the articles in the February 2010 issue of *Academic Medicine*, which was devoted in its entirety to analysis and discussion of the Flexner Report, this issue has articles, commentaries, and letters to the editor on related topics, including Pritchett's introduction to the Flexner Report, Flexner's contributions after his report, and Flexner's influence on Dutch medical education.

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No Debt, Better Education, and Better Health Care: What's Not to Like?

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The major challenges for any effort to make an exchange of free medical school tuition and fees for public service are to avoid creating new bureaucracies, increasing overall costs, or depleting the funding of either schools or other publicly funded agencies. Ideally, the approach would not only relieve students of the burden of debt but also further their development as health professionals and provide needed services for the public. We propose a two-prong approach.

Create Outpatient Clinics Affiliated With the Veterans Administration Hospitals

These clinics would serve the needs of all those who are newly insured as a result of the recent federal legislation. Each clinic would have a permanent director and core physicians but be mostly staffed with residents and physicians providing obligatory public service. Because a comprehensive clinic needs nurses, pharmacists, and other health providers to function, it could also serve the same purpose for students in these other health professions. Medical residents and the other graduate health professions students would receive one year of loan forgiveness for each two years of residency, and salaries would be similar to national salaries. Residents in this program would provide the same duties as current residents, but their continuity clinics would be based within this new system. New residency slots created in response to the predicted 30% increase in medical school class sizes would be dedicated to these outpatient clinics.

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The outpatient clinics would be integrated with the Veterans Affairs (VA) system hospitals to take advantage of economies of scale, state-of-the-art electronic medical records,¹ and the VA's service-based administrative emphasis.²

Expansion of Opportunities for Residents and Physicians and Other Health Care Providers in Public Health

These opportunities would be based partially in health departments and would help address the chronic shortage of medical and other health personnel working in public health. Physicians with public health training and experience are needed for chief medical officers at the state level and medical directors at the local level. Public health positions would expand the opportunities for residents and physicians to work on interventions aimed at disease prevention and health promotion that affect an entire population and extend beyond medical treatment.

In addition to a paydown of one year of school tuition for two years of service, residents could obtain an MPH, and some physicians could even become board certified in preventive medicine as they provide their service. These physicians and other health care providers would also be attached to the VA-based outpatient clinics and would assist with immunizations, health awareness campaigns for chronic diseases and communicable diseases (including STDs), and environmental health and other community health initiatives. The integration of the VA-based outpatient clinics with the public health departments would provide more ready access to populations for targeted public health initiatives and broader training opportunities for all residents in both services.

Funding

Funding for both initiatives would be provided by what would otherwise be the premiums for insurance and the overhead costs of administering the insurance program for the 31 million citizens newly covered under the Patient Protection and Affordable Care Act.³ The only part of the

new coverage that would remain insurance would be for catastrophic illness. Government support for a clinic would be based on the population within its "catchment area" determined by census information.

Physicians and other practicing health professionals would receive a 1–1 loan forgiveness, but their salaries would be less than the national average for first-year health providers by one year's tuition. There would be a 2% escalator for each year of satisfactory service. The difference between what is paid and the national average salary would transfer to the school from which the health care provider graduated. For patients, the clinic visits would be free or on a sliding scale to motivate patients to comply with care recommendations.

Summing Up

The program we propose would not only address the issue of providing service for tuition remission for a broad range of health professionals but also would support the provision of health services to all citizens. In addition, it would improve the education of health care providers through more and better outpatient experiences during residency training within the service-oriented VA system or public health departments. It would expand our capability for disease prevention. Finally, it could be implemented within the frameworks of existing health care systems and without disabusing funding for medical schools, the VA, or public health departments.

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The Kansas Medical Student Loan Program: A Successful Tuition–Service Exchange Model

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The State of Kansas has provided Kansas University Medical Center with a highly effective mechanism to significantly reduce the cost of medical school for students in exchange for service. The Kansas Medical Student Loan (KMSL) program provides tuition and living expenses for 120 students every year. KMSL recipients commit to one year of service for each year of funding. Recipients agree to enter an approved primary care residency and work in a designated underserved location. Students who fail to meet these obligations must pay back their loan plus 15% interest.

The high rates of enrollment and fulfillment of service obligations of KMSL recipients demonstrate its success. We have had nearly 100% enrollment since 2007. Since 1992, 66% of KMSL recipients who have completed their obligations have done so by working in the neediest parts of Kansas. We attribute the success of the KMSL program to three key features: the option for retroactive enrollment, state support, and adequate incentives.

In 2005, 90% of the 120 KMSL program slots were filled, but student interest was declining. A study of the program

identified several student concerns. Most important, students felt that they had to choose to practice primary care too early in their medical training. As a result, in 2007, the state statute was changed, allowing students to enroll in the program retroactively. If a fourth-year student now decides on primary care and plans to practice in an underserved area in Kansas, the student can apply for four years of funding in exchange for four years of service.

Funds received for school already completed are applied to any loans incurred. In the above example, a student may have already incurred \$100,000 in medical school debt. If that student committed to four years of service, previous tuition and stipends would be retroactively applied to this debt, dramatically decreasing the amount of money the student owed. After this important change, student interest increased, and nearly all slots are filled each year.

The KMSL program is state funded as a line item under higher education. The program and its goals are defined in state statute to meet the most pressing needs of the state, such as providing primary care physicians in underserved areas. Because the KMSL is tied to statute, the program remains stable year to year, as considerable effort is required to change a statute. When funding is threatened, the program enjoys strong support from other stakeholders interested in addressing workforce shortages in Kansas, such as state legislators from rural and underserved areas. The line item funding status forces legislators to make a conscious decision to cut funding for the program. In the last 15 years, 50 counties in Kansas gained new doctors as a result of the KMSL program. Because many legislators' constituents have graduates of the program practicing in their counties, they protect KMSL

funding. Legislators have built in two other funding sources to generate reserves for the program: repayment by students who fail to meet the obligation and a portion of the tax on Kansas hospitals. Despite recent across-the-board cuts to all higher education programs, these reserves allow the KMSL program to operate at full capacity.

The KMSL program covers full tuition (in-state or out-of-state) and provides a \$2,000-per-month stipend, which allows students to graduate with minimal debt. The continued capacity enrollment and physicians' years of service to the state are evidence that these features remain positive incentives for students. Nonetheless, deterrents are important as well. Students who fail to meet the obligations of the program must repay their loans at 15% interest. The high interest penalty encourages students who change their minds to leave the program, opening up slots for others who want to take advantage of the retroactive option. Money repaid to the Kansas Medical Loan Repayment Fund remains in the program to fund other students. If there is a dramatic increase in the percentage of students repaying the program through service, this source of funding will diminish, but we can anticipate a drastic change in advance and address the issue with the Kansas State Legislature.

Today the KMSL program has nearly 100% enrollment, and over 66% of students fulfill their obligations to the people of Kansas through service. On average, 18 physicians begin repaying their service obligations each year, which has made a profound difference in the 89 Kansas counties in need of primary care physicians. This success can be tied directly to the program's three unique features: retroactive enrollment, state rather than federal funding, and strong incentives with stiff penalties.

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The University of Chicago REACH Program: Improving Health, Decreasing Debt

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In 2009, the Pritzker School of Medicine (PSOM) and the University of Chicago Medical Center (UCMC) implemented an innovative program designed to address two important goals: (1) to decrease our graduates' debt and (2) to improve the health of our community. The program entitled REACH (Repayment for Education to Alumni in Community Health) encourages PSOM graduates to practice in federally qualified health centers (FQHCs) or community hospitals in the underserved neighborhoods surrounding the University of Chicago by addressing financial barriers that might deter even the most altruistic young physician from such a choice. The average debt of a PSOM graduate is approximately \$160,000. REACH provides a \$40,000 yearly stipend from UCMC, in addition to the salary provided through the FQHC or community hospital, for a period of up to four years. REACH also connects alumni participants with the Urban Health Initiative (UHI), a wide-reaching program linking UCMC and community partners to improve the health of Chicago's South Side residents in order to promote bonds between our graduates and our surrounding community, its residents, its health providers, and the research, clinical, and teaching missions of UCMC. In

addition to providing clinical care, REACH recipients take on leadership roles in UHI's community-engaged research and teaching programs involving our own medical students.

Historically, while a small number of our students have participated in the National Health Service Corps, the University of Chicago, a research-oriented medical school, has not traditionally matriculated large numbers of students who are prepared to commit to providing primary care in underserved settings. However, through targeted curriculum, including one of the very first required medical school courses on health care disparities¹ as well as a requirement for all students to complete a scholarship and discovery project where one of the areas of concentration is a community health track, the University of Chicago now graduates an increasing number of students with a strong interest in public service. The most recent data from the 2009 Graduation Questionnaire demonstrate this as a strong and growing interest. For example, 38% of PSOM graduates (compared with 29% nationally) indicated their intention to locate their practice in an underserved area, with 87% of those responding indicating the likely location being an inner-city community.²

Given the demonstrated impact of our curriculum in encouraging a culture of service, education–service exchange programs which require a commitment on the first day of medical school may not have as broad or as significant an impact for our student population. REACH captures students whose career paths evolve through participation in course work, research, and service learning opportunities during medical school.

REACH differs from loan repayment programs in several important ways. First, the program considers the community's broader health care needs by including both primary care physicians and much-needed specialists in cardiology, nephrology, gastroenterology, and dermatology. Our mission is to encourage practice in underserved communities even among alumni whose specialties of medicine do not typically offer such a pathway. Second, participants in REACH can practice part-time (at least 50%) with a

prorated stipend. This option allows participants the flexibility to devote time to leadership positions in their practices, engage in research or teaching, raise children, or devote time to other personal priority areas. Finally, REACH participants practice in a community well known to them from medical school. Because this commitment represents an informed choice, we anticipate that participants are more likely to remain on the South Side of Chicago after completing the REACH program.

REACH began recruiting in spring 2009. One early challenge has been the strong emphasis among local FQHCs and community hospitals on hiring family doctors, not a field chosen by a significant number of our graduates in the past. However, interactions with the UHI and strong interest on the part of PSOM graduates in the REACH program have led to an expansion of FQHC recruiting. Our first REACH recipient (a family medicine physician) began practice in fall 2009, with two additional REACH recipients (a family medicine physician and a primary care pediatrician) joining in fall 2010. Further, the FQHCs have begun to consider their subspecialty needs and are considering creating a shared position for a subspecialist (such as a dermatologist or a cardiologist) at multiple practice locations.

REACH offers a novel approach to addressing two distinct problems—expanding physicians in our underserved South Side community and addressing educational debt of our graduates. It is an innovative model by which academic medical centers can support the health of their communities while providing meaningful assistance to their medical students. The advantages for community, medical school, students, and medical center are potentially transformative.

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Service Residencies: A New Approach to the Medical Education–Service Exchange

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Currently, the National Health Service Corps (NHSC) and an array of military Health Professions Scholarships provide no-cost medical education in exchange for a period of service. While such programs fill key needs and spare future doctors a substantial economic burden, they come with major costs as well. The NHSC, an excellent program dedicated to drawing young physicians into primary care for the underserved, has drawbacks. To get the full cost of education covered upfront, medical students must commit to primary care even before beginning rotations, a risky move, as many students will testify. Military scholarships bring dedicated physicians into the armed forces but demand lengthy service periods and raise the specter of future involvement in conflicts both ongoing and unforeseen. This prospect is no doubt a deal-breaker for many future physicians.

In light of these concerns, I propose an alternative vision, called a “service residency.” A service residency would be a postgraduate medical training program incorporating an additional three- to four-year service component as part of the training requirement. The goal is to allow medical students to incorporate a substantial and coherent period of dedicated service into their residencies in exchange for no-cost medical education. Given the demographics served by a number of major teaching hospitals, many residencies are already partly service opportunities as much as they are educational ones; a service residency, however, would make dedicated medical service to those patients most in need a

core part of the educational process and a point of emphasis for trainees.

The service residency program would be funded by grants from the federal government, which already pays for the bulk of graduate medical education in the United States. In exchange for a commitment to the program prior to matriculation, medical students would receive funding to cover the costs of their medical education and living expenses. These students would engage in a separate residency match. To ensure a service residency placement, the program would limit the number of medical students entering this match to not exceed the number of available slots (extra slots could be made available to other residency applicants, in exchange for debt forgiveness). The federal government would benefit from such a program because more physicians would be available to provide care for the underserved. Residents would, during their service years, essentially be on salary from Medicare to provide low-cost care in high-need areas.

Service residencies could be implemented for practically all specialties at a variety of training centers. Each residency would consist of several years of standard training followed by a service placement. The number of postgraduate years required before beginning the service period would likely vary by specialty, from perhaps two years for internal medicine to four or more for other specialties such as surgery. The resident would, during the service period, work full-time in a high-need area, either near the training center itself or at a more distant location, for example, in a rural setting or even overseas for a time. The sites where service residents might work include federally qualified community health centers, county hospitals, prisons, etc. Because the service period would presumably involve a higher degree of independence, completion of the United

States Medical Licensing Examination Step 3 and program approval would be required before commencing those years of work. Through their relationships with academic health centers, young physicians involved in the program would have access to the resources of their institutions through regular consultation with mentors, continuing education programming, and research opportunities. After completion of the service component of the program, residents could continue with any final capstone training years. Program directors would have the option to allow fellowship training to occur before the service period, bringing more skills, where needed, to the community.

A major benefit of the service residency program is that it would allow medical students the flexibility to choose from a variety of specialties, instead of solely providing a primary care option. The availability of service residency slots in certain fields would encourage more students to enter those areas for which need is acute, such as family medicine and psychiatry; however, the program would also provide routes for service-oriented training in surgery, dermatology, cardiology, and any number of other specialties. Some may question the idea of loan forgiveness for those physicians opting to specialize. We should consider, however, that students entering more lucrative specialties still have the opportunity to choose where and how they practice and that underserved populations also need specialist care. Relieving medical students, regardless of the specialty they choose, of the burden of debt while encouraging them to engage with underserved patients early on in their careers will not only improve the quality of life of physicians and reduce their stress levels but also will foster a lifelong commitment to service across all specialties and enhance care for underserved populations.

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Community Partnerships: Alternative Means of Financing Medical School

Sidney J. Morgan, MPH

I am reluctant to open student loan statements because on the second page there is a section that states, "Under the standard repayment plan your monthly payments will be...." Twice a year this number jumps by several hundred dollars and I get a sick feeling in my stomach when I think I am still a year and a half from graduation. This feeling of helplessness in the face of mounting student debt is familiar to most people who have attended medical school. They know firsthand the heavy price tag attached to attending medical school.

However, I do not think the cost of a medical education is always a problem. The business community would likely see the investment in a medical education as very attractive, considering the potential, that is, the salary of the superspecialized medical practitioner, for a return on the investment. Fortunately, an incoming medical school class consists mostly of idealists and few, if any, entrepreneurs. Regrettably, the burden of student debt falls hardest on those interested in primary and rural care. Inevitably, primary care enthusiasts sit down with

their calculators, their student loan statements, some rough number on the cost of, say, having a family, a medical practice, et cetera, and then after looking up the average salary of a family practice doctor they will conclude perhaps that their idealism has its disadvantages.

I am such a medical student with rural primary care ambitions and a well-worn calculator and scratch pad. But my personal mountain of debt looms much less ominously than many of my fellow classmates. Prior to starting medical school, I anticipated that if I were accepted I would like to return to my rural hometown to practice. About the time I was thinking over the cost of medical school, I was approached by a member of my local medical community who offered to help with some of the educational costs if I would promise to return there to practice. I readily accepted this offer and signed a formal agreement to make the arrangement official.

Because of this unconventional partnership with my community, I have been able to finance my education and will assume only a modest amount of debt. As far as I know, entering into a partnership with a specific community is an uncommon method of finance. This is regrettable because signing an agreement with my hometown and shaking some hands felt good, while e-signing my

master promissory note to the Department of Education was nothing special. Really, the only reason I, too, am not up to my eyeballs in debt is because news travels fast in a small town, and the medical community recognized and seized the opportunity to secure a future colleague. Therefore, my small contribution to this discussion is that for every medical student who has his or her heart set on being a pediatrician, general surgeon, or family physician, there is a community awaiting that student—a community that he or she would like to live in and that really needs him or her, and if they could meet each other and talk they could probably help each other out.

All that is needed, I think, to make community partnership a more common means of medical school financing is to provide a way for those initial conversations to occur. The real merit of this idea is that it does not require massive grant money or an act of Congress to be successful. Success may be as simple as a medical school inviting communities to a community fair to talk with their students or providing the technical support for a bulletin board for posting information. Any means that allow future doctors to get together with the communities they wish someday to serve would be appropriate.

Acknowledgments: The author wishes to thank W. Patrick Roche III, MD for his help with this article.

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The “Medical Marshall Plan”: Rebuilding Public Trust in American Medicine

T. Samuel Shomaker, MD, JD

Following World War II, Europe was in ruins and communism threatened to take over much of the continent. In response, the United States implemented the Marshall Plan in 1948, providing \$13 billion to rebuild the economy and infrastructure of Western Europe. When it ended in 1952, the plan was credited with preventing disease and starvation, averting economic chaos, and laying the foundation for a free, democratic Western Europe.¹

Today the medical profession faces unprecedented challenges. Although most patients still trust their individual doctors, the standing of the profession as a source of moral authority has suffered significantly.² The notion of the family doctor as a trusted source of advice has eroded in the face of the expanding use of technology, increasing subspecialization, and the pressures of commercialization. Conflicts of interest in relationships with pharmaceutical and device companies, physician ownership of for-profit medical facilities, and the growing number of doctors who close their practices to uninsured or publicly insured patients have contributed to a growing public perception that medicine is more about money than about healing. Health care reform, in which physicians seem unwilling to make sacrifices of income or prerogative, has only accentuated this trend. The medical profession needs a Marshall Plan to rebuild its service ethic and public image.

The four major goals of the Medical Marshall Plan are

- to restore public trust in medicine through a significant commitment to

service by the profession and medical schools,

- to reinforce the altruistic impulse in our students, communicating the importance of giving back in exchange for the privilege of serving as a trusted healer,
- to remove the financial pressure of medical school, ensuring that the profession remains open to people from all economic, ethnic, and social backgrounds, and
- to address major workforce issues facing the health care system, including the shortage of primary care doctors, the maldistribution of physicians in urban core and rural areas, and the inadequate access of underinsured patients to primary and specialty care.

Under the Medical Marshall Plan, the federal government would fund the first two years of medical school for all students. Tuition payments would be set at the national average of public and private school tuitions; students desiring to go to schools with tuition more expensive than the average would pay the difference. All students would get a loan for the third- and fourth-year tuition based on a similar methodology.

In return for the first two years of tuition forgiveness, all graduating students would complete a rotating (transitional) internship followed by one year of compulsory service as a general practitioner (GP). Service could be performed in a variety of settings benefiting the local, regional, or national community, including Health Professional Shortage Areas, which are found in urban core and rural areas characterized by chronic shortages of care providers; Federally Qualified Health Centers; the Veteran’s Administration; the Indian Health Service; the U.S. military; a local, regional, or national public health agency; or as a research fellow at the National Institutes of Health. A national match of sites and GPs, based on the National Resident Matching Program, would be used to

place graduates. GPs would provide primary care in ambulatory settings, serving patient populations that frequently lack adequate access to primary and preventive health care. They would be supervised by board-certified attending physicians, either directly or remotely by telemedicine. GPs would receive a small stipend and living expenses during their service.

Following the year of compulsory service, GPs would have three options. First, they could stay on in their practice site, earning an additional year of tuition forgiveness for each additional year of service and receiving preferential treatment in subsequent residency program applications.

Second, they could return to primary care residency training, an election that would trigger forgiveness of the remainder of their medical school indebtedness. Third, they could enter a specialty residency, in which case the debt from the third and fourth years of medical school would become theirs to repay. However, on graduation, should they agree to work for a public service provider, their debt would be forgiven at the rate of one year of forgiveness per year of service.

The Medical Marshall Plan would be expensive and require major modifications of the current practice and educational environment. However, it holds promise as a way to address some of the nation’s health system issues that are likely to become more pressing as health care reform expands access for millions of new beneficiaries. It would also go a long way toward rebuilding medicine as a trusted, service-oriented profession.

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Return-of-Service Programs: Meeting Community and Student Needs in an Ethical Manner

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Return-of-service programs (ROSPs) provide tuition in exchange for a defined period of practice fulfilling a public service goal. The key stakeholders in these programs are the students themselves, their medical schools, the communities within which they commit to serve, and society at large. Though potentially beneficial to each of these stakeholders, caution must be applied in ensuring that ROSPs do not extend financial inducements that inappropriately influence students, who may constitute a vulnerable group in this contemporary age of rising tuition and student debt.

We propose that ROSPs may serve the objectives of each stakeholder and alleviate this ethical dilemma by adopting two principles. First, a defined length of service should be of equal financial value for a student, regardless of when that student makes his or her commitment. For example, a commitment to serve for four years should have the same financial value to a student whether he or she makes that commitment in the first or last year of medical school. Second, students should be eligible to apply for ROSPs at any point in their medical education.

ROSPs consistent with these principles, and implemented in conjunction with the application process described below, would provide committed and informed students an early opportunity to relieve financial stress¹ without the complication of a financial inducement to decide early, thus minimizing the risk of choosing an unfulfilling career path.

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Let us examine two programs available to University of Toronto students in relation to these principles and with this ethical dilemma in mind. The Ontario provincial government's free tuition program² offers students in their final school year a grant of up to \$40,000, or \$10,000 per year, for a three- or four-year return-of-service commitment in an underserved area. Service is equivalent to the years of tuition: a minimum of three to a maximum of four. This program is free of a financial inducement to decide early, yet because it is unavailable to students in the early years of medical education, it may not alleviate the financial stress of a student ready to commit to public service who happens to be in the early stages of a medical school program. In contrast, the Medical Officer Training Program (MOTP) of the Canadian Forces³ is available to medical students or family medicine residents in any year of their medical education and offers tuition payments, a recruiting allowance, and a salary through medical school and residency in exchange for four years of service. MOTP creates a financial incentive to decide early, as it has a greater financial value to a student who commits during his or her first year versus a student who commits during the fourth year, yet the return of service required of each student is equivalent.

Effectiveness from the perspective of the student is related to the extent to which ROSPs facilitate a fulfilling educational and career path. Programs that create a financial inducement to decide early might result in a premature commitment to an unfulfilling career despite relief of financial stress.¹ Conversely, students that are freely committed to public service via a career in medicine should be given the opportunity to alleviate financial stress as early as possible. Furthermore, the interests of medical schools, communities participating in ROSPs, and society are best met if physicians are fulfilled and engaged during their service.

To implement these principles, we propose variable application standards

dependent on an applicant's stage of education. Essentially, the earlier in the medical school curriculum an applicant is, the more rigorous the application standard that should be applied. Application criteria for consideration may include (1) previously demonstrated commitment to underserved communities or other public service, and (2) breadth of exposure to various medical careers as an indicator of an applicant's awareness of career options. To be clear, each applicant to an ROSP would be assessed according to these criteria, as they likely are for any currently operating ROSP. However, we focus on the need for variable application standards according to the stage at which a student applies for an ROSP. The objective of such an approach is to ensure that applicants are making an informed choice, which is ultimately in the best interests of all stakeholders.

ROSPs based on these principles will support each stakeholder's objectives. Programs that have equal financial value to students across educational stages will not create an inducement to commit prematurely, which is ultimately in the interest of students, medical schools, the communities being served, and society. Simultaneously, programs that are available early on matriculation may assuage the financial stress of those students fully informed of, and clearly committed to, a career in public service.

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SERVICE: Selecting Educational Residencies with Value, Incentives, Cost, and Effectiveness

Sameer S. Vohra and Ricci Sylla, MD

The average debt of a medical school graduate in the United States reached \$143,870 in 2009.¹ Twenty-five percent of these graduates have debt exceeding \$200,000.¹ This amount of debt is crippling, and new physicians must keep their indebtedness in mind when making decisions on what and where to practice. It is no secret that there is a geographic maldistribution of physicians in this country. Underserved areas exist in mass, and the discrepancy in care continues to grow. These two problems—lessening the debt burden for medical students and filling physician shortage areas—may not seem connected. Yet, an answer to one could very well lead to a solution to the other.

The readers of this journal were challenged to find effective ways to make medical school tuition free to students in exchange for public service. This question seeks to tie free medical tuition to individual students for greater service to our country. However, should we not aim higher by attempting to forgive, or at least reduce, the debt burden for as many medical students as possible? The authors aim to propose one such possible enterprise: Selecting Educational Residencies with Value, Incentives, Cost, and Effectiveness (SERVICE).

SERVICE works by providing physicians with various degrees of debt forgiveness/reduction through a point system that factors in physician specialty choice, the medical shortage in a particular geographic area, and the amount of time spent working in these communities. Medical students already have the option to enter education–service exchange programs, the most prominent being the

National Health Service Corps (NHSC) scholarship program. Yet, these programs require students to choose specialties before their first day of medical school and are targeted only to those students choosing primary care specialties.

SERVICE appreciates the need for primary care physicians and allots more points to those choosing primary care specialties. However, many medically underserved areas also need a wider variety of physicians. This new program would broaden the definition of Health Professional Shortage Areas (HPSAs) designated by the Department of Health and Human Services to include other specialties that are also in shortage. This change allows medical students to choose their career based on what they are passionate about and avoid a penalty if they change their career choice during medical school. Additionally, SERVICE recognizes that not all HPSAs are the same and that certain locations are in greater need of physicians. More points will be allotted to the physicians serving these areas. With these changes alone, SERVICE expands the pool of possible candidates who can help serve this country.

SERVICE also accounts for the fact that a stringent formula of public service does not lead to the most individuals receiving the help they need. The NHSC asks graduates to devote years of full-time public service in exchange for free tuition. Instead, SERVICE would allow new graduates to participate part-time. This modification allows physicians to gain credit toward their medical school tuition while not feeling as if their early working careers will be defined solely by repaying their obligations. This feature will attract more young physicians to help those in need.

A program of this magnitude will cost a significant amount of money. One manner to fund SERVICE could mirror the Steven M. Thompson Physician Corps Loan Repayment Program (STLRP) in California. STLRP assesses a

small surcharge at the time of initial licensure and renewal from physicians by the Medical Board of California and uses private donations and monies transferred from the Managed Care Administrative Fines and Penalties Fund.² SERVICE could assess a similar fee through the Federation of State Medical Boards and collect extra money through private donations. This plan would ensure a steady source of funds in order to increase the number of scholars in the program. Currently, NHSC can only fund 39 new scholars yearly with 114 additional scholars for 2009–2011 as a result of the American Recovery and Reinvestment Act.³ The U.S. government can and should do more to benefit those doctors providing public service.

SERVICE is one attempt to link medical education debt relief with public service. A system in which a Bentley convertible is less expensive than four years of medical education is neither right nor sustainable. SERVICE provides a solution in which every medical student has a choice to ease his or her debt and impact those in need without sacrificing the specialty that he or she chooses. Programs like SERVICE are how we promote action. Programs like SERVICE are how we promote public service. Now, our country needs the motivation and action of our leaders to make it happen.

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The F. Edward Hébert School of Medicine Model: Tuition-Free Medical School in Exchange for Public Service

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The Uniformed Services University of the Health Sciences F. Edward Hébert School of Medicine (FEHSOM) is tuition-free and avoids the tuition-related debt that Dr. Kanter¹ mentioned first on his list of the benefits of an education–service exchange. FEHSOM students earn the pay of an ensign or second lieutenant (more than \$55,000 per year) and receive comprehensive health benefits for themselves and their family members throughout medical school. In exchange for their tuition-free education, graduates serve at least seven years in the uniformed services—either the Army, Navy, Air Force, or Public Health Service (PHS). Our PHS alumni fulfill important service needs in rural and underserved regions, while our Army, Navy, and Air Force alumni provide medical care for our men and women in uniform, their family members, and those retired from military service. Our alumni also provide medical care during humanitarian missions in the United States and abroad. The unique aspects of the FEHSOM may be a useful model for consideration as the country addresses issues such as increasing coverage of the uninsured, health care disparities, and financial barriers for economically disadvantaged medical school applicants.

Graduates of the FEHSOM matriculate to graduate medical education (GME) programs throughout the Department of Defense (DoD) and civilian institutions. The FEHSOM curriculum provides a

strong foundation in primary care and preventive service, but students are prepared to pursue any form of traditional GME training as well as career options unique to military medicine. In addition to content that maintains institutional accreditation, the FEHSOM curriculum places additional emphasis in areas critical to the uniformed physician: trauma and emergency medicine, infectious disease and global health, humanities and behavioral sciences, and principles of leadership and teamwork.

The FEHSOM was established to provide a comprehensive medical education to men and women who demonstrate potential for and commitment to long-term careers as medical corps officers in the uniformed services. The medical school admitted its charter class of 32 students in 1976. Today, class size has grown to 171, and the medical school has graduated more than 4,300 physicians. Measures of the success of our program include the percentage of alumni who remain on active duty until retirement (76%), select a career in family medicine (16%),² or serve in leadership positions (75% have been chief of a service/clinic and 51% have deployed in medical support of combat missions).³ We attribute our success in recruitment and retention to our admissions process' focus on the applicant's commitment to public service, our curriculum content, and the sense of community from our faculty's shared belief in the school's mission and their own dedication to public service.

Major constraints at the FEHSOM that have precluded broader application (i.e., increasing class size) are tied to funding—for more faculty, buildings/space, and federal authorization for more training slots.

Also, expansion of our clinician–researcher (MD/PhD) program as an alternate path to graduation would likely attract more applicants and supply the nation with clinical researchers focused on areas that, while important to underserved populations, are not financially profitable to pursue and, thus, are largely neglected

by private-sector research (e.g., malaria, leishmaniasis).

Another useful model, the Health Professions Scholarship Program (HPSP), is intended to bring a large number of medical professionals into the armed services for shorter periods of obligated service and so provides an alternate means for students to have their medical education funded in exchange for service as a DoD physician (the scholarship is not available to the PHS). Given the FEHSOM curriculum's emphasis on long-term service and medical leadership, it is not considered to be in competition with the goals of the HPSP.

In terms of the value the FEHSOM has accrued to individuals and society, our alumni provide military- and public-health-relevant education, research, service, and consultation to the United States and the world, actively collaborating with other nations, research institutes, and public and private organizations. There are increasing opportunities for the school to partner with others in new initiatives in areas such as international health, disaster medicine, humanitarian efforts, and psychological resilience and care. Other areas of opportunity for the school, our students, and our alumni include information technology, biotechnology, prosthetics research, biodefense, and medical ethics. Our 30 years of successfully attracting and retaining talented men and women to careers in caring for the underserved and those in harm's way persuade us to offer the FEHSOM as one viable model for national service.

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The Primary Care Med-ED Plan: Reducing Medical Student Indebtedness While Expanding Primary Care

Norma E. Wagoner, PhD, and J. Robert Suriano, PhD

The passage of the Patient Protection and Affordable Care Act raised the prospect of 37 million newly insured Americans able to seek the services of primary care physicians, a change that will require a significant increase in the number of primary care physicians practicing in the U.S. In January 2010, the Josiah Macy Foundation convened a conference to address primary care needs. In Conclusion II, Recommendation 2 of their proceedings, the following point emerged as a solution to this shortage of primary care physicians: "Implementing and expanding scholarship and loan repayment programs in partnership with health systems, governmental agencies and communities for those pursuing primary care."¹

Like a number of other medical schools, such as the University of California Merced and Tulane,² that have developed "fast track" programs, we propose a new approach that reduces the total time and cost of medical school, called, "The Primary Care Med-ED Plan." Participating medical schools would develop educational programs that allow students to complete the requirements for an MD degree in three and a half years. Once accepted to medical school, students interested in the Med-Ed Plan would choose a length of involvement, ranging from two years to a maximum of three and a half years. In addition, the U.S. Department of Education would sponsor and administer the loan portion of this new program, called the Med-ED

Loan Program. Loans awarded to students under the plan would go directly to the medical school for tuition and fees, and any award for living expenses would be distributed to the student through the financial aid office. Any remaining financial aid needs could be met by the federal Stafford Loan program.

On graduation in January of the fourth year, entry into a rotating internship through the medical school's hospital consortium would be required, thus circumventing current National Resident Matching Program issues. At this time, students would select an emphasis that reflects the primary care specialty they would like to practice after Year One of the internship. At the completion of this two-year internship program, physicians would begin their service in an approved, federally qualified local clinic. New physicians would be salaried and receive year-for-year Med-ED loan forgiveness for each year of service up to three and a half years.

The Accreditation Council for Graduate Medical Education and the primary care specialties will need to increase the flexibility of their board certification requirements without altering the quality of both the internship year and the more focused second clinical year. The clinics and nearby medical centers with approved residency programs will be encouraged to develop supervised experiences that could be accessed by these graduates. While a physician is repaying his or her Med-ED loans, a select number of these supervised experiences could be put toward completing a residency in the primary care specialty that was chosen by the participant, thus leading to the graduate's ability to seek board certification while still serving the community. For those physicians who completed the Med-ED program, the remaining length of time of their residencies would be reduced. Should they wish to stay in the system and obtain board certification, that option would exist as well.

Similar scholarship or loan programs with a service component are frequently seen by students as seriously reducing freedom of choice and lengthening the time until students are able to practice as they desire. Thus, constructing a program, like the Med-ED Plan, that counterbalances some of the prevailing attitudes, is necessary. The opportunity to reduce total indebtedness, as tuition and fees amount to at least 60% of the total cost of medical school for in-state students and significantly more for out-of-state students, while meeting many, if not all, residency requirements, should be particularly attractive to prospective students. We also anticipate that primary care specialty boards will accept most (or all) of the internship year toward their residency requirements. Primary care clinics will be encouraged to provide appropriate supervised experiences so that additional residency requirements can be met at that time as well. In addition, as the number and location of primary care clinics will have to be expanded to meet the nation's health care needs, students can expect to have considerable latitude in selecting a personally desirable clinic for paycheck service and will not have the stress of competing in the normal resident match. Finally, students can look forward to engaging in activities that remain consistent with future career goals. Together, these features represent an education-service exchange program that will appeal to many students.

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