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MD Connector Essay Competition

Health care needs in the United States have evolved over the years due to several factors, including an aging U.S. populace that has ever increasing demands in managing chronic illnesses. The U.S. health care system, meanwhile, has in many ways failed to adapt to these changing needs and the result has been increasing health care costs and unsatisfactory or largely unavailable medical care to those in need. A shortage and underutilization of primary care physicians, a group that has an important role in preventative care and the coordination of care for chronic illnesses, is key to both understanding and resolving this failure of the health care system.¹² Like so many problems in U.S. health care, this problem of too few primary care physicians is one of finances. A career as a primary care physician is by default less attractive to many students considering medicine as a profession simply because it is typically far less lucrative than most medical subspecialties. Even for students who would prefer a career in primary care medicine, the prospect of paying student loans may steer them towards a higher paying subspecialty or prevent them from pursuing a medical education at all.¹² Reducing the time and cost of an M.D. degree may therefore have an important role in relieving the overburdened health care system by removing barriers to practicing primary care and increasing the amount of primary care physicians, thereby enabling the current health care system to better satisfy the country's need for better coordinated, patient-centered care of chronic disease.

I do not believe that there is any intrinsic quality of primary care that makes it less attractive to most individuals. The amount of graduating medical students pursuing careers in primary care were once relatively higher than they are now, but began decreasing along with the ever increasing amount of debt that medical students now face after graduation. For example, 49 % of medical school graduates in 1997 began pursuing careers in primary care, but this figure dropped to 39% in 2003.¹ Furthermore, 32 % of medical students graduating in 2002 said that their level of financial debt in part dictated their choice of specialty.¹ This finding is not especially surprising when one considers that the average indebtedness of medical students graduating from private medical schools in 2007 was \$157,000, and it would be considerably easier paying off that debt making the \$400,000 per year salary of an invasive cardiologist than the \$146,000 per year salary of a family practice physician.^{1,6} However, since the decrease in amount of new doctors pursuing primary care is largely due to the extrinsic financial factors, medical schools are particularly well-position to affect this trend. Medical school tuition, after all, has been increasing well above the inflation rate, particularly for public schools that have lost state funding.¹ Medical schools can decrease the average indebtedness of graduating medical students by both directly lowering tuition and also by decreasing the amount of time it

takes to acquire the M.D. degree. These may sound like unlikely sweeping reforms, but there are several successful examples of these very changes that could serve as models for future reforms of medical education.

The Cleveland Clinic Lerner College of Medicine (CCLCM) of Case Western University, for example, offers a full scholarship covering tuition and fees for the entire class of 32 medical students each year.³ The goal is not to produce primary care physicians, but rather physician scientists that intend to pursue research-oriented careers. Still, the impetus for their decision to provide full-tuition scholarships to each and every student is relevant to the present discussion; only 2 % of medical students pursue research-oriented career, and there is a resultant shortage of physician scientists in the United States. Similar to primary care, fewer physicians engage in research because it is often less lucrative than clinical practice and therefore makes paying back years of student loans more difficult. The CCLCM program is intended to shore up this shortage by relieving would-be physician scientists of student debt, effectively making the question of debt and financial compensation a non-issue while simultaneously attracting top students to the program.³

There are certainly some major difference between encouraging students to pursue a career as a physician scientist and a primary care physician, the main distinction being that there is probably a far greater shortage of primary care physicians than physician scientists. The method for attracting physician scientists may therefore be unfeasible when applied to the primary care physician shortage. The funds for the CCLCM full-tuition scholarship come via existing endowment as well as the clinical operations of the associated Cleveland Clinic Foundation hospitals. Many medical schools, however, would likely find it too costly to simply provide a free medical education to cover the predicted shortage of primary care physicians, which is predicted to be about 40,000 by the year 2025.¹¹ Still, such programs directed specifically towards students that have a desire to practice primary care could definitely help lessen the severity of the shortage. Significant partial reductions in present tuition, as opposed to full tuition scholarships, would probably be effective in attracting more students. Harvard Medical School has adopted this approach by contributing more of their endowment toward financial assistance for medical students from middle class families, resulting in a \$50,000 reduction in student debt by graduation.⁷ The Yale School of Medicine has recently adopted a similar financial aid program to help offset the debt to lower and middle class students.⁶ The explicit purpose of both of these financial aid programs is to relieve the pressure on medical students to pursue higher paying medical subspecialties in order to pay off debt, as well as to remove financial barriers confronting students from middle and lower income families that wish to pursue a career in medicine.⁶⁻⁷ Overall, reducing debt upon graduation seems to be a fairly direct approach to counteracting the detrimental effect increasing educational costs

seems to be having on medical students' decisions to enter primary care and, as shown, seems to be within the means of at least some large universities.

The time it takes to become a physician, beginning as an undergraduate and extending through residency, also seems to be barrier to developing more primary care physicians. Not only does the extensive educational process often delay repaying student loans until after residency, each additional year of education also represents more student loans and more debt by the end of graduation from medical school. Removing such time barriers would not only attract more students but also speed the development of future primary care physicians. The reductions in time could take place at various stages in the entire educational process including the undergraduate years, medical school, and residency. The Northeastern Universities Colleges of Medicine and Pharmacy (NEOUCOM), for example, offers a combined B.S./M.D. degree that guarantees high school students a spot in the medical school program after completing their undergraduate education in an accelerated 2-year program.⁵ It is one of 17 such programs in the U.S. that allow its students to finish their undergraduate and medical education in only 6 or 7 years. The Lake Erie College of Osteopathic Medicine (LECOM), by contrast, created an accelerated M.D. program in 2006 that allows students to complete medical school itself in 3 years.⁴ It focuses on developing primary care physicians, and prospective students must be committed to a primary care career path; the admission process requires prospective students to write an essay attesting to their commitment to primary care, and each student's guaranteed one-year tuition scholarship is dependent on the student remaining in a primary care field for 5 years after residency. The time-saving occurs largely as a result of eliminating advanced surgical, emergency, and internal medicine electives and replacing them with rotations more relevant to primary care.⁴ Programs such as NEOUCOM and LECOM seem perfectly geared toward helping develop primary care physicians, either by removing financial barriers or by explicitly recruiting medical students for that purpose.

A valid question concerning accelerated medical school programs is whether the reduced timeframe compromises the graduates' abilities as physicians. One study examining results from both the American Board of Internal Medicine and American Board of Family Medicine found that students who participated in a program that combined the fourth year of medical school with the first year of residency had scores similar to students completing traditional programs.⁴ The potential quality of focused, accelerated training is also evidenced in other areas of the medical world. The Shouldice Hernia Centre in Ontario, Canada is one of the best medical centers in the world for abdominal wall hernia repairs.^{8,9} Compared to similar surgeries at other large medical centers, hernia repairs at Shouldice have better outcomes, lower incidences of recurrence, take about half the time, costs less, and allow patients to return to work earlier.^{8,9} The interesting part of their practice is that many of their surgeons did not

complete surgical residencies; rather, physicians from disparate backgrounds have come to Shouldice and completed about a year of training solely in repairing abdominal hernias using a specific procedure.⁹ The implication is perhaps that comprehensive, traditional medical training is not necessary if one knows precisely their destined area of medicine. Becoming competent in hernia repairs versus a competent primary care physician are two very different things, but the existing accelerated medical programs such as NEOUCOM and LECOM show that primary care physicians can be trained more quickly than they are currently in traditional medical school curriculums, and the development of similar programs at other schools may be able to attract more primary care physicians to the field and replenish the shortage.

Despite spending more per capita on health care than any country in the world, the World Health Organization (WHO) has ranked U.S health care system as only being 37th in world in terms of overall performance.¹³ The relationship between cost and quality is shocking, but it does not reflect any shortcoming in medical science. Rather, the major problem underlying the U.S. health care system can be viewed as one of properly allocating resources to areas of care most needed by the U.S. populace, and it seems that a shortage of primary care physicians is at the heart of the issue.^{10,12} It has been estimated, for example, that nearly 75% of the \$ 2 trillion spend on medical care in the US per year is attributable to the care of chronic illness.¹⁴ Studies have shown that regions that rely on primary care physicians for the management of severe chronic illness have not only better quality care, but also lower Medicare spending.² It is therefore problematic that an estimated 56 million Americans do not have access to a primary health care due to a shortage and misdistribution of primary care physicians.¹² Increasing the amount of primary care physicians has the potential to not only bring basic and preventative care to these millions of individuals, it can also reduce costs and improve quality of service in a health system that focuses too much money and investment in specialty care and too little in prevention and chronic disease management. Reform of the medical education system can affect such an increase in primary care physicians, not by changing the face of medical education as we now know it, but rather by implementing tested and proven programs on a grander scale.

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