family physicians undertake this research, they must also be willing to evaluate critically the practices of certified nurse midwives, who might have an even lower rate of intervention in maternity care while they maintain equally high quality.[15] Finally, because today's medical environment, despite its shortcomings, has a greater emphasis on cost-effective care, family physicians might have their greatest opportunity to promote the low-intervention style of maternity care they have so long advocated. Arming themselves with this kind of research will be essential in this effort.

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Recruitment And Retention Of Rural Physicians: How Much Progress Have We Made?

With 25 percent of the US population residing in rural areas, but only 12 percent of physicians practicing there,[1] rural areas could be considered the largest medically underserved population in the country. Even with the dramatic overproduction of physicians nationally during the past two decades, relatively few have "trickled down" into rural areas. In fact, the population-to-physician ratio is five times greater in the most rural counties in the United States than in the most urban counties. One in 17 rural counties does not have any practicing physician, and those family physicians and general practitioners who are currently in rural areas are older than those practicing in metropolitan areas. Although all rural areas are by no means underserved, most of the primary care Health Manpower Shortage Areas are in nonmetropolitan areas; and rural areas when compared with urban areas have a higher percentage of poverty, a larger percentage of the elderly, a greater number of patients with chronic medical conditions, a higher infant mortality rate, and a greater proportion of the population covered by Medicare and Medicaid and without health insurance.

This shortage of physicians in rural areas is by no means a new phenomenon; rural areas have

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always been underserved. As early as 1925, Dr. William Pusey in an article in *JAMA*, wrote, "The marked difference between city and country indicates that the country places are no longer receiving their proportion of young physicians."[2] Of interest, Dr. Pusey recognized even then that some medical schools did a better job producing rural physicians than others, observing that 11 percent of the 1897 to 1913 graduates from the University of Maryland were practicing in rural Maryland, compared with only 0.4 percent of Johns Hopkins graduates practicing in rural areas of the state. Even the most recent data from the American Association of Medical Colleges on the career plans of US medical school graduates show only minimal changes in those who plan to practice in rural areas, ranging from 2.2 percent of graduates planning to practice in small towns and rural areas (<2500 persons) in 1984, to 1.5 percent in 1989, and 2.0 percent in 1994.[3] Whether current market forces and the impact on managed care will improve (e.g., as a result of rural health networks) or actually decrease (e.g., by recruiting rural physicians to the city with increased salaries) the number of rural physicians is still unknown. In any event, it seems likely that the recruitment and retention of physicians in rural areas will continue to be problematic, and rural practice will also remain intertwined with the specialty of family practice, because the majority of rural physicians are family physicians.

In this issue of the *JABFP*, Forti, et al.[4] provide additional information related to this critically important problem. Supported by a Robert Wood Johnson Generalist Physician Initiative grant, The Pennsylvania State University College of Medicine used a mail survey to assess those factors that are related to the satisfaction and retention of rural family physicians in Pennsylvania. The good news in the study was that 80 percent of rural family physicians reported that they were planning to remain in rural practice and that 89 percent reported being satisfied with rural practice. The bad news, however, was that 20 percent were considering leaving, a major concern given the already underserved nature of rural practice. The major factors related to possible relocation included issues well known to most rural physicians: professional isolation, lower reimbursements, a heavy on-call schedule, and solo practice. The authors hope to be able to follow the practice locations of these physicians over time and to correlate actual physician retention with the efforts of the Practice Support Outreach Program offered by the medical school, which plans to address the issues of professional isolation through telemedicine, continuing medical education, and other support strategies. As the authors correctly point out, medical schools have a unique opportunity to help support the fragile rural practice environment.

Are the results of this study by Forti, et al. generalizable to all rural areas? Rural areas vary dramatically from one part of the country to another, and Pennsylvania lacks any of the frontier areas of the larger, less-populated states (which have generally had an even greater problem in providing physicians for their rural population). Nevertheless, as the authors of this article mention, Pennsylvania contains the largest rural population of any state in the country, based on the official Census Bureau definition of rural (i.e., a nonurbanized area with fewer than 2500 persons). In fact, more rural people are living in Pennsylvania than in the 11 states of North Dakota, South Dakota, Wyoming, Montana, Idaho, Nevada, Colorado, Utah, Arizona, New Mexico, and Alaska combined. Furthermore, Pennsylvania has a severe geographic maldistribution of physicians, with just three counties (Philadelphia County, its suburban Montgomery County, and Pittsburgh's Allegheny County) having more than one-half of all the physicians in the state, even though the remaining 64 counties have almost three-quarters of the population. The general trends, results, and conclusions from this study, therefore, should apply equally to most rural areas of the country, even though the specific levels of physician satisfaction might differ somewhat and the degree of physician concerns might be magnified in those areas of lower population densities.

While the authors of this paper have focused their attention on the important issue of practice support in rural areas, others have addressed the rural physician shortage by changing who becomes a physician (i.e., through the admissions process to medical school) and changing what happens during the educational process (i.e., medical school and residency training). Although many admissions and curricular strategies have had their greatest impact on the recruitment of rural physicians, their effect on retention is often-

times overlooked; recruiting and training physicians for a practice location that meets their own needs and expectations are also frequently requisite to keeping them there.

This concept has been the basis for the Physician Shortage Area Program (PSAP) at the Jefferson Medical College since it began in 1974,[5] as well as the program at the University of Minnesota-Duluth, and others.[6] For more than 20 years these special admissions and training programs have been successful in increasing the number of rural family physicians. In addition, retention of rural family physicians from the Jefferson Medical College PSAP has approached 100 percent during the physicians' first 7 to 10 years in practice, a rate that is much higher than that of the National Health Service Corps, the Area Health Education Centers, or other reported programs.[1,7] The key to this success, clearly articulated by Cullison, Reid, and Colwill in 1976,[8] has been the admissions component, linking rural background with the intent to practice the specialty of family medicine in a rural area. Selecting individuals for medical school who plan (and possess the factors predictive of) rural family practice and supporting them in their training and practice are not only necessary to recruiting but also retaining rural physicians.

While all three strategies to address the rural physician work force — admissions, curriculum, and practice support — are necessary, they are not of equal importance. The available data indicate that changes in medical school admissions are not only more effective in increasing and retaining rural physicians but are also more cost-efficient than isolated changes in the important areas of curriculum or practice support. Considering this information, it is of interest that more medical schools have not adopted changes in their admissions process. In addition, although the rural physician work force is a critical and necessary component of the total rural health care system, changes are also needed in other areas of the rural infrastructure, including issues related to rural hospitals, nonphysician providers, community-based projects, and the rural economy in general.

During the health care debate last year, rural areas received considerable attention. President Clinton's Health Security Act, as well as both bills from the Congressional leadership, had major sections devoted to rural areas, including full funding of the National Health Service Corps (NHSC), federal requirements for increased health plan coverage in rural areas, federal incentives for rural infrastructure development, support for community-based rural networks, and support for telemedicine programs. Unfortunately these efforts died with the overall failure of health care reform, and the current health care efforts to change Medicare and Medicaid will likely have a disproportionately greater impact on rural America. The 1995 House and Senate rescission bills included cuts for the NHSC, state offices of rural health, rural health outreach grants, the Agency for Health Care Policy and Research, EACH/RPCH grants (Essential Access Community Hospitals/Rural Primary Care Hospitals), and primary care health professions training grants. In addition, House and Senate 1996 budget resolutions have included elimination or increased cuts in many of these same areas. Irrespective of the final outcome of the 1995 rescission bill and federal budget process, many programs that have provided or supported the health care infrastructure in rural communities during the past decade are at great risk to be scaled back or eliminated within the next few years.

The current political environment is putting renewed emphasis on the marketplace as the means to address the two critical problems of the health care system — cost and access. Market forces, however, have historically reflected changes in urban and suburban areas, while most rural areas have struggled, even with the help of federal and state legislation. Additionally, market forces are more likely to work in areas with an oversupply, not undersupply, of resources and not for those who have less "force" in the market. In fact, policies that decrease cost in urban and suburban areas might actually lead to decreased access in rural areas.

With the current effort to reduce costs, it is likely that rural health care will continue to be on the back burner of legislative change, a curious challenge for a Congressional process with disproportionate rural representation. Perhaps, as Dr. Sam Cordes[9] has said, thinking about why rural areas are doing better regarding highways, schools, post offices, and electricity than they are in health care — and how these other important services are financed — might be instructive to

future efforts to ensure access to physicians — and health care — for all rural Americans.

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Expansion Of Training In Family Medicine — How Much Is Enough?

Massachusetts has been, and in all likelihood will continue to be, a bastion of excellent specialty medicine. Lynn Eckert nicely articulates elsewhere in this issue, however, that family practice education appears to be coming of age in Massachusetts.[1] It is difficult to believe that in 1992 Massachusetts, with 312 accredited residency programs, had only two residency programs in family practice and only one department of family medicine among its four medical schools. Now three medical schools (Boston University, Tufts University, and the University of Massachusetts) will have departments of family medicine. Further, the increase to five residency programs will almost double family practice residency graduates to approximately 30 graduates annually.

In this environment of specialty medicine, it is noteworthy that from the beginning the University of Massachusetts has had a medical school committed to primary care and long has produced family physicians at a rate exceeding the national average. Just as a medical school that is committed to specialty medicine tends to produce specialists, so too medical schools committed to primary care prepare generalists. The University of Massachusetts is primary-care-oriented and preferentially seeks these students. Family practice has played a prominent role in its curriculum for years. Now it has a contract option in which students' tuition is forgiven when they commit themselves to generalist practice in Massachusetts. Most students today are signing this contract.

Dr. Eckert appropriately recognizes the commitment of the Massachusetts Academy of Family Physicians to family practice education. Over the years the Academy has maintained liaisons with each of the medical schools and has provided both student mentorship and preceptorship programs. Likewise, she recognizes the current support of the Robert Wood Johnson Foundation through its Generalist Physician Initiative, which has been an effective catalyst in assisting Boston University and the University of Massachusetts in their efforts to increase the proportion of generalists graduating from their educational programs. On the national scene the Generalist Physician Initiative is assisting in creating an educational milieu for change in the 16 medical schools receiving these awards.

Student interest in family practice is increasing nationwide as well as in Massachusetts. The fundamental force driving this growing interest is the recognition that the nation faces an increasing surplus of specialists and continues to have the capacity to absorb more generalists. It is likely that student interest in family medicine, as well as the

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