

Health Policy Newsletter

Volume 14 Number 4

December, 2001

Article 2

JAMA Study on Jefferson's Rural Physician Shortage Area Program (PSAP)

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Suggested Citation:

Rabinowitz HK, Diamond JJ, Markham FW, Paynter N. JAMA study on Jefferson's Rural Physician Shortage Area Program (PSAP) *Health Policy Newsletter* 2001; 14(4): Article 2. Retrieved [date] from <http://jdc.jefferson.edu/hpn/vol14/iss4/2>.

JAMA Study on Jefferson's Rural Physician Shortage Area Program (PSAP)

Jefferson's Rural Physician Shortage Area Program (PSAP) is one of the most successful programs in the country in increasing the supply and retention of rural family physicians. An article in the September 5, 2001 issue of *Journal of the American Medical Association* (JAMA) looked at why the program works and what factors are independently predictive of rural primary care supply and retention.

While 20% of the U.S. population lives in rural areas, only 9% of physicians practice there. Of even more concern for the future, only 3% of recent medical school graduates indicated that they plan to practice in a rural area or small town. Jefferson's PSAP was implemented over a quarter century ago to address this shortage of rural family physicians.

The PSAP recruits and selectively admits academically qualified students who have grown up or lived in a rural area or small town and who also have a firm commitment to practice the specialty of family practice in a similar area. PSAP matriculants (averaging 14 per year, 6.4% of JMC students) are provided with faculty advisors in the Department of Family Medicine; receive a small amount of additional financial aid (predominantly as repayable loans); during their third year, take their required family medicine clerkship at either Latrobe Area Hospital or Geisinger Medical Center; and as seniors, take their outpatient subinternship in family medicine, frequently electing a rural private office preceptorship. Upon graduation, PSAP graduates are expected to complete a family practice residency and to practice rural family medicine.

Outcome studies have shown that the PSAP has been highly successful in (1) increasing the percent of rural family physicians (greater than 8 times their peers), (2) retaining these rural family physicians (87% retention rate over 5-10 years in practice), and (3) having a major impact on the rural physician workforce, despite its small size (accounting for 21% of rural family physicians in Pennsylvania who graduated from one of the 7 allopathic medical schools in the state, even though PSAP students represent only 1% of graduates from those schools).

In the *JAMA* article, we identified the independent predictors for rural primary care practice, using prospectively collected data from the Jefferson Longitudinal Study for 1978-1993 Jefferson graduates. The most consistent finding from this study was the powerful impact of background and career plans at the time of admission to medical school on rural primary care practice and retention. Most of the factors independently predictive of rural primary care practice (growing up in a rural area, freshman plans for family practice, participation in the PSAP, having a National Health Service Corps scholarship, and male sex), and both factors independently predictive of retention (participation in the PSAP, and attending college in a rural area) were available at the time of entrance to medical school. In addition, non-PSAP graduates with two key selection criteria for the PSAP, both independent predictors of rural primary care (having grown up in a rural area, and freshman plans for family practice), were approximately 78% as likely to become rural primary care physicians and 75% as likely to remain so, as PSAP graduates, suggesting that the admissions component of the PSAP is by far the most important reason for its success. In fact,

very few graduates without either of these factors became rural primary care physicians (1.8%).

On the other hand, PSAP graduates were approximately one-quarter more likely than their peers with these two background factors to practice and remain in rural primary care, suggesting that some of the success of the PSAP was due to factors other than those available at the time of admission. What portion of this was due to curricular, economic or other programmatic factors related to the PSAP, or to self-selection, is unclear. Taking a senior family medicine rural preceptorship was the only independent predictor of rural primary care unknown at matriculation and was also the only independent predictor for PSAP graduates.

This study also showed that family practice was the only primary care specialty choice at matriculation that was predictive of rural primary care. In fact, freshman plans for general internal medicine were inversely related to rural primary care, and plans for general pediatrics were unrelated. Also similar to other studies, we found male sex to be predictive of rural primary care. However, with 6.0% of men and 4.1% of women practicing rural primary care, this was the least important of the independent predictors. More importantly, there was no significant difference in outcome based on sex for PSAP graduates, suggesting that for individuals already likely to become rural primary care physicians, this is not an important factor.

In conclusion, despite widespread acceptance that physicians' background characteristics are related to their practicing rural primary care, medical educators have primarily focused on what happens during and after medical school to affect these career choices. Similarly, it is commonly assumed that the curricular components of successful medical school programs are primarily responsible for their outcomes, although such programs pre-select for students likely to achieve these career goals, and the independent effect of these curricula have never been studied.

An important lesson from this study, therefore, is the need to reframe the key policy question from "what can be done during medical school" to "what can medical schools do" to address the rural primary care physician shortage. Here, the data from this study are clear – medical educators and policy makers can have the greatest impact, by far, on the supply and retention of rural primary care physicians, and at a minimal cost, by designing programs that increase the number of qualified medical school matriculants with background and career plans that are independently related to these career goals. Curricular experiences and other factors can further increase these outcomes, especially by supporting those already likely to become rural primary care physicians.

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