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## **Demographic, Educational and Economic Factors Related to Recruitment and Retention of Physicians in Rural Areas**

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## Demographic, Educational and Economic Factors Related to Recruitment and Retention of Physicians in Rural Areas

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The shortage of physicians in rural areas continues to be a major problem nationally. (1) This is particularly true in Pennsylvania, which contains the largest rural population of any state. (2) There are more people living in rural areas in Pennsylvania than in the 11 states of North Dakota, South Dakota, Wyoming, Montana, Idaho, Nevada, Colorado, Utah, Arizona, New Mexico, and Alaska combined. And, over half of all the physicians in the state practice in just three counties (Philadelphia, Montgomery, and Pittsburgh's Allegheny County), even though the remaining 64 counties contain almost three-quarters of the state's population.

While prior studies have identified a number of factors which were individually related to rural practice, (3) little information is available regarding the relative importance of these factors, their relationship to rural retention, or the impact of managed care on the recruitment or retention of rural physicians. Because of Jefferson's 20 year interest in the rural physician workforce (through its Physician Shortage Area Program [PSAP], (4) and its unique resource-the Jefferson Longitudinal Study (JLS) of Medical Education-the Pennsylvania Blue Shield Institute awarded Jefferson a grant in 1995 to study the demographic, educational, and economic factors involved in the recruitment and retention of physicians in rural areas. Co-investigators included Dr. James Diamond and Christina Hazelwood (Department of Family Medicine) and Dr. Mohammedreza Hojat (Center for Research in Medical Education and Health Care).

Utilizing information from 20 graduating classes of Jefferson (1972-91) who were practicing in Pennsylvania in March 1996, we attempted to answer three broad questions: Who goes into rural practice? Who stays in rural practice? and What is the impact of managed care on rural practice? Two hundred and four variables were analyzed, which had previously been collected in the Jefferson Longitudinal Study or which came from responses to a questionnaire sent to Jefferson graduates in 1996. Rural background was overwhelmingly the most important independent predictor of rural practice. Freshman plans to enter family practice was the only other independent predictor. Thirty-six percent of these 'high likelihood' individuals with a rural background and plans to become a family physician were practicing in rural Pennsylvania, more than five times the rate (7%) of their 'low likelihood' peers. Having a spouse with a rural background appeared to increase this ratio even further. No other variable, including curriculum or debt, added significantly to the likelihood of rural practice. Of graduates currently practicing in rural areas, 79% either grew up in a rural area, or their spouse did.

None of these variables, including rural background, however, were predictive of retention, which appeared to be more related to practice issues such as income and workload. One-fifth of rural respondents agreed that managed care was causing generalists to leave rural practice, although 78% reported that more were needed; sixty-two percent indicated that specialists were leaving oversupplied metropolitan areas and moving to rural areas, even though 67% indicated there were already enough or too many specialists there.

The most consistent finding of this study was the powerful impact of rural background on eventual rural practice. These results suggest that increasing the number of medical school matriculants who grew up in a rural area and also plan to become family physicians will have the largest impact on increasing the number of rural physicians. In addition, the perceived impact of managed care on reimbursement and the demands of rural practice, and the potential worsening of the generalist/specialist distribution, raise serious concerns regarding the future of the rural physician workforce, and access to health care in rural areas.

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