Persistent Primary Care Health Professional Shortage Areas (HPSAs) and Health Care Access in Rural America

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Issues

Congress passed the Health Professions Educational Assistance Act of 1976 to address the crisis in primary care supply in rural and inner-city locations of the United States. This legislation created primary care Health Professional Service Areas (HPSAs), which help states and communities increase their primary care supply through eligibility for loan repayment, technical assistance, increased reimbursement through Medicare, Federally Qualified Health Center (FQHC), and Rural Health Clinic designation. This study examines the degree to which persistence of primary care HPSA designation in rural counties is associated with lower population socioeconomic status and deficiencies in access to health care services.

Methods

- Rural (non-metropolitan) counties were categorized into **5 groups characterizing the persistence of primary care HPSA status** separately for partial- and full-county primary care HPSAs using methods that expand upon prior research.[1]
  - (1) **Never HPSAs**, (2) **intermittent partial-county HPSAs**, (3) **persistent partial-county HPSAs**, (4) **intermittent whole-county HPSAs**, and (5) **persistent whole-county HPSAs**.
- **Persistent primary care HPSAs** consisted of locations that were partial- or whole-county primary care HPSAs for at least 6 of 7 years in the interval including 1996, 1997, 1998, 2000, 2001, 2002, and 2004 (data on HPSA status for 1999 and 2003 were unavailable).
- **Intermittent primary care HPSAs** were whole- or partial-county HPSAs for at least 1 but less than 6 of these years.
- **Partial-county primary care HPSAs** were defined as counties in which whole-county HPSA status never occurred during the study interval.
- **Whole-county primary care HPSAs** were defined as counties that were full-county HPSAs at least once during the study period.
- American Medical Association and American Osteopathic Association Masterfile data from 2005 and corresponding Census estimates were used to identify the **per capita supply of primary care physicians**, defined as clinically active, non-resident, non-federally employed physicians <74 years of age whose primary care specialty was family medicine/general practice, general internal medicine, general pediatrics, or obstetrics-gynecology).
- Data from the 2004-5 Behavioral Risk Factor Surveillance System (BRFSS), an annual survey of U.S. adults, were used to examine several **measures of health care access**.[2]
- **Rural county characteristics** were identified using 2004 Economic Research Service (ERS) policy type county typology codes.[3]

POLICY IMPLICATIONS

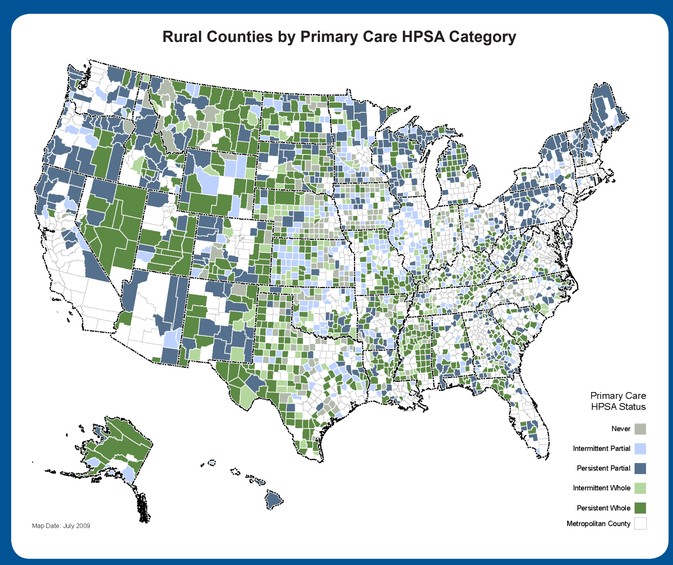
Resources are needed to increase and sustain the number of primary care providers and reduce financial barriers to care in all rural primary care HPSAs. Our findings suggest, however, that some HPSAs may need relatively more resources than others. For example, policies that give "persistent whole-county" primary care HPSAs the highest priority on eligibility for loan repayment programs, technical assistance, increased reimbursement through Medicare, FQHC designation and Rural Health Clinic designation would help promote primary care workforce development in the locations having the greatest need for health care services.

EVIDENCE

Distribution of Counties by Primary Care HPSA Category

Of 2,051 U.S. rural counties in 2005:

- **85% (1,743) were primary care HPSAs.**
- **15% (308) were "never" HPSAs.**
- **18% (370) were "intermittent partial-county" HPSAs.**
- **24% (490) were "persistent partial-county" HPSAs.**
- **10% (195) were "intermittent whole-county" HPSAs.**
- **34% (688) were "persistent whole-county" HPSAs.**



Socioeconomic Profile of Counties by Primary Care HPSA Category

- **A socioeconomic gradient occurred in which socioeconomic status was lowest in "persistent whole-county" primary care HPSAs, while counties never receiving a HPSA designation had the highest socioeconomic status.**
- **A racial/ethnic gradient was also observed in which minorities made up the highest percentage of the population in "persistent whole-county" HPSAs, while the fewest minority group members lived in counties never receiving HPSA designation.**
- **Population density was lowest in counties receiving a whole-county HPSA designation.**

Characteristics of Rural Counties by Primary Care HPSA Category

County Characteristics	Never	Intermittent Partial County	Persistent Partial County	Intermittent Whole County	Persistent Whole County
	n = 308 (15.0%)	n = 370 (18.0%)	n = 490 (23.9%)	n = 195 (9.5%)	n = 688 (33.5%)
Persistent poverty county	5.8%	7.6%	12.7%	20.0%	28.1%
Low education county	12.0%	15.1%	18.0%	28.2%	38.2%
Low employment county	4.5%	9.2%	18.0%	21.0%	31.8%
Proportion non-white race/ethnicity	11.4%	13.8%	14.4%	16.4%	21.6%
Proportion aged 65 and older	15.1%	15.1%	15.1%	15.8%	14.7%
Population loss county	26.6%	25.7%	17.3%	40.5%	27.6%
Population density	65.1/sq.mi.	67.0/sq.mi.	47.3/sq.mi.	24.7/sq.mi.	24.2/sq.mi.

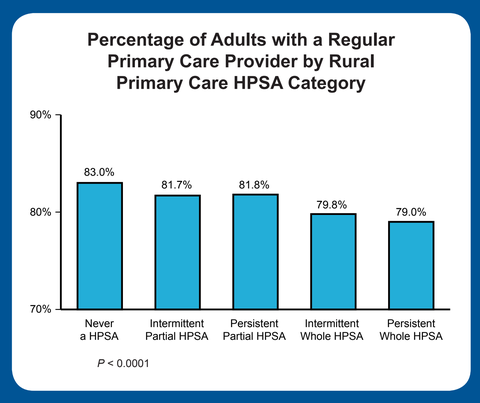
Access to Health Care by Primary Care HPSA Category

- **Primary care physician supply was lowest in rural counties receiving a whole-county HPSA designation.**

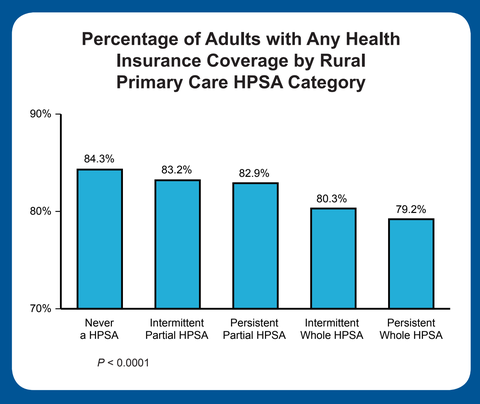
Rural Primary Care HPSA Category and Primary Care Physician Supply

County Characteristics	Never	Intermittent Partial County	Persistent Partial County	Intermittent Whole County	Persistent Whole County
	n = 308 (15.0%)	n = 370 (18.0%)	n = 490 (23.9%)	n = 195 (9.5%)	n = 688 (33.5%)
Primary care physicians per 100,000 population	72.3	68.1	69.6	45.1	39.3

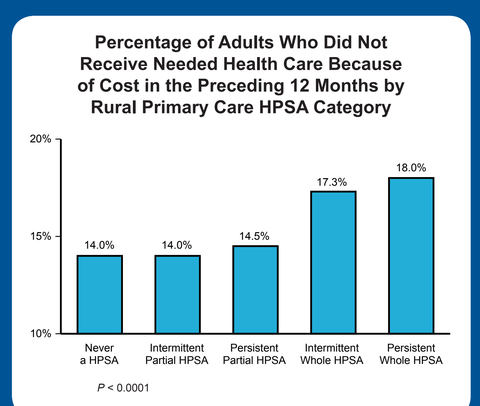
- **The percentage of U.S. rural adults with a regular primary care provider was lowest in whole-county primary care HPSAs.**



- **Rural adults in whole-county primary care HPSAs were least likely to have health insurance coverage.**



- **Rural adults in whole-county primary care HPSAs were the most likely to forego needed health care because of its cost.**



CONCLUSIONS

- **Those U.S. rural counties that were persistently designated as whole-county HPSAs had much lower SES, and adults residing in these counties reported substantial financial obstacles to obtaining needed health care services.**
- **Rural counties that were persistently designated as whole-county HPSAs also faced severe provider shortages, and adults residing in these locations were less likely to have a regular primary care provider.**
- **The ability to identify persistence and geographic extent of HPSA designation may be a valuable tool in selecting rural counties with higher levels of need.**

References

1. North Carolina Health Professions Data System, Cecil G. Sheps Center for Health Services Research, University of North Carolina at Chapel Hill. Persistent Health Professional Shortage Areas (PHPSAs), North Carolina, 2005. Available at: http://www.shepscenter.unc.edu/rural/maps/PHPSA05_NC.pdf. Accessed June 30, 2009.
2. Marks JS, Hogelin GC, Gentry EM, Jones JT, Gaines KL, Forman MR, Trowbridge FL. The behavioral risk factor surveys: I. State-specific prevalence estimates of behavioral risk factors. Am J Prev Med. 1985;1(6):1-8.
3. Economic Research Service, U.S. Department of Agriculture. Briefing room: measuring rurality: 2004 county typology codes. Available at: http://www.ers.usda.gov/Briefing/Rurality/Typology/. Accessed May 3, 2007.

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