

Home Health Care Agency Availability In Rural Counties



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Executive Summary

A range of medical services can be provided in the home setting, allowing patients to be discharged from hospital or inpatient rehabilitation settings more quickly. Medicare reimburses for six types of home health care: skilled nursing, physical therapy, occupational therapy, speech pathology, medical social work, and home health aide services. In November 2011, The Centers for Medicare and Medicaid Services modified Medicare reimbursement for home health care, seeking to control costs by reducing inflation-associated adjustments in charges. In the past, changes in reimbursement may have affected rural home health care agencies more adversely than those in urban areas. The purpose of the current report is to describe the status of home health care service delivery in the rural U.S. in 2008, before passage of the Patient Protection and Affordable Care Act and related efforts.

We used Medicare Compare Home Health Agency files for 2008 to examine two aspects of home health care (HHC) across the U.S.: HHC agency availability and quality of services provided. Home health agencies are required to report the geographic areas they serve by ZIP Code; they are also required to report quality results across a range of 12 outcomes. This report is based on agency reports; we did not independently verify that services were actually provided within all listed areas.

Important Findings

As of 2008, most U.S. counties had access to home health services, but rural counties were more likely to be served by only a single agency.

Only 33 of 3,142 counties lack any home health agency, with an additional 121 served by a single agency and thus at risk for loss of service should that single entity leave the market. Of the 33 counties lacking a home health agency, 29 are rural; similarly, of the 121 counties served by a single agency, 119 are rural. Counties in the Midwest and West are most likely to have only a single agency.

Skilled nursing and home health aide services were more widely available than specialized services, such as speech pathology or medical social work services.

A total of 107 counties, 103 of them rural, lacked medical social services, while 84 (80 rural) lacked speech pathology services and 75 (71 rural) lacked occupational therapy. Gaps are sharpest in very rural counties. Thus, 11.5% of remote rural counties lacked medical social services, and 8.2% lacked speech pathology, while less than 1% of micropolitan counties lacked any of the six types of service.

Average facility-level quality of care was slightly lower in rural than in urban counties.

We examined reported quality of home health care across twelve (12) measures. For all outcomes except hospital admission, some types of rural counties showed significantly lower levels of improvement than were reported within urban counties. While these differences are not large, the presence of rural disparities across a broad range of measures suggests the need for further research in this topic.

Table of Contents

Introduction	4
Home Health Care	4
Potential for Rural Disparities	5
Report Purpose	5
Section One: Home Health Care Service Availability, by County	6
Section Two: Agency-Reported Patient Outcomes for Home Health Care Services, by County.....	15
Conclusions	17
Service Availability	17
Service Quality	17
Implications	17
Technical Notes.....	20
Appendices	22

Table of Figures

Figure 1: Average Number of Agencies Serving the County, by Urban Influence Code, 2008.....	6
Figure 2: Average number of agencies per 100 Medicare beneficiaries, by Urban Influence Code, 2008 (Details, Table A-5)	8
Figure 3. Number of Medicare-certified Home Health Agencies that report providing service by county	9
Figure 4. Number of Medicare-certified Home Health Agencies that report providing Skilled Nursing Home Health Services, by county	10
Figure 5. Number of Medicare-certified Home Health Agencies that report providing Physical Therapy Home Health Services, by county.....	11
Figure 6. Number of Medicare-certified Home Health Agencies that report providing Occupational Therapy Home Health Services, by county.....	12
Figure 7. Number of Medicare-certified Home Health Agencies that report providing Speech Pathology Home Health Services, by county	13
Figure 8. Number of Medicare-certified Home Health Agencies that report providing Medical Social Services Home Health Services, by county	14

Table of Tables

Table 1. Frequency of Medicare-certified Home Health Agencies Serving Counties, by Urban Influence Code, 2008	6
Table 2. Number and percent of counties in which no home health agency reports providing the indicated service, by level of rurality	7
Table 3. County-level average reported patient outcomes for home health services, by level of rurality, in percentages, 2008 Medicare Home Health Compare	16
A-1. Percent of Home Health Agencies Reporting Quality Indicators, by Level of Rurality of Agency Headquarters	22

Introduction

Home Health Care

A range of medical services can be provided in the home setting, allowing patients to be discharged from hospital or inpatient rehabilitation settings more quickly. Medicare reimburses for six types of home health care: skilled nursing, physical therapy, occupational therapy, speech pathology, medical social work, and home health aide services. Several factors contribute to the importance of home health care within the overall spectrum of care. First, demographic change has led to a U.S. population that contains proportionately more individuals aged 65 and older, who experience illness and disability at higher rates than do younger persons. This change affects rural as well as urban areas. Second, since the advent of Medicare's Prospective Payment System in 1983, hospitals have been pressured to discharge patients as soon as their needs can be met at a lower level of care. Next, financial pressures stemming from growth in the population of older and disabled persons have led state Medicaid agencies to seek to provide long term care in less restrictive and more cost effective environments, including the patient's home. Finally, Medicare recently clarified its instructions to note that payment for home health services is based on demonstrated medical need, not restricted to patients who show promise of improvement. This clarification came in response to the January, 2013 settlement to the case of *Jimmo v. Sebelius*, a class-action suit filed by disability advocates (Center for Medicare Advocacy 2013). As CMS develops and implements the educational campaign required by the settlement, demand for services by disabled Medicare recipients may increase.

Payment for home health care comes from Medicare (41.9%), Medicaid (33.9%), out of pocket expenditures (7.5%), private insurance (7.0%), and other sources (9.7%).¹ Medicare payments to home health agencies amounted to seven billion dollars under Part A and \$12 billion under Part B in 2010, 2.8% of Part A and 4.4% of Part B expenditures, respectively.²

Medicare, the largest payer, pays for home health care using a prospective payment system. Home health agencies are reimbursed a fixed, case-mix adjusted amount for each 60-day episode of care. Case mix is determined by a combination of the patient's clinical status and the types of services he or she receives, with therapy visits being reimbursed at a higher level than home health aide visits. Introduction of prospective payment for home health services, which occurred between October 1997 and 2000, reduced service use by Medicare beneficiaries and also reduced the number of home health agencies, which declined 37% between 1997 and 2003 (10,807 to 6,813 agencies).² Potential causes for the decline include the failure of less efficient agencies, which could not operate within reduced funding parameters, and departure of agencies targeted because of fraud and abuse.³

¹ Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey, Table 9: Home Health Services-Median and Mean Expenses per Person With Expense and Distribution of Expenses by Source of Payment: United States, 2009, <http://meps.ahrq.gov/mepsweb>.

² National Center for Health Statistics. *Health, United States, 2011: With Special Feature on Socioeconomic Status and Health*. Hyattsville, MD. 2012. Tables 122 (number of home health agencies) and 143 (expenditures).

³ Sutton JP. *Utilization of Home Health Services among Rural Medicare Beneficiaries Before and After the PPS*. NORC Walsh Center for Rural Health Analysis, August 2005.

The number of home health agencies has since rebounded, to 10,914 in 2010, but agency closures could again occur after major federal reimbursement changes, potentially to the detriment of rural communities.

Potential for Rural Disparities

The rural population contains proportionately more individuals age 65 and older than does the urban population, and the proportion of older individuals increases with rurality.⁴ Similar trends exist for disability. Thus, rural residents are more likely to require home health care, either for post-acute services after a hospitalization or to avoid entry into other forms of long-term care, than are urban residents.

Delivery of home health care to rural residents is complicated by distance between patients, which increases non-productive driving time, and by shortages of health care facilities and personnel. Recognizing the implications of longer rural driving times, Medicare allows an “add-on” payment to home health agencies for treating rural residents, which began as a 10% add-on as part of the initial transition to prospective payment. The add-on amount has varied over time. A provision of the Patient Protection and Affordable Care Act set the current add-on at 3%, effective through January 1, 2016 (Section 3131c; CMS 2012).

Given the difficulty of offering home health care services in rural communities, rural areas may be served by fewer agencies, reducing consumer choice and creating conditions under which changes in reimbursement structure may affect the number of agencies that continue to offer the service.

Report Purpose

To track changes that may occur over the next several years, it is essential to have a benchmark of home health availability in rural areas. Thus, the current report addresses two related questions:

- What was the 2008 distribution of service provision by home health agencies, by county? Are rural populations at risk for inadequate access to home health?
- What was the quality of home health care across rural and urban areas?

These questions are addressed in sections 1 and 2. “Service provision” within a county is defined as one or more home health agencies reporting that they serve at least one ZIP Code within the county. This information has not been verified to ascertain that actual patients were served. Thus, it is possible that an agency can report a ZIP Code as within its scope, while not actually having provided care for patients in that specific ZIP Code or county. Additional details on the methods used to answer study questions are outlined in the Technical Notes.

⁴ Jones CA, Parker TS, Ahearn M, Mishra AK, Variyam JM. *Health Status and Health Care Access of Farm and Rural Populations*. U.S. Department of Agriculture, Economic Information Bulletin 57, August 2009. Appendix Table 2.

Section One: Home Health Care Service Availability, by County

Many programs and policies are oriented around counties as a unit of government. Thus, we analyzed the availability of home health care services using county as the geographic unit, categorizing counties using Urban Influence Codes.

Only 34 counties, of which 30 were rural (half of them remote rural counties (17)), totally lacked any HHC agency offering services (Table 1). An additional 120 counties, 118 of them rural, have only one agency offering services, placing them at risk should that agency be forced to close or choose to leave the market. Of the six Medicare-reimbursable services considered, nursing care and physical therapy were most commonly available and home health aide, the least (Table 2). Service availability is poorest in remote rural counties, where the proportion lacking a home health agency offering the service varies from 3.5% for nursing care up to 7.1% for home health aide.

The number of home health agencies providing services to a county declined as counties became more rural (Figure 1). Counties with no service (0 agencies) or at risk for loss of service (1 agency) are principally located in the West and upper Midwest (Figure 3). When specialized services such as occupational therapy are considered, additional pockets of risk appear in the Appalachian region and the South (e.g., Figure 6). Figures 2 through 7 illustrate the availability of specific HHC services across U.S. rural counties.

Figure 1: Average number of agencies that report serving a county, by Urban Influence Code, 2008

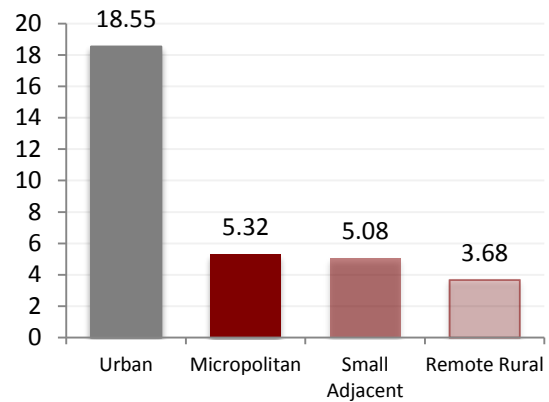


Table 1. Number and percent of Medicare-certified home health agencies that report serving counties, by Urban Influence Code, 2008

	Metropolitan	Non-Metropolitan			Total
	UIC 1-2	Micropolitan UIC 3, 5 & 8	Small Rural UIC 4, 6 & 7	Remote Rural UIC 9-12	
	N	N	N	N	N
	%	%	%	%	%
No Service	4 0.37%	3 0.44%	10 1.50%	17 2.39%	34 1.08%
1 Provider	2 0.18%	12 1.78%	14 2.10%	92 12.94%	120 3.82%
2 Providers	4 0.37%	23 3.41%	18 2.70%	90 12.66%	135 4.30%
3+ Providers	1,080 99.08%	637 94.37%	624 93.69%	512 72.01%	2,853 90.80%
Total Counties	1,090	675	666	711	3,142

Table 2. Number and percent of counties in which no home health agency reports providing the indicated service, by level of rurality

	Nursing Care	Physical Therapy	Occupational Therapy	Speech Pathology	Medical Social Services	Home Health Aide
All U.S.	164 5.22%	164 5.22%	168 5.35%	191 6.08%	230 7.32%	350 11.14%
Urban	11 0.35%	11 0.35%	11 0.35%	11 0.35%	11 0.35%	22 0.70%
Rural:						
Micropolitan	18 0.57%	18 0.57%	19 0.60%	20 0.64%	30 0.95%	52 1.65%
Small Rural	26 0.83%	26 0.83%	26 0.83%	30 0.95%	34 1.08%	54 1.72%
Rural Remote	109 3.47%	109 3.47%	112 3.56%	130 4.14%	155 4.93%	222 7.07%

Figure 2. Number of Medicare-certified home health agencies that report providing any services, by county

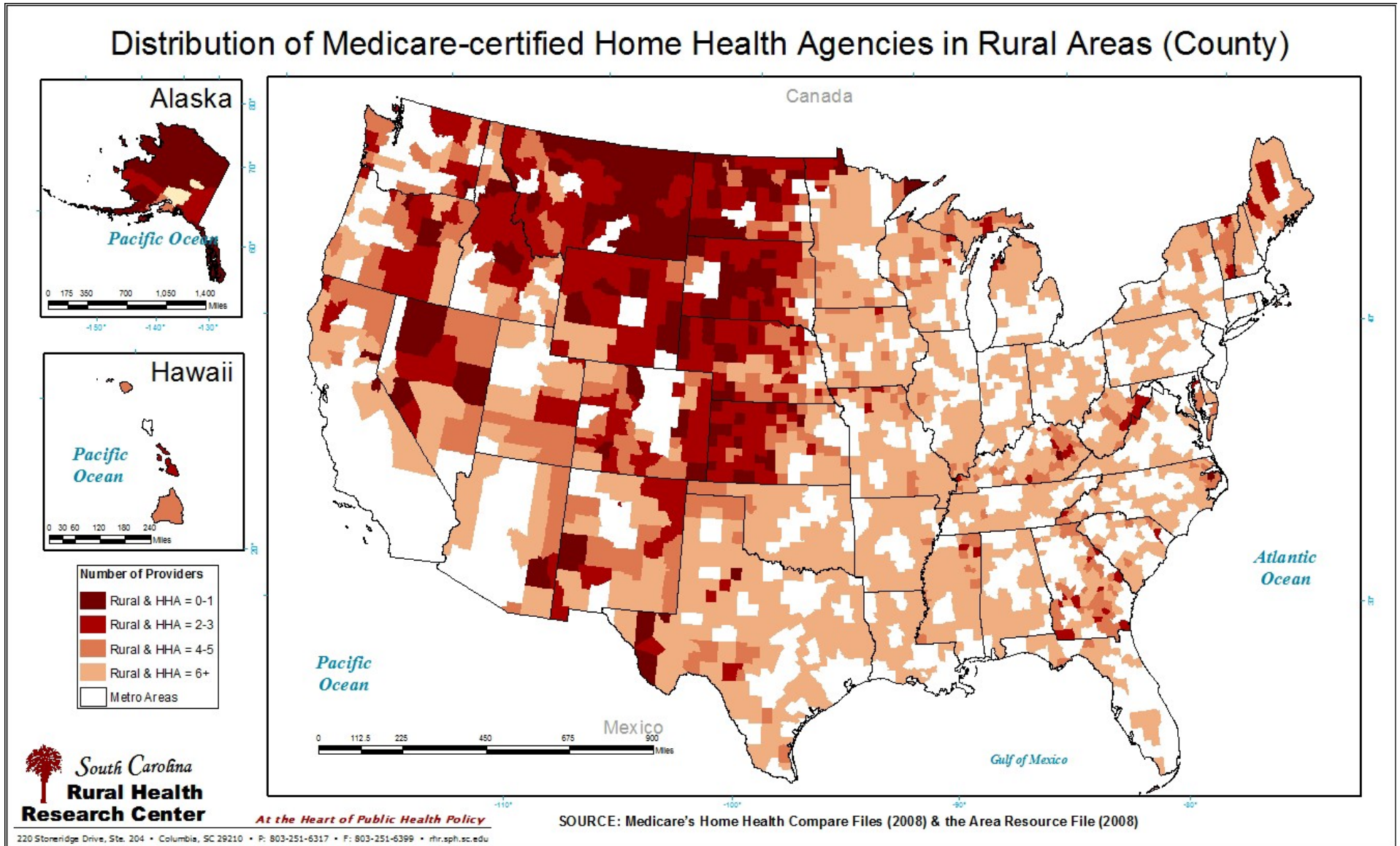


Figure 3. Number of Medicare-certified home health agencies that report providing skilled nursing home health services, by county

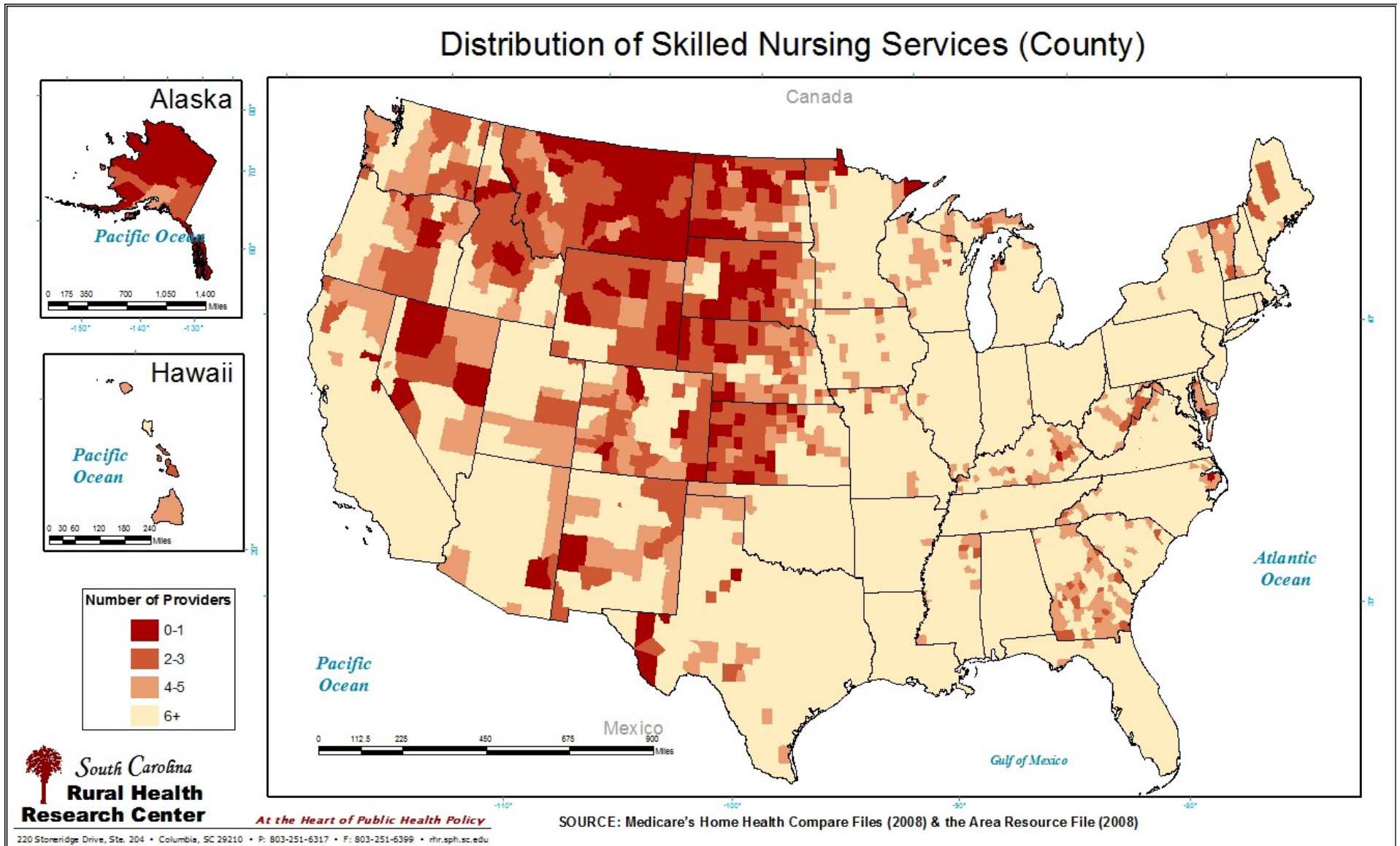


Figure 4. Number of Medicare-certified home health agencies that report providing physical therapy home health services, by county

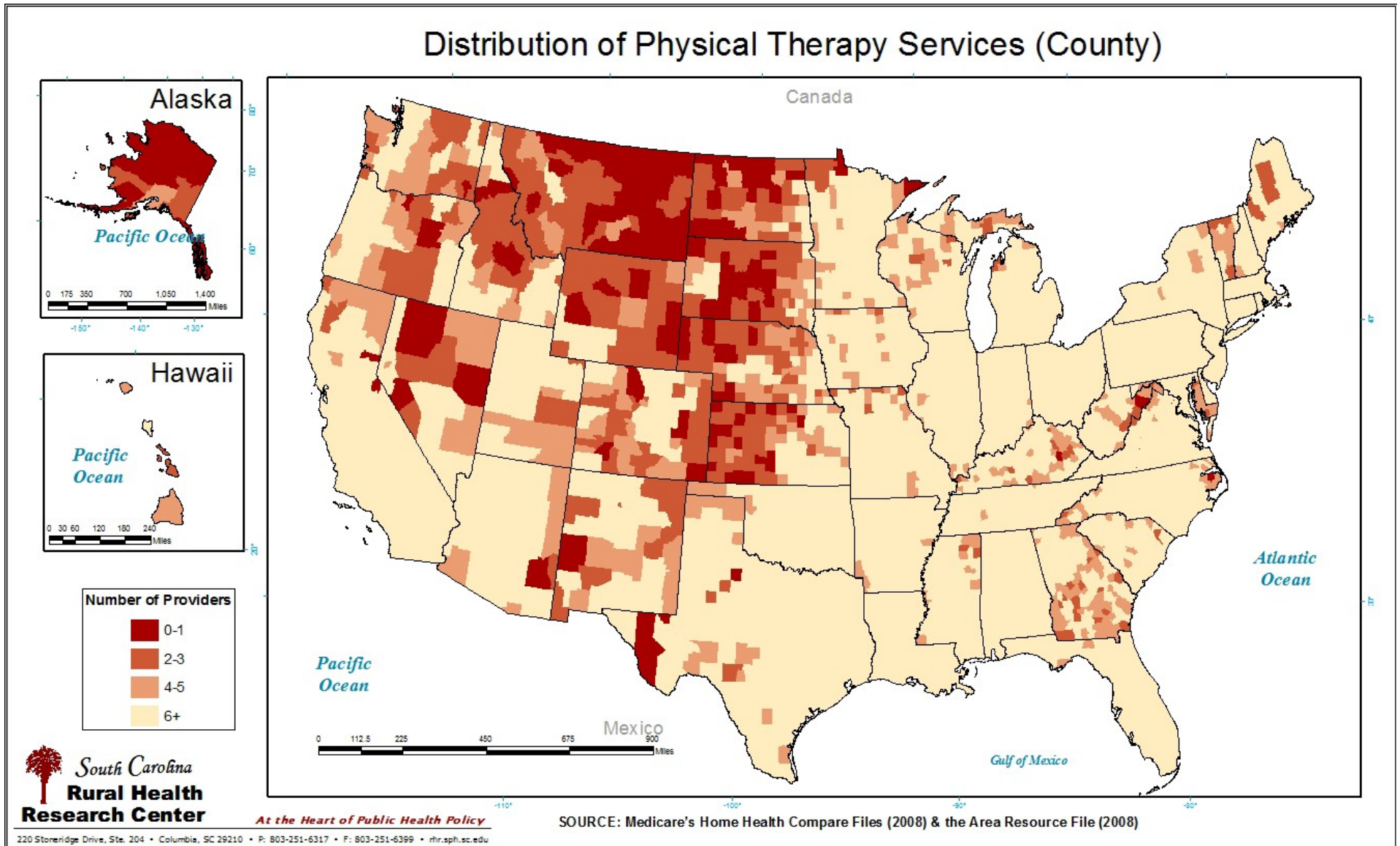


Figure 5. Number of Medicare-certified home health agencies that report providing occupational therapy home health services, by county

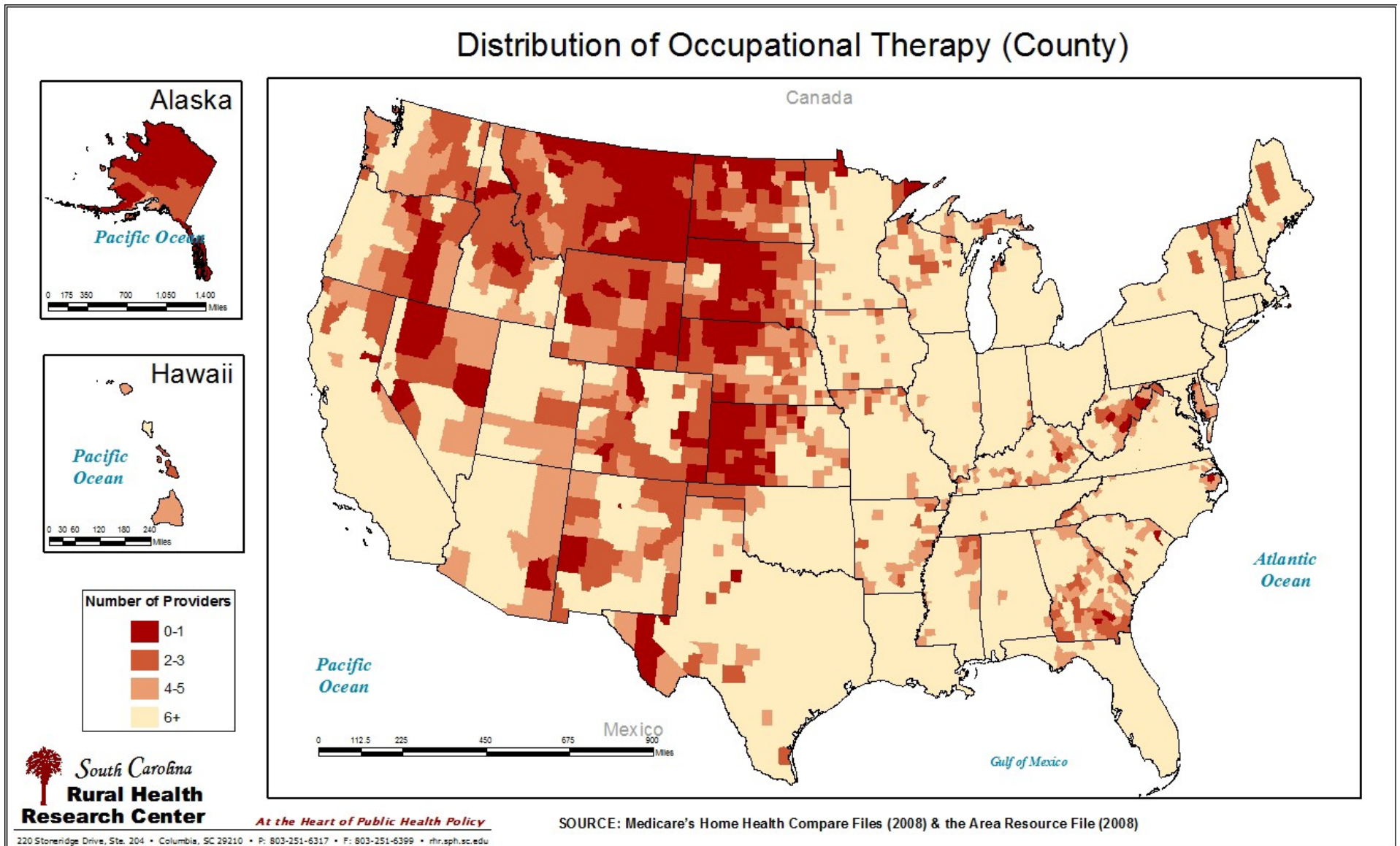


Figure 6. Number of Medicare-certified home health agencies that report providing speech pathology home health services, by county

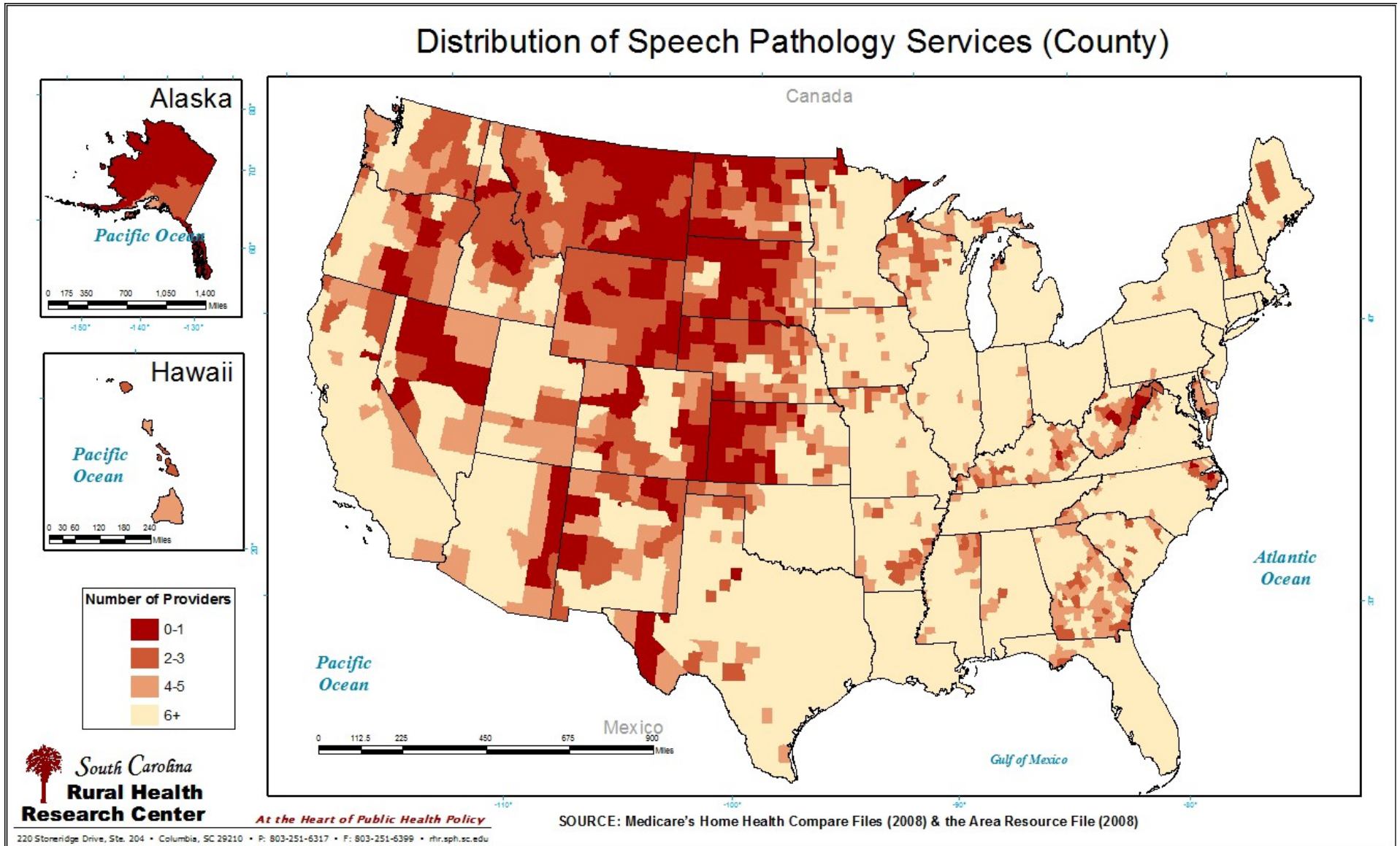


Figure 7. Number of Medicare-certified home health agencies that report providing medical social services home health services, by county

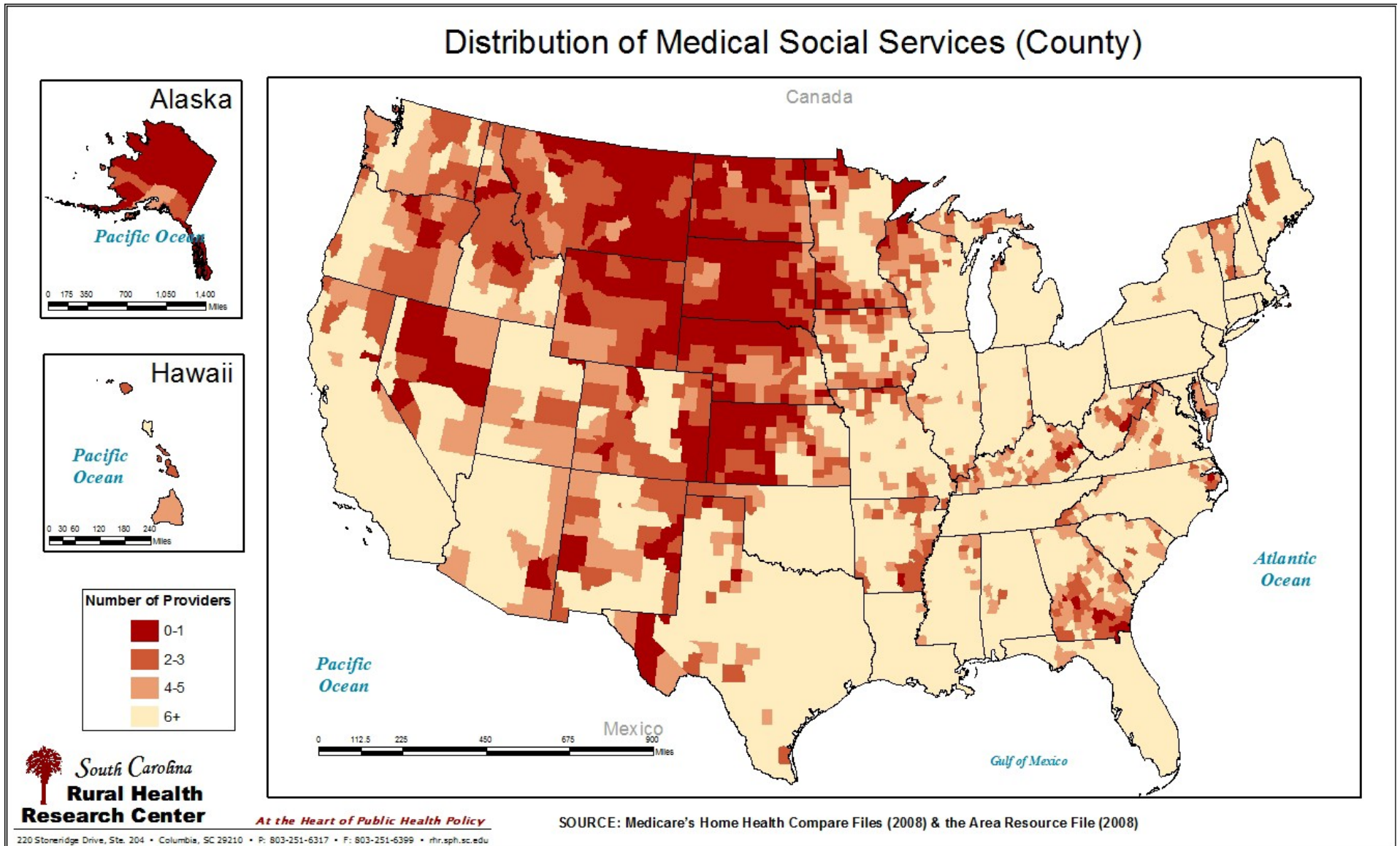
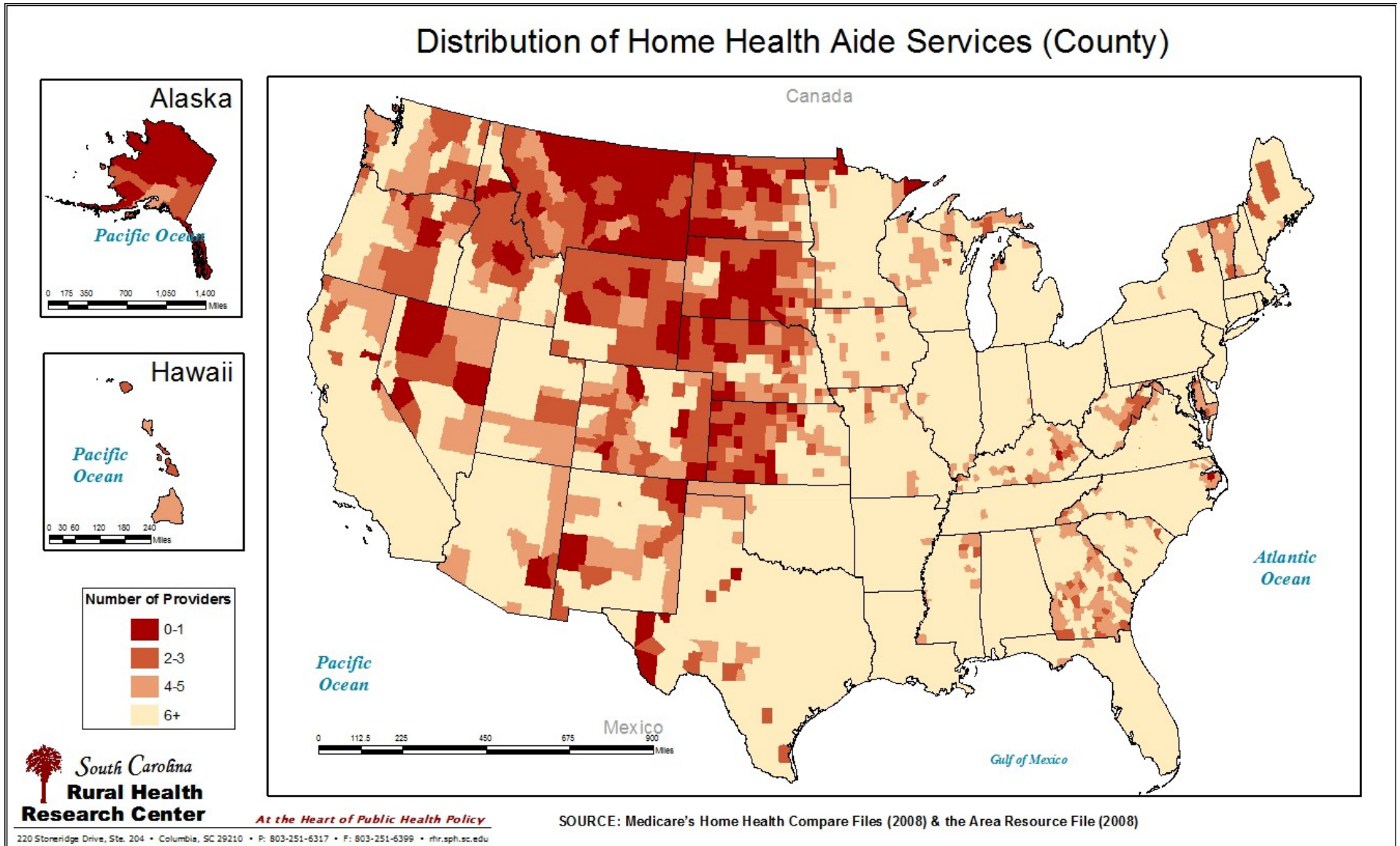


Figure 8. Number of Medicare-certified home health agencies that report providing home health aide services, by county



Section Two: Agency-Reported Patient Outcomes for Home Health Care Services, by County

Beginning in 2003, Medicare's Compare data bases have allowed consumers to view several risk-adjusted measures of the quality of home health care services offered by each home health agency serving their Zip Code (Grimaldi, 2004). Research suggests performance has improved over time on most measures pertaining to patient functioning (Jung et al, 2010).

This report section describes the Medicare Compare home health agency quality measures across levels of rurality, averaged at the county level. In 2008, twelve quality areas were reported for Medicare Compare:

1. Percentage of patients who get better at walking or moving around
2. Percentage of patients who get better at getting in and out of bed
3. Percentage of patients whose bladder control improves
4. Percentage of patients who have less pain when moving around
5. Percentage of patients who get better at bathing
6. Percentage of patients who get better at taking their medicines correctly (by mouth)
7. Percentage of patients who are short of breath less often
8. Percentage of patients who had to be admitted to the hospital
9. Percentage of patients who need urgent, unplanned medical care
10. Percentage of patients who stay at home after an episode of home health care ends
11. Percentage of patients who need unplanned medical care related to a wound that is new, is worse, or has become infected
12. Percentage of patients whose wounds improved or healed after an operation

Agencies were not required to report quality outcomes for every measure. The proportion of agencies reporting each outcome varies from a high of 91.8% for unplanned wound care through a low of 50.4% reporting improvement with surgical wound (details are provided in Appendix, Table A-1). Agencies serving rural areas were not less likely to report quality outcomes (Table A-1).

To examine patient outcomes at the county level, we averaged measures of patient improvement as reported by home health care agencies headquartered in each county. For all outcomes except hospital admission, counties within at least one category of rurality showed significantly lower levels of patient improvement than were reported within urban counties. While differences are small, the downward trend, as counties become more rural, is evident (Table 3, next page).

Table 3. County-level average reported patient outcomes for home health services, by level of rurality, in percentages, 2008 Medicare Home Health Compare

	Metropolitan	Non-Metropolitan			Total, all U.S.
		Micro-politan	Small Rural	Remote Rural	
Number of counties	1090	675	666	711	3142
Improvement in:					
Ambulation	45.8%	45.1%*	45.0%*	43.5%*	45.2%
Transferring	53.3%	52.4%	51.9%*	50.8%*	52.5%
Incontinence	46.6%	44.2%*	43.5%*	41.2%*	44.5%
Pain Management	62.0%	61.1%*	60.6%*	59.6%*	61.5%
Bathing	63.3%	62.5%*	62.3%*	61.3%*	62.8%
Oral Med. Management	41.2%	40.5%	40.7%	38.7%*	40.6%
Breathing	59.1%	57.8%*	56.8%*	56.0%*	57.9%
Surgical Wound	81.6%	81.3%	81.6%	80.2%*	81.5%
Other outcomes:					
Stay Home (post-care)	66.3%	65.6%	65.4%*	65.2%*	65.8%
Hospital Admission	29.9%	30.2%	30.5%	30.4%	30.2%
Emergent Care	23.5%	24.1%*	24.4%*	24.5%*	23.9%
Emergent Care for Wound Deterioration	1.3%	1.4%*	1.3%	1.5%*	1.4%

*Significantly (alpha = 0.05) different from Metro Areas

Conclusions

Service Availability

Overall, few rural counties across the U.S. completely lacked access to any home health care agency in 2008, or were only served by a single agency. However, counties at risk for limited service availability were almost entirely rural. Of the 34 counties lacking a home health agency, 30 were rural; similarly, of the 120 counties served by a single agency, 118 were rural.

A slightly larger group of counties lacked specialized home health services, such as medical social services, speech pathology, and occupational therapy. These services, each requiring a specialist practitioner, were particularly likely to be absent in very rural counties. Thus, 11.5% of remote rural counties lacked medical social services, and 8.2% lacked speech pathology, versus less than 1% of micropolitan counties.

Service Quality

There were small but consistent rural-urban disparities in agency-reported quality of care for home health patients. For all outcomes except hospital admission, at least one type of rural county showed significantly lower levels of improvement than were reported within urban counties. While these differences were not large, the presence of rural disparities across a broad range of measures suggests the need for further research.

Implications

The future of home health care will be determined by the interplay of several current pressures. Historically, growth of the home health care industry has been driven by the aging of the U.S. population, the Olmstead decision indicating that payers cannot require persons to be served in an institution if they prefer to reside in the community, and the increasing use of waivers to provide long term care for the Medicaid population.⁵ At present, the Centers for Medicare and Medicaid Services, through its “Independence at Home” Demonstration, has been exploring expanded service provision in the patient’s home.⁶ In addition, *Jimmo v Sebelius*, a lawsuit brought by advocates for the disabled population, has challenged the Medicare requirement that home health services only be provided to patients who are capable of improvement. If a proposed settlement to that suit is accepted persons with chronic disability requiring home health services, but not previously insured by Medicare, will be eligible for services.⁷ These pressures suggest a continued, and expanding, demand for home health services, in rural as well as urban areas.

⁵ Rosenfeld P, Russell D. A review of factors influencing utilization of home and community-based long-term care: trends and implications to the nursing workforce. *Policy Polit Nurs Pract.* 2012 May;13(2):72-80.

⁶ Centers for Medicare and Medicaid Services, Independence at Home Demonstration. <http://www.innovations.cms.gov/initiatives/Independence-at-Home/index.html> Downloaded November 17, 2012

⁷ Lieber R. What Medicare will cover even if you’re not like to get better. Oct 26, 2012, The New York Times. Available at: <http://www.nytimes.com/2012/10/27/your-money/health-insurance/medicare-expected-to-pay-more-costs-of-chronic-conditions.html?pagewanted=all>

Ensuring that home health care services continue to be available to rural populations will require attention to three key issues:

Policy Changes Addressing Variation in Health Care Use and Expenditures

Home health has been deemed to contribute strongly to geographic variation in health care use among Medicare beneficiaries, and to be particularly susceptible to fraud and abuse.⁸ These characteristics, variability plus difficulty in measuring appropriateness of prescribing, make home health care services a potential target for changes in reimbursement structure. It will be essential to ensure that potential changes are studied for potential adverse effects on rural home health agencies, which face inefficiencies associated with long distances between patients.

Changes in the Structure of Health Care Financing in Response to the Affordable Care Act (ACA)

There are two issues within Medicare financing of health care that may affect home health services: the payment mechanism used by Medicare to fund home health care and long term changes in how health care payment is divided across fee-for-service and managed care models.

Payment for home health services under the CMS Home Health Prospective Payment System (HH PPS) is complex, based on a 60-day period of care during which multiple services may be provided, but with adjustments for case mix, low utilization patients and outliers. HH agencies also receive higher payments if they participate in quality data reporting. Annual adjustments in payment rate take into consideration changes in the local wage index, as well as the cost of goods and supplies involved in providing services. The Medicare Payment Advisory Commission continues to recommend that home health payments be reduced, arguing that most home health agencies will still have acceptable cost margins.⁹ Rural institutions will need to pay close attention to proposed modifications to the home health payment system to assess the effects of such changes on their ability to offer services.

The ACA, through the Affordable Care Organization model, attempts to move more of the population from fee-for-service to managed models of care. At present, there is little or no research examining the relationship between health care financing mechanisms and patient utilization of home health care or patient health outcomes. An increase in the use of managed care approaches, along with other financing changes, may lead to closure and consolidation of home health agencies. Potential effects on rural communities need to be monitored.

Continuing Evolution of the Rural Health Workforce

Home health care is provided by a mix of specialized employees, such as registered nurses and occupational therapists, and relatively low-skill employees, such as home health aides. The three areas of home health with the greatest service availability gaps, occupational therapists,

⁸ Reschovsky JD, Ghosh A, Stewart KA, Chollet DJ. Durable medical equipment and home health among the largest contributors to area variations in use of Medicare services. *Health Aff (Millwood)*. 2012 May;31(5):956-64 Medicare Payment Advisory Commission, Report to the Congress Medicare Payment Policy. Washington, DC. March, 2014. Chapter 9.

⁹ Medicare Payment Advisory Commission, Report to the Congress, Medicare Payment Policy. March 2014, Washington, D.C. See Chapter 9.

speech pathology and medical social work, all require bachelor's or master's level training, at a minimum.

While growth is anticipated in the number of practitioners in each of these areas between 2010 and 2020, as of 2010, only 10 percent of social workers, seven percent of occupational therapists, and three percent of speech pathologists worked in home health care. Similarly, only about five percent of registered nurses (RNs) practice in the home health environment.¹⁰

The limited information available suggests that home health practitioners at the national level may have different demographic characteristics than practitioners in other settings. RNs practicing in home health have more years of nursing experience but are slightly less likely to work full-time, suggesting a workforce that is beginning to look toward retirement.¹¹ Home health aides, like nurses, have been working in the profession longer; are older than aides in other settings; and are also more likely than aides in other settings to report receiving their initial training in an educational setting versus on the job.¹²

To ensure an adequate health labor force across skill levels, rural communities may need a combination of local educational facilities for occupations such as home health aides and partnerships with larger educational institutions for more specialized fields. Tele-education, student rotations and other approaches require continued testing and evaluation. Nursing training programs, particularly in rural areas, will need to incorporate skills nurses need in a relatively independent care setting to ensure a future supply of home health nurses.

10 Bureau of Labor Statistics, U.S. Department of Labor. *Occupational Outlook Handbook*. Published March 29, 2012. Available at <http://www.bls.gov/ooh/>

11 Rosenfeld, Russell, op. cit.

12 Sengupta M, Ejaz FK, Harris-Kojetin LD. Training of home health aides and nurse aides: findings from national data. *Gerontol Geriatr Educ*. 2012 Oct;33(4):383-401.

Technical Notes

This analysis used the Medicare Home Health Compare files for 2008. Each home health agency serving Medicare beneficiaries is required to complete several reports for Home Health Compare. Agencies are asked to indicate the ZIP Codes they serve, and which Medicare covered home health services they offer; all analyses were based on these agency-provided summary reports. Claims information or other patient-specific data was not obtained; thus we cannot verify agency reports. Agencies are also asked to provide data for up to 12 quality measures averaged across all patients they serve.

The first research question examined service availability as a measure of access. Service availability was defined in two ways. First, we tabulated the number of home health care agencies that report serving a specific ZIP Code, and thus the county in which that ZIP Code is located. This method includes agencies that are not headquartered in a specific county, but provide services in it. The list of ZIP Codes provided by each agency represents that agency's definition of its geographic scope and is not a report on actual patients served in 2008. Thus, it is possible that an agency can report a ZIP Code as within its scope, while not actually having provided care for patients in that specific ZIP Code and affiliated county. Second, we summed the number of agencies providing each of six Medicare-reimbursable services at the county level: skilled nursing care, home health aide services, physical therapy, occupational therapy, medical social work and speech-language pathology services. Since agencies are not required to provide all services, the number of agencies in different service categories can be lower than the total number of agencies serving the community.

Our second analysis examined agency-reported quality of care for home health care patients. Quality of home health care is assessed using Medicare Compare measures, which require that each agency report on the percentage of patients who improve across each of nine outcome measures (walking or moving around, getting in and out of bed, bladder control, less pain when moving, bathing, taking medicines correctly, shortness of breath, remain at home after an episode of care, wounds improved), and the proportion of patients requiring each of three types of service (hospital admission, urgent unplanned care, or care for a worsening wound). These measures are reported for the agency as a whole, not for individual patients or ZIP Codes. Our analysis assumed that overall quality measures applied within all areas served by an agency. As noted in the preceding paragraph, each agency may or may not have had patients in each of the ZIP Codes in its defined service area during the reporting year (2008).

Agencies are not required to report on all quality measures. Reporting percentages were highest for the utilization measures: the percent of patients who needed emergent medical care, who were admitted to the hospital, who were able to remain home after discharge from home health, and unplanned wound care. The proportion of agencies reporting on each element is shown in Table A-1. Quality reporting varied across measures, but did not differ consistently across levels of rurality.

Geographic definitions

Our geographic analysis is based on the ZIP Codes reported by each home health agency as constituting its service area. To assess availability of home health agencies and quality outcomes at the county level, we assigned agencies to counties based on the ZIP Codes, using an algorithm developed by the U.S. Department of Housing and Urban Development¹³. Counties were

¹³ http://www.huduser.org/portal/datasets/usps_crosswalk.html

characterized based on level of rurality using Urban Influence Codes¹⁴. We divided counties into four groups: Metropolitan (UICs 1, 2), Micropolitan (UICs 3, 5, 8), Small rural (UICs 4, 6, 7), and Remote rural counties (UICs 9, 10, 11, 12). For availability, the number of agencies reporting that they served a county was summed. For quality, outcome values were assigned based on the county in which an agency's headquarters was located. When more than one agency was headquartered in a county, values were averaged.

Limitations to the analysis

The first set of limitations applies to ZIP Code Tabulation Areas (ZCTAs), which are geographic approximations of ZIP Codes. ZIP Codes, being designed around postal routes, are not necessarily geographic shapes. ZIP Codes and ZCTAs do not completely overlap; in addition, ZIP Codes with very few addresses do not have an assigned ZCTA. Thus, we utilized a crosswalk to match ZCTAs to their corresponding Zip Code.¹⁵

In addition, the Medicare Compare files only indicated whether an agency served patients in a given ZIP Code. The files do not contain information about the number of patients served or the number of agency staff available to serve them. Thus, the measure of service availability is very broad and offers only a high level assessment of the match between potential need and potential care availability. In addition, by aggregating to the county level, some precision in the estimate of availability is obscured.

We used quality measures averaged at the agency level. Each agency contributes equally to the report (one record), whether it served a very high or very low number of patients. We cannot make estimates of the quality of care provided to all individuals within a community, because we do not know the caseload of each agency.

Finally, quality measures are self-reported by HH agencies, and agencies do not necessarily report on all measures. It is possible that only agencies with better outcomes choose to report outcome measures, leading us to over-estimate the quality of home health care.

¹⁴ <http://www.ers.usda.gov/briefing/rurality/urbaninf/>

¹⁵ <http://www.udsmapper.org/zcta-crosswalk.cfm>

A-1. Percent of Home Health Agencies Reporting Quality Indicators, by Level of Rurality of Agency Headquarters

	Metropolitan			Non-Metropolitan							Total, all US
	Metro area core	Metro area high commute	Metro area low commute	Micro area core	Micro high commute	Micro low commute	Small town core	Small town high commute	Small town low commute	Remote Rural areas	
Agencies within RUCA	7,284	270	11	995	45	5	818	47	14	431	9,920
Indicator:	% report	% report	% report	% report	% report	% report	% report	% report	% report	% report	% report:
Improved Ambulatio	75.5	77.0	72.7	90.9	82.2	100.0	87.3	93.6	100.0	80.5	78.5
Improved Transferring	73.6	75.9	72.7	88.9	80.0	100.0	85.1	89.4	100.0	71.5	76.2
Improvement with Incontinence	64.9	68.9	72.7	83.3	73.3	80.0	76.0	80.9	92.9	58.0	67.8
Improved Pain Management	74.5	74.8	63.6	89.2	80.0	100.0	85.3	91.5	100.0	75.2	77.1
Improvement with Bathing	75.5	77.8	72.7	90.9	82.2	100.0	87.9	93.6	100.0	79.6	78.6
Improved Oral Med. Management	71.4	72.6	72.7	86.1	73.3	100.0	80.3	85.1	100.0	66.8	73.6
Improved Breathing	73.8	74.8	72.7	89.1	82.2	100.0	85.6	87.2	100.0	74.0	76.5
Hospital Admissio	84.2	88.5	81.8	94.9	88.9	100.0	94.4	97.9	100.0	91.2	86.7
Emergent Medical Care	83.9	88.1	81.8	94.7	88.9	100.0	94.1	97.9	100.0	90.7	86.4
Stay Home (post- care)	84.0	87.8	81.8	94.9	88.9	100.0	94.4	97.9	100.0	91.2	86.5
Unplanned Care for Wound	90.1	93.7	90.9	97.0	93.3	100.0	97.3	100.0	100.0	96.3	91.8
Improvement with Surgical	44.6	54.4	63.6	75.8	57.8	60.0	66.1	78.7	92.9	49.0	50.4

Technical note: The table above reports the proportion of agencies reporting quality averaged across the county in which each reporting home health agency is headquartered.