Facility-Based Ambulatory Care Provided to Rural Medicare Beneficiaries in 2014

A Chartbook
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Acronyms and Abbreviations

ACSC	Ambulatory Care Sensitive Conditions
AIR	All-Inclusive Rate
BHI	Behavioral Health Integration
CAH	Critical Access Hospital
CCM	Chronic Care Management
CCN	Centers for Medicare & Medicaid Services Certification Number
CCS	Clinical Classifications Software
CMS	Centers for Medicare & Medicaid Services
CNM	Certified Nurse Midwife
CoCM	Collaborative Care Model
COPD	Chronic Obstructive Pulmonary Disease
CP	Clinical Psychologist
CSW	Clinical Social Worker
FPL	Federal Poverty Level
FQHC	Federally Qualified Health Center
HPSA	Health Provider Shortage Area
HOPD	Hospital Outpatient Department
ICD	International Classification of Disease
MUA	Medically-Underserved Area
NP	Nurse Practitioner
PA	Physician Assistant
PB	Provider Based
PPS	Prospective Payment System
RHC	Rural Health Center
RUCA	Rural-Urban Commuting Area

Purpose

For decades, health care has been shifting from inpatient to outpatient settings.[1] Ambulatory care refers to medical services performed same day on an outpatient basis (without admission to a hospital or other facility) and includes services ranging from wellness and disease management to surgical treatment and rehabilitation. These services are generally provided to keep patients healthy and out of the hospital.[2] Hospital admissions for ambulatory care sensitive conditions (ACSC) (e.g., asthma, diabetes, hypertension, dehydration, bacterial pneumonia) are often used as a measure of access to and quality of primary care, including preventive services and care management.[3-5] Several studies have found that rural areas have higher rates of hospital admissions for ACSC.[6-9] There are many possible reasons for higher rates given rural residents often face more health related challenges than urban residents. Some challenges are related to the population—the rural population is older, sicker, poorer, and less likely to have insurance than their urban counterparts.[10] Other challenges have to do with the availability of health care—rural communities may not have a hospital, often have provider shortages, travel greater distances to care, and have fewer transportation options.[11]

Although it is known that access to ambulatory care is important, not much is known about the ambulatory care that rural Medicare patients typically receive. This chartbook uses available Medicare claims data to describe facility-based (i.e., excludes private practitioners) ambulatory care provided to rural Medicare beneficiaries and includes claims, costs, and common diagnoses.

This chartbook serves as a national baseline describing facility-based ambulatory care provided to rural Medicare beneficiaries that can be used to evaluate policy changes. For example, as of January 1, 2018, FQHCs and RHCs are eligible to receive payment for Chronic Care Management (CCM), general Behavioral Health Integration (BHI) services, and/or for psychiatric Collaborative Care Model (CoCM) services (under certain conditions).[12] Effective January 1, 2019, FQHCs can receive payment for Virtual Communication services when at least 5 minutes of communication technology-based or remote evaluation services are furnished by an FQHC practitioner to a patient who has had an FQHC billable visit within the previous year.[12,13] Additionally, this information could be used to inform decisions at the local and federal level about allocation of resources (funds, providers, etc.) that can have the most impact to improve population health. Resources are particularly limited in rural areas, and spending on the Medicare population overall is expected to increase as baby boomers age into the program between now and 2030, so efficient use of resources is critical. Overall, having a better understanding of this information helps to describe the effects of policy decisions in practice across different facility types.

Types of Ambulatory Care Facilities

For the purposes of this chartbook, we have grouped the provision of ambulatory care to Medicare beneficiaries into three categories and focus only on the first:

1. Federally Qualified Health Centers (FQHCs), Rural Health Clinics (RHCs), and hospital outpatient departments (HOPDs). These facilities are the focus of this chartbook.
2. Other types of health care facilities, such as renal dialysis centers, local health departments, rehabilitation facilities, and mental health centers.[14] The types of ambulatory care provided at these facilities are diverse and difficult to compare with ambulatory care provided by FQHCs, RHCs, and HOPDs. Therefore, rural Medicare beneficiary claims at these facilities are included in Chart 1 only.
3. Private practice providers, such as physician offices. This study uses data from the Medicare Outpatient claims file, which includes facility claims only. Therefore, rural Medicare Beneficiary **claims by private practice providers are not included in this chartbook.**

Federally Qualified Health Centers (FQHCs)

FQHCs are safety net providers that provide services in an outpatient clinic setting. FQHCs have been certified by the Centers for Medicare & Medicaid Services (CMS) to qualify for Medicare and Medicaid payment and are reimbursed via a prospective payment system (PPS) using a national rate that is adjusted based on where services are provided (see the table on page 7 for more information). Three types of organizations are eligible to be certified as FQHCs: 1) HRSA Health Center Program Grantees; 2) HRSA Health Center Program Look-Alikes; and 3) outpatient health programs/facilities operated by an American Indian/Alaska Native (AI/AN) tribe or tribal organization (under the Indian Self-Determination Act) or by an urban Indian organization (under Title V of the Indian Health Care Improvement Act).[a] Tribal Entities may apply directly to CMS for FQHC certification. All other eligible entities must first apply to HRSA to receive Health Center Program designation before applying to CMS for FQHC certification. In addition to comprehensive primary care, FQHCs provide enabling services, such as education, translation, and transportation, which promote access to care. FQHCs, per the HRSA Health Center Program requirements, must serve a medically-underserved area (MUA) or medically-underserved population, offer sliding-fee scales for beneficiaries with incomes less than 200% of the Federal Poverty Level (FPL), and be governed by a board of directors composed of a majority of health center beneficiaries who represent the population served. FQHCs employ various providers, including physicians, nurse practitioners (NPs), physician assistants (PAs), certified nurse midwives (CNMs), clinical psychologists (CP), and clinical social workers (CSW).[15] For more specific information on FQHCs, see https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/downloads/fqhcfactsheet.pdf.

Rural Health Clinics

RHCs provide primary care and basic diagnostic and laboratory services to underserved populations. RHCs are also certified by CMS and are reimbursed at an all-inclusive rate (AIR) for medically necessary primary care services and qualified preventive services. Unlike FQHCs, RHCs must be located in a non-urbanized area and must employ advanced practice providers (including NPs, PAs, or CNMs) at least 50% of the time. RHCs must be located in an area that has been designated (in the past four years) to be a MUA, geographic- or population-based Health Provider Shortage Area (HPSA), or a government-designated shortage area. RHCs can be public, non-profit, or for-profit. RHCs are further classified as independent, provider-based where the parent hospital has less than or equal to 49 beds (PB RHC, ≤ 49 beds), and provider-

[a] *Information in this document applies to FQHCs that are Health Center Program Grantees and Health Center Program Look-Alikes. It does not necessarily apply to tribal or urban Indian FQHCs or grandfathered tribal FQHCs.*

based where the parent hospital has greater than or equal to 50 beds (PB RHC, ≥ 50 beds).[12] For more specific information on RHCs, see https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/downloads/RuralHlthClinfctsht.pdf.

Hospital Outpatient Departments (HOPDs)

HOPDs provide treatment and services to beneficiaries that do not require hospital admission or extended observation. This project focuses on outpatient departments at both Critical Access Hospitals (CAHs)[16] and PPS hospitals.[17] For more specific information on HOPDs, see https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/downloads/HospitalOutpaysysfctsht.pdf.

Methods

Data

We used the CMS Medicare Master Beneficiary Summary File to identify all rural beneficiaries (in both Parts A and/or B and both fee-for-service and Medicare Advantage) living in the U.S. or its territories, and then linked these beneficiaries with their fee-for-service claims (both Medicare primary and secondary payer) generated at facilities that provided ambulatory care from January to December 2014 in the Medicare Outpatient Research Identifiable File. These claims were aggregated to the facility level to give information per facility. ***It is important to emphasize that this dataset only looks at facilities that had at least one claim from a rural Medicare beneficiary in 2014, and does not consider the total population of patients served by each type of facility – that is, it only considers rural Medicare beneficiaries.***

Facilities were classified based on the last four digits of their CMS Certification Number (CCN). CCNs are unique to each facility site. Provider-based RHCs have different CCNs than their parent hospital, and each FQHC permanent unit (or site) has a unique CCN.[18] Some claims had missing data elements that limited our ability to assign them to a facility type. For example, missing for some of these variables was: facility type, rural/urban, independent or provider-based, and number of beds. These data are labeled as "missing" in the table on page 9. The year 2014 was chosen because it is the most recent year in which data using consistent International Classification of Disease (ICD) codes for the whole year was available. The U.S. health care industry converted from the 9th edition of the ICD codes (ICD-9) to the 10th edition (ICD-10) in October 2015. Small numbers (≤ 10) of total patients or total claims per facility were suppressed and not included in the study. There are slight differences in the total number of claims in the common diagnoses charts due to inconsistencies regarding the suppression of small numbers in various datasets used. Beneficiaries may receive services at ambulatory care facilities that are not covered by Medicare; claims for these services are not included in this study. Overall, this process resulted in 56,580,360 claims generated at 33,696 facilities in 2014.

Definitions

- **Ambulatory Care** – Ambulatory care refers to medical services performed same day on an outpatient basis (without admission to a hospital or other facility) and includes services ranging from wellness and disease management to surgical treatment and rehabilitation.
- **Rural** – In this study, rural is defined as being located outside metropolitan Core Based Statistical Areas or within metropolitan areas and having Rural-Urban Commuting Area (RUCA) codes of 4 or greater. This is the definition used by the Federal Office of Rural Health Policy and other federal programs.[19] Due to variations in the definition of rural and changes in the population of an area after the establishment of an RHC, there are a few RHCs and CAHs technically not located in a rural area (according to the previously stated definition). However, this number was small, and both programs are intended to serve rural populations, so all RHCs and CAH outpatient departments are considered rural for the purposes of this chartbook.
- **Medicare payment** – Amount paid by CMS to the facility for the services reported on the outpatient claim. Medicare reimbursed each facility type using different payment methods, see the table on page 7 for more information.[14]
- **Beneficiary cost sharing liability** – This is the portion of the cost that the beneficiary was responsible for paying. It is based on the sum of the Part B deductible, blood deductible, and coinsurance amounts.[14] Beneficiaries may also use supplemental coverage (e.g., Medigap) to pay their cost-sharing liability, but that information is not captured in this study.

Methods

- **Diagnosis** – Beneficiary diagnoses were clustered into a manageable number of clinically meaningful categories using Clinical Classifications Software (CCS) Groupers.[20]
- **Other Aftercare** – For the purposes of this paper, the other aftercare "diagnosis" is based on a subset of ICD-9 V codes,[20] which provides an explanation for a situation that influences someone's health status, but is not in itself the current illness or injury. Examples include follow-up examination after completed treatment for surgeries or cancer treatments; fitting and adjustment of a device; aftercare following a joint replacement; and palliative care. For a complete list of V codes see https://icd.codes/icd9cm/chapter18.

Medicare Payment & Beneficiary Cost Sharing Liability at Each Facility Type in 2014

The table below[b] summarizes the regulations for determining Medicare payment and beneficiary cost sharing liability at each facility type during the study period (2014).[c]

Facility Type	Medicare Payment	Cost Sharing
Federally Qualified Health Center (FQHC)[15]	• After any applicable deductibles have been satisfied, paid 80% of their AIR, except for those that transitioned to the PPS rate • Subject to upper payment limit under the AIR; higher limit for urban FQHCs	• Coinsurance is 20% of the lesser of: total charges or the PPS rate • No Part B deductible for FQHC-covered services • Sliding fee scale is mandatory per the HRSA Health Center Program
Rural Health Clinic (RHC)[21]	• After any applicable deductibles have been satisfied, paid 80% of their AIR • Subject to upper payment limit under the AIR, except provider-based RHCs, ≤ 49 beds	• Coinsurance is 20% of total charges • Part B deductible applies and is based on total charges • Sliding fee scale is optional
Critical Access Hospital (CAH) Outpatient Department[16]	• Paid at 101% of reasonable costs; in practice paid 99% of reasonable costs due to 2011 budget sequestration	• Services are subject to Part B deductible • The copayment amount for most services is 20% of applicable Part B charges; not limited by the Part A inpatient deductible amount
Prospective Payment System (PPS) Hospital Outpatient Department[17]	• Reimbursed based on Medicare Outpatient PPS rules • Payment amounts for a particular service are based on the Ambulatory Payment Classification (APC) group of that service	• Part B deductible applies • Services are subject to coinsurance and copayment amounts based on Outpatient PPS (OPPS) Medicare rules (e.g., coinsurance amounts are a percentage of the OPPS-specified hospital payment rates)

[b] Information in the table only applies to payment for Medicare-covered services; some exemptions exist for certain preventive services reimbursed by Medicare at 100% of cost.[12]

[c] Payment regulations have changed slightly since the study period—primarily FQHCs now receive Medicare payment based on the FQHC PPS rate, rather than the AIR. FQHCs transitioned to the PPS rate between October 2014 and December 2015.[15]

Key Findings

- The majority (82%) of rural Medicare beneficiaries' claims for facility-based ambulatory care in 2014 were at hospital outpatient departments (HOPDs): nearly two-thirds(63%) were at PPS outpatient departments, most of which were in rural areas. [See Charts 2 and 3]
- The average number of claims per rural Medicare beneficiary (with at least one claim in 2014) at each facility type was similar (a range of 1.8 to 2.4 claims per beneficiary). [See Chart 4]
- Medicare paid more on average per claim to HOPDs ($408-670) than to FQHCs and RHCs ($88-$159). [See Chart 5]
- Among HOPDs, Medicare paid more on average per claim to urban PPS hospitals ($670) than to rural PPS hospitals ($408) and CAHs ($446). [See Chart 5]
- Among FQHCs and RHCs, Medicare paid independent RHCs the lowest average per claim ($88) and paid PB RHCs ≤ 49 beds the highest on average per claim ($159). [See Chart 5]
- Rural Medicare beneficiaries had higher cost sharing amounts per claim at HOPDs ($80-164), especially CAHs ($164), compared to FQHCs and RHCs ($23-27). [See Chart 6]
- The five most common rural Medicare beneficiary diagnoses among all facilities providing ambulatory care were hypertension, other aftercare, diabetes, spondylosis (i.e., spinal osteoarthritis) or other back problems, and cardiac dysrhythmias. [See Chart 7]
- Hypertension, diabetes, spondylosis or other back problems, and disorders of lipid metabolism (e.g., high cholesterol) were among the top 10 diagnoses for rural Medicare beneficiaries across FQHCs, RHCs, and HOPDs. [See Chart 8]
- There are rural and urban differences among the rural Medicare beneficiaries' common diagnoses at FQHCs, RHCs, and HOPDs. [See Charts 9 and 10]

Chart 1: Facility-Based Ambulatory Care

Chart 1 provides an overview of the ambulatory care provided to rural Medicare beneficiaries by 10 different groups of ambulatory care facilities, each of which had at least one claim from a rural Medicare beneficiary in 2014. The chart shows the number of each type of facility,[c] the number of rural Medicare beneficiaries who received ambulatory care at each type of facility,[c] the total number of claims from rural Medicare beneficiaries, and the average number of claims per beneficiary. The chart also shows total and average Medicare payment and cost sharing liability. "All Other" facilities are included in this table for reference and to show the entirety of facility-based ambulatory care provided to rural Medicare Beneficiaries in 2014, but they are excluded from the remainder of the charts.

The data in Chart 1 can be interpreted by starting at the left and proceeding across columns. For example, row 1 shows that, in 2014, there were 1,588 FQHCs located in rural areas, and 1,135,437 rural Medicare beneficiaries generated 2,079,069 claims at these facilities (an average of 1.8 claims per beneficiary at rural FQHCs). For these claims, Medicare reimbursed the rural FQHCs a total of $235,312,984 (an average of $113 per claim), and total beneficiary cost sharing liability was $52,344,580 (an average of $25 per claim).

Chart 1. Facility-Based Ambulatory Care Provided to Rural Medicare Beneficiaries in 2014

Facility Type	Number of Facilities	Number of Beneficiaries[d]	Number of Claims	Average Number of Claims per Beneficiary*	Total Medicare Payment	Average Medicare Payment per Claim	Total Beneficiary Cost Sharing	Average Beneficiary Cost Sharing per Claim
FQHC Rural**	1,588	1,135,437	2,079,069	1.8	$235,312,984	$113	$52,344,580	$25
FQHC Urban	2,326	143,832	273,626	1.9	$31,941,192	$117	$6,812,264	$25
RHC Independent	1,595	1,677,726	3,091,810	1.8	$270,998,599	$88	$71,169,253	$23
RHC PB <=49 Beds	1,858	2,124,684	3,863,914	1.8	$615,769,231	$159	$103,557,894	$27
RHC PB >=50 Beds	244	226,180	401,889	1.8	$41,523,404	$103	$11,005,653	$27
CAH	1,340	5,196,003	10,888,761	2.1	$4,859,922,247	$446	$1,790,579,385	$164
PPS Rural	2,604	10,882,665	23,131,972	2.1	$9,433,088,829	$408	$1,848,545,508	$80
PPS Urban	7,050	5,567,222	11,193,561	2	$7,502,194,066	$670	$1,373,350,883	$123
All Other† Rural	5,728	541,902	1,236,690	2.3	$715,593,234	$579	$142,737,199	$115
All Other† Urban	8,425	98,327	233,933	2.4	$130,397,980	$557	$26,003,083	$111
Missing‡	938	102,078	185,135	1.8	$61,942,385	$335	$14,273,273	$77
TOTAL	33,696		56,580,360	2.0	$23,898,684,151	$422	$5,440,378,974	$96

* With at least one visit to that facility type.

** FQHC is physically located in an area defined as rural using the definition on page 6.

† *All Other* includes facilities such as renal dialysis centers, community mental health centers, comprehensive outpatient rehabilitation facilities, home health agencies, outpatient physical therapy services, and skilled nursing facilities.

‡ *Missing* includes facilities for which data were missing and we were unable to assign the claim to a facility type.

[d] *Each beneficiary could have claimed more than one facility type, so these are not unique beneficiaries.*

Chart 2 shows the number of rural Medicare beneficiaries' claims at FQHCs, RHCs, and hospital (CAH and PPS) outpatient departments in 2014. The sum of claims across these facilities was 54,924,602. Rural PPS hospitals had more than twice as many rural Medicare beneficiary claims (23,131,972) as other HOPDs. The lowest number of rural Medicare beneficiary claims were at urban FQHCs (273,626).

Chart 2. Number of Rural Medicare Beneficiary Ambulatory Care Claims in 2014

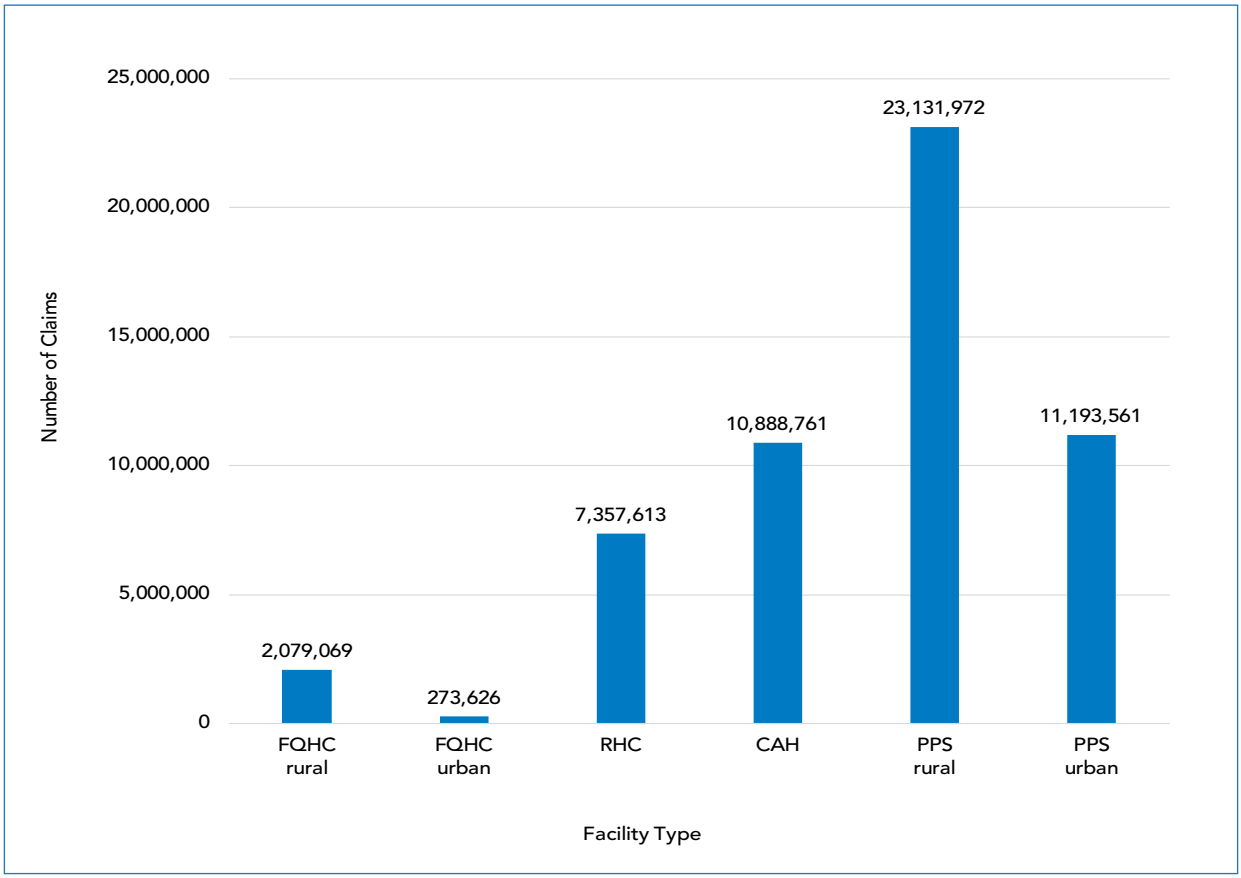

Chart 3: Percentage of Claims by Facility Type

Chart 3 shows that the majority of the ambulatory care claims were at hospital outpatient departments: nearly two-thirds (about 63%, or 34,325,533) were at PPS outpatient departments, most of which were located in rural areas, and about 20% of claims were at CAH outpatient departments. Thirteen percent of total claims were at RHCs. The smallest portion of claims (only about 4.3%, or 2,352,695) were at FQHCs, and most of these FQHCs were in rural areas.

Chart 3. Percentage of Rural Medicare Beneficiary Ambulatory Care Claims at Each Facility Type in 2014

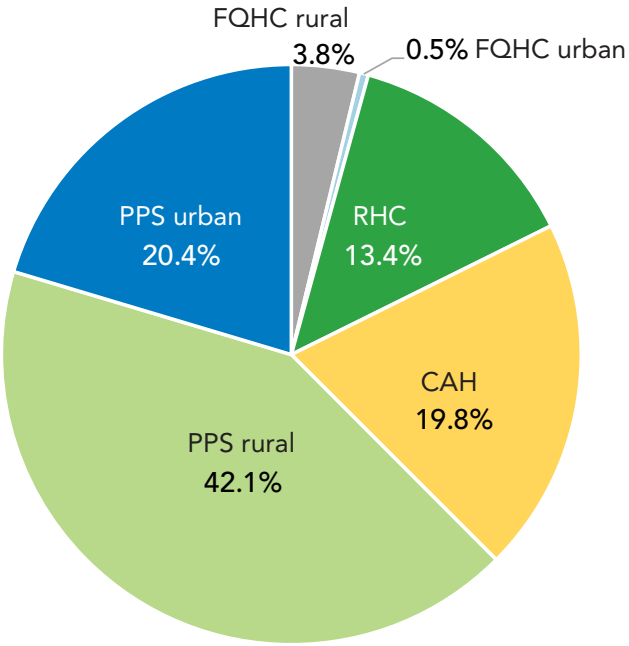

Chart 4 shows that, among beneficiaries with at least one claim at an ambulatory care facility, there was little variation in the average number of claims per beneficiary in 2014 at each ambulatory care facility type. The average was around two, with the lowest at rural FQHCs and RHCs and the highest at rural PPS and CAH outpatient departments. It is important to note that these figures don't represent unique beneficiaries because there were claims for some beneficiaries at more than one facility type over the year.

Chart 4. Average Number of Ambulatory Care Claims per Rural Medicare Beneficiary by Type of Facility in 2014

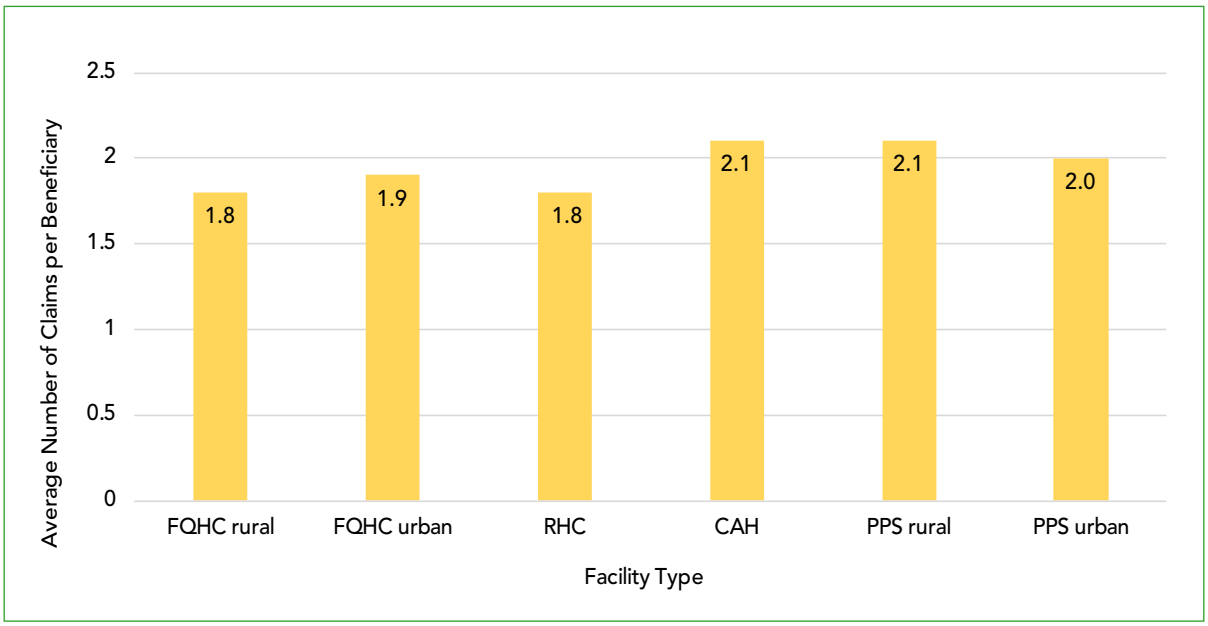

Chart 5: Medicare Payment per Claim

Chart 5 shows that the average Medicare payment was much higher for rural beneficiaries at HOPDs than at FQHCs or RHCs. The highest amount per claim was at urban PPS HOPDs, but the amounts at CAH and rural PPS outpatient departments were also much higher than the amounts paid at FQHCs or RHCs. These differences may be related to the reasons rural beneficiaries went to each facility type (i.e., medical conditions or treatment/service capability), or the methods used to calculate payment at each facility. Medicare paid the least per claim at independent RHCs. Medicare payment to PB RHCs ≤ 49 beds may have been higher than FQHCs and other RHCs because PB RHCs ≤ 49 beds are the only type of RHC that is exempt from the Medicare upper payment limit.

Chart 5. Average Medicare Payment per Ambulatory Care Claim for a Rural Medicare Beneficiary in 2014

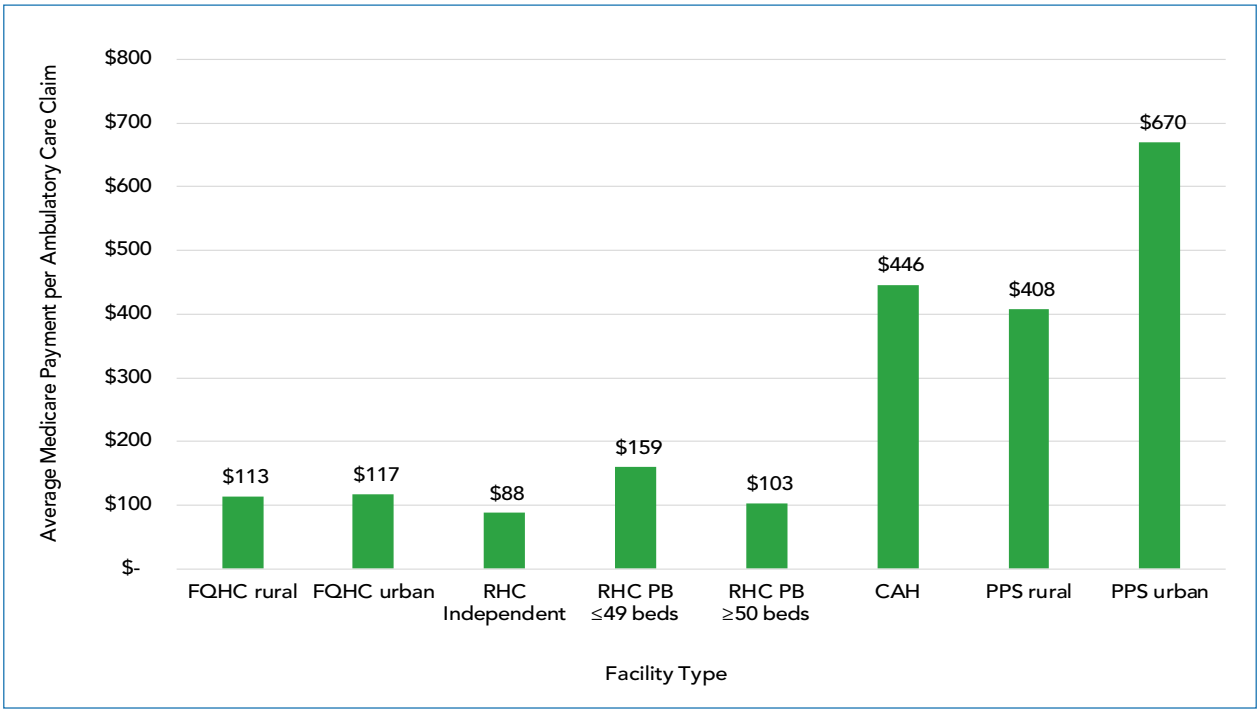

Chart 6 shows that rural Medicare beneficiaries were liable for much higher cost sharing amounts at HOPDs than FQHCs or RHCs. Overall, cost sharing per claim was highest at CAH outpatient departments ($164). Cost sharing was the lowest at independent RHCs ($23), but the cost sharing amount at other RHCs and FQHCs was only slightly higher.

Chart 6. Average Rural Medicare Beneficiary Cost Sharing Liability per Ambulatory Care Claim at FQHCs and RHCs in 2014

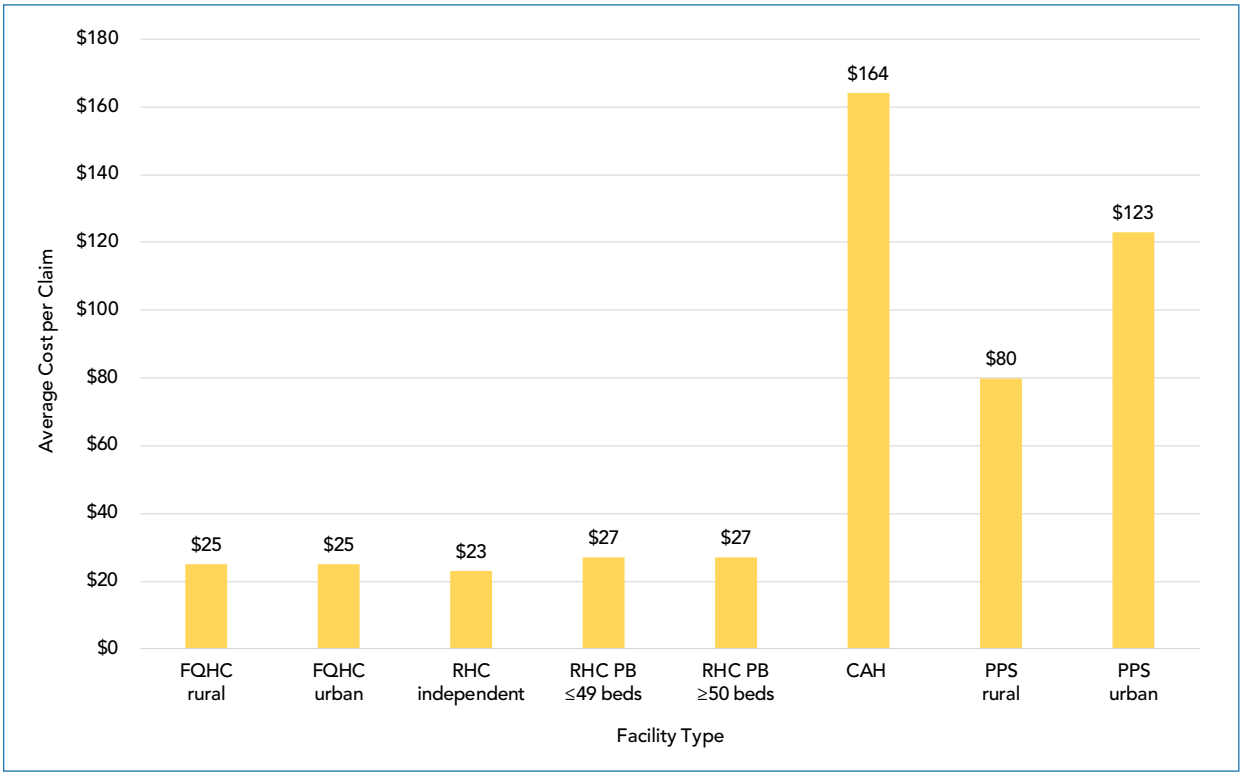

Chart 7: Most Common Diagnoses - All Facilities

Chart 7[e] shows that chronic diseases (e.g., hypertension and diabetes) were among the most common diagnoses of rural Medicare beneficiaries at ambulatory care facilities in 2014. Research has shown that rural populations suffer from chronic diseases at higher rates than urban populations.[22] Additionally, spondylosis (i.e., spinal osteoarthritis) or other back problems, and cardiac dysrhythmias are more common among older adults,[23,24] so it is not surprising to also see these among the most common diagnoses of rural Medicare beneficiaries at ambulatory care facilities.

Chart 7. Most Common Diagnoses of Rural Medicare Beneficiaries across All* Ambulatory Care Facilities in 2014

Rank	Primary Diagnosis (CCS Category Description)	Number of Claims	Percent of Total Claims
1	Essential hypertension	2,868,078	5.07%
2	Other aftercare	2,522,831	4.46%
3	Diabetes mellitus without complication	2,176,034	3.85%
4	Spondylosis; intervertebral disc disorders; or other back problems	2,164,067	3.83%
5	Cardiac dysrhythmias	2,112,508	3.73%
6	Other screening for suspected conditions (not mental disorders or infectious disease)	1,657,378	2.93%
7	Other non-traumatic joint disorders	1,388,974	2.46%
8	Chronic kidney disease	1,348,912	2.38%
9	Disorders of lipid metabolism (e.g., high cholesterol)	1,321,955	2.34%
10	Other connective tissue disease	1,280,144	2.26%
11	Other lower respiratory disease	1,180,446	2.09%
12	Residual codes; unclassified	1,177,103	2.08%
13	Rehabilitation care; fitting of prostheses; and adjustment of devices	1,090,744	1.93%
14	Iron deficiency and other anemia	1,073,024	1.90%
15	Urinary tract infections	1,008,427	1.78%
16	Medical examination/evaluation	990,632	1.75%
17	Genitourinary symptoms and ill-defined conditions	892,483	1.58%
18	Chronic obstructive pulmonary disease and bronchiectasis	890,112	1.57%
19	Coronary atherosclerosis and other heart disease	836,279	1.48%
20	Other nervous system disorders	814,893	1.44%
21	Thyroid disorders	799,629	1.41%
22	Abdominal pain	787,467	1.39%
23	Diabetes mellitus with complications	763,578	1.35%
24	Nonspecific chest pain	667,182	1.18%
25	Other gastrointestinal disorders	665,244	1.18%
	All Other Diagnoses (includes 229 other diagnoses, all < 1.18% of claims)	24,102,236	42.60%
TOTAL		56,580,360	100.00%

* Including diagnoses from 938 facilities with unassigned facility type due to missing data.

[e] *There are slight variations in the number of total claims due to small differences in the suppression of small numbers (≤10) in datasets used; Diagnoses at All Other facilities are included in this table.*

Chart 8: Most Common Diagnoses by Facility Type

Chart 8 shows the 10 most common diagnoses (including number of claims and percent of total claims) for rural Medicare beneficiaries at each type of ambulatory care facility. Color denotes diagnoses that are among the top 10 in all four facility types. Hypertension, diabetes, and spondylosis or other back problems were common across all ambulatory care facilities. The most common diagnoses of rural Medicare beneficiaries at FQHCs and RHCs were similar, although mood disorders were more common at FQHCs, and upper respiratory infections and COPD/bronchiectasis were more common at RHCs. Other aftercare, cardiac dysrhythmias, hypertension, and spondylosis or other back problems were among the most common diagnoses of rural Medicare beneficiaries at HOPDs. These diagnoses may suggest reasons why beneficiaries received ambulatory care at each facility type, but the services offered vary based on facility type, which may also influence diagnosis rates for certain conditions.[f]

Chart 8. Most Common Diagnoses of Rural Medicare Beneficiaries at Each Type of Ambulatory Care Facility in 2014

Rank	Diagnoses at Ambulatory Care Facilities (number of claims; percent of total claims)			
	FQHC	RHC	CAH	PPS
1	Essential hypertension (287,440; 12.2%)	Essential hypertension (802,918; 10.9%)	Other aftercare (786,236; 7.2%)	Other aftercare (1,597,954; 4.7%)
2	Diabetes mellitus without complication (199,014; 8.5%)	Diabetes mellitus without complication (475,011; 6.5%)	Cardiac dysrhythmias (597,820; 5.5%)	Cardiac dysrhythmias (1,297,825; 3.8%)
3	Mood disorders (107,225; 4.6%)	Spondylosis; intervertebral disc disorders; other back problems (359,716; 4.9%)	Essential hypertension (472,830; 4.3%)	Other screening for suspected conditions (not mental disorders or infectious disease) (1,277,125; 3.7%)
4	Spondylosis; intervertebral disc disorders; other back problems (104,678; 4.4%)	Other upper respiratory infections (290,872; 4.0%)	Diabetes mellitus without complication (427,198; 3.9%)	Essential hypertension (1,271,952; 3.7%)
5	Diabetes mellitus with complications (78,956; 3.4%)	Chronic obstructive pulmonary disease and bronchiectasis (249,903; 3.4%)	Rehabilitation care; fitting of prostheses; and adjustment of devices (360,973; 3.3%)	Spondylosis; intervertebral disc disorders; other back problems (1,249,965; 3.6%)
6	Medical examination/ evaluation (70,017; 3.0%)	Other non-traumatic joint disorders (212,375; 2.9%)	Other screening for suspected conditions (not mental disorders or infectious disease) (355,182; 3.3%)	Chronic kidney disease (1,168,571; 3.4%)
7	Chronic obstructive pulmonary disease and bronchiectasis (67,418; 2.9%)	Disorders of Lipid Metabolism (181,646; 2.5%)	Spondylosis; intervertebral disc disorders; other back problems (321,476; 3.0%)	Diabetes mellitus without complication (1,049,728; 3.1%)
8	Other upper respiratory infections (64,657; 2.7%)	Other connective tissue disease (177,102; 2.4%)	Other non-traumatic joint disorders (273,399; 2.5%)	Disorders of lipid metabolism (803,531; 2.3%)
9	Other non-traumatic joint disorders (60,751; 2.6%)	Residual codes; unclassified (165,644; 2.3%)	Disorders of lipid metabolism (271,853; 2.5%)	Other lower respiratory disease (766,904; 2.2%)
10	Disorders of lipid metabolism (58,905; 2.5%)	Medical examination/ evaluation (158,191; 2.2%)	Iron deficiency and other anemia (250,626; 2.3%)	Iron deficiency and other anemia (728,624; 2.1%)
All Other	*1,253,634; 53.3%*	*4,284,235; 58.2%*	*6,771,168; 62.2%*	*23,113,354; 67.3%*
TOTAL	2,352,695; 100%	7,357,613; 100%	10,888,761; 100%	34,325,533; 100%

[f] *For more information about the services provided at each type of facility, see the following sources: FQHC,[15] RHC,[21] Hospital outpatient services https://www.medicare.gov/coverage/outBeneficiary-hospital-services.html.*

Chart 9: Most Common Diagnoses - RHCs and FQHCs

Chart 9 shows the most common diagnoses of rural Medicare beneficiaries at RHCs and rural and urban FQHCs in 2014. Color denotes the diagnoses in the top 10 among both rural and urban FQHCs and RHCs. The most common diagnoses were relatively similar: hypertension, diabetes, mood disorders, and spondylosis (i.e., spinal osteoarthritis) or other back problems were the four most common diagnoses at both rural and urban FQHCs. However, mood, cognitive, anxiety, or psychotic disorder diagnoses were more common at urban FQHCs, and diagnoses of COPD/bronchiectasis and upper respiratory infections were more common at rural FQHCs. It is important to keep in mind that the overall number of claims for rural Medicare beneficiaries was much higher at rural FQHCs than urban FQHCs (2,079,069 vs. 273,626). Similar to FQHCs, essential hypertension, diabetes, and spondylosis (i.e., spinal osteoarthritis) were the most common diagnoses among RHCs.

Chart 9. Most Common Diagnoses of Rural Medicare Beneficiaries at RHCs and Rural and Urban FQHCs in 2014

Rank	Rural FQHCs		Urban FQHCs		RHCs	
	Primary Diagnosis	Number and % of Claims	Primary Diagnosis	Number and % of Claims	Primary Diagnosis	Number and % of Claims
1	Essential hypertension	258,487; 12.4%	Essential hypertension	28,953; 10.6%	Essential hypertension	802,918; 10.9%
2	Diabetes mellitus without complication	178,277; 8.6%	Mood disorders	23,800; 8.7%	Diabetes mellitus without complication	475,011; 6.5%
3	Spondylosis; intervertebral disc disorders; other back problems	93,504; 4.5%	Diabetes mellitus without complication	20,737; 7.6%	Spondylosis; intervertebral disc disorders; other back problems	359,716; 4.9%
4	Mood disorders	83,425; 4.0%	Spondylosis; intervertebral disc disorders; other back problems	11,174; 4.1%	Other upper respiratory infections	290,872; 4.0%
5	Diabetes mellitus with complication	69,417; 3.3%	Delirium, dementia, and amnestic and other cognitive disorders	10,648; 3.9%	Chronic obstructive pulmonary disease and bronchiectasis	249,903; 3.4%
6	Medical examination/ evaluation	63,195; 3.0%	Anxiety disorders	10,193; 3.7%	Other non-traumatic joint disorders	212,375; 2.9%
7	Chronic obstructive pulmonary disease and bronchiectasis	62,517; 3.0%	Diabetes mellitus with complication	9,539; 3.5%	Disorders of Lipid Metabolism	181,646; 2.5%
8	Other upper respiratory infections	58,767; 2.8%	Medical examination/ evaluation	7,500; 2.7%	Other connective tissue disease	177,102; 2.4%
9	Other non-traumatic joint disorders	54,575; 2.6%	Schizophrenia and other psychotic disorders	7,012; 2.6%	Residual codes; unclassified	165,644; 2.3%
10	Disorders of lipid metabolism	53,308; 2.6%	Other non-traumatic joint disorders	6,176; 2.3%	Medical examination/ evaluation	158,191; 2.2%
	All Other	*1,105,271; 53.2%*	*All Other*	*137,894; 50.4%*	*All Other*	*4,284,235; 58.2%*
	TOTAL	2,079,069; 100.0%	**TOTAL**	273,626; 100.0%	**TOTAL**	7,357,613; 100%

Chart 10: Most Common Diagnoses - HOPDs

Chart 10 shows the most common diagnoses of rural Medicare beneficiaries at CAH, rural PPS, and urban PPS hospital outpatient departments in 2014. Color denotes the diagnoses among all three facility groups (other aftercare, cardiac dysrhythmias, hypertension, diabetes, spondylosis or other back problems, and other screening). Although the most common diagnoses at HOPDs were similar, rural and urban PPS HOPDs were more similar to each other than to CAHs: with chronic kidney disease and spondylosis (i.e., spinal osteoarthritis) or other back problems ranking higher than diabetes in PPS HOPDs. Rehabilitation care and non-traumatic joint disorders were among the top 10 for CAHs, but not PPS HOPDs.

Chart 10. Most Common Diagnoses of Rural Medicare Beneficiaries at HOPDs in 2014

Rank	CAH		Rural PPS		Urban PPS	
	Primary Diagnosis	Number and % of Claims	Primary Diagnosis	Number and % of Claims	Primary Diagnosis	Number and % of Claims
1	Other aftercare	786,236; 7.2%	Other aftercare	1,148,380; 5.0%	Spondylosis; intervertebral disc disorders; other back problems	459,576; 4.1%
2	Cardiac dysrhythmias	597,820; 5.5%	Essential hypertension	933,244; 4.0%	Other aftercare	449,574; 4.0%
3	Essential hypertension	472,830; 4.3%	Other screening for suspected conditions (not mental disorders or infectious disease)	910,025; 3.9%	Cardiac dysrhythmias	398,765; 3.6%
4	Diabetes mellitus without complication	427,198; 3.9%	Cardiac dysrhythmias	899,060; 3.9%	Other screening for suspected conditions (not mental disorders or infectious disease)	367,100; 3.3%
5	Rehabilitation care; fitting of prostheses; and adjustment of devices	360,973; 3.3%	Chronic kidney disease	852,333; 3.7%	Essential hypertension	338,708; 3.0%
6	Other screening for suspected conditions (not mental disorders or infectious disease)	355,182; 3.3%	Spondylosis; intervertebral disc disorders; other back problems	790,389; 3.4%	Chronic kidney disease	316,238; 2.8%
7	Spondylosis; intervertebral disc disorders; *other back problems*	321,476; 3.0%	Diabetes mellitus without complication	776,044; 3.4%	Diabetes mellitus without complication	273,684; 2.4%
8	Other non-traumatic joint disorders	273,999; 2.5%	Disorders of lipid metabolism	580,448; 2.5%	Coronary atherosclerosis and other heart disease	265,819; 2.4%
9	Disorders of lipid metabolism	271,905; 2.5%	Iron deficiency and other anemia	543,649; 2.4%	Other lower respiratory disease	243,243; 2.2%
10	Iron deficiency and other anemia	250,669; 2.3%	Other lower respiratory disease	523,661; 2.3%	Residual codes; unclassified	232,229; 2.1%
	All Other	*6,771,168; 62.2%*	*All Other*	*15,174,739; 65.6%*	*All Other*	*7,848,625; 70.1%*
	TOTAL	10,888,761; 100.0%	**TOTAL**	23,131,972; 100.0%	**TOTAL**	11,193,561; 100.0%

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The North Carolina Rural Health Research Program

The North Carolina Rural Health Research Program (NC RHRP) at the Cecil G. Sheps Center for Health Services Research is built upon more than 40 years of rural health research at The University of North Carolina at Chapel Hill. NC RHRP seeks to address problems in rural health care delivery through basic research, policy-relevant analyses, geographic and graphical presentation of data, and the dissemination of information to organizations and individuals who can use the information for policy or administrative purposes to address complex social issues affecting rural populations.

NC RHRP's research involves primary data collection, analysis of large secondary data sets, and in-depth policy analysis. The program's diverse, multidisciplinary team includes health care professionals and experts in biostatistics, geography, epidemiology, economics, sociology, anthropology, and political science. Our active dissemination component emphasizes the use of geographic methods in research. With a primary focus on Medicaid and Medicare policy, NC RHRP has examined rural health care topics as diverse as hospital finance, emergency medical services, swing bed care, access to care for children with Medicaid, Cesarean section, availability of pharmacy services including impact of Medicare Part D and the 340B Pharmacy Program, intensive care in Critical Access Hospitals, labor costs and the area wage index, and premium assistance programs, among others. NC RHRP also maintains the professional and data resources to respond to quick turn-around data analyses for policy makers, legislators, community programs and others.

The North Carolina Rural Health Research Program's project portfolio currently includes the NC Rural Health Research and Policy Analysis Center and the Medicare Rural Hospital Flexibility Program. These projects are funded by the U.S. Department of Health and Human Services Federal Office of Rural Health Policy.

For more information about the work of the North Carolina Rural Health Research Program, go to:

http://www.shepscenter.unc.edu/programs-projects/rural-health/

Information on research conducted by all of the federally funded Rural Health Research Centers is compiled and available at the Rural Health Research Gateway:

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