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Health Care Utilization Patterns of Rural Medicaid Recipients, 2012, 35 States**Key Findings****Medicaid Inpatient Utilization**

- Rural and urban Medicaid enrollees across the 35 study states were similar in the likelihood of any hospitalization (9.3% and 9.2%, respectively).
- Rural non-Hispanic African-American enrollees were more likely to have at least one hospital stay compared to urban enrollees (9.4% vs. 8.9%, respectively).
- Among fee-for-service enrollees, the proportion with one or more inpatient stays increased significantly with rurality (up to 8.8% in isolated rural residents).
- The average length of stay was lower among rural (3.8 days) than urban (4.8 days) Medicaid enrollees.

Institutional Long Term Care Facility Use

- Overall, 1.9% of enrollees across the 35 study states had at least one day in a non acute-care institution; this percentage was higher for rural (2.3%) than urban (1.7%) enrollees.
- Rural enrollees were slightly more likely to have a skilled nursing stay than urban enrollees.

INTRODUCTION

Medicaid offers significant health care access and coverage to millions of low-income and vulnerable Americans. As of July 2017, Medicaid provided health care coverage for approximately 74 million Americans¹, which included up to 35 million children¹. Few analyses address the specific characteristics of rural Medicaid enrollees, particularly their use of services as compared to urban enrollees. Existing data focus on state-level analyses (because of the state-based nature of the program)², comprise studies of special populations or services³, or use other sources of data rather than Medicaid itself⁴. A comprehensive overview of health care utilization, particularly subset by rurality, has been lacking.

The purpose of this brief is to examine inpatient and other institutional encounters among individuals enrolled in Medicaid prior to expansion in 2014, using enrollment and claims data from the Medicaid Analytic Extract Files. Although Medicaid is administered by individual states, data files are provided to the Research Data Assistance Center of the Centers for Medicare & Medicaid Services, where they are put in a standardized format. Because states vary in the timing of claims and enrollment data submission, researchers have to make trade-offs between timeliness and thoroughness of data. When this research was initiated, 2012 summary data were available for 35 states, the most robust sample at the time. This sample, though somewhat dated, allowed for a detailed examination of Medicaid utilization in the pre-Medicaid expansion period. All Medicaid-covered individuals, institutionalized and living in the community, are included. Details on the methods and sample can be found in the Technical Notes (page 8).

Likelihood of an inpatient stay

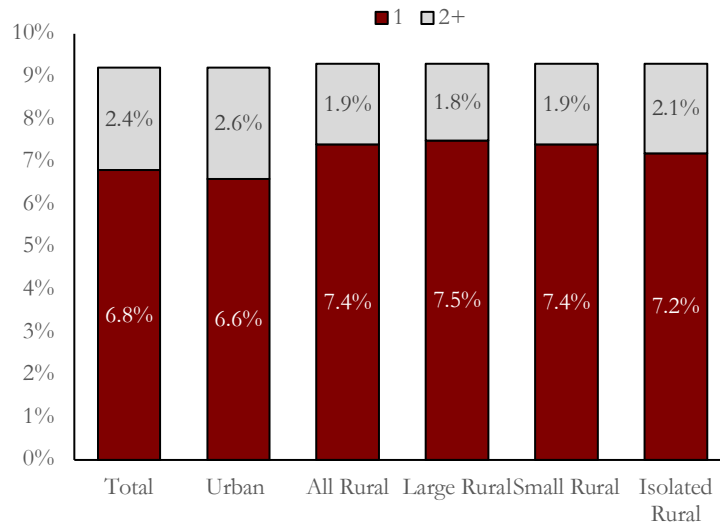
Across the 35 states studied, 9.2% of Medicaid enrollees had an inpatient hospital stay in 2012. Rural and urban enrollees were similar in the likelihood of any hospitalization (9.3% and 9.2%, respectively; See Figure 1).^{*} Rural residents were slightly more likely to have only one inpatient stay (7.4% vs. 6.6% for urban) and correspondingly less likely to have two or more stays (1.9% vs. 2.6%). These proportions remained fairly constant across rural areas.

The likelihood of hospitalization in 2012 was associated with the characteristics of the enrollees (See Table A-1, Appendix). Enrollees under the age of 19 were the least likely to have had an inpatient stay, and this proportion was fairly consistent across levels of rurality. Reflecting the high proportion of births covered by Medicaid, women age 19–44 had the highest probability of any hospital stay (16.0% urban, 16.1% rural; data not in table). Within each gender, rural and urban enrollees had similar hospitalization rates.

Rural/urban differences emerged when enrollees were compared across racial/ethnic categories. In general, the likelihood of hospitalization was greater among rural than urban minority populations; differences were not found across non-Hispanic (NH) white enrollees. Specifically:

- Rural NH African-American enrollees were more likely to have at least one hospital stay than urban enrollees (7.4% vs. 6.2%, respectively). Conversely, the opposite was true for multiple hospital stays, with rural African-American enrollees being slightly less likely to have two or more inpatient episodes (2.0% vs. 2.7%, respectively).
- Among Hispanic enrollees, the proportion with a single hospital stay increased from 6.5% among urban residents to 7.9% among rural residents. The opposite was true for multiple hospitalizations, which were more common among urban (2.7%) than rural (1.1%) enrollees.

Figure 1: Distribution of Inpatient Visits Among those with at least one Visit, by Rurality, 2012, 35 states (n= 4,622,892)



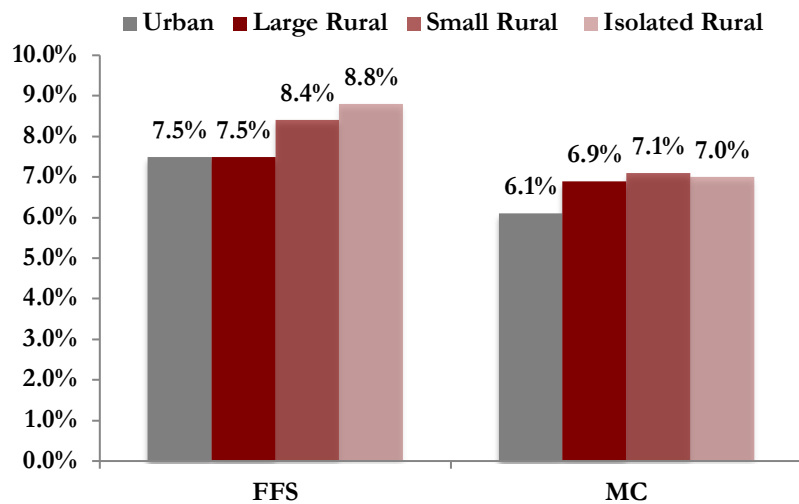
^{*}Note on the reporting of statistical significance in this report series: Statistical significance emerges from the difference between two values and the size of the populations for which the differences are calculated. Because this research is based on more than 50 million observations, all comparisons are significant unless values are nearly identical. Thus, our discussion addresses differences large enough to be meaningful in a policy or clinical context.

- The rate of any hospitalization among American Indian (AI)/Alaska Native (AN) enrollees increased from 10.0% in urban areas to 11.3% in isolated rural areas. Differences were driven by a high proportion of individuals with a single hospital stay (9.2% among AI/AN residents in isolated rural areas vs. 7.1% in urban areas). This was the highest rate found for any population group, suggesting differences in population health and/or service availability.
- Asian/Pacific Islanders in rural areas had higher inpatient utilization rates (8.9% with one or more visits) than those in urban areas (7.3%), driven principally by a higher proportion of rural than urban residents with a single hospitalization (7.7% vs. 3.9%)

Inpatient stays were also examined across different categories of eligibility and enrollment (See Table A-2). In general, the likelihood of any hospitalization varied in ways that would be expected given the enrollment categories, and within each category, hospitalization rates were similar for rural and urban enrollees. Thus, children were least likely to have had a hospital stay (6.0% urban, 6.3% rural). At the other extreme, enrollees in the “other” category, which includes individuals covered under the Breast and Cervical Cancer Prevention Act of 2000, were most likely to be hospitalized (urban 16.2%, rural 14.9%). Across the remaining eligibility categories, overall rural rates for any stay were 13.3% among adult enrollees, 12.5% among disabled enrollees, and 9.4% among aged enrollees.

Hospitalization rates among persons age 65 and older may not reflect hospital stays paid by Medicare as the primary insurer.

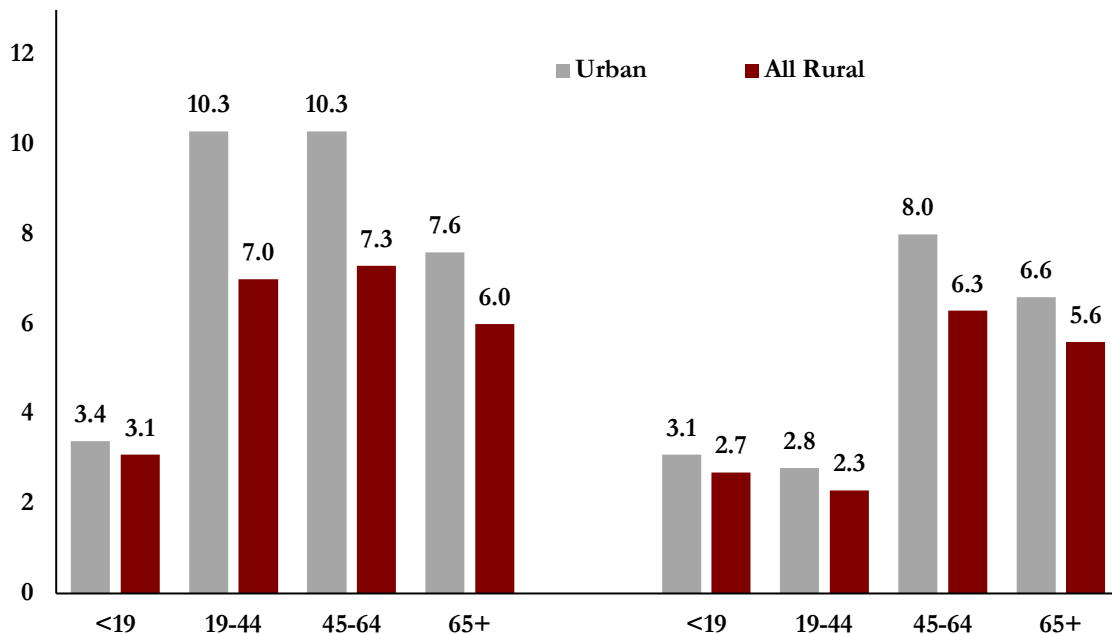
Among enrollees who were covered for the full year, rates of hospitalization were higher for persons in fee-for-service (FFS) plans than those in managed care (MC) plans, among both rural and urban beneficiaries (See Figure 2, at right). Thus, among all rural residents, 8.2% of FFS vs. 7.0% of MC-covered patients were hospitalized (See Table A-2). Among FFS but not MC rural enrollees, the likelihood of hospitalization increased with rurality.



Lengths of stay among hospitalized enrollees

Among enrollees with an inpatient stay, the mean length of stay was 4.4 days. This was lower among rural enrollees (3.8 days) than urban enrollees (4.8 days) (See Table A-3). A pattern of shorter rural than urban stays repeated over every characteristic examined, although the size of the difference varied (See Table A-3). Variation across levels of rurality, however, was generally less than one full day of stay. Notable points:

- Among NH African-American enrollees, the average length of stay increased with rurality, from 4.3 days in large rural areas to 5.3 days in isolated rural places.
- Rural/urban differences were largest in the Northeast (average of 8.4 days in urban areas vs. 6.6 days in rural areas).
- The pattern of shorter stays for rural residents was present among both FFS (urban 7.6 days, rural 6.4 days) and MC (urban 4.0 days, rural 3.0 days) enrollees.
- Overall gender differences reflect the high proportion of birth-related hospitalizations (See Figure 3). Among women of child-bearing age (19-44 years), the average length of stay was 2.8 days among urban and 2.3 days among rural women vs. 10.3 and 7.0 days, respectively, among urban and rural men. Differences across levels of rurality were minor.



Institutional Long-Term Care Facility Use

Overall, 1.9% of enrollees across the 35 states studied had at least one day in provider classified by Medicaid as an institutional long-term care facility (See Figure 4 and Table 1, below). This proportion was slightly higher for rural (2.3%) than urban (1.7%) enrollees. Residents in small rural areas had the highest rate of non-acute institution use, with 2.5% having at least one non-acute institution encounter.

Among Medicaid enrollees, there were marked differences in the use of institutional long-term care associated with eligibility category and rural residence. Overall, persons qualifying for Medicaid as aged or disabled

constitute the majority of the population using institutional long-term care (64.8% and 30.0%, respectively; See Table 1). Rural Medicaid enrollees with a institutional long-term care encounter were more likely than urban enrollees (68.4% vs. 63.4%) to fall in the aged eligibility category; the proportion of rural enrollees in the aged category increased to 72.5% in isolated rural areas. Aged enrollees are likely dually enrolled in Medicare; claims and utilization incurred by that program are not included in this analysis. Enrollees who entered Medicaid on the basis of disability constitute a larger proportion of institutional long-term care users in urban than rural areas (31.3% vs. 26.5%), with the disabled as a proportion of all users dropping to 22.8% in isolated rural areas. The remaining eligibility categories accounted for a relatively small share of all non-acute institution use.

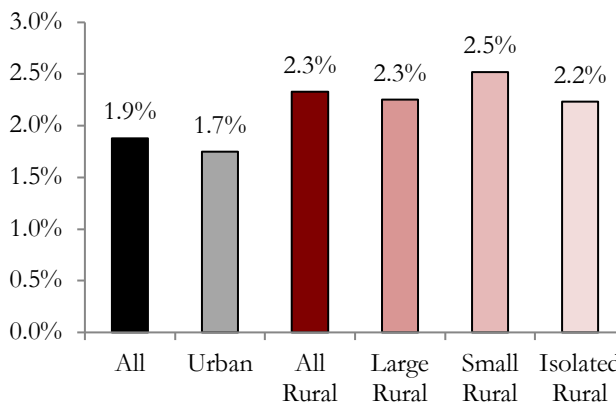


Table 1: Proportion of Medicaid Enrollees with at Least One State in an Institutional Long-Term Care Facility, by Type of Eligibility and Rurality, 2012, 35 States* Other

	All	Urban	All Rural	Micro	Small	Isolated
Aged	64.8%	63.4%	68.4%	66.5%	68.9%	72.5%
Disabled	30.0%	31.3%	26.5%	28.2%	26.4%	22.8%
Children	4.5%	4.5%	4.6%	4.8%	4.4%	4.2%
Adult	0.8%	00.8%	0.5%	0.5%	0.4%	0.5%

*Each beneficiary is counted only once. See page 8 for definitions of eligibility categories. The “other” category is not reported in table because few such enrollees used institutional long-term care.

Medicaid service codes differentiate among several types of the use of institutional long-term care providers, including nursing facilities (NF), intermediate care facilities for individuals with intellectual disabilities (ICF/IDDF), psychiatric facilities for persons aged less than 21, and mental hospital services for the aged (the latter two categories were combined for this report). Across

Medicaid enrollees, NF services were most likely to be used (1.6% of enrollees), with rates of use being slightly higher among rural than urban residents (2.0% vs. 1.5%) (See Table 2). Facilities offering care for persons with intellectual disabilities and mental health services were much less commonly used (0.14% of the total population for each).

Table 2: Proportion of Medicaid Enrollees with at Least One Institutional Long-Term Care Stay, by Type of Facility and Rurality, 2012, 35 States (n = 939,506).

	All	Urban	All Rural	Large Rural	Small Rural	Isolated Rural
Any Non-Acute Institution Encounter	1.9	1.8	2.3	2.3	2.5	2.2
Type of facility						
Nursing facility	1.6	1.5	2.0	1.9	2.2	2.0
ICF/IDDF	0.1	0.1	0.2	0.2	0.2	0.1
Psychiatric/mental health	0.1	0.1	0.2	0.2	0.2	0.1

Different types of facilities had differing average lengths of stay; rural and urban enrollees had similar lengths of stay in any given type of facility (See Table 3). Individuals receiving care for intellectual disabilities had the longest covered days of stay, with averages approaching a full year (11.1 months). Enrollees receiving care in NFs also typically had long stays, averaging 8.8 months. Psychiatric stays averaged 2 months.

Table 3. Average Months of Use among Medicaid Enrollees with at Least One Institutional Long-Term Care Stay, by Type of Facility and Rurality, 2012, 35 States

Type of facility	Total	Urban	All Rural	Large Rural	Small Rural	Isolated Rural
Nursing facility	8.8	8.7	8.8	8.7	8.8	8.9
ICF/IDDF	11.1	11.2	10.9	11.0	11.0	10.6
Psychiatric/mental health	2.0	2.1	1.9	1.9	2.0	1.9

Details regarding days of stay in each non-acute institution setting by enrollee characteristics, eligibility, and residence are provided in Tables A-4 through A-6. Additional summary points include:

- NF use varied principally by age and disability status, with older and disabled individuals having longer stays. This use is a conservative estimate, as Medicare would be the primary payor for those who are dually eligible, and those claims would not be in this data set.
- Months of use of NF and ICF/IDDF services did not vary between FFS and HMO enrollees (See Tables A-4 and A-5). However, average lengths of stay for psychiatric/mental health care were lower among HMO- than FFS-covered enrollees (1.7 months vs. 3.3 months, with rural and urban enrollees having similar patterns of care; See Table A-4). Absent clinical indicators, it cannot be determined whether HMO patients receive too little care or FFS patients receive too much.

Conclusions

This brief reviewed two areas of relatively high-cost utilization among Medicaid enrollees: acute care inpatient stays and institutional long-term care facility stays. Although the information for this analysis (2012) predates Medicaid expansion under the Affordable Care Act, a detailed examination of the Medicaid utilization subset within rural populations suggests disparities that may require further examination.

Inpatient utilization: Overall, the likelihood of *any* hospitalization was similar across all Medicaid enrollees (9.3% rural, 9.2% urban), despite the absence of hospitals in many rural counties.

⁵ Findings regarding inpatient utilization must be viewed carefully, particularly for persons who qualify for Medicare and are in the aged and disabled categories. Hospitalizations paid by Medicare are not in the data unless Medicaid covers deductibles and copays; thus it is possible that hospital stays are undercounted. Nonetheless, several points stand out:

- The hospitalization rate among American Indian/Alaska Native enrollees was higher than that for other beneficiaries, reaching 11.3% in isolated rural areas. Further analysis is recommended to identify geographic areas in which this population group is particularly at risk and determine diagnoses contributing to high hospitalization rates.
- A second area of concern surrounds lower hospitalization rates among rural enrollees who qualified for Medicaid in the “other” category, which is principally composed of individuals covered under the Breast and Cervical Cancer Prevention Act of 2000. Whereas 16.2% of urban enrollees were hospitalized, the rural value was 14.9%. The possibility of a disparity in rural cancer detection and treatment merits further exploration.
- Finally, enrollees covered by managed care plans were less likely than those covered through fee-for-service Medicaid to be hospitalized, and rural/urban hospitalization rates were more similar within the managed care population.

Institutional long-term care facility utilization: Data available in the Medicaid MAX file pertain only to institution-based services, not home- and community-based services. With that limitation, points of interest for future research include:

- The higher likelihood of nursing facility use among rural than urban enrollees (2.0% vs. 1.5%) may be due to the higher proportion of rural residents who qualify for coverage as aged or disabled individuals. The long lengths of stay among persons who use NFs, nearly 9 months, suggests that many of these individuals experience severe medical need. However, it is possible that some rural institutional care use is associated with an absence of home- and community-based alternatives. This topic is recommended for further study.
- Average lengths of stay in NF and ICF/IDDF facilities were similar among patients covered by fee-for-service and managed care plans. However, average lengths of stay in psychiatric/mental health facilities were markedly shorter for rural managed care patients (1.5 months among full-year enrollees) than for rural fee-for-service patients (2.8 months among full-year enrollees). Whether this difference stems from more effective transitions to community-based care for enrollees covered by managed care or from inadequate inpatient treatment remains to be resolved. Again, further study is warranted.

TECHNICAL NOTES

Data sources

This analysis used the Medicaid Analytic Extract (MAX) Personal Summary File for 2012. The 2012 data included 100% sample for Medicaid data from 35 states (AK, AL, AR, CT, DE, FL, GA, IA, IL, IN, KY, MD, MI, MN, MO, MS, MT, NC, NE, NJ, NV, NY, OH, OK, OR, PA, SC, SD, TN, TX, VA, VT, WA, WV, and WY).

The study population was limited to Medicaid recipients who remained alive for the entirety of 2012 with further exclusions for enrollees with missing data for variables of interest, not enrolled in Medicaid (0 months of Medicaid enrollment), and negative values for length of stay, Medicaid covered days, or expenditures. Institutionalized beneficiaries were not excluded.

This population (N=50,027,866) was used to calculate the distribution of Medicaid recipients by rurality, race/ethnicity, and for key demographics of interest. Medicaid recipient sub-populations were defined based on length of enrollment (full year or partial year), type of enrollment (managed care vs. fee-for-service) and eligibility type (aged, disabled, TANF children, TANF adults, and Other). Eligibility categories are defined below.

Length of stay is a pre-calculated variable in the MAX file and may include days falling in the previous calendar year. MAX reported lengths of stay exceeding 365 days were top-coded as 365 days.

Geographic definitions

Our geographic analysis is based on the recipients' residence using ZIP Code Census Tract approximation (ZCTA). Rurality was defined using Rural Urban Commuting Area (RUCA) Codes, which categorize ZCTA's by population and commuting patterns. We assigned recipients to the following geographic categories: Urban (RUCA Codes 1 – 3), Large rural (Codes 4 – 6), Small rural (Codes 7 – 9), and Isolated rural (Code 10). (ZCTAs were developed by the University of Washington. For detailed definitions, see <http://depts.washington.edu/uwruca/>).

Eligibility Categories, Based upon the Medicaid Eligibility code

Eligibility categories were assigned by the state of enrollment; each beneficiary is coded only once.

Aged	Disabled	Child	Adult	Other
11 = Aged, Cash	12 = Blind/Disabled, Cash	14 = Child (Not Child Of Unemployed Adult, Not Foster Care Child), Eligible Under Section 1931 Of The Act	15 = Adult (Not Based On Unemployment Status), Eligible Under Section 1931 Of The Act	3a = Individual Covered Under The Breast And Cervical Cancer Prevention Act Of 2000, Poverty
21 = Aged, Medically needy	22 = Blind/Disabled, Medically need	16 = Child Of Unemployed Adult, Eligible Under Section 1931 Of The Act	17 = Unemp. Adult, Eligible Under Section 1931 of The Act	99 = Unknown Eligibility
31 = Aged, Poverty	32 = Blind/Disabled, Poverty	24 = Child, Medically need	25 = Adult, Medically need	
41 = Other Aged	42 = Other Blind/Disabled	34 = Child, Poverty (Includes Medicaid Expansion SCHIP Children)	35 = Adult, Poverty	
51 = Aged, Section 1115 Demonstration Expansion	52 = Disabled, Section 1115 Demonstration Expansion	44 = Other Child	45 = Other Adult	
		48 = Foster Care Child	55 = Adult, Section 1115 Demonstration Expansion	
		54 = Child, Section 1115 Demonstration Expansion		

Appendix: Detailed Tables

Table A-1: Proportion of Medicaid enrollees with one or more inpatient hospital stays, by rurality and patient demographic characteristics, 35 states*, 2012.

	Number inpatient stays	Urban (n= 3,582,497)	All Rural † (n= 1,040,395)	Large Rural (n= 521,712)	Small Rural (n= 304,415)	Isolated Rural (n= 214,268)
Age						
< 19 years	1	4.8%	5.6	5.7	5.5	5.3
	2+	1.3%	0.9	0.9	0.8	0.9
19 - 44 years	1	9.5	10.6	10.6	10.7	10.3
	2+	3.5	2.5	2.4	2.6	2.6
45-64 years	1	7.3	8.2	8.3	8.3	8.0
	2+	5.6	4.3	4.1	4.5	4.5
65 +	1	7.7	7.3	7.1	7.7	7.4
	2+	2.9	2.5	1.9	2.7	3.4
Sex						
Female	1	7.9	8.8	8.9	8.8	8.5
	2+	2.8	2.1	2.0	2.2	2.4
Male	1	4.9	5.5	5.6	5.5	5.4
	2+	2.3	1.6	1.5	1.6	1.7
Race/Ethnicity						
NH White	1	6.8	7.1	7.2	7.1	6.8
	2+	2.3	2.0	1.9	2.0	2.1
NH Black	1	6.2	7.4	7.4	7.4	7.3
	2+	2.7	2.0	1.7	2.1	2.4
Hispanic	1	6.5	7.9	8.1	7.9	7.5
	2+	2.7	1.1	1.1	1.1	1.0
AI/AN	1	7.1	8.7	8.1	8.8	9.2
	2+	2.9	2.0	1.8	1.9	2.1
Asian/PI	1	3.9	7.7	7.9	7.6	7.3
	2+	3.4	1.2	1.1	1.3	1.3
NH Other	1	9.4	9.8	10.1	9.8	9.1
	2+	2.9	2.2	2.2	2.2	2.1

*The following states are not included in the data, by region: Northeast: NH, ME. Midwest: KS, ND. South: LA. West: AZ, CA, CO, ID, NM, UT

Table A-2: Proportion of enrollees with one or more Medicaid inpatient hospital stays, by rurality, subset by eligibility, enrollment, and type of coverage, 35 states,* 2012.

	Number of Hospital Stays	Urban (n= 38,844,588)	All Rural (n= 11,183,278)	Large Rural (n= 5,622,991)	Small Rural (n= 3,246,161)	Isolated Rural (n= 2,314,126)
Eligibility						
Aged	1	7.3	7.1	6.8	7.5	7.2
	2+	2.7	2.3	1.8	2.5	3.1
	Any	10.0	9.4	8.6	10.0	10.3
Disabled	1	8.2	8.2	8.2	8.3	8.2
	2+	5.4	4.3	4.1	4.6	4.7
	Any	13.6	12.5	12.3	12.9	12.9
Children	1	4.7	5.5	5.7	5.5	5.3
	2+	1.3	0.8	0.8	0.8	0.8
	Any	6.0	6.3	6.5	6.3	6.1
Adult	1	9.4	11.2	11.3	11.4	10.7
	2+	3.5	2.1	2.1	2.2	2.2
	Any	12.9	13.3	13.4	13.6	12.9
Other	1	11.3	10.8	11.1	10.4	10.9
	2+	4.9	4.1	4.1	4.1	4.0
	Any	16.2	14.9	15.2	14.5	14.9
Enrollment duration & type						
Full year						
Fee for service	1	5.6	5.8	5.6	5.9	5.9
	2+	1.9	2.4	1.9	2.5	2.9
	Any	7.5	8.2	7.5	8.4	8.8
Managed care	1	3.7	5.2	5.2	5.3	5.2
	2+	2.4	1.8	1.7	1.8	1.8
	Any	6.1	7.0	6.9	7.1	7.0
FFS/MC both	1	6.5	7.5	7.6	7.6	7.2
	2+	3.4	2.2	2.1	2.2	2.3
	Any	9.9	9.7	9.7	9.8	9.5
Partial Year						
Fee for service	1	8.9	7.4	7.4	7.4	7.3
	2+	2.3	1.4	1.4	1.4	1.5
	Any	11.2	8.8	8.8	8.8	8.8
Managed care	1	10.1	11.4	12.1	11.3	10.6
	2+	2.0	1.7	1.7	1.7	1.6
	Any	12.1	13.1	13.8	13	12.2
FFS/MC both	1	9.7	12.1	12.5	12.2	11.6
	2+	3.4	2.1	2.0	2.1	2.1
	Any	13.1	14.2	14.5	14.3	13.7

*The following states are not included in the data, by region: Northeast: NH, ME. Midwest: KS, ND. South: LA. West: AZ, CA, CO, ID, NM, UT

Note: Inpatient stays only include those where Medicaid was the primary insurer.

Table A-3: Average length of stay in days among beneficiaries with at least 1 inpatient stay, by rurality and patient characteristics, 35 states*, 2012.

	Urban (n=2,307,749)	All Rural (n=679,259)	Large Rural (n=331,450)	Small Rural (n=200,122)	Isolated Rural (n=147,687)
All	4.8	3.8	3.7	3.9	4.1
Age					
< 19	3.3	2.9	2.8	2.9	3.1
19 - 44	3.6	3.8	2.9	2.8	2.8
45- 64	8.5	9.0	6.7	6.8	6.5
65 +	6.9	5.7	5.7	5.9	5.6
Sex					
Female	3.9	3.3	3.2	3.4	3.6
Male	6.5	4.9	4.8	4.9	5.0
Race/Ethnicity					
NH White	4.6	3.7	3.7	3.7	3.9
NH Black	5.3	4.6	4.3	4.7	5.3
Hispanic	4.5	2.6	2.6	2.7	2.7
AI/AN	5.3	4.7	4.7	4.9	4.7
Asian/PI	5.4	3.2	3.1	3.3	3.8
NH Other	4.5	4.0	3.9	4.1	4.0
Eligibility					
Aged	6.8	5.6	5.6	5.8	5.4
Disabled	9.7	7.4	7.5	7.2	7.3
Children	2.7	2.4	2.3	2.5	2.7
Adult	3.1	2.0	2.0	2.0	2.2
Other	4.7	4.3	4.4	3.8	4.7
Enrollment duration & type					
Full Year					
Fee for service only	7.6	6.4	6.4	6.4	6.5
Managed care only	4.0	3.0	3.0	3.1	3.0
FFS/MC both	5.8	4.2	4.1	4.2	4.3
Partial year					
Fee for service only	6.3	5.0	5.0	5.0	5.0
Managed care only	1.6	1.4	1.4	1.4	1.5
FFS/MC both	4.4	3.5	3.5	3.5	3.7

* The following states are not included in the data, by region: Northeast: NH, ME. Midwest: KS, ND. South: LA. West: AZ, CA, CO, ID, NM, UT

Table A-4: Average Nursing Facility stay, in months, among Medicaid enrollees with at least 1 covered day, by rurality and enrollee characteristics, 35 states,* 2012.

	Urban (n=3,582,497)	All Rural (n=1,040,395)	Large Rural (n=521,712)	Small Rural (n=304,415)	Isolated Rural (n=214,268)
All	8.7	8.8	8.7	8.8	8.9
Age					
< 18 years	7.9	5.2	5.1	5.8	4.8
19 – 44 years	6.9	7.0	6.9	7.0	7.2
45 – 64 years	7.8	7.7	7.5	7.9	7.8
65 years and older	9.0	9.0	9.0	9.1	9.2
Sex					
Female	8.9	8.9	8.8	9.0	9.0
Male	8.3	8.4	8.3	8.5	8.6
Race/Ethnicity					
NH White	8.8	8.8	8.6	8.8	8.9
NH Black	8.6	9.2	9.1	9.3	9.3
Hispanic	8.2	8.1	8.0	8.3	8.2
AI/AN	7.9	8.1	8.1	8.6	7.7
Asian / PI	8.4	8.3	7.9	8.9	8.9
NH Other	8.5	8.3	8.3	8.2	8.3
Eligibility**					
Aged	9.0	9.0	9.0	9.1	9.2
Disabled	8.0	7.9	7.7	8.1	8.0
Children	5.4	3.6	4.0	3.8	2.4
Adult	2.9	2.3	2.9	1.8	2.3
Enrollment duration and type					
Full year					
Fee for service only	9.8	9.8	9.7	9.7	9.9
Managed care only	9.8	9.9	9.8	10.0	9.9
FFS/MC both	6.5	8.1	8.0	8.2	8.2
Partial year					
Fee for service only	4.5	4.4	4.4	4.4	4.6
Managed care only	4.7	4.8	4.8	4.8	4.5
FFS/MC both	4.2	4.8	4.6	4.9	4.8

* The following states are not included in the data, by region: Northeast: NH, ME. Midwest: KS, ND. South: LA. West: AZ, CA, CO, ID, NM, UT

** The Medicaid eligibility category “other,” which principally covers cancer detection and treatment services, had too few users of LTC to be studied.

Table A-5: Average months of ICF/IDD care among Medicaid enrollees with at least 1 covered day, by rurality and enrollee characteristics, 35 states,* 2012.

	Urban (n=3,582,497)	All Rural (n=1,040,395)	Large Rural (n=521,712)	Small Rural (n=304,415)	Isolated Rural (n=214,268)
All	11.2	10.9	11.0	11.0	10.6
Age					
< 18 years	9.8	8.6	9.3	13.2	8.5
19 – 44 years	10.9	10.6	10.6	10.6	10.1
45 – 64 years	11.5	11.3	11.3	11.4	11.0
65 years and older	11.5	11.4	11.4	11.5	11.6
Sex					
Female	11.2	11.0	11.0	11.0	10.7
Male	11.1	10.9	10.9	11.0	10.5
Race/Ethnicity					
NH White	11.2	11.0	11.1	11.0	10.8
NH Black	11.1	10.8	10.8	11.0	10.4
Hispanic	11.3	10.7	10.7	10.9	--
AI/AN	9.8	9.1	9.4	10.2	--
Asian / PI	10.9	10.1	--	--	--
NH Other	10.7	10.3	10.5	10.2	9.7
Eligibility**					
Aged	11.3	11.0	10.9	11.0	11.2
Disabled	11.2	10.9	11.0	11.0	10.7
Children	7.7	6.3	--	--	--
Adult	3.5	2.4	--	--	--
Enrollment duration and type					
Full year					
Fee for service only	11.4	11.3	11.3	11.4	11.1
Managed care only	11.7	11.5	11.7	11.0	10.6
FFS/MC both	8.7	8.9	8.1	9.9	9.2
Partial year					
Fee for service only	5.3	4.8	4.8	5.2	--
Managed care only	7.3	9.0	8.9	--	--
FFS/MC both	3.4	3.0	3.1	--	--

* The following states are not included in the data, by region: Northeast: NH, ME. Midwest: KS, ND. South: LA. West: AZ, CA, CO, ID, NM, UT

** The Medicaid eligibility category “other,” which principally covers cancer detection and treatment services, had too few users of LTC to be studied.

– Cells with this notation contain too few observations for valid presentation.

Table A-6: Average months of stay at psychiatric/mental health facilities among Medicaid enrollees with at least 1 covered day, by rurality and enrollee characteristics, 35 states,* 2012.

	Urban (n=3,582,497)	All Rural (n=1,040,395)	Large Rural (n=521,712)	Small Rural (n=304,415)	Isolated Rural (n=214,268)
All	2.1	1.9	1.9	2.0	1.9
Age					
< 18 years	1.9	1.9	1.9	1.9	2.0
19 – 44 years	1.5	0.8	0.9	0.9	0.7
45 – 64 years	5.3	0.6	0.6	0.8	0.4
65 years and older	5.1	6.9	7.1	7.1	5.3
Sex					
Female	1.9	1.8	1.8	1.8	1.7
Male	2.3	2.1	2.0	2.1	2.0
Race/Ethnicity					
NH White	2.1	1.9	1.9	1.9	1.8
NH Black	2.3	2.1	2.1	2.2	1.8
Hispanic	1.4	1.7	1.7	1.5	2.2
AI/AN	3.0	2.6	2.5	2.6	2.6
Asian / PI	1.8	--	--	--	--
NH Other	1.9	2.0	2.0	2.1	1.7
Eligibility**					
Aged	5.4	7.2	7.5	7.4	5.5
Disabled	2.6	1.8	1.8	1.9	1.5
Children	1.7	1.8	1.8	1.8	2.0
Adult	0.6	0.5	0.5	0.5	0.7
Enrollment duration and type					
Full year					
Fee for service only	3.3	2.8	2.8	2.9	2.8
Managed care only	1.7	1.5	1.5	1.5	1.6
FFS/MC both	1.7	1.7	1.7	1.7	1.7
Partial year					
Fee for service only	1.9	1.7	1.6	1.9	1.4
Managed care only	1.4	1.2	1.2	1.1	0.9
FFS/MC both	0.9	1.0	1.1	0.9	0.8

* The following states are not included in the data, by region: Northeast: NH, ME. Midwest: KS, ND. South: LA. West: AZ, CA, CO, ID, NM, UT

** The Medicaid eligibility category “other,” which principally covers cancer detection and treatment services, had too few users of LTC to be studied.

– Cells with this notation contain too few observations for valid presentation.

References

- ¹ See <https://www.medicaid.gov/medicaid/program-information/medicaid-and-chip-enrollment-data/report-highlights/index.html>
- ² See, for example, <https://www.medicaid.gov/medicaid/prescription-drugs/state-drug-utilization-data/index.html>
- ³ Martin AB, Vyavaharkar M, Veschusio C, Kirby H. Rural-urban differences in dental service utilization among an early childhood population enrolled in South Carolina Medicaid. *Matern Child Health J.* 2012 Jan;16(1):203-11.
- ⁴ Casey MM, Thiede Call K, Klingner JM. Are rural residents less likely to obtain recommended preventive healthcare services? *Am J Prev Med.* 2001 Oct;21(3):182-8.
- ⁵ See Bennett KJ, Lin Y-H, Yuen M, Leonhirth D, Probst JC. Vulnerable Rural Counties: The Changing Landscape, 2000-2010. Findings Brief, submitted to FORHP May 2016/published to Gateway July 2016.