



Does Rurality Affect Observation Care Services Use in CAHs for Medicare Beneficiaries?

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Key Findings

- Medicare claims data indicate that approximately 74% of rural Critical Access Hospitals (CAHs) placed patients under observation status in 2010.
- While three-quarters of observation stays in CAHs were less than 48 hours in duration, CAHs in small-rural and isolated-rural locations tended to keep patients under observation for shorter periods of time than CAHs in large-rural areas.
- Average claim reimbursement levels and patients' out-of-pocket expenses for the entire observation stay were significantly lower for CAHs in more rural locations, commensurate with shorter lengths of stay.
- CAHs in isolated-rural locations performed significantly fewer procedures per day and were associated with lower per diem provider reimbursement levels and patient out-of-pocket costs.
- The majority of CAH observation patients were discharged directly to their homes for self-care or home health care.
- CAH observation patients in isolated-rural areas were significantly more likely to be admitted as an inpatient and less likely to be discharged to a SNF. Admitted patients were also more likely to be transferred to another hospital (79.3% isolated rural vs. 69.6% for all rural areas).

Introduction

The Centers for Medicare and Medicaid Services (CMS) define observation services as clinically-appropriate services usually lasting less than 24 hours and more than 48 hours only in rare and exceptional cases (Table 3, page 4, provides primary diagnoses of patients placed under observation). Often referred to as “hospitalizations without admissions,” hospital observation services have been the source of a fair amount of confusion over the past decade. It appears that hospitals are increasingly substituting observation care for short-stay admissions to avoid being penalized by the Medicare Recovery Audit Contractor (RAC) Program. Observation services were used at an increasing rate from 2007 to 2009, including in Critical Access Hospitals (CAHs).^{1,2}

The rules regarding billing for observation services depend on the type of hospital. CAHs can bill for observation services immediately upon the patient's arrival. Observation stays are not bundled into subsequent inpatient admissions as they are for Prospective Payment System (PPS) hospitals. This enables CAHs to bill for observation stays separately as an outpatient service, regardless of the patient's discharge location.

Observation patients may encounter relatively high out-of-pocket costs compared to what they would have incurred had they been admitted as an inpatient. Even though the patient is physically occupying a hospital bed, coverage for observation stays falls under Medicare Part B and/or

private supplemental policies. Part B coverage entails a 20% coinsurance rate, doesn't cover inpatient pharmacy charges, and may also entail a higher deductible than Part A (depending on the services delivered). Lastly, days spent under observation do not count toward the minimum three-day hospital stay (i.e. three overnights) required before a subsequent recovery in a nursing home would be covered by Medicare.

Purpose

This policy brief describes the use of observation services across levels of rurality by Medicare beneficiaries in CAHs, the demographics and health status of patients receiving these services, and the characteristics of their observation stays. This work is part of a larger study on rural observation services; a companion policy brief examines the rural policy context surrounding the use of observation services by Medicare beneficiaries from 2010-2013 and presents qualitative findings from interviews with key stakeholders in 12 states.

Methods

The 2010 100% Medicare Outpatient Standard Analytic Files (SAF), the 2010 Provider of Services (POS) file, and a CAH database maintained by the Flex Monitoring Team were used to identify the number and type of CAHs providing observation services to Medicare patients. CAHs were classified as operating in large-rural, small-rural, or isolated-rural areas using the Rural-Urban Commuting Area (RUCA) codes.^{3,4} The study sample included Medicare patients

enrolled in Part A and B all year who were age 65 and older.

Patients placed under observation were identified using revenue center codes 0760 and 0762 in conjunction with HCPC code G0378.⁵ The final sample of patients placed under observation in CAHs consisted of 51,531 unique patients.

Length of stay (LOS) was analyzed by identifying admission and discharge dates due to problems with data on hours of observation care. Thus, differences in LOS are expressed in days and cannot be interpreted in terms of differences in hours.

The primary diagnoses for patients placed under observation were grouped using the second level of the Clinical Classifications Software (CCS) developed by the Agency for Healthcare Research and Quality (AHRQ).⁶ The intensity of services provided was measured by the number of procedures per claim as well as per diem along with their associated costs. Elixhauser's comorbidity index was used to assess differences in patients' case mix.⁷

When testing for significant differences across CAHs by level of rurality, adjustments for multiple comparisons were made using Tukey's Studentized Range (HSD) test. Differences were considered significant at the 0.05 level.

Results for Beneficiaries

Hospital characteristics

The majority of CAHs (74%) provided observation services in 2010. The range extended from 71.4% of CAHs in large rural areas to 74.3% of CAHs in isolated rural areas (Table 1).

Patient characteristics

Irrespective of the location of the CAHs, almost all (99%) patients placed under observation had chronic conditions (Table 2, next page). On average, patients had approximately 6.3 chronic conditions. Common chronic conditions included ischemic heart disease (70%),

heart failure (54%), chronic obstructive pulmonary disease (COPD) (41%), and diabetes (40%).

Primary Diagnoses

The top-ranking primary diagnoses for observation patients were consistent across all CAH locations, with diseases of the heart accounting for 25% of cases, followed by ill-defined conditions (12.3%) (Table 3, page 4). While the top two diagnoses accounted for over a third of observation cases, each of the remaining diagnoses accounted for 1-6% of cases, and included cases of dehydration, urinary problems, stroke, COPD / bronchiectasis, respiratory infections, and fractures.

Characteristics of Observation Stays

The majority of observation stays (75%) were less than 48 hours in duration; 64.6% lasted between 24 and 48 hours and 10.2% were less than 24 hours (Table 4, page 5). The percentage of observation patients discharged within 24 hours was significantly higher for CAHs in areas that are more rural (large rural: 8.8%; isolated rural: 11.0%). CAHs in large-rural areas were significantly more likely to keep patients under observation for 48 hours or more (29.4%) than CAHs in small- and isolated-rural areas (24.2% and 24.7%, respectively). Finally, the average LOS (in days) was significantly higher for observation patients in CAHs in large rural areas (1.26 days) than in CAHs in small- and isolated-rural areas (1.17 and 1.16 days, respectively).

Commensurate with longer LOS, CAHs in large-rural areas tended to perform a significantly higher number of procedures per observation stay (25.1) than CAHs in more-rural areas (small rural: 22.0; isolated rural: 20.1) as well as on a per diem basis. CAHs in large-rural areas averaged 20.2 procedures per day, while CAHs in isolated-rural areas averaged 16.9 procedures per day (Table 4). Procedures included lab tests, x-rays, and CT scans.

Based on Elixhauser's comorbidity index, the severity of the patients' case mix

did not significantly differ across CAH locations. As expected, patients with a more severe case mix tended to remain under observation for longer periods of time (Table 4, page 5).

Out-of-Pocket Costs & Reimbursement

Commensurate with shorter LOS, corresponding claim reimbursement levels and patients' out-of-pocket expenses were lower for patients placed under observation in more-remote rural CAHs (large rural: \$2,756 and \$1,210, respectively; isolated-rural: \$2,349 and \$732, respectively – see Table 4, page 5).

Similarly, per diem reimbursement rates and out-of-pocket costs were slightly lower for CAHs located in remote rural areas. Average per diem reimbursement rates ranged from a high of \$2,227 per day in large-rural areas to \$1,952 per day in isolated-rural areas, while average per diem out of pocket costs ranged from \$967 per day in large-rural areas to \$599 per day in isolated-rural areas.

Discharge status

CAH observation patients in more-rural areas were significantly more likely to be subsequently admitted as an inpatient (large rural: 11.1%; isolated rural: 15.3%); furthermore, those admitted as inpatients in more-rural areas were more likely to be transferred to another hospital (large rural: 60.6%; isolated rural: 75.3%). CAH observation patients in isolated-rural areas were also less likely to be discharged to a skilled nursing facility (SNF) (large rural: 4.4%; isolated rural: 3.2%) and more likely to use swing beds (large rural: 0.30%; isolated rural: 0.53%). The majority of observation patients (66%) were discharged directly to their homes for self-care or home health care (Table 5, page 6).

Policy Implications

Hospitals have strong incentives to avoid RAC penalties for short-stay inpatient admissions, and have been increasing their provision of observation services.^{1,2} With approximately 75% of CAHs providing observation services, they are no exception to this national trend.

The majority (75%) of CAHs kept patients under observation for less than 48 hours, a length of time that CMS considers appropriate. We found, however, that CAHs in remote rural areas were more likely to transfer their observation patients to another hospital for inpatient care; this likely reflects the fact that CAHs in these most rural areas have fewer resources and services available to meet the needs of their patients. Observation patients in small- and isolated-rural communities may also have fewer options for skilled nursing home care, and would thus be less likely to be transferred to a SNF and more likely to be transferred to a swing bed than patients residing in larger-rural communities.^{8,9}

We also found that CAHs in remote-rural areas were providing less-intensive observation services. On average, these CAHs performed 12-20% fewer procedures, realizing 9-12% lower costs per diem for observation services than CAHs in large rural areas. The question remains whether these lower utilization rates and costs reflect more-efficient or unmet needs. It is not known whether patient outcomes associated with the provision of less intensive services are comparable for conditions treated at CAHs in large-rural areas versus more-remote rural CAHs.

Although observation patients in remote rural CAHs also had 26-38% lower out-of-pocket costs, they were more likely to be discharged home to self-care and less likely to be discharged to a SNF, which may indicate that the burden of post-discharge care in these settings falls on an informal set of caregivers such as friends or family members.

The higher likelihood of transfers for observation patients in more-remote rural CAHs may indicate that observation services are the best care that could be provided in the short term until transfers to more specialized institutions could be arranged. ■

Table 1. Critical Access Hospitals Placing Medicare Patients under Observation, 2010

	Large Rural	Small Rural	Isolated Rural	All Rural
Patient sample size (n)	126	634	474	1,234
Number of hospitals placing patients under observation	90	465	352	908
% of hospitals placing patients under observation	71.4%	73.3%	74.3%	73.6%

Table 2. Demographic and Health Status Characteristics of Patients Placed under Observation in Critical Access Hospitals, 2010

	Large Rural	Small Rural	Isolated Rural	All Rural
Patient sample size (n)	7,782	27,590	16,159	51,531
Average age (years)	78.9	78.8	79.0	78.9
Male (%)	37.7	38.2	38.9	38.4
White (%)	95.3	94.6	96.1 ^{ab}	95.2
Have chronic conditions (cc) (%)	99.0	99.1	99.0	99.0
Number of chronic conditions (average)	6.24	6.26	6.22	6.25
Number of cc at least one cc (average)	6.30	6.32	6.29	6.32
Cataract	78.5	80.6 ^a	81.5 ^a	80.6
Ischemic Heart Disease	71.1	70.5	69.4 ^a	70.3
Rheumatoid Arthritis / Osteoarthritis	56.6	57.8	58.3	57.8
Heart Failure	52.1	53.4	54.3 ^a	53.5
Depression	44.5	45.3	44.4	44.9
Osteoporosis	40.6	41.1	40.1	40.7
Chronic Obstructive Pulmonary Disease	41.5	40.7	40.2	40.7
Diabetes	41.5	40.9	38.9 ^{ab}	40.4
Chronic Kidney Disease	36.6	35.2	35.3	35.4
Atrial Fibrillation	30.8	29.0 ^a	29.5	29.4
Alzheimer's Disease/Related	26.7	28.8 ^a	28.3	28.3
Stroke / Transient Ischemic Attack	28.7	28.5	27.7	28.3
Glaucoma	22.5	22.3	22.2	22.3
Acute Myocardial Infarction	13.7	13.1	13.1	13.2
Hip/Pelvic Fracture	8.5	8.7	8.8	8.7

^a Significantly different from large rural CAHs.

^b Significantly different from small rural CAHs.

Source for Tables 1 and 2: 2010 100% Medicare Outpatient Files, Provider of Services (POS) files, and Rural-Urban Commuting Area (RUCA) codes.

Notes: When testing for significant differences, adjustments for multiple comparisons were made using Tukey's Studentized Range (HSD) test. Differences were considered significant at the 0.05 level.

Table 3. Primary Diagnoses of Patients Placed under Observation in Critical Access Hospitals, 2010 (n=51,531)

Top 10 Primary Diagnoses	Frequency	Percent
Diseases of the heart	13,827	25.0
Symptoms; signs; and ill-defined conditions	6,787	12.3
Fluid and electrolyte disorders	3,122	5.6
Diseases of the urinary system	2,613	4.7
Cerebrovascular disease	1,886	3.4
Chronic obstructive pulmonary disease and bronchiectasis	1,684	3.0
Respiratory infections	1,585	2.9
Fractures	1,435	2.6
Ear conditions	1,407	2.5
Residual codes, unclassified; all E codes (external causes of injury and poisoning)	1,228	2.2
Remaining Top 20 Primary Diagnoses		
Anemia	1,159	2.1
Other lower respiratory disease	1,039	1.9
Noninfectious gastroenteritis	995	1.8
Lower gastrointestinal disorders	927	1.7
Other gastrointestinal disorders	909	1.6
Spondylosis; intervertebral disc disorders; other back problems	866	1.6
Gastrointestinal hemorrhage	862	1.6
Hypertension	845	1.5
Diabetes mellitus with complications	722	1.3
Diseases of arteries; arterioles; and capillaries	638	1.2

Source: 2010 100% Medicare Outpatient Files.

Note: The primary diagnoses were grouped using the Clinical Classifications Software (CCS) developed by the Agency for Healthcare Research and Quality (AHRQ).

Table 4. Characteristics of Observation Stays in Critical Access Hospitals: Length of Stay, Intensity of Services, Case Mix, Out of Pocket Costs, and Medicare Reimbursement, 2010

	Large Rural	Small Rural	Isolated Rural	All Rural
Patient sample size (n)	7,782	27,590	16,159	51,531
Average Length of Stay (LOS) (days)	1.26	1.17 ^a	1.16 ^a	1.18
LOS is less than 48 hours (%)	70.6	75.8 ^a	75.3 ^a	74.8
Discharged same day (1 to 23 hours)	8.8	10.3 ^a	10.9 ^a	10.3
Discharged next day (24 to 47 hours)	61.8	65.4 ^a	64.4 ^a	64.6
LOS is 48 hours or more (%)	29.4	24.2 ^a	24.7 ^a	25.2
Discharged 2 days later (48 to 71 hours)	25.3	21.6 ^a	22.7 ^{ab}	22.5
Discharged 3 days later (72 to 95 hours)	3.3	2.1 ^a	1.7 ^{ab}	2.2
Discharged 4 or more days later (96 or more hours)	0.8	0.5 ^a	0.3 ^{ab}	0.49
Number of procedures per claim (average)	25.1	22.0 ^a	20.1 ^{ab}	21.9
Number of procedures per day (average)	20.2	18.4 ^a	16.9 ^{ab}	18.2
Elixhauser Comorbidity Index– overall averages	9.35	9.44	9.55	9.46
Discharged same day (≤ 23 hours)	9.00	8.89	8.59	8.84
Discharged next day (24 to 47 hours)	8.86	9.15	9.28 ^a	9.13
Discharged 2 days later (48 to 71 hours)	10.42	10.39	10.62	10.5
Discharged 3 days later (72 to 95 hours)	10.78	11.03	11.33	11.03
Discharged 4 or more days later (≥ 96 hours)	10.35	11.28	11.86	11.03
Provider payment amount per stay (average)	2,756	2,446 ^a	2,349 ^{ab}	2,462
Provider payment amount per day (average)	2,227	2,034 ^a	1,952 ^{ab}	2,037
Patient out of pocket costs per stay (average)	1,210	868 ^a	732 ^{ab}	877
Patient out of pocket costs per day (average)	967	715 ^a	599 ^{ab}	717

^a Significantly different from large rural CAHs.

^b Significantly different from small rural CAHs.

Source: 2010 100% Medicare Outpatient Files, Provider of Services (POS) files, and Rural-Urban Commuting Area (RUCA) codes.

Notes: When testing for significant differences, adjustments for multiple comparisons were made using Tukey’s Studentized Range (HSD) test. Differences were considered significant at the 0.05 level.

Table 5. Discharge Status of Patients Placed under Observation in Critical Access Hospitals, 2010

	Large Rural	Small Rural	Isolated Rural	All Rural
Patient sample size (n)	7,782	27,590	16,159	51,531
Home or Home Health (%)	66.3	66.1	66.3	66.2
Home/self-care	62.0	63.2	64.2 ^a	63.4
Home care or home health	4.3	2.9 ^a	2.1 ^{ab}	2.9
Inpatient Admissions (%)	11.1	13.2 ^a	15.3 ^{ab}	13.6
% of all admissions admitted to same hospital	39.4	32.2 ^a	24.7 ^{ab}	30.4
% of all admissions transferred to another hospital	60.6	67.8 ^a	75.3 ^{ab}	69.6
SNF, ICF or Swing Beds (%)	6.0	6.7	5.8 ^b	6.3
Skilled nursing facility (SNF)	4.4	4.0	3.2 ^{ab}	3.8
Intermediate care facility (ICF)	1.3	2.4 ^a	2.0 ^a	2.1
Hospital based swing bed	0.30	0.37	0.53 ^{ab}	0.41
Hospice (%)	0.57	0.33 ^a	0.17 ^{ab}	0.32
Died (%)	0.35	0.33	0.34	0.34

^a Significantly different from large rural CAHs.

^b Significantly different from small rural CAHs.

Source: 2010 100% Medicare Outpatient Files, Provider of Services (POS) files, and Rural-Urban Commuting Area (RUCA) codes.

Notes: When testing for significant differences, adjustments for multiple comparisons were made using Tukey's Studentized Range (HSD) test. Differences were considered significant at the 0.05 level.

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