

Hospitalized but Not Admitted Characteristics of Patients With "Observation Status" at an Academic Medical Center

Ann M. Sheehy, MD, MS; Ben Graf, MD; Sreedevi Gangireddy, MD; Robert Hoffman, MD; Mary Ehlenbach, MD; Cynthia Heidke, BA; Sheilah Fields, BSN, RN, MBA; Barbara Liegel, MS, RN, GNP-BC; Elizabeth A. Jacobs, MD, MPP

IMPORTANCE The Centers for Medicare & Medicaid Services (CMS) defines observation status for hospitalized patients as a "well-defined set of specific, clinically appropriate services," usually lasting less than 24 hours, and that in "only rare and exceptional cases" should last more than 48 hours. Although an increasing proportion of observation care occurs on hospital wards, studies of patients with observation status have focused on the efficiency of dedicated units.

OBJECTIVE To describe inpatient and observation care.

DESIGN AND SETTING Descriptive study of all inpatient and observation stays between July 1, 2010, and December 31, 2011, at the University of Wisconsin Hospital and Clinics, a 566-bed tertiary academic medical center.

PARTICIPANTS All patients with observation or inpatient stays during the study period.

MAIN OUTCOMES AND MEASURES Patient demographics, length of stay, difference between cost and reimbursement per stay, and percentage of patients discharged to skilled nursing facilities.

RESULTS Of 43 853 stays, 4578 (10.4%) were for observation, with 1141 distinct diagnosis codes. Mean observation length of stay was 33.3 hours, with 44.4% of stay durations less than 24 hours and 16.5% more than 48 hours. Observation care had a negative margin per stay (-\$331); the inpatient margin per stay was positive (+\$2163). Adult general medicine patients accounted for 2404 (52.5%) of all observation stays; 25.4% of the 9453 adult general medicine stays were for observation. The mean length of stay for general medicine observation patients was 41.1 hours, with 32.6% of stay durations less than 24 hours and 26.4% more than 48 hours. Compared with observation patients on other clinical services, adult general medicine had the highest percentage of patients older than 65 years (40.9%), highest percentage female patients (57.9%), highest percentage of patients discharged to skilled nursing facilities (11.6%), and the most negative margin per stay (-\$1378).

CONCLUSIONS AND RELEVANCE In an academic medical center, observation status for hospitalized patients differed markedly from the CMS definition. Patients had a wide variety of diagnoses; lengths of stay were typically more than 24 hours and often more than 48 hours. The hospital lost money, primarily because reimbursement for general medicine patients was inadequate to cover the costs. It is uncertain what role, if any, observation status for hospitalized patients should have in the era of health care reform.

JAMA Intern Med. 2013;173(21):1991-1998. doi:10.1001/jamainternmed.2013.8185
Published online July 8, 2013.

← **Invited Commentary**
page 1999

+ **Supplemental content** at
jamainternalmedicine.com

+ **CME Quiz** at
jamanetworkcme.com and
CME Questions page 2020

Author Affiliations: Division of Hospital Medicine, Department of Medicine, University of Wisconsin School of Medicine and Public Health, Madison (Sheehy, Gangireddy, Hoffman, Heidke); Department of Orthopedics and Rehabilitation, University of Wisconsin, Madison (Graf); Division of Pediatric Hospital Medicine, Department of Pediatrics, University of Wisconsin, Madison (Ehlenbach); Hospital and Clinics Coordinated Care, University of Wisconsin, Madison (Fields, Liegel); Division of General Internal Medicine, Department of Medicine, University of Wisconsin, Madison (Jacobs).

Corresponding Author: Ann M. Sheehy, MD, MS, Division of Hospital Medicine, Department of Medicine, University of Wisconsin School of Medicine and Public Health, 1685 Highland Ave, MFCB 3126, Madison, WI 53705 (asr@medicine.wisc.edu).

Hospitalizations with “observation status” are increasingly important in the United States. Use of observation hospital services increased 26% for Medicare beneficiaries from 2006 through 2008; inpatient stays decreased by 4% in a similar period.¹ Observation length of stay (LOS) rose from 26.2 to 28.2 hours from 2007 through 2009.²

Traditionally, observation care has been delivered in observation units for a limited number of short-stay patients with well-defined diagnoses. Current literature focuses almost exclusively on the efficiency of such dedicated units.³⁻⁵ However, over the past decade, federal legislation has reshaped observation status, shifting more observation care to hospital wards.^{6,7} This trend is important because observation status is not synonymous with inpatient admission.

The Centers for Medicare & Medicaid Services (CMS) defines observation status⁸⁻¹⁰ as follows⁸:

...a well-defined set of specific, clinically appropriate services, which include...treatment, assessment, and reassessment before a decision can be made regarding whether patients will require further treatment as hospital inpatients or if they are able to be discharged from the hospital... (and) in the majority of cases, the decision...can be made in less than 48 hours, usually in less than 24 hours. In only rare and exceptional cases do...outpatient observation services span more than 48 hours.

Anecdotal reports suggest that “hospitalization without admission” confuses both patients and health care providers and may create substantial financial issues.¹¹⁻¹³ For Medicare patients, failing to meet admission criteria means that Medicare Part A will not cover care because observation care is “outpatient.” Although Medicare Part B and some private insurance will cover observation hospital services, Part B may have a higher deductible than Part A depending on the services delivered. Medicare Part B also has an additional 20% copay and does not cover inpatient pharmacy charges.^{9,14} In addition, observation days do not count toward the 3-day prequalifying stay that Medicare requires for patients needing skilled nursing facility care on discharge.⁹ In summary, when inpatient admission criteria are not satisfied, patients with observation status may face greater hospital and skilled nursing facility charges.

Because the actual impact of observation status on patient care has not been fully investigated,^{2,6} we conducted a retrospective descriptive study of all observation status and inpatient stays at the University of Wisconsin Hospital and Clinics from July 1, 2010, to December 31, 2011. We sought to describe observation clinical practice and to investigate the cost implications of inpatient and observation care.

Methods

Study Population

The University of Wisconsin-Madison Health Sciences institutional review board approved the study. We retrospectively analyzed all observation and inpatient stays with encounter start dates during the 18-month study period.

The University of Wisconsin Hospital is a 566-bed tertiary care, academic medical center located in Madison, Wisconsin.¹⁵ More than 50% of patients have primary residence outside Dane County, where the hospital is located. The hospital does not have a dedicated observation unit; observation care occurs on general hospital wards.

Data were obtained from the institutional electronic medical record and ancillary clinical and administrative data systems, including the billing, case management documentation, and cost accounting systems. Staff of the business planning and analysis department deidentified patient data.

Observation and Inpatient Status Determination

Observation status was assigned to patients by case managers using McKesson InterQual (McKesson Corporation), a manual also used by CMS to determine status.^{16,17} A minority (1174 of 43 853 [2.7%]) of encounters had a status change, with 93% of status changes occurring prior to discharge. These patients were classified based on their final status designation, with inpatient status changed to observation status (628 of 1174 [53.5%]) classified as observation, and observation status changed to inpatient status (546 of 1174 [46.5%]) classified as inpatient.

Patient Encounters

We first stratified patient encounters by observation or inpatient stay and then by the service responsible for the encounter. Services were categorized as adult general medicine (general internal medicine and family medicine), adult subspecialty nonsurgical (ie, cardiology, neurology), adult surgical (ie, general surgery), or pediatrics (all patients younger than 18 years).

We then obtained patient demographic information, characteristics of hospitalization, and financial data. Demographics included sex, age, and percentage older than 65 years. Characteristics of encounters included whether the encounter was for immediate care or unscheduled (acute/unscheduled [defined as a request for hospitalization occurring within 24 hours of encounter start]), day of the week stay began, length of stay, *International Classification of Diseases, Ninth Revision (ICD-9)* codes, and “avoidable days.” Avoidable days is an institutional term used to describe days that do not result from medical needs and are logged each day by case managers. Avoidable days are grouped in 3 categories: hospitalization not appropriate (ie, criteria for hospitalization not met); hospital cause for delay (ie, delay in test performed); or discharge delayed (ie, accepting facility requests delay). Repeat encounters for either an observation or inpatient stay during the study period were recorded, and discharges to skilled nursing facilities were documented. We also recorded primary insurance type, institutional billing department formulary costs per encounter, and reimbursement recovered.

Results

Prevalence

A total of 43 853 hospitalizations occurred over the 18-month study. Of these, 39 275 (89.6%) were inpatient and

Table 1. Characteristics of Inpatient and Observation Patient Stays

Demographic	Patient Stays ^a (N = 43 853)	
	Inpatient	Observation
Total stays	39 275 (89.6)	4578 (10.4)
Sex		
Women	18 514 (47.1)	2353 (51.4)
Men	20 761 (52.9)	2225 (48.6)
Age, mean (SD), y	49.2 (23.3)	49.5 (25.5)
Age ≥65 y	10 803 (27.5)	1401 (30.6)
Characteristics of hospitalization		
Acute/unscheduled	26 285 (66.9)	4223 (92.3)
Repeat encounters	9353 (23.8)	366 (8.0)
Admission days		
Saturday and Sunday	6354 (16.2)	1018 (22.2)
Weekday	32 921 (83.8)	3560 (77.8)
Discharge to skilled facility	5381 (13.7)	320 (7.0)
Median length of stay, h	78.6	25.4
Length of stay, mean (SD), h	129.9 (172.6)	33.3 (29.5)
Length of stay by 24-h periods		
<24 h	2569 (6.5)	2031 (44.4)
24-48 h	7892 (20.1)	1791 (39.1)
>48 h	28 814 (73.4)	756 (16.5)
Billing, payers, utilization, mean \$		
Cost per encounter	19 820	3785
Reimbursement per encounter	21 983	3454
Difference between cost and reimbursement	2163 (10.9)	-331 (-8.7)
Gain or loss per patient hour	16.65	-9.94
Insurance		
Medicare and Medicaid	19 181 (48.8)	2372 (51.8)
Commercial	16 697 (42.5)	1818 (39.7)
Other	2066 (5.3)	168 (3.7)
None	1331 (3.9)	220 (4.8)

^a Data are given as number (percentage) unless otherwise specified.

4578 (10.4%) were observation (Table 1). Of the 4578 observation encounters, 2404 (52.5%) were for adult general medicine service. Adult general medicine encounters also had the highest percentage of observation stays (2404 of 9453 [25.4%]) (Table 2).

Sex and Age

Overall, 51.4% (2353 of 4578) of observation patients and 47.1% (18 514 of 39 275) of inpatients were women (Table 1). Adult general medicine observation patients and inpatients were more likely to be female, with all other categories having less than 50% female patients. Adult general medicine had the most observation patients and inpatients older than 65 years (Table 2).

Unscheduled and Repeat Encounters

Observation care was more frequently acute/unscheduled than inpatient care, and observation encounters more commonly started on weekends (Table 1). The majority of adult general medicine observation and inpatient encounters were

acute/unscheduled. Observation encounters for adult subspecialty nonsurgical, adult surgical, and pediatrics all were more likely to be acute/unscheduled than their corresponding inpatient stays (Table 2).

Repeat stays accounted for 8.0% (366 of 4578) of observation encounters and 23.8% (9353 of 39 275) of inpatient stays (Table 1). Adult general medicine observation stays were most likely to be repeat encounters (Table 2).

Length of Stay

Mean (SD) observation LOS was 33.3 (29.5) hours; 756 of 4578 observation encounters (16.5%) had LOS greater than 48 hours (Table 1). Adult general medicine observation encounters had the longest LOS. Less than a third (783 of 2404 [32.6%]) of encounters ended in discharges in under 24 hours, and 634 of 2404 (26.4%) had stays greater than 48 hours. Mean LOS was longer than the median in all groups, reflecting long LOS outliers for both observation and inpatient care (Table 2).

Table 2. Characteristics of Inpatient and Observation Patient Stays by Service

Demographic	Patient Stays ^a			
	Adult General Medicine		Adult Subspecialty Nonsurgical	
	Inpatient	Observation	Inpatient	Observation
Total stays	7049 (74.6)	2404 (25.4)	9849 (93.0)	741 (7.0)
Sex				
Women	3553 (50.4)	1392 (57.9)	4337 (44.0)	339 (45.7)
Men	3496 (49.6)	1012 (42.1)	5512 (56.0)	402 (54.3)
Age, mean (SD), y	59.1 (19.0)	59.6 (19.6)	54.5 (17.7)	57.9 (16.5)
Age ≥65 y	2813 (40.0)	984 (40.9)	2940 (29.9)	262 (35.4)
Characteristics of hospitalization				
Acute/unscheduled	6876 (97.6)	2293 (95.4)	8345 (84.7)	683 (92.2)
Repeat encounters	1894 (26.9)	289 (12.0)	2688 (27.3)	43 (5.8)
Admission days				
Saturday and Sunday	1654 (23.5)	547 (22.8)	1827 (18.6)	148 (20.0)
Weekday	5395 (76.5)	1857 (77.2)	8022 (81.4)	593 (80.0)
Discharge to skilled facility	1492 (21.2)	279 (11.6)	1250 (12.7)	22 (3.0)
Length of stay, median, h	78.3	28.9	91.3	23.4
Length of stay, mean (SD), h	121.7 (150.4)	41.1 (37.1)	152.3 (188.6)	25.5 (12.2)
Length of stay by 24-h periods				
<24 h	410 (5.8)	783 (32.6)	772 (7.8)	396 (53.4)
24-48 h	1329 (18.9)	987 (41.1)	1811 (18.4)	305 (41.2)
>48 h	5310 (75.3)	634 (26.4)	7266 (73.8)	40 (5.4)
Billing, payers, utilization, mean \$				
Cost per encounter	13 194	4158	20 194	3310
Reimbursement per encounter	12 714	2780	20 466	3925
Difference between cost and reimbursement	-480 (-3.6)	-1378 (-33.1)	272 (1.3)	616 (18.6)
Gain or loss per patient hour	-3.94	-33.53	1.79	24.16
Insurance				
Medicare and Medicaid	4625 (65.6)	1506 (62.7)	5255 (53.4)	387 (52.2)
Commercial	1909 (27.1)	728 (30.3)	3627 (36.8)	276 (37.3)
Other	237 (3.4)	58 (2.4)	644 (6.5)	47 (6.3)
None	278 (3.9)	112 (4.7)	323 (3.3)	31 (4.2)
		Adult Surgical		Pediatric
Total stays	17 196 (95.7)	778 (4.3)	5181 (88.8)	655 (11.2)
Sex				
Women	8299 (48.3)	349 (44.9)	2325 (44.9)	273 (41.7)
Men	8897 (51.7)	429 (55.1)	2856 (55.1)	382 (58.3)
Age, mean (SD), y	54.8 (16.7)	46.6 (19.0)	7.1 (5.8)	6.0 (5.4)
Age ≥65 y	5050 (29.4)	155 (19.9)	NA	NA
Characteristics of hospitalization				
Acute/unscheduled	7485 (43.5)	642 (82.5)	3579 (69.1)	605 (92.4)
Repeat encounters	3126 (18.2)	13 (1.7)	1645 (31.8)	21 (3.2)
Admission days				
Saturday and Sunday	1983 (11.5)	172 (22.1)	890 (17.2)	180 (27.5)
Weekday	15 213 (88.5)	606 (77.9)	4291 (82.8)	475 (72.5)
Discharge to skilled facility	2556 (14.9)	14 (1.8)	83 (1.6)	5 (.8)
Median length of stay, h	80.2	22.8	56.1	20.9
Length of stay, mean (SD), h	125.3 (157.8)	25.7 (15.2)	113.7 (208.5)	22.8 (11.3)
Length of stay by 24 h periods				
<24 h	762 (4.4)	422 (54.2)	625 (12.1)	430 (65.6)
24-48 h	3279 (19.1)	295 (37.9)	1473 (28.4)	204 (31.1)
>48 h	13 155 (76.5)	61 (7.8)	3083 (59.5)	21 (3.2)

(continued)

Table 2. Characteristics of Inpatient and Observation Patient Stays by Service (continued)

Demographic	Patient Stays ^a			
	Inpatient	Observation	Inpatient	Observation
	Adult Surgical		Pediatric	
Billing, payers, utilization, mean \$				
Cost per encounter	22 701	3836	18 562	2890
Reimbursement per encounter	27 153	5617	20 322	2824
Difference between cost and reimbursement	4452 (19.6)	1781 (46.4)	1760 (9.5)	-66 (-2.3)
Gain or loss per patient hour	35.53	69.30	15.48	-2.89
Insurance				
Medicare and Medicaid	7505 (43.6)	250 (32.1)	1796 (34.7)	229 (35.0)
Commercial	8106 (47.1)	423 (54.4)	3055 (59.0)	391 (59.7)
Other	919 (5.3)	36 (4.6)	266 (5.1)	27 (4.1)
None	666 (3.9)	69 (8.9)	64 (1.2)	8 (1.2)

Abbreviation: NA, not applicable.

^a Data are given as number (percentage) unless otherwise specified.

Table 3. Top ICD-9 Codes and Avoidable Days for Inpatient and Observation Patient Stays

	Patient Stays, No. (%) (N = 43 853)	
	Inpatient (n = 39 275)	Observation (n = 4578)
Top diagnosis code categories		
1	715.3: Osteoarthritis localized not specified whether primary or secondary: 882 (2.3)	786.5: Chest pain: 553 (12.1)
2	996.8: Complications of transplanted organ: 874 (2.2)	789.0: Abdominal pain: 170 (3.7)
3	V58.1: Encounter for antineoplastic chemotherapy and immunotherapy: 772 (2.0)	780.2: Syncope and collapse: 139 (3.0)
Encounters with avoidable days	1493 (3.8)	163 (3.6)
Hospitalization not appropriate	146 (9.8)	59 (36.2)
Discharge delayed	929 (62.2)	61 (37.4)
Hospital cause for delay	418 (28.0)	43 (26.4)
Top individual avoidable day causes		
1	Diagnostic test/procedure unavailable: 313 (21.0)	Criteria for hospitalization not met: 55 (33.7)
2	Accepting facility requests delay: 203 (13.6)	Diagnostic test/procedure unavailable: 27 (26.6)
3	Physician delays discharge: 160 (10.7)	Physician delays discharge: 19 (11.7)

Abbreviation: ICD-9, International Classification of Diseases, Ninth Revision (ICD-9).

Discharge to Facility

A total of 7.0% (320 of 4578) observation and 13.7% (5381 of 29 275) inpatient encounters concluded with patients being discharged to skilled nursing facilities (Table 1). Adult general medicine inpatient and observation stays had the highest percentage of discharges to skilled nursing facilities (Table 2).

Cost and Insurance

The cost per encounter for observation care was less than for inpatient care. However, on average, reimbursement was insufficient to cover the cost of observation care. The net per-encounter loss for observation care was \$331 (-8.7%) compared with a net gain for an inpatient stay of \$2163 (+10.9%).

There was a net loss of \$9.94 per observation hour, compared with a net gain of \$16.65 per inpatient hour (Table 1).

Of the 4 service groups, adult general medicine observation stays had the most negative margin. The net loss was \$1378 per stay (-33.1%), or \$33.53 per hour (Table 2). The net loss for pediatric observation stays was \$66 (-2.3%) per encounter. In contrast, the net gain for adult subspecialty nonsurgical observation stays was \$616 (18.6%) per encounter; for adult surgical observation stays, the net gain per stay was \$1781 per encounter (46.4%).

A total of 51.8% (2372 of 4578) of observation and 48.8% (19 181 of 39 275) of inpatient encounters were covered by government insurance (Table 1). Adult general medicine observation encounters had more patients with

Table 4. Top ICD-9 Codes and Avoidable Days for Inpatient and Observation Patient Stays by Service

	Patient Stays, No. (%)			
	Inpatient	Observation	Inpatient	Observation
	Adult General Medicine		Adult Subspecialty Nonsurgical	
Total stays	7049	2404	9849	741
Top diagnosis code categories				
1	486.0: Pneumonia, organism unspecified: 315 (4.7)	786.5: Chest pain: 365 (15.2)	V57.8: Care involving other specified rehabilitation procedure: 516 (5.2)	786.5: Chest pain: 181 (24.4)
2	682.6: Cellulitis and abscess of leg, except foot: 166 (2.4)	780.2: Syncope and collapse: 109 (4.5)	V58.1: Encounter for antineoplastic chemotherapy and immunotherapy: 506 (5.1)	414.0: Coronary atherosclerosis: 64 (8.6)
3	038.9: Unspecified septicemia: 106 (1.5)	789.0: Abdominal pain: 80 (3.3)	996.8: Complications of transplanted organ: 420 (4.3)	427.3: Atrial fibrillation and flutter: 27 (3.6)
Encounters with avoidable days	355 (5.0)	117 (4.9)	413 (4.2)	34 (4.6)
Hospitalization not appropriate	30 (8.5)	53 (45.3)	6 (1.5)	1 (2.9)
Discharge delayed	242 (68.2)	46 (39.3)	192 (46.5)	9 (26.5)
Hospital cause for delay	83 (23.4)	18 (15.4)	215 (52.1)	24 (70.6)
Top individual avoidable day causes				
1	No facility/agency will accept patient: 59 (16.6)	Criteria for hospitalization not met: 49 (41.9)	Diagnostic test/procedure unavailable: 188 (45.5)	Diagnostic test/procedure unavailable: 20 (58.8)
2	Diagnostic test/procedure unavailable: 59 (16.6)	No facility/agency will accept patient: 12 (10.3)	Accepting facility/agency requests delay: 43 (10.4)	Patient or family delays discharge: 4 (11.8)
3	Accepting facility/agency requests delay: 56 (15.8)	Physician delays discharge: 12 (10.3)	Patient or family delays discharge: 33 (8.0)	Physician delays discharge and other: 4 (11.8)
	Adult Surgical		Pediatric	
Total stays	17 196	778	5181	655
Top diagnosis code categories				
1	715.3: Osteoarthritis localized not specified whether primary or secondary: 879 (5.1)	V71.4: Observation following other accident: 23 (3.0)	V58.1: Encounter for antineoplastic chemotherapy and immunotherapy: 263 (5.1)	789.0: Abdominal pain: 28 (4.3)
2	996.8: Complications of transplanted organ: 396 (2.3)	998.1: Hemorrhage or hematoma complicating a procedure not elsewhere classified: 19 (2.4)	250.1: Diabetes with ketoacidosis: 66 (1.3)	464.4: Croup: 27 (4.1)
3	998.5: Postoperative infection not elsewhere classified: 325 (1.9)	784.0: Headache: 16 (2.1)	996.2: Mechanical complication of nervous system device, implant, and graft: 58 (1.1)	935.1: Foreign body in esophagus: 21 (3.2)
Encounters with avoidable days	683 (4.0)	11 (1.4)	42 (0.8)	1 (0.2)
Hospitalization not appropriate	108 (15.8)	5 (45.5)	2 (4.8)	0
Discharge delayed	459 (67.2)	6 (54.5)	36 (85.7)	0
Hospital cause for delay	116 (17.0)	0	4 (9.5)	1 (100)
Top individual avoidable day causes				
1	Accepting facility/agency requests delay: 103 (15.5)	Criteria for hospitalization not met: 5 (45.5)	Unavailability of home care services: 11 (26.2)	Diagnostic test/procedure unavailable: 1 (100)
2	Physician delays discharge: 102 (14.9)	Physician delays discharge: 3 (27.3)	Delay in protective placement: 9 (21.4)	NA
3	Patient or family delays discharge: 80 (11.7)	Other discharge delay: 2 (18.2)	Patient or family delays discharge: 8 (19.0)	NA

Abbreviations: ICD-9, International Classification of Diseases, Ninth Revision (ICD-9); NA, not applicable.

government insurance and fewer patients with commercial insurance compared with the other service groups. Pediatrics observation encounters had the most commercial payers (Table 2).

Diagnoses

Chest pain was the top observation diagnosis, which accounted for 12.1% of stays, followed by abdominal pain (3.7%) and syncope and collapse (3.0%). (Table 3; see also eAppen-

dix A1 and A2 in the Supplement). There were 1141 distinct observation diagnosis codes. The top diagnosis for adult general medical observation stays was also chest pain (15.2%). There were 584 distinct adult general medical observation diagnosis codes. The other top diagnoses for observation stays were chest pain (24.4%) for the adult subspecialty nonsurgical service group, observation following other accident (3.0%) for the adult surgical service group, and abdominal pain (4.3%) for the pediatric service group (Table 4).

Avoidable Days

There were 3.8% of inpatient and 3.6% of observation encounters with avoidable days. For inpatients and observation patients, the top avoidable day category was discharge delay. The top individual cause of avoidable days was criteria for hospitalization not met (Table 3; see also eAppendix B1 and B2 in the Supplement). Of the 4 service groups, stays for adult general medicine observation and inpatient care had the most avoidable days (Table 4).

Discussion

In a single-center study of patients with observation status at an academic medical center, more than half of all observation stays were on the adult general medicine service. Compared with observation patients on other services, the general medicine patients had longer LOS. They were also more likely to be discharged to a skilled nursing facility, to have more avoidable days, to have more acute/unscheduled admissions, and to have more repeat encounters. Adult general medicine observation patients were also most likely to have government insurance, and so they were potentially vulnerable to self-pay skilled facility costs and a greater out-of-pocket hospital bill than were inpatients for a given set of services. The result is financial hardship for many general medicine patients and substantial fiscal losses for hospitals and health care providers.

We found that many observation stays did not meet the CMS definition of observation, even when the CMS-endorsed InterQual criteria were used to determine status. First, CMS states that observation care should typically require less than 24 hours and only rarely last more than 48 hours, yet only 44.4% of patients with observation status were discharged in less than 24 hours, and 16.5% stayed more than 48 hours. In the adult general medicine service group, 26.4% of observation patients stayed more than 48 hours. Although our typical observation LOS may be longer than those at hospitals that do not provide tertiary care, “23-hour observation” is no longer the norm, and stays of more than 48 hours are no longer “rare and exceptional.” In addition, of 4578 observation stays, there were 1141 distinctly billed observation codes. Chest pain, the most common diagnosis, accounted for just 12.1% of ob-

servations stays. This wide variety of diagnoses, combined with complicated InterQual criteria, suggest that observation status is not well defined.

We had several unexpected financial findings. The cost for observation care was less than the cost for inpatient care, but reimbursement was markedly lower, resulting in operating losses and the transfer of some costs to patients. This finding is important in the context of savings typically reported with dedicated observation units. A recent review reported lower costs of observation unit care but did not report the actual reimbursement, an important metric when discussing hospital savings.⁵ In addition, in all but 2 studies included in the review, patients were not randomly assigned to the observation unit. Although efficiencies are possible from grouping patients in dedicated units, our data suggest that patient selection may explain many purported cost savings. Our findings also demonstrate that the entire spectrum of observation care should be addressed, not just care delivered in dedicated units.

Hospitals are obligated to follow stringent criteria for inpatient admissions in response to the threat of fines for “inappropriate” admissions. Under the 2003 Medicare Prescription Drug, Improvement and Modernization Act,⁷ recovery audit contractors were paid to find incorrect inpatient Medicare A and B claims, including inpatient stays that were actually observation stays.⁷ In a 6-state, 3-year pilot project, the auditors recovered \$992.7 million for the government in inappropriate billings.^{18,19} Subsequently, the program was expanded to include all 50 states and all Medicare programs under the Tax Relief and Health Care Act (2006) and the Patient Protection and Affordable Care Act (2010).⁷

Although reducing erroneous Medicare billings is important, our findings suggest that many aspects of observation status and reimbursement should be reevaluated. Currently, the Center for Medicare Advocacy is litigating to end observation status,²⁰ and proposed federal legislation would guarantee a skilled facility benefit to all hospitalized Medicare patients including those with observation status.^{21,22} In April 2013, CMS proposed rule changes that, if implemented, would confer inpatient status to some longer stay observation patients.²³

Our study has limitations. We studied 1 large academic medical center, and our findings may not be generalizable to other settings or hospitals. We only had access to variables captured in our electronic medical record and administrative databases. We could not identify repeat encounters that may have occurred at other institutions. Nonetheless, our findings demonstrate that observation care in clinical practice is very different than what CMS initially envisioned and creates insurance loopholes that adversely affect patients, health care providers, and hospitals. It is uncertain what role, if any, observation status for hospitalized patients should have in the era of health care reform.

ARTICLE INFORMATION

Accepted for Publication: May 13, 2013.

Published Online: July 8, 2013.
doi:10.1001/jamainternmed.2013.8185.

Author Contributions: Dr Sheehy had full access to all the data in the study and takes responsibility for

the integrity of the data and the accuracy of the data analysis.

Study concept and design: Sheehy, Graf, Jacobs.
Acquisition of data: Sheehy, Heidke.

Analysis and interpretation of data: Sheehy, Graf, Gangireddy, Hoffman, Ehlenbach, Fields, Liegel, Jacobs.

Drafting of the manuscript: Sheehy, Graf.
Critical revision of the manuscript for important intellectual content: Gangireddy, Hoffman, Ehlenbach, Heidke, Fields, Liegel, Jacobs.
Obtained funding: Sheehy.

Administrative, technical, and material support: Gangireddy, Hoffman, Ehlenbach, Heidke, Fields, Liegel.

Study supervision: Sheehy, Graf.

Conflict of Interest Disclosures: Dr Graf reports receiving royalties from Smith & Nephew for patents he has assigned to them involving orthopedic implants used in arthroscopic surgery. The remaining authors have no relevant financial disclosures or conflicts to report.

Funding/Support: This study was supported by the University of Wisconsin Department of Medicine (Dr Sheehy). Dr Jacobs was supported by grant R01 AG033172-01 from the National Institute on Aging.

Role of the Sponsor: The sponsors had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; and preparation, review, or approval of the manuscript.

Previous Presentation: Portions of data were presented at the Eighth Annual Midwestern Hospital Medicine Conference; October 11, 2012; Chicago, Illinois.

Additional Contributions: Daniel S. Dexter, BA, Project Manager at UWMC Business Planning and Analysis, assisted with the data set, and Andrew T. LaRocque, BBA, Analyst at the University of Wisconsin School of Medicine and Public Health, Division of Hospital Medicine, assisted with data presentation. Neither received additional compensation for their work on this study.

REFERENCES

- Medpac. Hospital inpatient and outpatient services. www.medpac.gov/chapters/Mar11_Ch03.pdf. Accessed February 21, 2013.
- Feng Z, Wright B, Mor V. Sharp rise in Medicare enrollees being held in hospitals for observation raises concerns about causes and consequences. *Health Aff (Millwood)*. 2012;31(6):1251-1259.
- Barsuk JH, Casey DE Jr, Graff LG IV, et al. The observation unit: an operational overview for the hospitalist. www.hospitalmedicine.org/AM/Template.cfm?Section=White_Papers&Template=/CM/ContentDisplay.cfm&ContentID=21890. Accessed February 26, 2013.
- American College of Emergency Physicians. Emergency Department Observation Services and Policy Resource Education Paper (PREP) on "State of the Art: observation units in the emergency department." www.acep.org/content.aspx?id=29204. Accessed February 26, 2013.
- Baugh CW, Venkatesh AK, Hilton JA, Samuel PA, Schuur JD, Bohan JS. Making greater use of dedicated hospital observation units for many short-stay patients could save \$3.1 billion a year. *Health Aff (Millwood)*. 2012;31(10):2314-2323.
- Gesensway D. Thinking of admitting this patient? think again: how observation care is complicating life for you (and your patients). Today's Hospitalist website. www.todayshospitalist.com/index.php?b=articles_read&cnt=1434. Accessed February 19, 2013.
- Centers for Medicare & Medicaid Services. Implementation of recovery Auditing at the Centers for Medicare and Medicaid Services: FY 2010 report to congress as required by section 6411 of Affordable Care Act. www.cms.gov/Research-Statistics-Data-and-Systems/Monitoring-Programs/recovery-audit-program/downloads/FY2010ReportCongress.pdf. Accessed February 25, 2013.
- Department of Health and Human Services and Centers for Medicare & Medicaid Services. Medicare benefit policy manual: chapter 6—hospital service covered under Part B. www.cms.gov/Regulations-and-Guidance/Guidance/Transmittals/downloads/R42BP.pdf. Accessed February 26, 2013.
- Centers for Medicare Advocacy Inc. Observation Status. www.medicareadvocacy.org/medicare-info/observation-status/#definition. Accessed February 26, 2013.
- Pohlig C. The observation deck: smart steps to help you correctly document observation services. *The Hospitalist*. September 2008. www.the-hospitalist.org/details/article/187725/The_Observation_Deck.html. Accessed February 26, 2013.
- Shesgreen D. Under increased scrutiny, hospitals do more "observing" at cost to patients. *The CT Mirror*. September 17, 2010. www.ctmirror.org/story/under-increased-scrutiny-hospitals-do-more-observing-cost-patients. Accessed February 26, 2013.
- Span P. In the hospital, but not really a patient. *New York Times*. June 22, 2012. <http://newoldage.blogs.nytimes.com/2012/06/22/in-the-hospital-but-not-really-a-patient>. Accessed February 19, 2013.
- Jaffe S. Medicare rules give full hospital benefits only to those with "inpatient" status. *Washington Post*. September 7, 2010. www.washingtonpost.com/wp-dyn/content/article/2010/09/03/AR2010090305139.html. Accessed February 26, 2013.
- Centers for Medicare & Medicaid Services. Are you a hospital inpatient or outpatient? www.medicare.gov/publications/pubs/pdf/11435.pdf. Accessed February 1, 2013.
- University of Wisconsin Hospital and Clinics. Facts and figures. www.uwhealth.org/files/uwhealth/docs/pdf/uwhc_factsfigures.pdf. Accessed January 30, 2013.
- Mitus AJ. The birth of InterQual: evidence-based decision support criteria that helped change healthcare. *Prof Case Manag*. 2008;13(4):228-233.
- McKesson Corporation. InterQual behavioral health criteria. www.mckesson.com/about-mckesson/our-company/businesses/mckesson-health-solutions/interqual-decision-support/. Accessed February 26, 2013.
- The Medicare Recovery Audit Contractor (RAC) program: an evaluation of the 3-year demonstration. www.racaudits.com/uploads/RAC_Demonstration_Evaluation_Report.pdf. Accessed February 25, 2013.
- Romero A, Brown C, Richards F III, et al. Reducing unnecessary Medicare admissions: a six-state project. *Prof Case Manag*. 2009;14(3):143-150.
- Center for Medicare Advocacy Inc. Suit seeks to end hospital "observation status": Medicare advocacy lawsuit filed November, 3, 2011. www.medicareadvocacy.org/medicare-info/observation-status/ending-hospital-observation-status/. Accessed February 25, 2013.
- Center for Medicare Advocacy Inc. Senators Kerry and Snowe, with Representatives Courtney and Latham, introduce legislation to ensure skilled care for seniors. www.medicareadvocacy.org/senators-kerry-and-snowe-with-representatives-courtney-and-latham-introduce-legislation-to-ensure-skilled-care-for-seniors/. Accessed February 1, 2013.
- HR 1179: Improving Access to Medicare Coverage Act 2013. www.govtrack.us/congress/bills/113/hr1179#related. Accessed April 6, 2013.
- Centers for Medicare & Medicaid Services. CMS-1599-P: Medicare program; hospital inpatient prospective payment systems for acute care hospitals and the long term care hospital prospective payment system and proposed fiscal year 2014 rates; quality reporting requirements for specific providers; hospital conditions of participation; Medicare program; FY 2014 hospice wage index and payment rate update; hospice quality reporting requirements; and updates on payment reform; proposed rules. www.gpo.gov/fdsys/pkg/FR-2013-05-10/pdf/2013-10234.pdf. Accessed June 17, 2013.

Invited Commentary

Observation Status for Hospitalized Patients

A Maddening Policy Begging for Revision

Robert M. Wachter, MD

“But I don’t want to go among mad people,” Alice remarked.

“Oh, you can’t help that,” said the Cat: “we’re all mad here. I’m mad. You’re mad.”

“How do you know I’m mad?” said Alice.

“You must be,” said the Cat, “or you wouldn’t have come here.”

Lewis Carroll, Alice in Wonderland

When I was a resident at San Francisco General Hospital, the very busy Emergency Department had an “observation unit”—an adjacent room in which patients could receive additional diagnostic tests or therapies before it was determined whether they needed to be admitted. It was a useful idea. Many patients with asthma, chest pain, drug overdoses, alcohol intoxication and withdrawal, and dehydration went “to obs” for a dozen hours or so of observation before receiving their ultimate disposition: home or hospital.

Given that Medicare pays for hospital and ambulatory activities in very different ways, it was reasonable to encode observation status—not quite inpatient and not quite outpatient—into the payment policies of the Centers for Medicare & Medicaid Services (CMS). Because observation patients are not full-fledged inpatients, giving the hospital a fully loaded diagnosis related group fee



Related article page 1991

might have overpaid the hospital and perhaps created an incentive for abuse. Yet observation patients—lying in hospital beds, with name bands on their wrists, intravenous lines in their arms, and electrodes on their chest—are not exactly outpatients either. The ambiguities of observation status are particularly evident in hospitals that lack dedicated observation units and therefore park such patients on regular hospital wards while sorting out their subsequent placement.

Medicare’s original definition of observation status was well tailored to its intended role. An observation stay, according to CMS policy, entails activities “that are reasonable and necessary to evaluate the outpatient’s condition or determine the need of that patient’s admission to the hospital as an inpatient.”¹ Furthermore, they should represent a “well-defined set of specific, clinically appropriate services; in the majority of cases, the decision [to admit the patient] can be made in less than 48 hours, usually in less than 24 hours. In only rare and exceptional cases do...outpatient observation services span more than 48 hours.”¹

Yet within a few years of its enactment, Medicare’s policy—designed to support the placement of some patients in short-stay, observation units—had morphed into madness. In fact, if one was charged with coming up with a policy whose purpose was to confuse and enrage physicians and nearly everyone else, one could hardly have done better than observation status.

In this issue of *JAMA Internal Medicine*, a team of investigators from the University of Wisconsin demonstrate just how far observation status has drifted from its sensible origins.² Although the data come from a single academic medical center, they ring true from my experiences at both academic and community hospitals.

“Well defined set of specific...services,” reads Medicare’s policy. Yet Sheehy and colleagues² found that among the 4578 observation stays in their study, there were more than 1000 diagnoses, as determined by billing codes. Only “rare and exceptional cases” should stay more than 48 hours, says Medicare. The authors found that 16.5% of observation patients hospitalized between July 2010 and December 2011 stayed more than 48 hours; for general medicine patients on observation status, more than 1 in 4 did. Nationally, in 2011, hospitals in the United States placed 8% of their patients—1.6 million patients per year—in observation status, compared with 3% five years earlier.³

Unsurprisingly, hospitals have taken a financial hit from this massive increase in the use of observation status. Sheehy et al² found that reimbursement for observation patients fell far below the hospital’s costs, particularly for general medical patients and those with longer stays. The administrative costs to hospitals for determining each patient’s status were not factored in but must be considerable.⁴ Hospitals know that their choices about inpatient and observation stays may ultimately be second guessed by aggressive “Recovery Audit Contractors” (RAC auditors), who receive commissions for any savings they recover for the federal government for admissions they deem to be inappropriate.

The financial impact on patients and their families also went unmeasured. This impact (along with the associated anxiety) likely represents the greatest harm from the growth of observation status. Once patients are deemed to be “obs,” their stays are not covered under Medicare Part A, which means they are subject to substantial copayments and are liable for the costs of their hospital medications.⁵

Moreover, Medicare’s arbitrary requirement for a minimum 3-day inpatient stay as a bridge to coverage for a subsequent skilled nursing facility stay means that patients who go from a prolonged “obs” stay to such a nursing facility will receive a terrible surprise: a very large bill.⁶ One 78-year-old woman received a \$16 000 bill for an uncovered nursing home stay following a 4-day observation stay in the hospital. “I thought it was surely a mistake,” she said. “Nobody ever said I wasn’t admitted.”³ (Hospitals are under no obligation to inform patients of their observation status, and most do not.) Medicare’s patient-oriented brochure on observation status, meant to clarify matters no doubt, would have made Lewis Car-

roll proud. “REMEMBER,” it says, “Even if you stay overnight in a regular hospital bed, you might be an outpatient.”⁷

On April 16, 2013, after years of widespread complaints, CMS proposed a new rule that would clarify the meaning of observation status by using a time-based definition.⁸ Under the proposed rule, patients whose stay in the hospital spans at least 2 midnights (“that is, at least more than one Medicare utilization day”) would be considered inpatients. Patients staying for less than 2 midnights would be deemed observation patients, unless their medical record supported the physician’s initial belief that they would require a 2-midnight stay and unforeseen circumstances allowed earlier discharge.

In my view, the proposed revision improves on the status quo and should provide much needed clarity. However, CMS could further improve the situation by requiring hospitals to inform patients of their status—observation or inpatient—as soon as it is determined, given the potential financial impact. The agency should also allow hospitals to retrospectively change patients’ status based on additional information that is not immediately available. Currently, Medicare uses the physician’s initial orders to determine inpatient vs observation status and makes it extremely difficult for case managers or other hospital reviewers to modify the designation.

Even if the proposed policy goes into effect, ambiguities and challenges will remain. Will auditors seeking to recover

government funds continue to second guess the determinations of observation and inpatient status, despite the seeming simplicity of the 2-midnight rule? Will some hospitals keep patients an extra day to capture an inpatient fee or to spare their patients the copayments that accompany observation status? Will Medicare ultimately allow shorter than 3-day inpatient stays, including days spent on observation status, to determine eligibility for skilled nursing facility coverage under Medicare Part A? (Congress is currently considering a bill that would require this change; it is given little chance to pass.⁹)

The study by Sheehy et al² highlights the flaws and inconsistencies of Medicare’s current policy about observation status. The financial and other impacts of the proposed revisions require study. But the proposal itself is reassuring evidence that the leaders of CMS are open to change. Medicare is rapidly transforming itself from a “dumb payer” into an active shaper of the medical marketplace, through initiatives such as public reporting of quality measures, penalties for readmissions, value-based purchasing, and incentive payments for “meaningful use” of information technology. The transformation is welcome. Nonetheless, CMS must stay alert to the possibility—check that, the inevitability—of unanticipated consequences and correct or reverse policies promptly when such consequences emerge.¹⁰

ARTICLE INFORMATION

Author Affiliation: Department of Medicine, University of California, San Francisco.

Corresponding Author: Robert M. Wachter, MD, Department of Medicine, University of California, San Francisco, 505 Parnassus Ave, Room M994, San Francisco, CA 94143-0120 (bobw@medicine.ucsf.edu).

Published Online: July 8, 2013.
doi:10.1001/jamainternmed.2013.7306.

Conflict of Interest Disclosures: None reported.

REFERENCES

1. Department of Health and Human Services and Centers for Medicare & Medicaid Services. Medicare benefit policy manual: chapter 6—hospital services covered under Part B. December 16, 2005. Pub 100-02. www.cms.gov/Regulations-and-Guidance/Guidance/Transmittals/downloads/R42BP.pdf. Accessed June 17, 2013.
2. Sheehy AM, Graf B, Gangireddy S, et al. Hospitalized but not admitted: characteristics of patients with “observation status” at an academic medical center [published online July 8, 2013]. *JAMA Intern Med*. doi:10.1001/jamainternmed.2013.8185.
3. Jaffe S. Seniors sue Medicare to close nursing home coverage gap. <http://c-hit.org/2013/05/03/seniors-sue-medicare-to-close-nursing-home-coverage-gap/>. Accessed June 17, 2013.
4. Morrissey J. Understanding and managing a RAC. *Trustee Magazine*. March 2013. www.trusteemag.com/trusteemag/dhtml/article-display.dhtml?dcrpath=TRUSTEEMAG/Article/data/03MAR2013/1303TRU_coverstory&domain=TRUSTEEMAG. Accessed June 17, 2013.
5. Ross EA, Bellamy FB. Reducing patient financial liability for hospitalizations: the physician role. *J Hosp Med*. 2010;5(3):160-162.
6. Jaffe S. Medicare seeks to limit number of seniors placed in hospital observation care. *Kaiser Health News*. May 3, 2013. www.kaiserhealthnews.org/stories/2013/may/03/cms-offers-new-rule-for-medicare-observation-care.aspx. Accessed June 17, 2013.
7. Centers for Medicare & Medicaid Services. Are you a hospital inpatient or outpatient? if you have Medicare—ask! www.medicare.gov/pubs/pdf/11435.pdf. Accessed June 17, 2013.
8. Centers for Medicare & Medicaid Services. Details for: proposed policy and payment changes for inpatient stays in acute-care hospitals and long-term care hospitals. April 26, 2013. www.cms.gov/Newsroom/MediaReleaseDatabase/Fact-Sheets/2013-Fact-Sheets-Items/2013-04-26.html. Accessed June 17, 2013.
9. Improving Access to Medicare Coverage Act of 2013, S 569, 113th Congress (March 14, 2013). www.govtrack.us/congress/bills/113/s569. Accessed June 17, 2013.
10. Wachter RM, Flanders SA, Fee C, Pronovost PJ. Public reporting of antibiotic timing in patients with pneumonia: lessons from a flawed performance measure. *Ann Intern Med*. 2008;149(1):29-32.