



Discharge to Swing Bed or Skilled Nursing Facility: Who Goes Where?

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BACKGROUND

Swing beds are one option for post-acute skilled care in rural communities, and they are more likely to be the only option in the most rural areas.¹ These transitional care beds allow a patient to be discharged from an acute hospital stay but remain in the hospital for skilled after care. Skilled nursing facilities (SNFs) are another option for post-acute care when facility-based (rather than home-based) care is needed. Swing beds in small rural hospitals were authorized to allow flexibility in providing post-acute care, particularly in areas where hospital volume is low and options for post-acute care are limited.

KEY FINDINGS

- Patients discharged to facility-based, post-acute care from CAHs are sent to SNFs and swing beds almost equally. Those discharged from rural PPS hospitals predominantly are sent to SNFs.
- Patient characteristics were comparable regardless of hospital type or post-acute care discharge destination. Hospital length of stay differed with shorter stays for patients in CAHs compared to rural PPS hospitals. Patients discharged to swing beds had also had shorter stays than those discharged to SNFs regardless of hospital type (0.9 days shorter for CAH, 1.1 days for PPS).
- The primary diagnoses for patients discharged to post-acute care include pneumonia and chronic obstructive pulmonary disease (COPD), cardiac conditions, orthopedic conditions and infections. Primary health conditions are similar for patients discharged to swing beds and to SNFs whether from a CAH or from a rural PPS hospital.
- Primary procedures during hospitalization included four predominant categories across all discharge hospitals and discharge destinations: orthopedic procedures (fractures, joint replacement), gastrointestinal procedures (endoscopy, gastrostomy, and colorectal resection), surgical treatment (debridement) of wounds, and blood transfusions. Respiratory intubation and mechanical ventilation and hemodialysis were more common for rural PPS hospital patients. Physical therapy exercises were more common for patients discharged from CAHs.

The North Carolina Rural Health Research Center has undertaken a series of studies to better understand swing bed utilization and cost. Earlier briefs included interviews with hospital administrators about their use of swing beds,² analysis of trends in swing bed use following reimbursement changes in the Medicare Modernization Act of 2003,¹ and examination of the cost of providing swing bed care in Critical Access Hospitals (CAHs).³ In this fourth and final study, we explore the health conditions of patients discharged to facility-based, post-acute care. We used the Nationwide Inpatient Sample, Healthcare Cost and Utilization Project (HCUP), Agency for Healthcare Research and Quality from 2007 to 2010 to characterize discharges for four groups of patients – patients discharged from 1) CAHs and 2) rural Prospective Payment System (PPS) hospitals to two different types of facility-based post acute care: a) swing beds and b) skilled nursing facilities.

RESULTS

Discharge Destinations from Rural Hospitals

Patients discharged to post-acute, facility-based care from rural hospitals represent only 11.7% of all rural hospital discharges (Table 1). For CAHs, 14.1% of patients are discharged to post-acute care with slightly more going to SNFs than to swing beds (8.5% vs 5.6%). For rural PPS hospitals, however, the vast majority of post-acute care discharges are sent to SNFs rather than swing beds (10.4% vs 0.6%).

Table 1: Disposition of Inpatients from CAHs and Rural PPS Hospitals

	CAH + Rural PPS Discharges (n=2,058,205) %	CAH Discharges (n=443,781) %	Rural PPS Discharges (n=1,614,424) %
To Swing Bed	1.7	5.6	0.6
To Skilled Nursing Facility	10.0	8.5	10.4
To Home or Self Care	69.5	68.0	69.9
To Another Hospital	4.8	7.2	4.1
To Home w/Home Health	8.3	4.7	9.3
To Hospice*	0.8	0.7	0.8
To Other	5.0	5.4	4.8

*includes both home-based and facility-based hospice

Patient Characteristics and Hospital Stays

Patients discharged from CAHs were slightly older than those discharged from rural PPS hospitals, but there were no notable differences in the gender distribution (Table 2). The mean length of hospital stay was just over one day longer for PPS patients compared to CAH patients. The mean length of hospital stay for patients discharged to SNFs was also longer by one day than for those discharged to swing beds regardless of hospital type. Patients discharged from CAHs had, on average, one fewer chronic condition compared to patients discharged from PPS hospitals.

Table 2: Characteristics of Patients and Their Health Condition for Those Discharged to Swing Beds or SNF

	CAH + Rural PPS Combined	CAH Discharges		Rural PPS Discharges	
	To Swing Bed or SNF (n=240,157)	To Swing Bed (n=24,674)	To SNF (n=37,860)	To Swing Bed (n=9,989)	To SNF (n=167,634)
Patient age (mean years)	78.6	79.6	81.1	77.2	78.0
Female (%)	63.9	63.5	65.1	64.7	63.6
Length of hospital stay (mean days)	6.5	4.7	5.8	6.1	7.0
Number of chronic conditions* (mean)	5.6	4.6	5.1	5.8	5.8

*Missing = 30%

The Most Common Primary Diagnoses during Hospitalization

The ten most common primary diagnoses listed in Table 3 represent almost 50% of swing bed and SNF discharges from CAHs and rural PPS hospitals combined. Generally, the same broad categories of diagnoses are represented in all hospital and discharge destination groups. Cardiovascular conditions such as congestive heart failure and acute cerebrovascular disease, respiratory problems such as pneumonia, chronic obstructive pulmonary disease (COPD) and bronchiectasis, and orthopedic conditions such as fractures and osteoarthritis make up the majority of conditions in the top ten for all groups. Pneumonia and congestive heart failure are the two most common diagnoses from patients discharged from CAHs, while osteoarthritis and fractures of the neck of the femur (hip) are most common for discharges from rural PPS hospitals.

Table 3: Ten Most Common Primary Diagnoses for Patients Discharged to Swing Beds and to SNF

Patients Discharged from CAHs			
Discharged to Swing Beds (n=24,664)	%	Discharged to SNFs (n=37,811)	%
1. Pneumonia except that caused by TB or STD	13.9	1. Pneumonia except that caused by TB or STD	11.1
2. Congestive heart failure; nonhypertensive	6.7	2. Congestive heart failure; nonhypertensive	6.9
3. COPD and bronchiectasis	5.2	3. Urinary tract infections	6.4
4. Urinary tract infections	5.1	4. Rehabilitation care; fitting of prostheses; adjustment of devices	4.5
5. Osteoarthritis	4.7	5. Acute cerebrovascular disease	4.4
6. Acute cerebrovascular disease	4.4	6. Fluid and electrolyte disorders	4.3
7. Fluid and electrolyte disorders	3.9	7. Fracture of neck of femur (hip)	3.9
8. Skin and subcutaneous tissue infections	3.6	8. COPD and bronchiectasis	3.4
9. Other fractures	3.1	9. Osteoarthritis	3.1
10. Fracture of neck of femur (hip)	2.7	10. Septicemia (except in labor)	2.5
All others combined (197 categories)	46.7	All others combined (212 categories)	49.5
Patients Discharged from Rural PPS Hospitals			
Discharged to Swing Beds (n=9,989)	%	Discharged to SNFs (n=167,625)	%
1. Osteoarthritis	11.1	1. Fracture of neck of femur (hip)	7.0
2. Pneumonia except that caused by TB or STD	9.8	2. Osteoarthritis	6.8
3. Fracture of neck of femur (hip)	7.6	3. Pneumonia except that caused by TB or STD	6.1
4. Septicemia (except in labor)	5.7	4. Septicemia (except in labor)	5.7
5. Congestive heart failure; nonhypertensive	5.0	5. Congestive heart failure; nonhypertensive	4.7
6. COPD and bronchiectasis	4.6	6. Acute cerebrovascular disease	4.5
7. Acute cerebrovascular disease	3.2	7. Urinary tract infections	3.7
8. Urinary tract infections	2.9	8. COPD and bronchiectasis	2.7
9. Skin and subcutaneous tissue infections	2.4	9. Complication of device; implant or graft	2.4
10. Fluid and electrolyte disorders	2.2	10. Acute and unspecified renal failure	2.3
All others combined (180 categories)	45.5	All others combined (221 categories)	54.2

The Most Common Primary Procedures during Hospitalization

The top ten primary procedures for patients discharged to different post-acute care settings from different hospital types are listed in Table 4. Three categories of procedures predominated across all discharge hospitals and destinations. Orthopedic procedures, including treatment of fractures and joint replacement, were common procedures for patients requiring post-acute care regardless of hospital. Similarly, gastrointestinal procedures such as endoscopy, gastrostomy, and colorectal resection were among the top ten procedures for each group of patients. Blood transfusions were the most common procedures for CAH patients and relatively common for PPS patients. Patients discharged to post-acute care after hospitalizations that required respiratory intubation and mechanical ventilation and hemodialysis were more common for rural PPS hospitals. Physical therapy exercises were in the top ten procedures for CAH patients only.

Table 4: Ten Most Common Primary Procedures for Patients Discharged to Swing Beds and to Skilled Nursing Facilities

Patients Discharged from CAHs			
Discharged to Swing Beds (n=8,150)	%	Discharged to SNFs (n=11,987)	%
1. Blood transfusion	13.7	1. Blood transfusion	15.6
2. Arthroplasty knee	10.2	2. Treatment; fracture or dislocation of hip and femur	8.1
3. Other therapeutic procedures	7.8	3. Hip replacement; total and partial	7.4
4. Hip replacement; total and partial	7.2	4. Arthroplasty knee	6.3
5. Treatment; fracture or dislocation of hip and femur	5.2	5. Other therapeutic procedures	5.9
6. Physical therapy exercises; manipulation; and other procedures	4.7	6. Upper gastrointestinal endoscopy; biopsy	4.4
7. Upper gastrointestinal endoscopy; biopsy	3.9	7. Other vascular catheterization; not heart	3.3
8. Debridement of wound; infection or burn	2.9	8. Physical therapy exercises; manipulation; and other procedures	2.8
9. Other vascular catheterization; not heart	2.9	9. Other respiratory therapy	2.8
10. Other respiratory therapy	2.8	10. Debridement of wound; infection or burn	2.3
All others combined (136 categories)	38.7	All others combined (152 categories)	41.1
Patients Discharged from Rural PPS Hospitals			
Discharged to Swing Beds (n=5,245)	%	Discharged to SNFs (n=91,665)	%
1. Arthroplasty knee	16.3	1. Hip replacement; total and partial	9.5
2. Hip replacement; total and partial	13.4	2. Arthroplasty knee	9.4
3. Treatment; fracture or dislocation of hip and femur	9.3	3. Treatment; fracture or dislocation of hip and femur	9.2
4. Blood transfusion	7.2	4. Blood transfusion	7.4
5. Other vascular catheterization; not heart	3.9	5. Respiratory intubation and mechanical ventilation	4.5
6. Respiratory intubation and mechanical ventilation	3.6	6. Other vascular catheterization; not heart	4.4
7. Upper gastrointestinal endoscopy; biopsy	2.6	7. Upper gastrointestinal endoscopy; biopsy	3.4
8. Colorectal resection	2.6	8. Hemodialysis	2.1
9. Debridement of wound; infection or burn	2.4	9. Amputation of lower extremity	2.0
10. Treatment; fracture or dislocation of lower extremity other than hip or femur	2.2	10. Debridement of wound; infection or burn	2.0
All others combined (144 categories)	36.5	All others combined (198 categories)	46.1

DISCUSSION

Almost 12% of patients discharged from the rural hospitals in the study were discharged to some type of facility-based, post-acute care. Most patients discharged to post-acute care from rural PPS hospitals (96%) went to SNFs, whereas a smaller percentage of patients discharged to post-acute care from CAHs (60%) went to SNFs. This difference is likely due, in part, to the regulations that limit swing beds to rural hospitals with fewer than 100 beds and greater availability of SNFs in more populated areas. Data from 2008 showed that 8.3% of the most rural counties (non-core based statistical areas) had only swing beds for post-acute care, with 11.3% having no SNFs and no swing beds.¹

The characteristics of patients and the conditions for which they were hospitalized are remarkably similar for patients discharged from rural hospitals to swing beds and SNFs. Patients are generally elderly, female, have multiple chronic conditions, and are hospitalized for cardiac, respiratory, and orthopedic conditions. Their mean length of hospital stay is 6.5 days, and ranges from 4.7 to 7.0 days.* The similarities in the characteristics of patients served in both types of care suggest that swing beds and skilled nursing facilities are substitutes for each other. A decrease in the availability of care in one setting will have an impact on the availability of care in the other, which is a particular concern in rural areas where swing beds are the only form of post-acute care.

Further information is needed to better understand what determines where a patient receives post-acute care. Physician choice, patient choice, and the availability and quality of other community based post-acute services are determinants that merit further exploration to ensure optimal post-hospitalization care for rural Americans. Notably, the NIS does not contain post-discharge information, so a full understanding of the post-acute costs and trajectories of these patients is not possible with these data.

**Note that this average is for the subset of the patients who were discharged to facility-based, post-acute care and thus does not contradict the rule requiring CAHs to have an average length of stay of four days or less.*

METHODS

This study used data for the years 2007 through 2010 from the Nationwide Inpatient Sample, Healthcare Cost and Utilization Project (HCUP), Agency for Healthcare Research and Quality. Only those states with hospital identifiers (N=24) were included in order to determine CAH status of each rural hospital. Overall, 503 hospitals are represented in the data and include representatives from all nine US Census Divisions. Because we used a subset of hospitals, the analyses were unweighted and thus the findings may not be representative of national trends.

1. Reiter KL, Freeman VA. Trends in Skilled Nursing Facility and Swing Bed Use in Rural Areas Following the Medicare Modernization Act of 2003. NC Rural Health Research & Policy Analysis Center, Final Report #101, April 2011.
2. Freeman VA, Radford A. Why Use Swing Beds? Conversations with Hospital Administrators and Staff. NC Rural Health Research & Policy Analysis Center, Findings Brief, April 2012.
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This study was funded through Cooperative Agreement # U1CRH03714 with the Federal Office of Rural Health Policy, Health Resources and Services Administration, US Department of Health and Human Services.