Analysis IN BRIEF

AAMC
Tomorrow's Doctors, Tomorrow's Cures®

Volume 13, Number 2
April 2013

Association of American Medical Colleges

Medicare Patient Hospital Transfers in the Era of Health Care Reform

Teaching hospitals are unique in their mission. They train new physicians, advance medical research, and treat the sickest and most complex patients who often require the costliest care. Teaching hospitals generally can provide access to care that other institutions do not, including accepting and treating transfer patients from community and other hospitals for specialized services.[1] Research shows that transfer patients are more likely to be admitted to intensive care units (ICUs) and have longer lengths of stay while in ICUs than regular patients.[2] Further, the interhospital transferred patients generally have higher illness severity compared to direct admissions.[3]

A February 2009 *Analysis in Brief* (AIB) highlighted the differences in the rates of Medicare inpatient hospital transfers among teaching and nonteaching institutions. This issue has even greater urgency today because the Affordable Care Act and pay-for-performance initiatives create a new context in which the care for this small, unique, and frequently more costly population of patients might adversely impact hospital reimbursement. The Centers for Medicare and Medicaid Services (CMS) is exploring changes in payment mechanisms that increase the risk burden for teaching hospitals (e.g., accountable care organizations and bundled payment care initiatives) as well as implementing quality programs that will financially penalize institutions that do not meet minimum performance measurement thresholds. Admitting large numbers of transfer cases, then, can adversely impact risk-sharing and quality measurement assumptions.

This AIB addresses two questions. First, what are the characteristics of the patients transferred to teaching hospitals from the most recently available Medicare data? Second, are teaching hospitals, particularly members of the AAMC's (Association of American Medical Colleges) Council of Teaching Hospitals and Health Systems (COTH®), more likely to receive a higher proportion of the transfer population than other hospital types?

Methods

Patient-level data for Medicare beneficiaries from the Medicare claims-level database for fiscal year 2011 were examined.[4] This database contains data from claims for services provided to beneficiaries admitted to Medicare-certified inpatient hospitals and skilled nursing facilities, including patient demographics, diagnosis, source of admission, and diagnosis-related group (DRG). Medicare beneficiaries include patients who are 65 and older, disabled, or suffering from end-stage renal disease. A transfer patient was defined as a patient admitted to one acute-care facility from another.

Patient-level data were available for 3,445 general, nonfederal acute-care

Table 1. Number of Patient-Transfer Cases to Hospitals by Hospital Teaching Status and Bed Size, 2011

Bed Size	Hospital Teaching Status											
	COTH				Other Teaching Hospital				Nonteaching Hospital			
	No. of Hospitals	Total No. of Transfers	Median No. of Transfers	Mean No. of Transfers	No. of Hospitals	Total No. of Transfers	Median No. of Transfers	Mean No. of Transfers	No. of Hospitals	Total No. of Transfers	Median No. of Transfers	Mean No. of Transfers
Fewer than 200 beds	13	1,245	46	96	315	19,702	18	63	1,959	48,217	7	25
200–299 beds	28	4,986	172	178	216	35,316	52	164	253	27,517	48	109
300–399 beds	39	20,033	236	514	129	32,111	110	249	122	21,085	62	173
400–499 beds	53	22,146	276	418	65	25,850	267	398	46	10,847	133	236
500+ beds	122	114,959	797	942	65	43,193	427	665	20	3,980	153	199
All	255	163,369	417	641	790	156,172	57	198	2,400	111,646	12	47

Source: AAMC analysis of FY2011 CMS MedPAR data
Note: The median number of transfers does not take into account hospitals that receive zero transfers.

1 Examples of specialized services may include burn unit services, neonatal ICU, or brain surgery for stroke patients.
2 Durairaj L, Will JG, Torner JC, Doebbeling BN. Prognostic factors for mortality following interhospital transfers to the medical intensive care unit of a tertiary referral center. *Crit Care Med.* 2003;31(7):1981–6.
3 Gordown HS, Rosenthal GE. Impact of interhospital transfers on outcomes in an academic medical center: implications for profiling hospital quality. *Med Care.* 1996;34(4):295–309.
4 Data were the most recently available at the time of analysis. Database available publicly from the Centers for Medicare and Medicaid Services (CMS)—the federal agency that administers the Medicare Program. External analysis of the database was conducted for the AAMC by Vaida Health Data Consultants.

hospitals. Hospitals were classified into three categories based on their association with the AAMC and the presence of a residency program: hospitals that are members of the AAMC COTH,[5] other teaching hospitals, or nonteaching hospitals. To determine the complexity of Medicare transfer patients, the case mix indices (CMI) of the receiving hospitals' transfer patients were examined. The CMI reflects the relative complexity, intensity, and cost associated with a hospital's Medicare caseload centered on an index of "1." [6]

Results

The database contained 255 (7%) COTH members, 790 (23%) other teaching hospitals, and 2,400 (70%) nonteaching hospitals. In fiscal year 2011, there were 431,187 patient transfers nationwide (Table 1). Teaching hospitals treated almost three-quarters (74%) of these transferred patients. Although COTH hospitals comprised only seven percent of all hospitals in this analysis, they cared for almost 38 percent of total transfers.

Hospitals were subdivided by bed size to determine what impact hospital size had on the mean and median number of transfers. Teaching hospitals, regardless of size, received more transfers than nonteaching hospitals. COTH hospitals, in particular, received a significantly greater number of transfers. The typical COTH hospital with 500 or more beds received 797 transfers in 2011, more than five times that of similarly sized nonteaching hospitals and almost twice that of other teaching hospitals.

The CMI for the transfer cases received by the typical COTH hospital was 2.5—greater than other teaching and nonteaching hospitals with a CMI of 2.0 and 1.7, respectively (Table 2). Not surprisingly, the CMI for transfer patients is higher than the CMI for other (nontransfer) patients in each of the three hospital groupings. In particular, COTH hospitals have a bigger gap between the CMI of their transfer and other patients (0.7) than do other teaching hospitals and nonteaching hospitals (0.4 and 0.3, respectively), despite COTH hospitals' having a relatively high CMI for other patients.

Table 2. Median Case Mix Index (CMI) by Hospital Teaching Status, 2011

	Hospital Teaching Status			
Patient Type	COTH	Other Teaching Hospital	Nonteaching Hospital	All Hospitals
Transfer Patients	2.47	1.99	1.73	1.88
Other Patients	1.78	1.57	1.43	1.51

Source: AAMC analysis of FY2011 CMS MedPAR data

Discussion and Policy Implications

These findings have several implications. In this study, the majority of transfers were received by teaching hospitals, including a disproportionate number received by COTH hospitals. This finding demonstrates the role that major teaching hospitals play in providing care to patients for whom other hospitals cannot.

Patients admitted as transfers and patients admitted usually to COTH hospitals were more complex and utilized more services than patients at other hospitals. This finding suggests that transfer patients require costlier care and that payment systems should take this issue into consideration. Currently, the Medicare program recognizes these cases though Inpatient Prospective Payment System policies (namely, outlier and Medicare Severity DRG payments). However, the costs of these complex patients are not fully covered by these payments alone. There is variability in how transfer cases are handled in established programs (e.g., value-based purchasing and bundled payments), and as reimbursement policies are redesigned, uncertainty about how transfers will be covered in future programs continues.

Implementation of new and innovative care delivery system reforms such as patient-centered medical homes and accountable care organizations, which focus on prevention and reducing hospital admissions, may increase the CMI of admitted patients. Having a more complex patient load provides an excellent learning environment in a teaching setting, but the costs associated with these patients may disproportionately affect hospitals receiving these transferred patients. Additionally, the ability to account for the clinical complexity of these patients through appropriate risk-adjustment is critical, with the cost of care being incorporated into Medicare performance-based payment programs.

A limitation of this analysis is that it focuses only on Medicare beneficiaries. Medicare beneficiaries account for approximately 16 percent of the U.S. population,[7] but research has shown that in some hospitals, 41.7 percent of all payor, interhospital transfer analysis patients over a ten-year period were Medicare recipients.[2] However, this limitation may be considered acceptable because the Medicare database is extremely comprehensive, nationally representative for its population, and publicly available. Regardless of the insurer of transfer cases, teaching hospitals must be mindful of challenges associated with these complex cases, remain committed to caring for these patients that other hospitals often cannot accommodate, and continue to provide the highest quality care, deliver value, and control costs.

5 For more information, see: http://www.aamc.org/members/coth/.
6 For more information, see supplemental information: www.aamc.org/data/aib.
7 Data from Statehealthfacts.org (a project of the Henry J. Kaiser Family Foundation). See: http://www.statehealthfacts.org/comparemaptable.jsp?typ=2&ind=291&cat=6&sub=74&sortc=1&o=a

Authors:

Ashley Huderson, summer intern, AAMC

Merle Haberman, M.H.A., Senior Director, Health System Economics, Data and Research, mhaberman@aamc.org

Joanne Conroy, M.D., Chief Health Care Officer, jconroy@aamc.org

Association of American Medical Colleges
2450 N Street, N.W.
Washington, D.C. 20037-1127
analysis@aamc.org
www.aamc.org/data/aib