South Carolina Rural Health Research Center
At the Heart of Public Health Policy

Hospital transfers and subsequent hospitalizations among Rural Medicare Beneficiaries

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Background

- Both rural and urban hospitals vary with regard to the levels of care they are able to provide, requiring that a subset of patients be transferred from the first point of encounter to a second facility.
- Because of their smaller size, rural hospitals are more likely than urban institutions to transfer patients to a second hospital for care.
- Critical access hospitals, which are limited to 25 inpatient beds and an average length of stay of 96 hours, are required to have transfer and referral agreements with one or more larger acute care hospitals.
- All rural hospitals, whether through inpatient services or emergency department stabilization, offer important initial care for rural residents.

Purpose

The purpose of this project was to examine transfer patterns among those admitted to rural facilities, and to track the patterns of post-transfer health care utilization among a subset of Medicare beneficiaries.

Methods

- 2013 Medicare Claims files , 5% sample, obtained from ResDAC.
- Claims were merged by a unique identifier, with visit types classified by their place of service codes or other identifiers in each claim file. Records with missing data for the variables of interest were excluded.
- Cases were included if their index admission was for AMI, CHF, or pneumonia. All other admissions for those individuals were included.
- Transfers were defined as an admission to another facility immediately after discharge from a prior inpatient admission or emergency department visit. Transfers to any facility other than a general acute care facility were excluded.
- Rurality was defined at the county level using urban influence codes, and subset into urban and rural (Micropolitan, small adjacent, and remote).
- Analysis examined the index encounter source, by rurality of the patient.. The proportion with a transfer, and the location of the receiving facility, were then estimated, by condition and location.
- 30-day readmissions were also estimated, subset by transfer status and rurality of the index encounter.

Results

Critical Access Hospitals serve a substantial proportion of residents of small and remote rural counties

- Among persons with the three conditions studied, more than 40% of beneficiaries in living in small and remote rural counties obtained initial care from a CAH.

Nationally, 5.8% of all admissions were transferred to another facility

- The transfer rate was higher among rural (10.5%) and critical access (11.8%) hospital admissions than among urban hospital admissions (4.2%).

The most common discharge destination after the transfer admission is home (42.5%)

- Within rural transfer patients, critical access hospital (CAH) patients were less likely to be discharged to home than patients from other rural hospitals (41.7% versus 44.3%).
- A discharge of death from the second hospital was more common for CAH transfer patients than for patients at other rural hospitals (11.0% versus 6.0%).

Patients transferred from rural hospitals had a lower 30-day readmission rate than urban patients

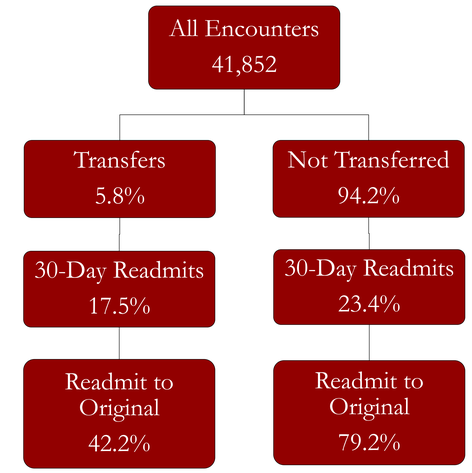
- Patients transferred from a rural hospital or CAH had lower readmission rates (16.4%) than urban transfer patients (25.3%).
- Among those with a readmission, rural transfer patients were less likely to be readmitted to the original facility than urban transfer patients.

Table 1: Proportion of Hospitalizations with a Transfer, by Facility Location and Condition, 2013, n = 2,416

	All	Urban	Rural & CAH	Rural (not CAH)	CAH
Transfers, Total	5.8%	4.2%	10.5%†	10.0%†	11.8%†
Transfers, CHF	4.0%	3.0%	7.7%†	6.9%†	9.7%†
Transfers, Pneumonia	3.8%	2.1%‡	8.1%†	7.1%†	10.2%†
Transfers, AMI	15.6%‡	12.5%‡	26.0%†‡	24.8%†‡	31.8%†‡

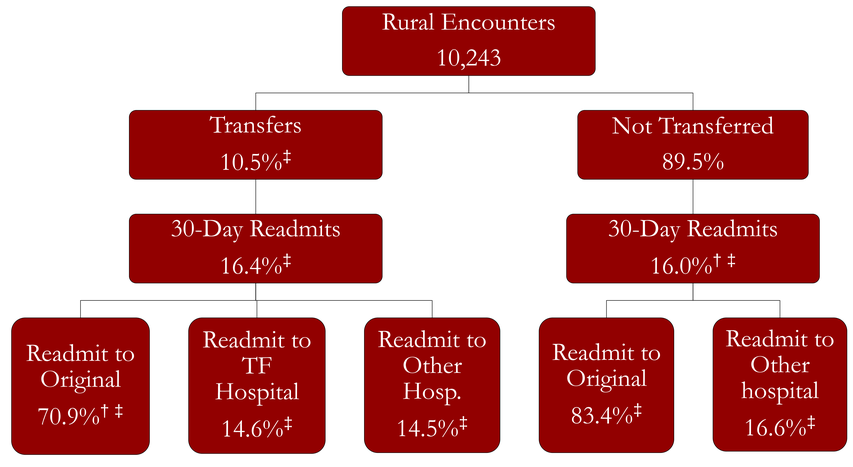
† Significantly different from urban hospitals, α = 0.05 ‡ Significantly different from CHF, α = 0.05

Figure 1: Readmission Rates by Transfer Status, by Patient Residence and Condition, 2013 (n = 41,852)



† Significantly different from non-transfers, p ≤ 0.05 ‡ Significantly different from urban hospitals, p ≤ 0.05

Figure 2: Readmission Rate and Follow-up Location, by Transfer Status, 2013, n = 3,367



† Significantly different from non-transfers, p ≤ 0.05 ‡ Significantly different from urban hospitals, p ≤ 0.05

Conclusions

- Findings illustrate the reliance that residents of small adjacent and remote rural counties have upon CAHs.
- Further research is needed to clarify whether and how readmission rates among rural residents can be reduced. Wider implementation of Medicare Accountable Care Organizations (ACOs) may improve coordination between hospital discharge planners and outpatient providers in rural areas.
- The finding that transferred patients from all hospitals were more likely to die during hospitalization than non-transferred patients (5.4% versus 2.9%) is consistent with transfer being used only for more severely ill patients. More detailed clinical research is needed to ascertain whether better transfer coordination or earlier treatment initiatives could be beneficial.

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