Main Objectives

POLICY BACKGROUND

• Hospital readmissions are often an indicator of healthcare quality.
• Medicare implemented the Hospital Readmission Reduction Program, which reduces reimbursement to hospitals with “excess readmission rates” for HF, AMI, & CAP.
• Readmissions can be reduced through coordination of community-based follow-up care after discharge.

Though it has received less policy attention, post-discharge ED visits without admission may also be viewed as a poor post-discharge outcome.

The Multi-Payer Claims Database (MPCD)

Developed by OptumInsight on behalf of the Office of the Assistant Secretary for Planning and Evaluation (ASPE) at the U.S. Department of Health and Human Services (DHHS).

Includes Medicare & Medicaid managed care plans and supplemental Medicare plans.

MPCD files are longitudinally linked to track individuals over time and across coverage sources.

Study Design

• Track cohorts of Medicare patients with index admission for HF, AMI, or CAP, 2007-2010 30 days after discharge.
• Plot cumulative incidence functions for community-based follow-up visits with ED visit & re-admission as competing risks and censoring at 30 days.

(Out of confidentiality restrictions, the data do not allow direct analysis of mortality as an outcome or competing risk.)

• Multinomial probit model: Predict first-occurring post-discharge utilization event (follow-up visit, ED visit, or readmission) based on patient demographics, prior diagnoses, & procedures (12 months prior to admission), additional coverage, and region.

Time to Post-Discharge Follow-Up Visit

Cumulative incidence function for follow-up visits among HF patients, 2007-2010

Post-Discharge Follow-Up Visits and Hospital Utilization by Medicare Patients, 2007-2010

Post-Discharge Follow-Up Utilization Rates for HF, AMI, & CAP, 2007-2010

1) Pilot the Multi-Payer Claims Database (MPCD).
2) Document trends in post-discharge utilization outcomes among Medicare patients with an initial admission for heart failure, acute myocardial infarction (AMI), or community-acquired pneumonia (CAP).
3) Identify predictors of the first post-discharge utilization event (follow-up visit, ED visit, or readmission).

30-Day Readmission Rates for HF, AMI, and CAP, 2007-2010

• For each cohort (HF, AMI, CAP), the cumulative incidence of follow-up visits increased in 2009 and then leveled off in 2010.
• Patients who were black, Hispanic, and enrolled in Medicare or Medicaid Advantage were substantially less likely than other patients to have a follow-up visit as their first post-discharge utilization event.
• Likelihood of a follow-up visit was much higher for patients with more diagnoses & prior procedures and those with private or supplemental Medicare coverage.
• In most cases, patients who were less likely to receive a follow-up visit were somewhat more likely to have an ED visit or readmission as the first post-discharge utilization event but much more likely to experience no utilization event within 30 days.
• There were no changes in overall 30-day readmission rates (regardless of whether another utilization event preceded the readmission).

In 2010, 54.6% of HF patients had a follow-up visit within 10 days of discharge compared to 47.9% in 2007.

Marginal Effects from Multinomial Probit Model for HF

Marginal effects (holding other variables constant expressed as percentage points derived from multinomial probit estimation).

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Marginal effects (holding other variables constant expressed as percentage points derived from multinomial probit estimation).

Focus on first-occurring post-discharge utilization event provides a way to identify potential opportunities for improved post-discharge care coordination.

• If first event is a readmission or ED visit, then opportunity to prevent it through a follow-up care was lost.
• If first event is a community-based follow-up visit, then subsequent hospital use is less likely to be the result of an unrelated episode of care coordination and more likely due to unmeasured illness severity, lack of self-management skills, or socioeconomic disadvantage.

Marginal effect example

Relative to HF patients discharged in 2008, those discharged in 2009 were 5.4 percentage points less likely to have a follow-up visit as their first post-discharge event. Equally likely to have an ED visit as the first post-discharge event. 0.8 percentage points less likely to have a readmission as the first post-discharge utilization event. 0.9 percentage points less likely to have no utilization event within 30 days of discharge.

Summary of findings

Increased follow-up visits coincided with the introduction of publicly reported readmission rates in 2009.

• This increase was not sustained in 2010, even as policymakers developed well publicized financial penalties aimed at hospitals with “excessive” re-admissions.
• Despite the gains in post-discharge follow-up visits, there were no changes in overall readmission rates from 2007-2010.

There were systematic differences across patient groups in the likelihood of receiving timely post-discharge follow-up visits even after adjusting for patient acuity at discharge.

Implications for Policy, Delivery, or Practice

• Focus on first-occurring post-discharge utilization event provides a way to identify potential opportunities for improved post-discharge care coordination.

• If first event is a readmission or ED visit, then opportunity to prevent it through a follow-up care was lost.

• If first event is a community-based follow-up visit, then subsequent hospital use is less likely to be the result of a missed opportunity for care coordination and more likely due to unmeasured illness severity, lack of self-management skills, or socioeconomic disadvantage.

• Lack of a sustained increase in cumulative incidence of follow-up visits after 2009 may have been the result of primary care capacity constraints that limited discharged Medicare patients in competition with other patients for appointments.

The disparity was especially acute for historically underserved Medicaid and minority patients as well as managed in care plans that may have narrowly available provider networks.

Although many patients without a follow-up visit did not return to the hospital within 30 days, lack of follow-up care cannot be detrimental to patients’ longer term health status and could result in readmission later than 30 days after discharge.

As financial penalties for excessive readmissions intensified under Medicare’s HRRP, hospitals may find it necessary to devote more effort to arranging post-discharge follow-up visits wherever possible.

Although treat-and-release ED visits within 30 days of discharge were fairly uncommon in 2007-2010, this may change somewhat (especially for marginal cases) as hospitals seek to reduce their readmission rates to avoid reimbursement penalties.

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