

Association Between Hospital Penalty Status Under the Hospital Readmission Reduction Program and Readmission Rates for Target and Nontarget Conditions

Take Away Points

- Following the announcement of the Hospital Readmission Reduction Program (HRRP) in March 2010, hospitals subject to penalties had greater reduction in readmission rates compared with nonpenalized hospitals.
- Hospitals subject to financial penalties had larger reductions in target conditions (acute myocardial infarction, congestive heart failure, and pneumonia) compared to nontarget conditions. In contrast, nonpenalty hospitals experienced comparable reduction for target and nontarget conditions.

The Issue

The HRRP program imposes financial penalties beginning October 2012 for hospitals with higher-than-expected readmission rates for target conditions (acute myocardial infarction – AMI, congestive heart failure – CHF, and pneumonia) among Medicare fee-for-service (FFS) beneficiaries. A recent assessment confirmed the significant reduction in readmission rate across all hospitals, with greater reduction in target conditions compared to nontarget conditions. Examining the trends in readmission rates based on whether a hospital was subject to penalties could offer insights into the mechanism by which financial penalties in the HRRP were effective. This study aimed to answer the question of whether HRRP was associated with different changes in readmission rates for target and nontarget conditions among penalized and nonpenalized hospitals.

Source

Desai NR, Ross JS, Kwon JY, et al.
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<http://jamanetwork.com/journals/jama/article/2594718>

Study Methods and Design

Study Cohorts

Study cohorts were defined using Medicare FFS claims data between January 1, 2008 and June 30, 2015 and following HRRP methods. Medicare beneficiaries were characterized as having a target condition if their principle discharge diagnosis was AMI, CHF, or pneumonia, using ICD-9-CM codes. Nontarget conditions were classified into 5 cohorts using methods for the hospital-wide readmission measure: medicine, surgery/gynecology, cardiorespiratory, cardiovascular, and neurology. Patients with COPD or hip or knee arthroplasty surgery were excluded from nontarget conditions because these conditions were added to the HRRP program during the study period.

Hospital Penalty Status

Hospital penalty status data was obtained from the CMS website at the time the HRRP was implemented (October 2012). Since the CMS public reporting on readmission rate for AMI, HF and pneumonia started in July 2009, poorly performing hospitals were likely aware of their risk of impending financial penalties before HRRP implementation.

Outcome

A CMS algorithm was used to exclude planned readmissions for procedures or diagnoses that are typically scheduled. If multiple readmissions occurred within 30 days postdischarge, only the first readmission was included in calculations.

Analysis

Time trends were calculated using a single risk-adjusted monthly readmission rate for each cohort, stratifying by the status of whether hospital subject to penalty in fiscal year 2013. A set of interrupted time series modeling were used to compare trends in readmission rates by condition and penalty status. The overall trend was deconstructed into 3 periods: the pre-HRRP period (January 2008 through March 2010), the post-HRRP announcement but pre-HRRP implementation period (April 2010 through September 2012), and the post-HRRP implementation period (October 2012 through June 2015).

Key Findings

- Prior to the announcement of the HRRP, readmission rates for patients at hospitals later subject to a penalty were declining less rapidly than those for patients at hospitals not later subject to financial penalties (for AMI, 0.72 percentage points per year for penalty hospital discharges vs. nonpenalty hospital discharges [95% CI, 0.26-1.19]; for CHF, 0.35 [95% CI, 0.04-0.65]; and for pneumonia, 0.48 [95% CI, 0.15-0.81]; $P < .05$ for all).
- After the announcement but prior to the actual implementation of the HRRP, readmission rates began to improve significantly faster for patients at hospitals later subject to financial penalties (for AMI, -1.24 [95% CI, -1.84 to -0.65]; for CHF, -1.25 [95%CI, -1.64 to -0.86]; and for pneumonia, -1.37 [95% CI, -1.80 to -0.95]; $P < .001$ for all).
- There were more modest but statistically significant declines in readmission rates after announcement of HRRP regardless the hospital penalty status.
- After HRRP implementation in October 2012, the rate of change for readmission rates plateaued.
- At penalized hospitals, after announcement of the HRRP, the reductions in readmissions for target conditions were significantly greater than nontarget conditions (for AMI, a relative decline of -0.49 percentage points per year [95%CI, -0.81 to -0.16], for CHF, -0.90 [95% CI, -1.18 to -0.62], for pneumonia, -0.57 [95% CI, -0.92 to -0.23]). In contrast, at hospitals that were not subject to financial penalties, there was no differential improvement in readmission rates for target conditions.

Limitations

- By design, interrupted time series attributes observed changes to a single factor (the HRRP in this instance), while there were other national, state, and local programs of reducing readmissions.
- The disproportionate improvement among patients discharged from penalty hospitals may be a result of regression to the mean.
- The mechanism for the observed differential improvements is unknown
- Observation stays were not included in this analysis, and the analytic approach did not account for differential coding practices or changes in documentation.

Final Thoughts

The announcement of the HRRP was associated with a significant decrease in readmissions, particularly for target conditions in low-performing hospitals. Policy makers considering payment penalty programs should thus consider whether the results are available—ideally in advance of implementation—to the relevant stakeholders. The plateauing of the rate of change for all conditions since October 2012 raised the question of whether additional reductions in readmission rates can be realized and, if so, what policy and payment levers will be effective.