Enabling Data Democratization - Interactive Graphical Representations of Unplanned Readmissions for Cancer Patients

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Introduction

Cancer is the second leading cause of death in the United States, with an incidence rate increasing yearly due to an aging population. The Agency for Healthcare Research and Quality (AHRQ) approximates $80.2 billion was spent directly on cancer-related medical costs in 2015, 38% of which was incurred during inpatient hospitalizations.

Medicare cancer readmissions are higher than all-cause readmissions within non-cancer institutions; however, the current 30-day readmission regulatory metric is focused on non-cancer causes such as all-cause, disease-specific (AMI, COPD, HF) and procedure-based readmissions (vascular, PCI). Fortunately, the Comprehensive Cancer Center Consortium for Quality Improvement (C4QI) along with the Alliance of Dedicated Cancer Centers (ADCC), which includes Memorial Sloan Kettering Cancer Center (MSKCC), collaborated with the National Quality Forum (NQF) to develop NQF 3188: 30-Day Unplanned Readmissions for Cancer Patients.

Methods

The in-house development team

- augmented a pre-existing inpatient readmissions datamart to apply criteria
- readmission rate trended monthly from 2017 to the most recent month with a complete 30-day post-discharge period
- in addition to 30-day metric, 7 and 14-day readmission rates were also displayed to assess if more sensitive markers
- Other dimensions, such as primary payor and attributes by discharging department, service, attending and unit
- separate tab outlining comprehensive case details for ad-hoc patient-level analysis
- readmissions metric integrated into high-level operational and performance dashboards

Results

- a baseline for regulatory compliance
- a baseline for initiatives aimed at mitigating unplanned cancer readmissions
- insights into readmissions rate and patient volume between discharging departments, services, attendings and units
- trended comparisons between Medicare and non-Medicare cohorts for three timed metrics (7, 14, and 30-day)
- key metric enabling data-driven strategic and operational decisions
- cross-collaboration across team and disciplines
- shared data source to underpin other data projects

Dashboard overview

Hovering on the info-bubbles on the top right provide a project summary or a brief navigation guide.

Dashboard earlier design

Top: key metrics
Middle: monthly trend
Bottom: patient volume and readmission rates per discharging department by payor

Bibliography

Morse D, Vinson, L. PCHQR SlideDeck. CMS Quality Reporting Center. 2018.