Population-based quality measures: Potentially preventable admissions, and home and community days

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Overview

- The Commission's principles for measuring quality in the Medicare program
- Evaluating two population-based quality measures
  - Potentially preventable admissions
  - Home and community days (formerly healthy days at home)

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Principles for measuring quality in the Medicare program

- Quality measurement should be patient-oriented, encourage coordination across providers and time, and promote relevant change in the nature of the delivery system.

- Quality measurement should not be unduly burdensome for providers.

- Medicare quality programs should include population-based measures such as outcomes, patient experience, and value (cost/low-value) measures. Providers may choose to use more granular measures to manage their own quality improvement.

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Principles for measuring quality in the Medicare program (continued)

- Medicare quality programs should give rewards based on clear, absolute, and prospectively set performance targets (as opposed to "tournament models").

- The Medicare program should take into account, as necessary, differences in a provider's patient population, including social risk factors. Because adjusting measure results for social risk factors can mask disparities in clinical performance, Medicare should account for social risk factors by directly adjusting payment through peer grouping.

Principles for measuring quality in the Medicare program (continued)

- Medicare should target technical assistance resources to low-performing providers.
- Medicare should support research and data collection to reduce measurement bias, including, for example, the effects of social risk factors.

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Potential application of these principles for measuring quality

- *Concept*: Use a small set of outcome and patient experience measures to assess quality for definable populations
  - Populations associated with geographic areas that represent local health care markets, MA plans, ACOs, hospitals, or groups of clinicians
- *Proof of concept*: Investigate two outcome measures to evaluate the quality of care for FFS beneficiaries and compare performance across market areas

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Potentially preventable admissions

- Beneficiaries who are hospitalized can be exposed to health risks (e.g., hospital associated infections, pressure ulcers)

- Some hospitalizations, such as those related to diabetes and pneumonia, can be potentially preventable

- Rates of potentially preventable admissions can reflect the quality of care in a local market area

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Measuring potentially preventable admissions

- We applied a HEDIS ® potentially preventable admissions measure to FFS administrative data
    - Already reported by MA plans
    - Available in the public domain
- We calculated the *observed* rate of potentially preventable admissions in the FFS population; more work is needed to risk-adjust for the FFS population

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Measuring potentially preventable admissions (continued)

- The rate of potentially preventable admissions per 1,000 beneficiaries
  - *Chronic* conditions including diabetes, chronic obstructive pulmonary disease, asthma, hypertension, congestive heart failure
  - *Acute* conditions including bacterial pneumonia, urinary tract infection, cellulitis, and pressure ulcers
- About 22.5 million FFS beneficiaries included in the analysis

Note: The potentially preventable admissions measure used is the rate of ambulatory care sensitive condition admissions per 1,000 beneficiaries over age 67. Beneficiaries who died in the measurement year are excluded.

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Observed potentially preventable admission results, 2016

		Rate of potentially preventable admissions per 1,000 beneficiaries	
		Acute	**Chronic**
Age groups	67-74	8.4	12.0
	75-84	17.0	20.0
	85+	34.3	31.3
Gender	Male	13.2	17.6
	Female	17.0	17.8
Medicaid eligibility			
	Fully-dual	32.2	34.0
	Partially-dual	22.4	33.3
	Non-dual	13.3	15.5
National mean		**15.3**	**17.7**

Note: The potentially preventable admissions measure used is the rate of ambulatory care sensitive condition admissions per 1,000 beneficiaries over age 67. Beneficiaries who died in the in the measurement year are excluded. Results are preliminary.

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Distribution of observed potentially preventable admissions in local market areas

	Rate of potentially preventable admissions per 1,000 beneficiaries	
	Acute	**Chronic**
National mean	15.3	17.7
10th percentile (highest-performing)	10.4	11.1
50th (median)	16.2	17.8
90th (lowest-performing)	24.3	24.9
Ratio of 90th / 10th percentile	2.3	2.2

Note: The potentially preventable admissions measure used is the rate of ambulatory care sensitive condition admissions per 1,000 beneficiaries over age 67. Beneficiaries who died in the measurement year are excluded . Results are preliminary. Over 1,200 market areas.

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Summary: Potentially preventable admissions

- In the FFS population, observed rates of potentially preventable admissions showed noticeable differences
    - By population groups (age group, gender, Medicaid eligibility)
    - By market area and hospital service area level
- More work is needed to derive risk-adjusted FFS potentially preventable admission rates

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Home and community days (HCDs)

- Number of days in a year that beneficiaries are alive and out of health care institutions

- Consistent with quality measurement principles
  - Comprehensive and outcomes-focused
  - Useful to compare performance across payment models

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HCDs: Calculating the measure

$$HCDs = 365 \text{ days} - \text{days in:}$$

- Hospital
  - Inpatient
  - Emergency department/observation stay
- Post-acute care
- Mortality days
- About 27.3 million FFS beneficiaries included in the analysis

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HCDs: Risk-adjustment model

- Ensure measure reflects quality, not patient severity

- Used linear regression with market fixed effects to create a risk-adjustment model

- Disease burden, age and sex had the greatest impact

- Medicaid status along with these variables did not add any explanatory power

- Market-level Medicaid status has some effect
  - If HCDs are used to adjust payment, Medicare should account for social risk factor differences through peer grouping

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Risk-adjusted HCDs for two populations

	2013	*2014*	*2015*
Beneficiaries 65 years and older	348	349	348
Beneficiaries 65 years and older, with 2 or more chronic conditions	323	325	320

Note: Average home and community days (HCDs) for 1,200 market areas. HCDs is calculated by subtracting from 365 days the average number of days beneficiaries in the market area received hospital and post-acute care, as well as average mortality days. Results are preliminary.

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Risk-adjusted distribution of HCDs in local market areas

	Market areas	
	Beneficiaries 65 years and older	Beneficiaries 65 years and older with 2 or more chronic conditions
National mean	348	320
10th percentile (lowest-performing)	346	311
50th (median)	349	321
90th (highest-performing)	351	327
Ratio of 90th / 10th percentile	1.0	1.0

Note: Note: Average home and community days (HCDs) for 1,200 market areas. HCDs is calculated by subtracting from 365 days the average number of days beneficiaries in the market area received hospital and post-acute care, as well as average mortality days. Results are preliminary.

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Summary: HCDs

- We calculated risk-adjusted, market-level HCDs for two different FFS populations

- Beneficiaries with chronic conditions have fewer HCDs and slightly more variation in market-level results

- However, variation is small in both populations, which limits the ability to compare HCDs across markets

- HCDs for both populations were relatively stable across several years

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Discussion

- *Summary*: Tested proof of concept using two outcome measures to evaluate the quality of care for FFS beneficiaries and compare performance across market areas

- Clarifying questions

- Analysis suggests limited utility of HCDs measure

- Future analysis for potentially preventable admissions

  - Risk-adjusted FFS and ACO potentially preventable admissions

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