Advising the Congress on Medicare issues

Population-based measures of ambulatory care quality: Potentially preventable admissions and emergency department visits

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Context

- Fee-for-service (FFS) rewards volume with little regard to quality and value
- Commission continues to consider ways to improve the value of Medicare FFS
  - ACOs, medical homes, bundling
- Today's presentation: Discuss population-based indicators that measure potentially preventable admissions and emergency department visits

Today's presentation

- Summarize the use of potentially preventable admissions (PPAs) and emergency department (ED) visits (PPVs) as population-based quality measures
- Review preliminary results of analysis of rates of PPAs and PPVs across and within hospital referral regions
- Discuss next steps

Potentially preventable admissions and ED visits

- Population-based quality measures; not measures of hospital quality
- Reflect access to and the quality of care furnished in a region
- Not all events are avoidable; the relative rate is important
- Comparatively higher rates in a region may suggest opportunities for improvement

Potentially preventable admissions (PPAs)

- Admissions for conditions that could have been avoided with adequate ambulatory care
- AHRQ's indicators consist of 14 ambulatory care sensitive conditions (ACSCs)
- 3M Health Information Systems' PPAs based on ACSCs; more comprehensive than AHRQ's indicators

Potentially preventable emergency department visits (PPVs)

- ED visits that might have been furnished in less costly ambulatory settings
- Researchers and policymakers have begun using PPV rates as population-based quality indicators
- 3M's PPVs based on ACSCs but exclude visits that result in hospital admission and exclude visits for surgical procedures

Preliminary analysis of PPA and PPV rates across and within regions

- Objective: Examine the feasibility of using rates of PPAs and PPVs as population-based quality measures
- Contracted with 3M Health Information Services to quantify rates nationally and explore differences regionally
- Examined rates of PPAs and PPVs using 2006-2008 Medicare claims data

Analysis of PPA and PPVs rates, 2006 - 2008

- Across hospital referral regions (HRRs) for a 5 percent sample of FFS beneficiaries nationally
- Across hospital service areas (HSAs) within HRRs for all FFS beneficiaries in six markets (100 percent)
- Rates are risk adjusted using clinical risk groups and age
- Regression variables included gender, race, disability, dual eligibility, ESRD status, urbanicity, and hospital occupancy rates

PPAs and PPVs account for a large share of all admissions and ED visits

- PPAs: 25% of all initial hospital admissions
  - Annual rate ~ 94 per 1,000 beneficiaries
  - Heart failure most frequent clinical reason
- PPVs: 59% of all ambulatory ED visits (treat and release)
  - Annual rate ~ 158 per 1,000 beneficiaries
  - Infections of upper respiratory tract most frequent clinical reason

Data are preliminary and subject to change

PPA and PPV rates vary by HRR

	PPA	PPV
	Risk-adjusted cases/1,000	Risk-adjusted cases/1,000
All HRRs	60.5	33.0
Top quartile (lowest rates)	52.9	23.7
Bottom quartile (highest rates)	69.8	42.7

Note: PPA rates exclude readmissions
Source: 3M analysis of 2007 and 2008 5 percent Medicare claims data

- PPA range: 36.9 – 107.0
- PPV range: 14.0 – 65.6

Hospital Referral Region (HRR) versus Hospital Statistical Area (HSA)

- Preliminary analysis of HSAs within HRRs
- Considerations in measuring at the HRR versus HSA level:
  - Ability to improve quality
  - Statistical and methodological challenges

Variation of HSAs by HRR

Market	PPA risk-adjusted rate/1,000			PPV risk-adjusted rate/1,000		
	All HSAs	Min HSA	Max HSA	All HSAs	Min HSA	Max HSA
Orange Co., CA	51.7	42.9	60.8	22.2	17.2	25.9
Minneapolis, MN	52.1	36.1	112.2	29.9	5.4	50.7

Note: PPA rates exclude readmissions
Source: 3M analysis of 2007 and 2008 100 percent Medicare claims data

- Large range between highest and lowest performing HSAs in the markets

Regression results

- Effect size relatively small for all factors
- Disability status and age tied to more PPAs
- African American race associated with more PPVs compared to whites
- Urban regions had lower PPA rates and slightly higher PPV rates than rural areas
- Dual eligibility associated with more PPAs and PPVs
- As hospital occupancy rates decrease, the rates of both PPVs and PPAs increase

Access to ambulatory care

- Need for further research on how access to ambulatory care impacts PPAs and PPVs
  - Care directly preceding event
  - Availability of ambulatory care resources in the community

Next steps

- Measure at the HSA level
- Define and measure access to ambulatory care prior to PPA and PPV