



*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

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- 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

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- 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

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- 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)

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- 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)

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- 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

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- 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

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- 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

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- 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

# 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)

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- 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
<b>Orange Co., CA</b>	51.7	42.9	60.8	22.2	17.2	25.9
<b>Minneapolis, MN</b>	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

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- 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

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- 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

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