Population-based outcome measures: Avoidable hospitalizations and emergency department visits

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Commission’s goal for quality measurement

- Use a small set of population-based outcome, patient experience, and value measures
  - Create aligned incentives across different populations (i.e., MA plans, ACOs, and FFS in defined market areas)
- Today:
  - Investigate two claims-based outcome measures to evaluate quality of care for FFS beneficiaries
    - Avoidable hospitalizations and emergency department (ED) visits
Why measure avoidable hospitalizations and ED visits?

- Some hospitalizations are necessary to diagnosis and treat the sick and injured.
- Beneficiaries hospitalized can be exposed to functional loss, and health risks such as hospital-associated infections, medication errors, pressure ulcers.
- EDs are not ideal for nonurgent acute conditions or management of chronic conditions:
  - Detract from resources for emergency care.
  - Clinicians unfamiliar with patients’ baseline state.
Definitions of avoidable hospitalizations and ED visits

- Hospital use that may result from inadequate access to care or poor coordination of care
- Useful indicators of potentially high- or low-quality ambulatory care
  - Not every use can be avoided
- We defined avoidable use based on existing measures, plus some additional research for the ED measure
Avoidable hospitalizations and ED visits can be for both chronic and acute conditions

- **Chronic** conditions including diabetes, chronic obstructive pulmonary disease, asthma, hypertension, heart failure
- **Acute** conditions including bacterial pneumonia, urinary tract infections, cellulitis, pressure ulcers
  - ED visits also includes upper respiratory infection/otitis/rhinitis, influenza, non-specific back pain
- Avoidable hospitalizations include both inpatient admissions and observation stays
- Avoidable ED visits exclude visits that resulted in admissions or observation stays
Average observed rates of avoidable hospitalization and ED visits, all FFS beneficiaries

- About 4 percent of FFS beneficiaries had at least one avoidable hospitalization, while roughly 7 percent experienced an avoidable ED visit.

<table>
<thead>
<tr>
<th></th>
<th>Observed rate per 1,000 FFS beneficiaries</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Acute conditions</td>
</tr>
<tr>
<td>Avoidable hospitalizations</td>
<td>18.5</td>
</tr>
<tr>
<td>Avoidable ED visits</td>
<td>62.6</td>
</tr>
</tbody>
</table>

Source: Analysis of 2017 FFS claims data. Lower rates are better. Results preliminary; subject to change.
Calculating risk-standardized avoidable hospitalizations and ED visits rates

- Risk-adjustment necessary to account for differences in underlying patient risk
- Comparatively high or low risk-adjusted rates in an area can identify opportunities for improvement or best practices in an area’s ambulatory care system
- Risk-adjustment model controlled for age, sex, and clinical characteristics
  - Consistent with the Commission’s principles we do not adjust for social risk factors in the model because it can mask disparities
Risk-standardized rates for two market area types

- Calculated risk-standardized rates for two types of market area to understand the nature of variation in rates across local health care markets

**MedPAC market areas:**
- About 1,200 areas designed to reflect health care markets
- Average FFS population in each area about 25,000 beneficiaries

**Hospital service areas (HSAs):**
- About 3,400 areas comprising zip codes whose residents receive more of their hospitalizations in that area
- Average FFS population in each area about 10,000 beneficiaries
MedPAC market areas: Risk-standardized avoidable hospitalization and ED visits rates

<table>
<thead>
<tr>
<th>Avoidable hospitalizations</th>
<th>10th percentile (high performing)</th>
<th>50th percentile</th>
<th>90th percentile (low performing)</th>
<th>Ratio of 90th to 10th</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoidable hospitalizations</td>
<td>37.4</td>
<td>50.6</td>
<td>66.3</td>
<td>1.8</td>
</tr>
<tr>
<td>Avoidable ED visits</td>
<td>77.6</td>
<td>108.9</td>
<td>152.5</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Source: Analysis of 2017 FFS claims data. Lower rates are better. Results preliminary; subject to change.
Profile of selected MedPAC market areas

Avoidable hospitalizations
Avoidable ED visits

Low performing

High performing

Results preliminary; subject to change. Source: Analysis of 2017 FFS claims data. Lower percentiles are better.
HSAs: Risk-standardized avoidable hospitalization and ED visits rates

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<tr>
<td></td>
<td>10th percentile (high performing)</td>
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<tr>
<td>Avoidable hospitalizations</td>
<td>36.9</td>
</tr>
<tr>
<td>Avoidable ED visits</td>
<td>66.7</td>
</tr>
</tbody>
</table>

Source: Analysis of 2017 FFS claims data. Lower rates are better. Results preliminary; subject to change.
Comparing performance of HSAs within a MedPAC market area

Source: Analysis of 2017 FFS claims data. Lower rates are better. Results preliminary; subject to change.
Summary: Avoidable hospitalizations and ED visits

- Developed uniform, claims-based, risk-adjusted measures
- Compared rates for FFS beneficiaries in two different local market areas
- Variation in rates signals the opportunities to improve the quality of FFS ambulatory care
- Will report out FFS avoidable hospitalizations and ED visit results as a part of the physician update in March reports to the Congress
Discussion: Potential next steps

- Analyze high- and low- performing areas to identify factors that affect performance (e.g., rates of primary care clinicians per capita, concentration of ACOs)
- Identify best practices from high-performing areas, including areas with higher proportion of patients with social risk factors
- Continue to explore using these measures to compare the quality of care across FFS, ACOs, and MA