Potentially preventable hospital admissions and emergency department visits

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Admission and ED visit rates

- Potentially preventable admission rates and ED visit rates are population-level quality measures
  - Measure of the quality of the ambulatory care infrastructure and overall system to meet patients needs
  - Measure of outcome, rather than process
Prevention quality indicators (PQIs)

- PQIs identify conditions for which hospital admission can often be avoided with appropriate primary care
  - Consist of 14 ambulatory sensitive conditions (e.g., diabetes, CHF, COPD, dehydration, UTI)
- Not all admissions for PQI conditions are avoidable; the relative rate is important
- PQIs are a NQF-endorsed population measure to identify unmet community needs
Methods in analyzing rate of PQIs

- Definition of community
  - By Hospital Referral Regions (HRRs) in this analysis
  - Other definitions possible

- Risk adjustment
  - Hierarchical Condition Categories (HCCs)
Rate of PQIs across communities

Percent of stays that are PQIs, adjusted by HCC score

<table>
<thead>
<tr>
<th>Quartile</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Average</td>
<td>17.4%</td>
</tr>
<tr>
<td>Top quartile</td>
<td>21.8%</td>
</tr>
<tr>
<td>Second quartile</td>
<td>18.4%</td>
</tr>
<tr>
<td>Third quartile</td>
<td>16.3%</td>
</tr>
<tr>
<td>Bottom quartile</td>
<td>12.9%</td>
</tr>
</tbody>
</table>

Reference: Data from Medicare Chronic Condition Warehouse. Numbers reported are for FFS full-year Medicare beneficiaries in 2008. Note: HCC is hierarchical condition categories. Values are the mean of the quartiles.
Rate of PQIs across communities, expressed per 100,000 beneficiaries

<table>
<thead>
<tr>
<th></th>
<th>PQI rate</th>
<th>PQI rate, adjusted by HCC score</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Average</td>
<td>6,311</td>
<td>6,311</td>
</tr>
<tr>
<td>Top quartile</td>
<td>8,139</td>
<td>7,991</td>
</tr>
<tr>
<td>Second quartile</td>
<td>6,509</td>
<td>6,525</td>
</tr>
<tr>
<td>Third quartile</td>
<td>5,489</td>
<td>5,623</td>
</tr>
<tr>
<td>Bottom quartile</td>
<td>3,981</td>
<td>4,273</td>
</tr>
<tr>
<td>Maximum (Monroe, LA)</td>
<td>11,633</td>
<td>10,820</td>
</tr>
<tr>
<td>Minimum (Salem, OR)</td>
<td>2,135</td>
<td>2,439</td>
</tr>
</tbody>
</table>

Reference: Data from Chronic Condition Warehouse. Numbers reported are for FFS full-year Medicare beneficiaries in 2008. Note: HCC is hierarchical condition categories. Values are the mean of the quartiles.
Minorities tend to live in areas with higher PQI rates

- AHRQ analysis finds that
  - African Americans have more than twice the rate of admissions for PQIs than whites
  - Hispanics were higher than whites, but a smaller gap

- Looking across HRRs, MedPAC finds those with the highest admissions rates had the highest percentage of African American beneficiaries

- Research finds greater variation across HRRs for PQI-like admissions than by race within a given region
Next steps

- More refined population definition
  - Consider Hospital Service Areas
- Explore 3M’s measure of potentially preventable admissions
  - 3M starts with PQIs, adds some and excludes a few
  - Uses CRGs for risk-adjustment
- Separate MedPAC work looks at improving the HCCs
Next steps (continued)

- Consider additional conditions that affect beneficiaries in nursing facilities
  - Could include sepsis, pressure ulcers, falls
  - Number of studies indicate high rates of avoidable admissions from SNFs, nursing facilities
Concerns about potentially avoidable ED visits

- Lack of continuity and follow-up for beneficiaries
- Detracts from EDs’ primary mission of providing emergency and lifesaving care
- Hospital EDs are generally more costly to patients and Medicare than other ambulatory care settings
Potentially avoidable ED visits

- Non-emergent
- Emergent but primary care treatable
- Emergent but the urgency of the visit could have been avoided with appropriate primary care
2009 National Hospital Ambulatory Discharge Survey

- Sponsored by the National Center for Health Statistics
- National sample of visits to hospital EDs
- Several measures to look at whether ED visits were potentially avoidable
  - How medical personnel assessed visit’s urgency
  - Whether ED visit was preceded by another ED visit or hospital discharge
  - Whether the ED visit occurred during office hours
## Analysis of 2009 national survey of ED visits

<table>
<thead>
<tr>
<th></th>
<th>Medicare</th>
<th>Private insurance</th>
<th>Medicaid</th>
<th>Uninsured</th>
</tr>
</thead>
<tbody>
<tr>
<td>All ED visits (in thousands)</td>
<td>23,076</td>
<td>52,528</td>
<td>39,860</td>
<td>26,048</td>
</tr>
<tr>
<td>% of all ED visits:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nonurgent</td>
<td>5%</td>
<td>7%</td>
<td>10%</td>
<td>9%</td>
</tr>
<tr>
<td>Preceded by an ED visit</td>
<td>5</td>
<td>4</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Preceded by a hospital discharge</td>
<td>5</td>
<td>3</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Occurred during office hours</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nonurgent visits as a % of ED visits that occurred during office hours</td>
<td>5</td>
<td>8</td>
<td>10</td>
<td>8</td>
</tr>
</tbody>
</table>

Data are preliminary and subject to change.  
Next steps for ED analysis

- Explore 3M’s measure of potentially avoidable ED visits
  - Identify conditions that could be treated in a primary care setting and ambulatory care sensitive conditions
  - Limit analysis to patients who were not admitted
  - Use CRGs for risk adjustment
  - Examine variability across beneficiary groups and regions
For discussion

- Use of potentially avoidable hospital admissions and ED visits as population-based quality measures
- Questions on the data
- Feedback on our research plans