Risk adjustment in Medicare Advantage

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MA plans receive monthly capitated payments for each enrollee.

Each payment is the product of two factors:
- Base rate
- Enrollee’s risk score

Risk scores:
- Come from the CMS Hierarchical Condition Categories (CMS-HCC) model.
- Represent enrollee’s expected annual Medicare spending relative to national average.
Description of CMS-HCC

- Uses enrollee’s data to determine their risk scores
- Demographic information: age, sex, Medicaid, institutional status, aged but originally eligible because of disability
- Medical conditions
  - Uses conditions diagnosed in previous year
  - Represented in 70 HCCs
- Each demographic variable and HCC has a coefficient that is used to determine risk scores
Example of how risk scores are calculated

- Female, age 68, Medicaid, diagnosed with COPD
- These CMS-HCC coefficients apply:
  - Female, age 65-69: .30
  - Female, Medicaid, aged: .18
  - COPD: .40
- Risk score = .30+.18+.40 = .88
- Each year, the national average risk score is 1.0
Concerns over CMS-HCC

- Systematic underpayments for plans focusing on specific groups (SNPs, PACE)
- May leave opportunities for favorable selection
- Regional differences in coding of conditions
Variation in spending explained by CMS-HCC

- CMS-HCC has R-square of .11, meaning it explains about 11% of variation in Medicare spending
- Research indicates at least 20-25% of variation can be predicted; the remainder is random (not predictable)
- CMS-HCC might explain half of predictable variation, suggesting systematic payment inaccuracies could occur
Possible underlying reasons for payment inaccuracies

- Within HCCs, beneficiary costliness varies.
- Plans may experience financial losses by attracting the highest cost beneficiaries in a given HCC.
- CMS-HCC model calibrated with FFS cost data.
- Cost of treating given condition may differ between MA plans and FFS Medicare (Newhouse et al.)
If systematic payment inaccuracies occur, how to address?

- If it is due to cost variation within HCCs, add variables to the CMS-HCC
  - Conditions (HCCs)
  - Socioeconomic variables (race, income)
  - Number of conditions for each beneficiary

- If it is due to cost differences between FFS and MA: Use MA cost data to calibrate CMS-HCC
Payment inaccuracies may adversely affect plans serving complex patients

- Research indicates CMS-HCC systematically underpays for some groups and overpays for others
- For most plans, systematic underpayments for one group can be offset with overpayments in another
- However, SNPs and PACE may not be able to make these offsets because they focus on specific beneficiary groups
Do plans serving complex patients face systematic underpayments?

<table>
<thead>
<tr>
<th>Category</th>
<th>Predictive ratio</th>
<th>Predictive ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Current CMS-HCC</td>
<td>Proposed CMS-HCC</td>
</tr>
<tr>
<td>Medicaid</td>
<td>.95</td>
<td>.97</td>
</tr>
<tr>
<td>Diabetes</td>
<td>1.03</td>
<td>1.00</td>
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<tr>
<td>Prostate cancer</td>
<td>1.09</td>
<td>1.06</td>
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<tr>
<td>Dementia</td>
<td>.80</td>
<td>.95</td>
</tr>
<tr>
<td>5+ conditions</td>
<td>.88</td>
<td>.89</td>
</tr>
</tbody>
</table>

Predictive ratio = (Predicted cost for group)/(Actual cost for group)
Are regional differences in coding an issue for risk adjustment?

- Song et al. indicate that in FFS Medicare conditions are coded more intensively in high-use regions (higher risk scores)
- If regional coding differences in MA, higher payments for plans in high-coding regions
- However, MA plans have incentive to code as much as possible
- Need to determine if regional coding differences occur in MA
If MA has regional differences in coding, how to address?

- Determine if MA plans have regional differences in coding intensity
- Evaluate whether regional differences in MA coding affect MA risk scores by region
- Adjust MA risk scores based on how much coding affects regional risk scores
Immediate next steps

- Determine if plans focusing on complex patients are systematically underpaid
- Evaluate alternatives for improving predictive power of CMS-HCC
- Investigate the extent of geographic differences in coding among MA plans?