Advising the Congress on Medicare issues

Improving risk adjustment in the Medicare program

Dan Zabinski

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Importance of effective risk adjustment

- Nearly 30% of beneficiaries are in MA program
  - Payments need to be accurate to prevent incentives to attract favorable risks (selection)
- Needed for payment neutrality among fee-for-service, Medicare Advantage, and accountable care organizations
- If providers are asked to take on more risk, payments need to be risk adjusted

Background for risk adjustment in MA

- MA payments = (risk score)*(base rate)
- CMS currently uses CMS-HCC model
  - Uses conditions from prior year to predict costs in current year
  - Higher payments for sicker enrollees
  - Lower payments for healthier enrollees

Models prior to CMS-HCC model

- Underpaid for beneficiaries who have conditions
- Overpaid for those who have no conditions and are healthy
- Depending on risk profile of enrollees, plans could benefit or be disadvantaged

CMS-HCC model: successes and ongoing problem

- Successes
  - Reduces payment inaccuracies for those who have conditions and those who do not
  - Appears to have reduced selection among beneficiaries moving from FFS to MA
  - MA disenrollment has declined; difficult to ascribe effects
- Despite improvements, ongoing problems
  - Underpredicts cost for high-cost beneficiaries; overpredicts for low-cost beneficiaries
  - Risk profile of MA disenrollees has gotten worse

Importance of accurate payment for high-cost and low-cost beneficiaries

- MA plans that attract high share of high-cost beneficiaries at a disadvantage
- If MA plans are able to attract many low-cost beneficiaries, payments may be higher than in FFS or ACOs

Conundrum for CMS

- Prior-year costs
  - Good predictor of current-year costs
  - Could be used to improve risk adjustment for high-cost and low-cost beneficiaries
  - Not used in CMS-HCC model because of adverse incentives
- Plans likely have enrollees' prior-year costs (information advantage)
- Plans can use this information to avoid high-cost beneficiaries

How significant are problems in practice?

- On average, MA plans are profitable; SNPs are most profitable (GAO)
  - Financial problems from underpayment of high-cost beneficiaries not widespread
- FFS costs of MA disenrollees increasing over time
- Medicare should reduce opportunities for plans to benefit from favorable mix of risks

Previous work (June 2012) was a start

- Add race and income to CMS-HCC model: Negligible improvement for those who have several conditions
- Add number of conditions for each beneficiary: Improve performance for those who have several conditions
- Use two years of diagnosis data to define conditions: Smaller improvement for those who have several conditions

Alternatives for addressing plans' information advantage

- Hybrid model: Mix of prospective and concurrent risk adjustment
- Add prior-year costs to CMS-HCC model; will discuss idea to avoid incentive problem
- Truncate annual beneficiary-level costs that plans are responsible for; use reinsurance for costs that exceed threshold
- All of these alternatives add some degree of cost-based payment to a prospective model

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Hybrid model mixes concurrent with prospective risk adjustment

- Concurrent: Use conditions from current year to predict costs in current year
- Prospective: Use conditions from last year to predict costs in current year
- CMS-HCC model is prospective to decrease undesirable incentives
- Hybrid model:
  - Concurrent for conditions that are chronic, costly, and easy to verify to avoid upcoding
  - Prospective for all other conditions

Including prior-year costs in CMS-HCC model

- Good predictor of current-year costs; substantially improves predictive power
- Can capture patient severity, patient preferences, providers' practice patterns
- Winkelman et al. (SOA 2007): Warn against using prior-year costs; weakens incentives to contain costs
- Schone and Brown: Support using prior-year costs, suggest using non-preventable hospitalizations as proxy

Truncating costs from high-cost beneficiaries

- A common strategy for addressing issue of high-cost beneficiaries
- Adds cost-based feature to MA payments; could reduce incentives to hold down costs
- Where should the threshold be set?
- For this analysis, we truncate at $100k and $250k of beneficiary-level costs

Evaluating models

- Used predictive ratios to measure how well models predict beneficiaries' costs
- Predictive ratio:
  - Ratio of total predicted costs for a group divided by total actual costs
  - Similar to payment to cost ratio
- If ratio > 1.0, costs are overpredicted
- If ratio < 1.0, costs are underpredicted
- If ratio = 1.0, costs are accurately predicted

Performance of standard CMS-HCC and alternative models

- For specific conditions, standard CMS-HCC and alternative models predict costs quite well in the aggregate
- High-cost and low-cost beneficiaries
  - CMS-HCC model underpredicts for high-cost and overpredicts for low-cost beneficiaries
  - Some of the alternatives do better, but all present issues

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Predictive ratios in prior-year spending ranges

Prior-year spending %ile	Standard CMS-HCC	Hybrid model	Add prior-year cost	Truncate @ $250k	Truncate @ $100k
0-20	1.62	1.87	1.39	1.62	1.63
20-40	1.30	1.22	1.10	1.30	1.30
40-60	1.10	1.00	0.95	1.10	1.10
60-80	0.95	0.88	0.87	0.95	0.95
80-95	0.86	0.81	0.92	0.86	0.85
95-99	0.82	0.76	1.10	0.82	0.81
> 99	0.71	0.65	1.18	0.74	0.81

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Addressing payment errors

- Q: How well should risk adjustment models predict current year spending?
- By design, risk adjustment will have payment errors
- Given the payment errors, CMS needs to figure out how to prevent selection
- Another method is administrative action

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Administrative options for addressing plans' information advantage

- How much should be done with risk adjustment, how much with administrative measures?
- Administrative options
  - Penalize plans for high rates of disenrollment of high-cost beneficiaries
  - Catastrophic caps on plans' losses

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Summary

- CMS-HCC model inaccurately predicts costs for high-cost and low-cost beneficiaries
- May cause selection problems in MA, equity problems in MA, ACOs, and FFS
- Some options could improve situation, but new problems could arise
- May want to consider administrative options