Risk Adjustment, Self-Selection and Plan Design in Medicare Advantage

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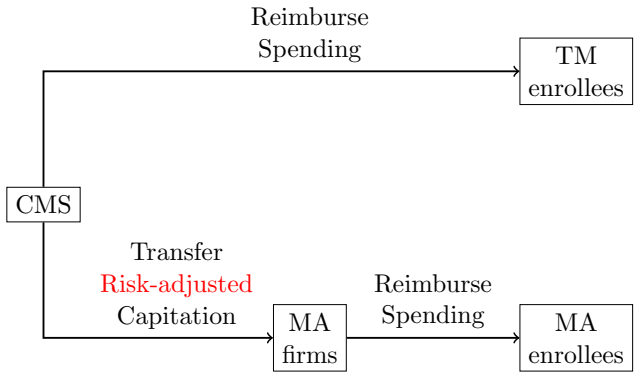
Managed Competition in Health Insurance

- **Fee-for-Service (FFS)**:
  - Government reimburses providers based on the actual services rendered to beneficiaries.
- **Managed Competition**:
  - Government provides fixed, predetermined subsidies (capitation) to insurance firms, independent of actual healthcare expenditures.
  - Firms use these subsidies to offer insurance plans to beneficiaries.

An Example: Medicare Advantage



- Traditional Medicare (TM) is FFS.
- Medicare Advantage (MA) is managed competition.
- Beneficiaries choose between TM and MA.

Selection in Health Insurance Markets

- **Cream Skimming**: Insurance plans strategically target healthier beneficiaries to maximize profits
- **Risk Adjustment**: Government implements differential payments based on beneficiary risk profiles
- Can risk adjustment effectively neutralize insurers' incentives for cream skimming?

Simplified Risk Adjustment Scenario

- Equal numbers of young and old individuals
  - **Young**: 80% healthy, 20% sick
  - **Old**: 20% healthy, 80% sick
- Cost of care: \$1,000 for healthy individuals, \$5,000 for sick individuals
- Age is observable to gov; health status is not

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- Age is observable to gov; health status is not
- Capitation risk-adjusted by age:
  - **Young**: $\$1{,}000 \times 0.8 + \$5{,}000 \times 0.2 = \$1{,}800$
  - **Old**: $\$1{,}000 \times 0.2 + \$5{,}000 \times 0.8 = \$4{,}200$
- Average capitation rate based on health status:
  - **Healthy**: $\$1{,}800 \times 0.8 + \$4{,}200 \times 0.2 = \$2{,}040$ (**above** cost \$1,000)
  - **Sick**: $\$1{,}800 \times 0.2 + \$4{,}200 \times 0.8 = \$3{,}960$ (**below** cost \$5,000)
- Firms still prefer **Healthy** individuals.

Self-Selection and Plan Design

- When beneficiaries possess private information regarding their health status, they can engage in self-selection on plan choice.
- Firms can strategically design their plans to attract healthier individuals through this self-selection.

Research Question

- How do interactions between plan design and self-selection influence the effectiveness of risk adjustment?
- What are the welfare implications arising from these interactions?

This Paper

- Approach
- Results

Contributions

- **Theoretical**: Develop a model of managed competition with endogenous plan design and self-selection with private information.
- **Empirical**: Estimate the model using data from Medicare Advantage.
- **Policy**: Evaluate the welfare implications of self-selection effect in health insurance markets.

Introduction

Data

Model

Results

Appendix

Appendix: Risk Adjustment Generation

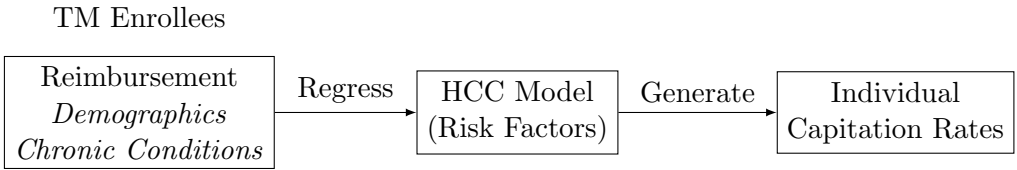

Figure: Capitation Rate Generation Process

Appendix: Risk Adjustment Outcomes

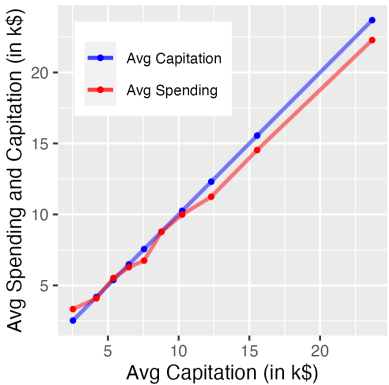

Figure: Conditional on Capitation Deciles

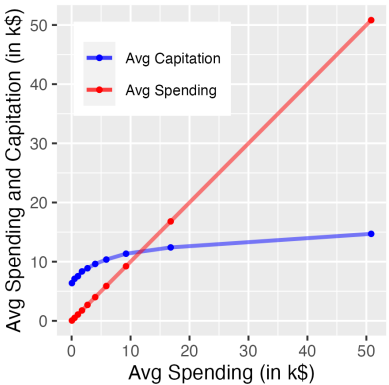

Figure: Conditional on Spending Deciles

Appendix: Benefit Structure