Focus on the Actuarially Fair Premium

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Why Make Actuarially Fair Premium the Focus?

- Key to Key Policy Issues (& Business Issues)
  - Risk Pool Impact via AFP:
    - High Risk Pools, Obamacare premium drivers, Ted Cruz proposal…
  - Cost of care drivers:
    - Affordability to not-rich, Reasons for cost growth…
- Not high entry barriers
  - Works for professional masters students, clinicians, non-economics undergrads

Conceptual Structure of Content Taught

- Actuarially Fair Premium = Expected costs of care for specific pool of insured
  - Value of Insurance: Fixed risk, care

- Selection: Focus on risk pool composition
  - Keep expected care constant (for given risk)
- Moral Hazard/Cost-containment: Focus on care drivers
  - Keep risk pool constant (uniform)

Brief Exercise Actuarially Fair Premium (AFP):

Suppose that the population of some place is 95% low risk and 5% high risk. Low-risk people have expected medical expenditures of $500 and high-risk people have expected medical expenditures of $30,000.

- What is the AFP for an insurance plan with only low-risk people?

- What is the AFP for an insurance plan with only high-risk people?

95% low-risk: expected medical expenditures of $500
5% high-risk: expected medical expenditures of $30,000

- What is AFP for an insurance plan covering the entire population?

- What is AFP for an insurance plan covering a representative sample of the entire population?

- What is AFP for a plan with disproportionately greater share of high-risk people, specifically 50% high risk?

Risk Adjustment: With the same population and ignoring administrative costs (loading)…

- What do plans have to receive (in *total* from agency plus policy buyer…) in order for the plans to be willing to provide a sell a policy for a high-risk person?

- What do plans have to receive in order for them to be willing to sell to low-risk people but not try cherry-pick the low-risk people?

Imagine you want to implement a risk adjustment scheme with these characteristics:

- o Everyone pays the same premium out-of-pocket, regardless of risk
- o Plans have no incentives to lemon-dump or cherry-pick
- o Scheme is budget-neutral, w/ no outside subsidies
- How would you implement this scheme?
- What would you charge people for plans?
- What would you pay plans for the different risk categories?
- What rules would you need?

Suppose AIDS patients are 5% of Xanadu's population and have expected medical care costs of $100,000/year. The remaining 95% of the population has expected medical care costs of $1000/year. *Per capita* income in Xanadu is $50,000/year.

(a) Lemon dumping, administrative costs…
(b) Purchasing alliances (high risk pools…)
(c) Mandatory Pooling of all risks
(d) Risk-adjustment

In-class Exercises: AFP & Different Treatment Choices

Model like class with assumptions: Initially (*ex ante*) everyone has the same risks. There are only three periods: uncertainty, plan purchase decisions and consumption of non-health stuff; uncertainty resolved; enjoying resulting health.

Health State	Probability	Health Care Costs to Treat
Kidney disease	1%	$250,000
Heart attack	4%	$100,000
Good health	95%	$1000

Exercise Moral Hazard/Cost Growth & Containment

Assume there are 2 possible treatment choices for those who get kidney disease:

Treatment for kidney disease	Cost (Opposite of reality)	Quality of Life (1-10 scale)
Dialysis	$50,000	2
Transplant	$250,000	9

In expectation (*ex ante*), from perspective of not knowing whether or not will get kidney disease, consider policy that covers transplant or dialysis vs. covering only dialysis.

- What is incremental expected cost (incremental increase in AFP) of insurance policy that covers transplant relative to policy that covers only dialysis?
- What is real-world opportunity cost?
- What are the incremental expected benefits of an insurance policy that covers transplant relative to policy that covers only dialysis? Give in *both* in everyday words & QoL #s.
- What would you personally choose?

Summary

- Drivers of AFP, across groups & over time, are biggest issues in health economics (policy & business)
- Understanding these issues requires being analytical & quantitative
  - But does not require standard economics tools
- Simple toy models w/ different simplifying assumptions can teach most important concepts & tools to wide variety of students