ASYMMETRIC INFORMATION AND AGENCY

EE 474 Health Economics

Semester 1/2013

Topics

- Overview of Information Issues
- Asymmetric Information
  - The Lemons Principle
- Application of the Lemons Principle: Health Insurance
  - Inefficiencies of Adverse Selection
  - Experience Rating and Adverse Selection
- The Agency Relationship
- Consumer Information, Prices, and Quality

Overview of Information Issues

- Asymmetric information
  - Situation where buyers and sellers have different levels of information
- Agency problem
  - Situation where, due to lack of information, buyers or sellers rely on other parties to help make decisions
- Adverse selection
  - A phenomenon in which insurance attracts patients who are likely to use services at a higher than average rate
  - Is a result of asymmetric information between potential beneficiaries and health insurer.

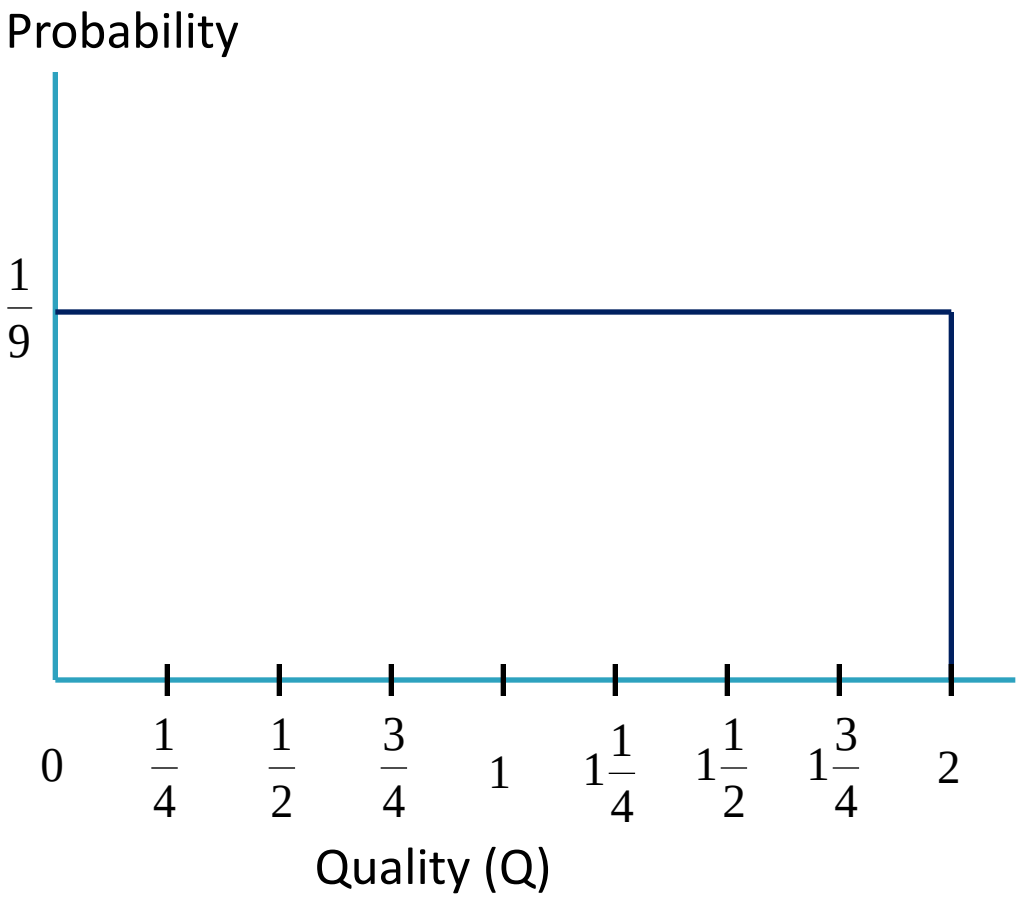
Asymmetric Information in the Health Sector

- Both imperfect information and asymmetric information exist in the health sector.
  - Physicians and patients
  - Insurance beneficiaries and insurers
- How much does the information problem matter?
- There exist some mechanisms to deal with information gaps:
  - Licensure
  - Certification
  - Accreditation
  - Threat of malpractice suits
  - Ethical constraints
  - Etc.

Asymmetric Information in the Used-Car Market – The Lemons Principle

- George Akerlof (1970) introduced the idea of asymmetric information through an analysis of the used-car market.
- Used cars available for sale vary in quality.
- Car owners know the true quality of their cars, but buyers know only the average quality of the used cars in the market.
- Due to information asymmetry, the used-car market may perform poorly or even disappear entirely.
- Example:
  - Suppose there are 9 cars in the market with different quality levels (Q)
  - Reserve value to seller = $5,000 x Q
  - Value to buyers = $7,500 x Q
  - An auctioneer calls a price until the market clears.

The Availability of Products of Different Quality (Uniform Probability of Picking Each Car)



1st Attempt: Auctioneer calls $10,000

- All owners want to sell.
- Average quality is ____.

→Buyer is willing to pay _____.

2nd attempt: Auctioneer calls $7,500

- Owners with Q=1¾ and 2 will not sell.
- Average quality is _____.

→Buyer is willing to pay _____.

The Lemons Principle

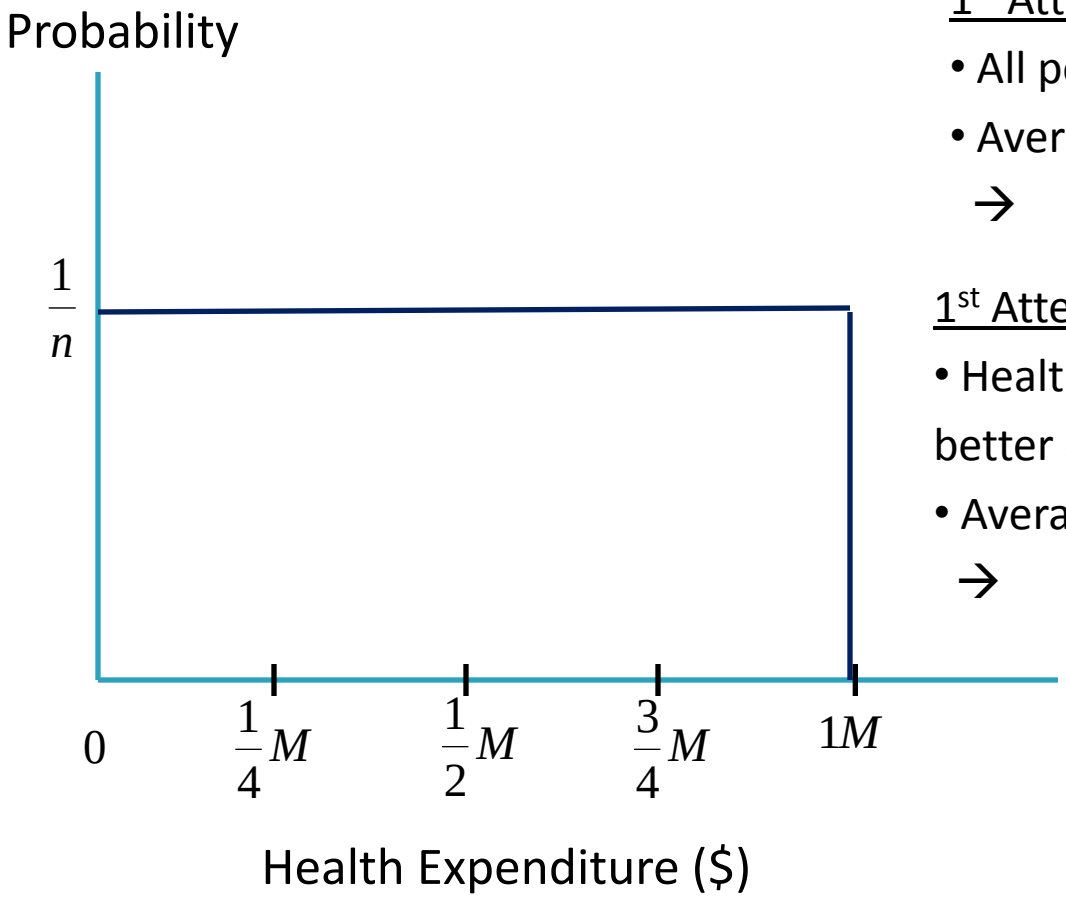
- When potential buyers know only the *average quality* of used cars, then market prices will tend to be lower than the true value of the top-quality cars.
  - Owners of the top-quality cars will tend to withhold their cars from sale.
  - The Lemons Principle:

    "The bad drives out the good until no market is left."
- What if both buyers and sellers know only the average quality of cars (i.e. imperfect information but symmetric information)?
  - The market exists and clears.

Applications of the Lemons Principle: Health Insurance

- Information asymmetry is likely to occur because the potential insured know more about their expected health expenditures than does the insurance company.
- Thus, the higher health risks tend to drive out the lower health risk people, and a functioning market may even fail to appear at all for some otherwise-insurable health care risks.
- Example:
  - Suppose there are *n* potentially insured people with expected health expenditures varying from $0 to $M.
  - Assume uniform distribution of expected health expenditure.

Uniform Probability of Expenditure (Expected Health Expenditure Levels)



1st Attempt: Auctioneer calls $0

- All potential insured will buy insurance.
- Average expenditure is ___.

→

1st Attempt: Auctioneer calls $½

- Healthier insured (expense < $½M) is better off to self-insure.
- Average expenditure is _____.

→

Inefficiencies of Adverse Selection

- If the lower risks are grouped with higher risks and all pay the same premium, then:
  - The lower risks:
    - Face an unfavorable rate and tend to underinsure
    - Have welfare loss by not being able to purchase insurance at rates appropriate to their risk.

      ➔ Inefficient
  - The higher risks:
    - Face a favorable premium and tend to over-insure
    - Insure against risks that they would not otherwise insure against.

      ➔ Inefficient.

Experience Rating & Adverse Selection

- Group insurance can be a more useful mechanism to reduce adverse selection.
  - Examples: Employer-based insurance, social insurance
- Group plans enable insurers to implement experience rating.
  - Experience rating is a practice where premiums are based on the past experience of the group to project health expenditures.
  - Experience rating could lead to "cream skimming" or "cherry picking" problem.
    - An alternative is to use *community rating* – a practice in which an insurer charges all groups within an area the same premium.

Agency Relationship

- An agency relationship is formed whenever a *principal* delegates decision making authority to another party, the *agent*.
  - Example - Physician-patient relationship:
    - Patient →
    - Physician →
- The perfect agent physician is one who chooses as the patients themselves would choose if the patients had all the information that the physician does.
- The principal's problem is to determine whether the agent acts in the principal's interests.
  - Problems with conflict of interests
  - Mechanism to lessen the problem: licensure, ethical codes, malpractice

Consumer Information, Prices, and Quality

1. Consumer Information and Prices

- Question: Does increasing physician availability increase competition and lower prices?
- Satterthwaite (1979) and Pauly and Satterthwaite (1981)
  - Identify primary medical care as a *reputation good*
  - Physicians are not identical and do not offer identical services. Due to product differentiation, the market can be characterized as monopolistically competitive.
  - An increase in the number of providers can increase prices because reduced information tends to give each firm some additional monopoly power.

Consumer Information, Prices, and Quality

2. Consumer Information and Quality

- Question: How does imperfect information affect quality?

➢ The physician–patient relationship enables patients to monitor providers and encourages physicians to make appropriate referrals (Dranove & White).

➢ Evidence shows that patients rely on informed sources (other health providers) for information and that higher quality is rewarded by higher fees (Haas-Wilson).

➢ Patients also respond to quality indicators (such as report cards).