

ECONOMICS FOR HEALTH POLICY

HEALTH INSURANCE

SOME BASIC CONCEPTS IN HEALTH INSURANCE

THE PRINCIPLE OF INSURANCE IN ALL ITS SIMPLICITY...

The principle of insurance is familiar: Suppose that, out of a village of 1,000 people, one whose identity is now unknown will need to pay \$5,000 for medical care next year. The 1,000 villagers can each put \$5 into a pot, and the resulting \$5,000 will be available to bail out the unlucky person next year.

Most people do not like to face the possibility of financial losses, especially large financial losses (they are risk averse), and would view this as a good deal. That is how markets for insurance of all kinds have arisen: auto, homeowners', renters', extended warranties, etc.

ACTUARIAL FAIRNESS AND LOADING FEES

Actuaries are (highly-trained and well-paid) professionals who calculate the probability that individuals or businesses will face different types of losses: e.g., the probability that a generally healthy male between 45 and 49 who is not a smoker will die during a 12-month period.

An **actuarially fair premium** is a premium that just covers the expected loss. Thus, if I have a life insurance policy for \$100,000, and my probability of dying over one year is 0.001, then an actuarially fair life insurance premium would be:
 $0.001 \times \$100,000 = \100 .

In the real world, the premium for such a policy might instead be \$120. The extra \$20 is called the **loading fee**, and is of course intended to cover the insurer's administrative expenses and (if insurer is for-profit) profit.

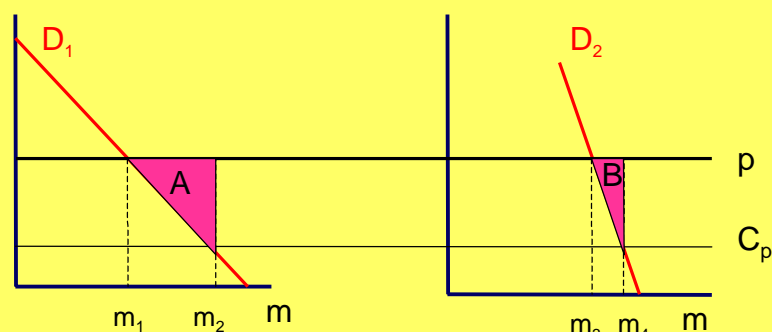
A SLIGHT (!) COMPLICATING FACTOR: MORAL HAZARD

Originally, moral hazard referred to the risk that an individual who had purchased an insurance such as fire insurance would deliberately increase the likelihood that his property would be destroyed - hence the name. It is very difficult now to insure old barns.

The term moral hazard is used in health insurance in a slightly different, but related, sense: Moral hazard is "a predictable response of the rational consumer to the reduction of a price", where the reduction in price is the result of insurance (Phelps, *Health Economics*, 1992)

Economists make a business of thinking about how rational consumers and firms will respond to changes in their incentives, and the concept of moral hazard is one of great interest to them.

THE WELFARE LOSS THAT MORAL HAZARD PRODUCES



At equilibrium price p , under D_1 , consumers choose to purchase m_1 units of medical care; and m_3 under D_2 . With insurance, the price consumers face is C_p and quantity demanded goes up to m_2 and m_4 respectively. Areas A and B represent welfare loss - the extra medical care is worth less to consumers than its cost. Welfare loss is lower with a less elastic demand curve.

ECONOMIES OF SCALE IN THE HEALTH INSURANCE MARKET

Health insurance is subject to considerable economies of scale (i.e., the AC curve declines with the number of enrollees virtually indefinitely). There are two major reasons for this:

- selling separate insurance policies to many individuals or small groups, and then maintaining many accounts, is more costly than selling a single policy to a large group and then maintaining it
- the smaller the group, the more important it is for the insurer to assess the risk of the group (or individual), by taking histories, etc. The reason for this is called **adverse selection**, or sometimes self-selection.

ADVERSE SELECTION

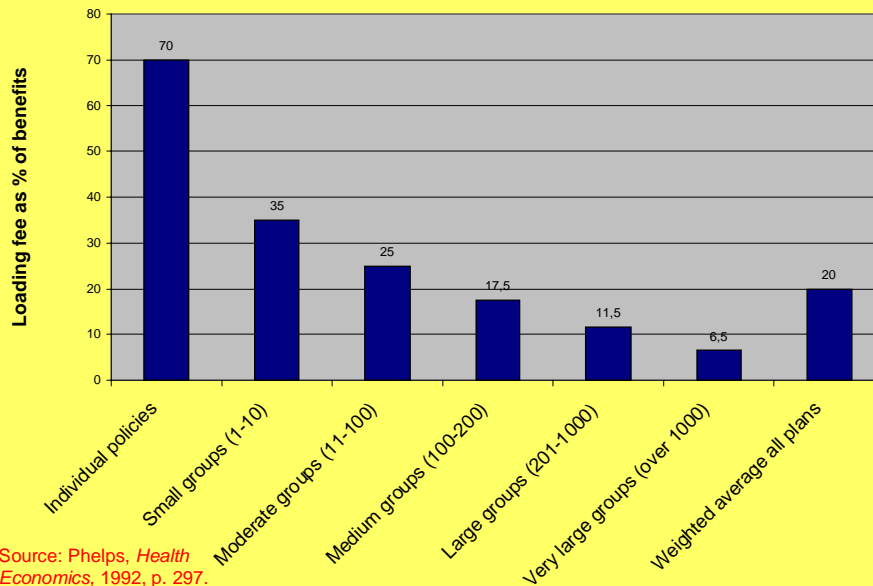
The term “adverse selection” refers to the tendency for individuals who know themselves to be at relatively high risk to purchase insurance.

The reverse, “propitious selection”, can also be observed, for a variety of reasons. But in the market for health insurance, adverse selection is thought to be more important.

To the extent that adverse selection occurs, it represents an obvious problem for health insurers. Enrolling many individuals at premiums that are too low for their risk threatens the financial viability of insurers.

To protect against this, insurers can: (a) obtain detailed information on applicants’ health status beforehand; and (b) engage in **risk selection**, also called “cherry-picking”, or “cream-skimming”.

LOADING FEES BY GROUP SIZE



RISK SELECTION

In a competitive market for health insurance, insurers have every incentive to try to attract young and healthy enrollees, and discourage less healthy ones.

In the United States, stories abound about the various methods, sometimes very clever, that insurers resort to in order to accomplish this.

Such activities add to the cost of selling insurance policies, and contribute to the economies of scale in health insurance.

In order to minimize such wasteful activity, economists have expended considerable effort in the development of sophisticated **risk-adjustment methods**.

RISK ADJUSTMENT

The idea behind risk adjustment is this: if we can determine ahead of time fairly accurately the risk level of each individual, based on such factors as age, sex and any diagnoses, we can then more accurately adjust the premium that an individual or group must pay in accordance with their risk level. Opportunities for gain from risk selection are then reduced.

The difficulty is that any formula used, once known to insurers, can be “gamed”. For example, if there is an extra payment of \$1,256 for 50-year-old female diabetics, a particular insurer may find it to his or her advantage to attract or repel such individuals. Those who regulate the market must then stay ahead of insurers and constantly revise the risk-adjustment formulas.

COMMUNITY RATING

Normally, different insurers would sell similar policies (i.e., policies that offer the same degree of protection against the same risks) at different prices to different groups of customers, according to those individuals' risk levels.

This can result in some individuals being “priced out of the market”: they cannot afford to buy *any* policy.

In order to prevent this from occurring, community rating may be introduced: a given policy must be sold at the same price to all purchasers. In principle, if this is combined with risk adjustment (to compensate insurers who end up with a disproportionate number of high-risk individuals), and the requirement that insurers sell policies to all who wish to purchase one, the problems of adverse selection can be addressed.

MORE ON THE ADMINISTRATIVE BURDEN THAT MULTIPLE INSURERS IMPOSE

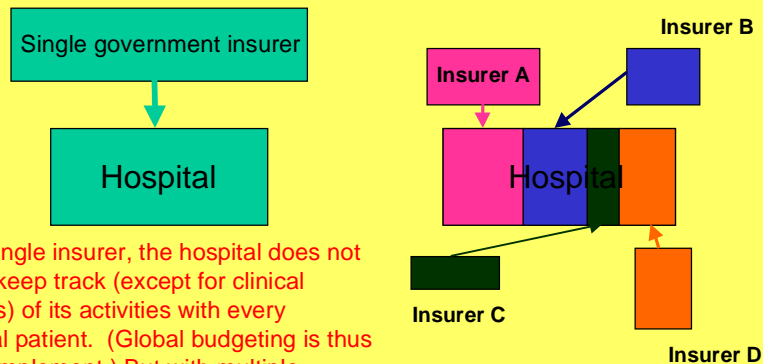
OTHER REASONS WHY MULTIPLE INSURERS ARE EXPENSIVE

We saw earlier that health insurers enjoy economies of scale, because of reduced selling costs with larger groups, and because of the reduced need to engage in risk selection (through obtaining information on applicants or other creative tactics), to counter and if possible reverse the effects of adverse selection.

In addition, the presence of multiple insurers imposes a cost on providers: they must make claims for payments from their patients' various insurers in an individualized way.

In the U.S., in the mid-90s if not today, physicians could contract out their billings and collection activities to private firms for no less than 10% of their gross billings!

WHY MULTIPLE INSURERS INCREASE ADMINISTRATIVE BURDEN ON HOSPITALS (OR PHYSICIANS)



With a single insurer, the hospital does not need to keep track (except for clinical purposes) of its activities with every individual patient. (Global budgeting is thus easy to implement.) But with multiple insurers, the hospital's costs must be apportioned among insurers, which requires much more detailed tracking of activities.

WHY THEN ADVOCATE FOR NOT HAVING JUST A GOVERNMENT INSURER?

The only, or at least the main, *economic* argument for advocating having multiple insurers is increasing consumer choice.

With a single government-sponsored insurance plan, individuals are forced to pay a certain amount for just one available policy (at least that is the typical scenario). But one can imagine that some individuals would want to pay more for more extensive coverage, or less for only catastrophic coverage, and so on.

PARALLEL PRIVATE INSURANCE: THE CASE OF AUSTRALIA



Note

The following is an adaptation of:

J. Hurley et al., Parallel Private Health Insurance in Australia: A Cautionary Tale and Lessons for Canada, McMaster University Centre for Health Economics and Policy Analysis Research Working Paper 01-12, December 2001.

WHY THE AUSTRALIAN HEALTH CARE SYSTEM IS OF INTEREST TO CANADIANS

Like Canada, Australia is a federation in which responsibility for health care is divided between federal and state governments.

Somewhat like the Canadian system, Australian Medicare (introduced in 1984) combines universal public financing for medically necessary hospital and physician services, as well as drugs, with mostly private delivery.

But, Australia allows a parallel private system for inpatient hospital care, in addition to private insurance for services not publicly insured, such as dental care, physiotherapy, and better accommodations in public hospitals.

OTHER BENEFITS OF PRIVATE COVERAGE IN AUSTRALIA

Publicly-insured patients have no choice of physician when admitted to a public hospital; the privately-insured do.

Furthermore, they gain quicker access to treatments where there is a queue.

The privately-insured also have access to private hospitals (about 2/3 of acute care hospitals are public).

HEALTH CARE FINANCING UNTIL THE MID-90s

Until 1974, Australians had access to subsidized private insurance, in which premiums were community-rated. In 1974, 80% of Australians had private hospital insurance.

1974: Medibank is introduced - universal public insurance plan. Within a year, universality was ended by a new coalition government.

1984: Introduction of the current public system, Medicare.

1986: Elimination of subsidy to private hospital care

Late 80s to mid-90s: Sharp increases in premiums (nearly 10% per year from 89 to 96) => fewer privately insured (fewer than 1/3 by mid-90s)

EVIDENCE OF ADVERSE SELECTION, 1989 - 1995

Age and no. of chronic conditions increased likelihood of singles and families purchasing private insurance

But, higher-income individuals, individuals practicing healthy habits, and individuals with good or better self-reported health, more likely to purchase private insurance also (propitious selection).

Also, insurers countered community rating by constructing different policies aimed at groups with generally different risk levels. This mitigated the effects of adverse selection.

Net effect: moderate adverse selection.

STRATEGIC (NON-PRICE) RESPONSES BY INSURERS

By offering plans that covered joint replacements and other services of interest to the elderly, and targeting less expensive plans that did not offer such services to the young, Australian insurers could mitigate the results of community rating. One insurer's advertisement:

"If you're healthy, young and single then Bodyguard Young Singles cover is an excellent hospital and extras package. You save on your premiums because Bodyguard provides hospitals benefits that young singles normally require. By reducing the level of cover on those services you are unlikely to need in a private hospital we keep your premiums lower."

In New Zealand, where there is no community rating, about half as many different policies are offered as by the largest Australian insurer.

THE PHIIA - 1998 ACT

1996: Election of conservative Liberal government, committed to a robust parallel private insurance system on the grounds that it should reduce costs and waiting times in the public system.

1998: Private Health Insurance Incentive Act of 1998 (PHIIA - 1998). Includes these incentives for uptake:

- **Insurance subsidy** (30% for everybody)
- **Tax penalty** (1% on high income earners who do not buy it)
- **Lifetime community rating** (Premium only inflation-adjusted for ever after insurance is purchased)
- **No gaps policy** (full indemnity coverage - eliminate large and unclear cost-sharing requirements)

+ \$2 billion annual subsidy to private health insurance industry!

CONDITIONS FOR SUBSIDIES TO REDUCE PUBLIC SECTOR COSTS

For private insurance to reduce costs to the publicly-financed sector, three logically-related conditions must hold:

1. Subsidies increase uptake of private insurance
2. This uptake reduces costs in the publicly financed sector
3. The savings from 2. are greater than the cost of the subsidies from 1.

DID SUBSIDIES INCREASE UPTAKE INTO PRIVATE INSURANCE?

December 1998: Coverage reaches its lowest level (30.1%)

Jan 1 99: 30% subsidy comes into effect. One year later, coverage only up to 31% - virtually no effect.

Jan 1 00: lifetime community rating policy comes into effect. Increase to 43% by September 2000. Thereafter, some decline.

DID THIS LIMITED UPTAKE REDUCE PUBLIC HOSPITAL COSTS?

3 groups of people affected by the subsidy:

- Those previously with private insurance - no effect on public hospital costs
- Those who self-insured (8-10% of private hospital admissions); likely mostly high-income. The 1% penalty tax induced some to obtain private insurance. But, this should have little effect on public sector costs.
- Those who previously relied on public hospital services. The most effective provision was the lifetime community rating, which is more attractive to the young. The increase was concentrated among the under-65 group, whose health costs are relatively low.

Net effect: probably little reduction in public sector costs.

COST OF SUBSIDIES VS. COST SAVINGS TO PUBLIC HOSPITALS

Cost of rebates in 1999-00: \$2.3 billion

Revenues from 1% surcharge in 1999-00: \$110 million

Forecast for 2003-04: Net expenditures of more than \$2.3 billion

Annual public hospital expenditures potentially saved: \$800 million

Net cost to the public purse: about \$1.5 billion annually

EFFECT ON WAIT TIMES IN PUBLIC SECTOR

Only useable national data series for this purpose:

Proportion of patients whose wait time before admission for an elective procedure exceeded recommended length given urgency of their condition did not change between 1995-96 and 1998-99.

Data from New South Wales show no effect on wait times either.

INCOME REDISTRIBUTION EFFECTS

Higher-income earners are more likely to purchase private insurance, as confirmed by several studies.

Thus, the subsidy results in a redistribution from middle- and low-income Australians to high-income Australians, relative to the pre-subsidy situation.

LESSONS FOR CANADA

LIMITED POTENTIAL FOR COST SAVINGS FROM INTRODUCTION OF PARALLEL PRIVATE SYSTEM

Not only in Australia, but also in the UK and in the US, subsidies to private insurance have proven a costly means of expanding private coverage, in part because the subsidies benefit in part individuals who already have private insurance.

Even unsubsidized parallel insurance tends to increase, rather than decrease, public sector costs:

- as long as quality remains high in the public sector, private insurers target niche markets (simple elective procedures) and have little impact on services in the public sector
- a parallel system will increase competition for doctors and nurses, increasing their wages in the private sector, or in the public sector reducing their availability at the same wage as before: public system must provide fewer services or increase funding.
- Private sector services are often complements to public sector services, and thus may also increase public sector costs.

LIMITED POTENTIAL FOR REDUCING WAIT TIMES

All the evidence suggests that a parallel system is likely to increase rather than reduce wait times in the public sector, at least until additional medical personnel can be trained, as private sector services crowd out public ones.

DIFFICULT TO REGULATE PRIVATE INSURERS TO SERVE PUBLIC OBJECTIVES

The Australian experience with community rating, and what is known about the limitations of risk adjustment formulas, illustrate how difficult it can be to regulate private insurers effectively in order to obtain an efficient system of insurance provision - the fundamental difficulty is informational asymmetry between insurers and the government.

A NOTE ON THE POLITICS OF THE HEALTH INSURANCE DEBATE IN CANADA

Several studies have documented the fact that insurance arrangements in Canada result in a considerable redistribution of wealth from high-income earners (who tend to be healthier, but pay more taxes) to low-income earners.

Dr. Robert Evans, a prominent health economist at UBC, believes that much of the current pressure to reform the health care system comes from wealthy individuals (some of whom own media outlets) who do not like having to subsidize so heavily the care of the poor.

By undermining confidence in our health care system, they increase public support for the introduction of a parallel private system.

CONCLUSIONS

Two bases for arguments in favour of parallel private insurance:

- rights-based: every individual has the right to purchase the insurance he or she desires and can afford - whatever the consequences for the public sector.
- consumer choice (see above). Trade-off between losses from restricting consumer choice, vs. losses from having competing private insurers. The losses from restricting consumer choices must be given great weight, which is consistent with a rights-based argument.