



MEDICARE AND USER FEES: UNSAFE AT ANY PRICE?



CARL IRVINE AND DAVID GRATZER

AIMS Health Care Reform
Background Paper #9

December 2002

Atlantic Institute for Market Studies

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EXECUTIVE SUMMARY

User fees are prohibited by the Canada Health Act and roundly dismissed by Canadian health economists and policy analysts. So widespread is this belief that a provincial deputy minister of health recently expressed surprise that anyone would consider user fees as part of a serious effort to reform health care.

Despite the nearly universal rejection of user fees by Canadian experts, the idea of patient cost sharing is alive and well in other countries. Canada is the exception rather than the rule; it is one of only a handful of developed countries without cost sharing in its publicly funded health care system. There is nothing particularly revolutionary or innovative about user fees; they are employed by governments across the political spectrum, from the welfare states of Scandinavia to authoritarian regimes in South-East Asia.

This paper seeks to provide a second opinion about the practicality and implications of introducing some form of cost sharing to the Canadian health care system.

From Dublin to Stockholm to Zurich, we find that countries with public health care systems (often not all that different from our own) use some type of patient cost sharing. We also extensively review the literature. Numerous studies, including one of the largest social science experiments in history, suggest that user fees do change patient behaviour. These studies also suggest that, if properly employed, user fees have no impact on health outcomes. User fees, thus, are safe and effective.

We are not suggesting that user fees are a panacea for Canadian health care. The problems facing medicare are numerous and complex. That being said, governments have been increasingly willing to experiment with new initiatives over the past decade. The time has come for user fees.

SECTION 1

INTRODUCTION

After John N. broke his leg during a baseball game, he was amazed to find during his visit to the emergency room that he received not only a cast but also a bill. As a Canadian, John wasn't required to pay for the physician's time, the X-ray, or the plaster. He was, however, expected to pay for the rental of crutches.

John N., of course, isn't the only one to find that many medical services require some type of payment or cost sharing. Depending on the province or territory they live in, Canadians may pay some or all of the expenses related to ambulance rides, long term care, doctors' notes, home care, and physiotherapy. Few people are alarmed by this kind of cost sharing.

User fees for so-called insured or medically necessary services, however, are prohibited by the Canada Health Act. User fees are dismissed by Canadian health economists and policy analysts who claim such fees are ineffective at reducing costs and possibly dangerous to the health of Canadians. They have dubbed the idea a "zombie," suggesting that the concept is impractical and unsavory but refuses to die. So widespread is this belief that a provincial deputy minister of health recently expressed surprise that anyone would consider user fees as part of a serious effort to reform health care.

Despite the nearly universal rejection of user fees by Canadian experts, the idea of patient cost sharing is alive and well in other countries. Canada is the exception rather than the rule; it is one of only a handful of developed countries without cost sharing in its publicly funded health care system. There is nothing particularly revolutionary or innovative about user fees; they are employed by governments across the political spectrum, from the welfare states of Scandinavia to authoritarian regimes in South-East Asia. Perhaps it is for this reason that the Canadian Medical Association (CMA) flirted with this idea in its presentation to the Commission on the Future of Health Care in Canada, chaired by former Saskatchewan premier Roy Romanow, in the summer of 2002.

This paper seeks to provide a second opinion on the practicality and implications of introducing some form of cost sharing to the Canadian health care system. It looks at the theoretical foundations for user fees, their many critics, and the use of user fees by other countries. Most importantly, it examines the substantial literature on user fees and discusses the implications of these findings. Finally, this paper considers whether user fees would be useful for health reform here in Canada and how such a system might be designed, taking into account not only effectiveness and feasibility but also equity.



SECTION 2

WHY USER FEES?

THE THEORY AND ITS CRITICS

Much of health reform over the past few decades has focused on a handful of reform ideas: regional health boards, adjustments to physician compensation and hospital bed closures to name a few. These reforms have been largely about managing the supply of health care by attempting to introduce some efficiency to the provision and organization of health services. While every provincial and territorial government has worked feverishly to control and regulate the supply of health care, no attempt has been made to temper the other side of the equation: patient demand.

Proponents of user fees suggest that a basic tool in the effort to promote health reform has not been used. We are so fixated on managing the supply of health care that we haven't considered the effects of patient participation. As Steven E. Landsburg notes in *The Armchair Economist: Economics and Everyday Life*, "Most of economics can be summarized in four words: 'People respond to incentives.' The rest is commentary" (Landsburg 1993, 3). Why not provide an incentive for patients to use health services more frugally and appropriately?

In most other areas, we expect people to respond to fiscal incentives. Every time a person reaches for his or her wallet, there is a moment of hesitation. It's why Canadians clip coupons for Sunkist oranges, buy shampoo at Wal-Mart, or look for flats of yogurt at Costco. Why should health care be different? Today, governments across the country are working to control the spiraling cost of health care in the name of long-term sustainability. Why leave out a potentially useful means of doing just this?

The basic economic argument for user fees is based upon a fairly straightforward demand model for health care. This model – best presented by Feldstein (1973) – holds that, in the presence of full health insurance (i.e., free health care), patients will consume not only more health care than they would otherwise but also more health care than they need. (A more detailed economic explanation of the case for user fees follows in Appendix A.)

User fees seek to reduce excess demand by bringing patients back into the decision-making process and involving them in the financial consequences of their health care decisions. Emergency rooms (ERs) are routinely overcrowded. Why not charge people for ER visits? The waiting lists for specialist consults are long. Why not charge patients for access to specialists?

Proponents of user fees suggest several advantages to demand-side reform:

1. User fees temper excessive demand for services.
2. Patients faced with user fees will use health services more appropriately.
3. User fees generate revenue.
4. People will better appreciate the cost of health care.

Though the argument is relatively simple, critics charge that user fees will not achieve their intended goals. Indeed, Canadian health economists and policy analysts declare user fees to be unsafe at any price. They offer several critiques:

Health care isn't about supply and demand (the inelastic demand curve critique)

The most basic attack on patient cost sharing is that patients have limited choice when ill. Critics suggest that attempting to apply supply and demand economics to health care betrays a fundamental misunderstanding of the field. “Who would choose to get ulcerative colitis or lupus? Who would choose a barium enema?” they ask. It makes sense to keep health care free, because people will consume only as much of it as they need. Such thinking is certainly not confined to non-economists or even to Canadians. In 1971, for example, a scholar testified before a US Senate committee that demand in health care wouldn't rise if costs were eliminated (Newhouse et al 1993: vii).

Patients aren't proper consumers because they're ignorant (the uninformed consumer critique)

Critics of user fees, such as Evans (1984), make a further point: maybe it's possible that price does influence demand in health care but such influence isn't necessarily beneficial. Take the overzealous father whose daughter develops a high fever. In a free system, he won't hesitate to rush his child to the emergency room at three a.m. If his daughter only has the flu, the trip has been wasteful. The father probably should just have called the pediatrician in the morning. But what if his daughter has meningitis? Then the trip was well justified because a few hours can make the difference between life and death. From society's point of view, it's better to have 10 overzealous fathers rushing their mildly sick daughters into emergency rooms than to lose one child because a parent is deterred by price. Society plays it safe with a free health care system; people may overuse some basic services but major illnesses (and major expenses) can be reduced.

In *Universal Health Care*, the Armstrongs draw on the work of several Canadian experts to argue both points. They conclude that:



Fees do not work to appropriately allocate care primarily because the “laws” of supply and demand do not work here. The theory of supply and demand rests on the assumption of readily available choices, alternatives, and information. For the most part, people don’t have a choice about when, if, where, [or] how to get sick or become disabled . . . (Armstrong and Armstrong 1998: 45).

The price of health care doesn’t matter since people will only use the health care they need, goes the argument. Who would want a second heart transplant just because it’s free?

The poor and the chronically sick will be hurt (the equity critique)

An additional point is often made by critics of user fees. Perhaps user fees really do affect health utilization but who is going to be most affected? Obviously, patients from lower socio-economic classes are more cost-conscious than others. A user fee – even a modest one – will result in poor individuals opting not to access the health care system. The long term effects could be paradoxical: rather than saving money, user fees will drive up costs since poorer patients will neglect conditions until the pathology progresses. Critics of user fees, thus, see the concept as flawed and potentially dangerous.

Some also question the practicality of user fees. Given the administration needed to set and collect fees, would any money really be saved? And, if user fees were put in place, would physicians simply shift their practice habits, thereby offsetting any potential savings, a criticism forwarded by Barer, Evans, and Stoddart (1994). Far from reforming health care, critics charge that user fees would be undesirable and impractical.

There are strong arguments both for and against patient cost sharing. Unfortunately, relatively little work in Canada has attempted to move beyond the rhetoric to consider some basic questions:

- Do any developed countries have user fees in their public health care systems?
- What type of user fees are used?
- How have these different countries attempted to address the potential inequity of user fees?
- What have studies shown about the effects of health utilization when patients are charged for services?
- What is the impact on people’s overall health?

This paper will attempt to address these questions.

SECTION 3

LOOKING ABROAD: INTERNATIONAL EXPERIENCE

For Canadians, paying for a computed tomography imaging scan (CT scan) or a check-up is largely unknown because, under medicare, such direct payments are prohibited by law. But in many countries, “free” health care doesn’t exist. From Sweden to Singapore, patients share costs. This section will present the various types of user fee arrangements used in other countries.

Co-insurance

Co-insurance, one of the most common forms of user fee, requires patients to pay some percentage of their total health expenses. Co-insurance rates often vary by the type of health service or procedure. It is also possible to have co-insurance rates vary according to income or health status.

Co-insurance is used by private insurance providers in the US and several European nations. Belgium, Austria, France, Luxembourg, the Netherlands, and Switzerland require co-insurance payments for general practitioner (GP) visits, specialist visits, and/or in-patient hospital services (Delnoij et al. 2000).

One problem with co-insurance schemes is that they may impose a substantial financial burden on individuals needing expensive medical treatment. To prevent this burden, most co-insurance schemes include some sort of stop-loss provision that caps the amount an individual must pay during a given time period.

Many countries also impose stop-loss provisions for co-insurance fees. Belgium, for instance, caps total co-insurance payments at between US\$380 and US\$1,267 while the Netherlands imposes a yearly maximum of US\$100 on specialist visits (Delnoij et al. 2000).

Moreover, many of these plans include a variety of exemptions based on age, income or health. Belgium, for instance has a reduced co-insurance rate of 10 per cent (instead of the 30 per cent charged to the general population) for widows, orphans, pensioners and the disabled. Similarly, France waives co-insurance payments for a long list of groups, including disabled children and pregnant mothers, as well as for people suffering from a specified list of expensive illnesses such as AIDS and diabetes. Austria waives co-insurance fees for inpatient hospital care for people with low incomes (Delnoij et al. 2000).



Co-payments

Co-payments require a flat fee for each medical procedure. As with co-insurance schemes, co-payments often include some sort of stop-loss provision. Similarly they can be tailored to the income or health status of the patient by varying fees for different types of health care services.

Co-payments are widely used by private insurance providers in both the US and Canada and are also commonly used in the public health care systems of Western European nations. Co-payments are used in Austria, Belgium, Finland, France, Germany, Greece, Iceland, Ireland, Italy, the Netherlands, Norway, Portugal, and Sweden (Delnoij et al., 2000) for family doctor and specialist visits, as well as hospital stays. Even within Canada, co-payments serve an important role within the public health care system in areas such as provincial drug plans and long term care.

In Sweden, the use of co-payments is particularly interesting because they have been a feature of the Swedish public health care system since the 1970s. Today, user fees range from US\$15 to US\$22 for GP visits, to US\$45 a day for in-hospital stays, with an annual cap of approximately US\$140. Co-payments represent a relatively small part of health funding, roughly two per cent. Co-payments nonetheless have an importance far beyond the modest revenue they generate. In the words of Johan Hjertqvist, an advisor to Stockholm's health authority:

Co-payment has become an integral part of the Swedish health-care system. It supports the funding from taxes, informs the patient about opportunity cost, and most likely reduces the marginal demand for services, at least in specific aspects (Hjertqvist 2002: 1-2).

Moreover, as Hjertqvist (2002) points out, “a number of public investigations and committees have not found any negative impact on public health from user fees” (4).

The absence of any negative health impact from co-payments may be because – as with co-insurance in other countries – co-payment schemes in Sweden include various provisions to exempt individuals based on characteristics such as age, income, health status, and so on. Sweden also excludes individuals from co-payments if they had high usage in the previous 12 months. Portugal excludes children, pregnant women, and mothers from user fees. Ireland goes farther, excluding over a third of its citizens based on a range of characteristics.

Some countries charge differential user fees to encourage or discourage certain forms of care. Austria, for instance, waives user fees for preventative care. Similarly, Greece imposes a co-payment on individuals who visit a hospital without a referral. Norway imposes higher user fees on patients who see a family doctor on evenings or weekends (Delnoij et al. 2000).

Many countries also limit co-payments by having some form of stop loss. As already mentioned, Sweden imposes a cap of US\$140 a year, and in some regions, even imposes monthly caps. Norway imposes a US\$134 maximum. The yearly maximum in Ireland is US\$55. Germany imposes a yearly maximum, as does Finland, and Iceland. Moreover, Austria waives user fees for patients with above average costs (Delnoij et al. 2000).

Deductibles

Deductibles require patients to pay their own medical expenses up to a certain limit. Deductible limits are usually defined for some time period, but they can also be defined by medical procedure or type of care. The deductible limit can be designed to vary according to the health status of individuals or to their income levels.

Deductibles are often used in the United States, particularly in so-called major medical, or catastrophic, insurance plans. These plans cover patients only for larger health expenditures.

Deductibles are also used in Switzerland, where patients must pay the first US\$112 of medical expenses out of pocket, followed by co-insurance up to the yearly maximum (Delnoij et al. 2000). The Swiss system, thus, is not first-dollar coverage, as Medicare is presently designed. Interestingly, the Swiss government views deductibles as sufficiently important that, although private insurance is legal, citizens may not insure themselves against the deductible.

Medical saving accounts

Medical savings accounts (MSAs) are a type of patient cost-sharing approach used by private insurers in the US and the Republic of South Africa, as well as by public health insurance plans in Singapore and parts of China. MSAs share some of the attributes of a deductible scheme: above a certain threshold, patients are covered by catastrophic insurance. For day-to-day expenses, however, people have a medical savings account on which to draw. MSA plans usually have some incentive for patients not to empty their accounts, such as allowing them to withdraw part of the unused money.

MSAs offer a variant of the user fee. With a co-insurance or co-payment scheme, people are faced with a disincentive to use the system because they have to pay out of pocket. On the other hand, MSAs provide incentives since people are financially rewarded for not using the system. Though experimentation with the concept is not as wide spread as with other forms of cost sharing, savings have been reported. See, for example, Goodman and Musgrave (1992), Massaro and Wong (1996), and Matisonn (2000).



One added benefit of the MSA is that instead of financing a health care system on a pay-as-you-go basis, MSAs introduce, even in a public system, a degree of pre-financing. Given the aging populations of numerous developed and developing countries, MSAs offer the potential to introduce sustainability.

As with other forms of cost sharing, MSAs can be designed not to have negative effects on vulnerable groups. Singapore provides full insurance for individuals diagnosed with certain chronic illnesses as well as grants and other forms of assistance to help cover the health care costs of the poor (Massaro and Wong, 1996).

Incidental fees and other forms of cost sharing

For services not covered by insurance, health care providers may charge patients incidental fees. In Canada, patients face such fees for the completion of insurance forms by their physicians as well as tray fees for some types of surgical services.

There are several other forms of cost sharing used in Canada. In Alberta and British Columbia, the provincial governments levy a health insurance premium. In Alberta, these premiums are \$44 a month for individuals and \$88 for families, with reduced rates for low-income families and seniors. Similarly, the BC government charges premiums of \$54 a month for individuals, \$96 a month for couples, and \$108 for families. As in Alberta, premiums for lower-income citizens are subsidized.

The final form of cost sharing used in Canada is simply not insuring certain medical procedures. To some extent, the impact of this can be offset through private health insurance. Table 1 below compares the use of user fees in 27 countries.

Table 1: User fees in selected countries

Country	User Fees		
	GP	Specialist	Hospital
Australia	Yes	Yes	No
Austria	Yes	Yes	Yes
Belgium	Yes	Yes	Yes
Canada	No	No	No
Czech Republic	No	No	No
Denmark	No	No	No
Finland	Yes	Yes	Yes
France	Yes	Yes	Yes
Germany	No	No	Yes
Hungary	Yes	Yes	Yes
Iceland	Yes	Yes	No
Ireland	Yes	Yes	Yes*
Israel	Yes	Yes	Yes
Italy	Yes	Yes	Yes*
Japan	Yes	Yes	Yes
Luxembourg	Yes	Yes	Yes
Netherlands	No	Yes	Yes
New Zealand	Yes	No	No
Norway	Yes	Yes	Yes*
Poland	Yes	Yes	Yes
Portugal	Yes	Yes	Yes
Slovakia	No	No	No
Spain	No	No	No
South Africa	Yes	No	No
Sweden	Yes	Yes	Yes
Switzerland	Yes	Yes	Yes
United Kingdom	No	No	No

* Outpatient only

Sources: Esmail and Walker (2002), Gratzer, Hjertqvist and Irvine (2002).



SECTION 4

USER FEES IN THE LITERATURE

Do user fees affect patient demand? What impact do they have on people's health? These two questions are at the heart of the issue of user fees. In this section, we review the literature on user fees and health care.

User fees and demand

As noted earlier in this paper, the basic argument for user fees is that they temper patient demand. If patients don't respond to price (as some critics charge), then any further discussion is, at best, moot.

In the 1960s and 1970s, several economists attempted to determine whether user fees really affect consumption. These studies focused on hospital stays (Feldstein 1973), physician and hospital expenses (Rosett-Huang 1973), and other aspects of health care such as office visits and hospital admissions (Phelps and Newhouse 1974, 1976). Unfortunately, most analyses used non-experimental data: The economists drew their data from historical sources, thereby affecting the validity of the results. Not surprisingly, the results of the studies differed. "Perhaps the only agreement in the literature by the mid-1970s," notes Phelps, "was that price mattered" (Ramsay 1998: 22). And there was a larger problem with these studies. The attempt to look at user fees on consumption, the price elasticity of demand as economists call it, in no way determined the wellness of those involved.

The California-based RAND think tank set out to resolve these issues. It designed an experiment that would measure both the effects of price on consumption and the health outcomes of those involved.

The RAND Health Insurance Experiment (HIE) proved to be one of the largest and longest running social science research projects ever completed. Headed by professor Joseph P. Newhouse, it involved approximately 2,000 non-elderly families with some 5,800 individuals, and ran from 1974 to 1982. The cost was a staggering US\$136 million in 1984 dollars. The HIE dominates any discussion of user fees for the simple reason that it is the largest and most thorough test ever performed on the impact of user fees both on patient behavior and health outcomes. As economist Ake Blomqvist has observed, "RAND is the mother of all social science experiments."

Although other studies have been completed, both before and after RAND, they are often too small and narrow in scope, thereby limiting their general applicability to the question of determining the impact of user fees. See Appendix B for a list of the other major studies, their results, and their limitations.

The most interesting aspect of the RAND experiment involved the use of medical services, although additional work was done on dental and mental health services. Families were assigned one of two fundamentally different types of health insurance: a free-care plan and a user-fee plan. Those with the free-care plan paid no out-of-pocket expenses; visits to the family physician were as free as a visit to the emergency room. Those with the user-fee plan paid a certain percentage of cost up to a maximum of US\$1,000, depending on family income.¹

The experiment serves as an excellent test of the influence of price on health care demand. If health care isn't influenced by price, there should be no difference in expenditures between the free-care group and the user-fee group. But if price does influence demand, expenditures should be lower for the user-fee group, because they face a cost every time they use a service and if they want to save money, they must forgo some health care services, such as a visit to the doctor.

What did RAND find? "Use of medical services responds unequivocally to changes in the amount paid out of pocket" (Newhouse et al. 1993: 40). It turns out that individual expenses in the free-care plan were significantly higher than those in the user-fee plan. Expenses were up to 45 per cent higher for the free-care individuals over those who had high user fees up to US\$1,000.

Comparing the free-care group with the user-fee group, RAND found that in any given year, the free-care people used health care differently than those who faced some type of user fee. Charts 1 and 2 below provide a summary of RAND's findings. Essentially, those in the free-care plan were more likely:

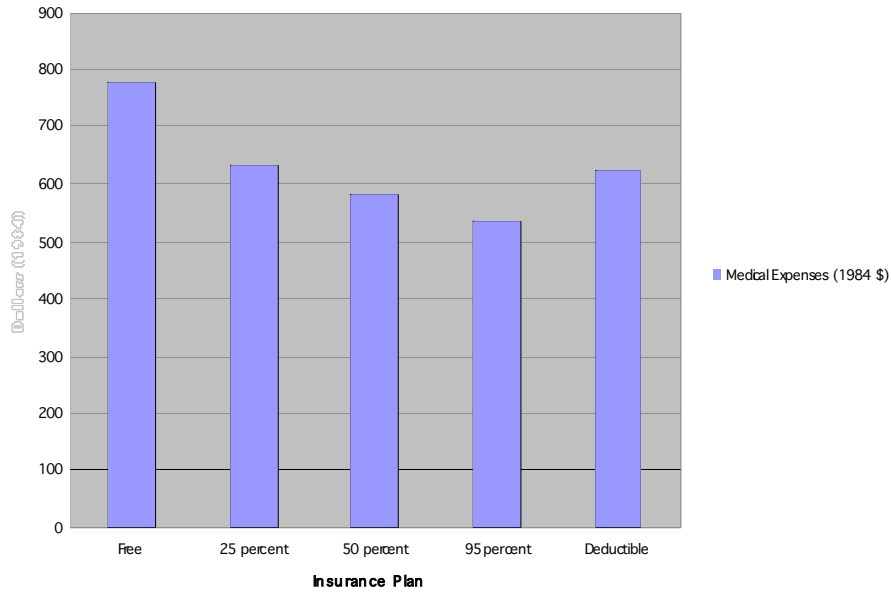
- to use medical services,
- to see a physician more regularly, and
- to get admitted to a hospital.

The RAND Health Insurance Experiment had several groups with differing user fees. Even when people paid a rather small user fee (25 per cent of total costs), there was a noticeable drop in health expenditures: 10 per cent less than the free plan. The conclusion: Price influences demand.

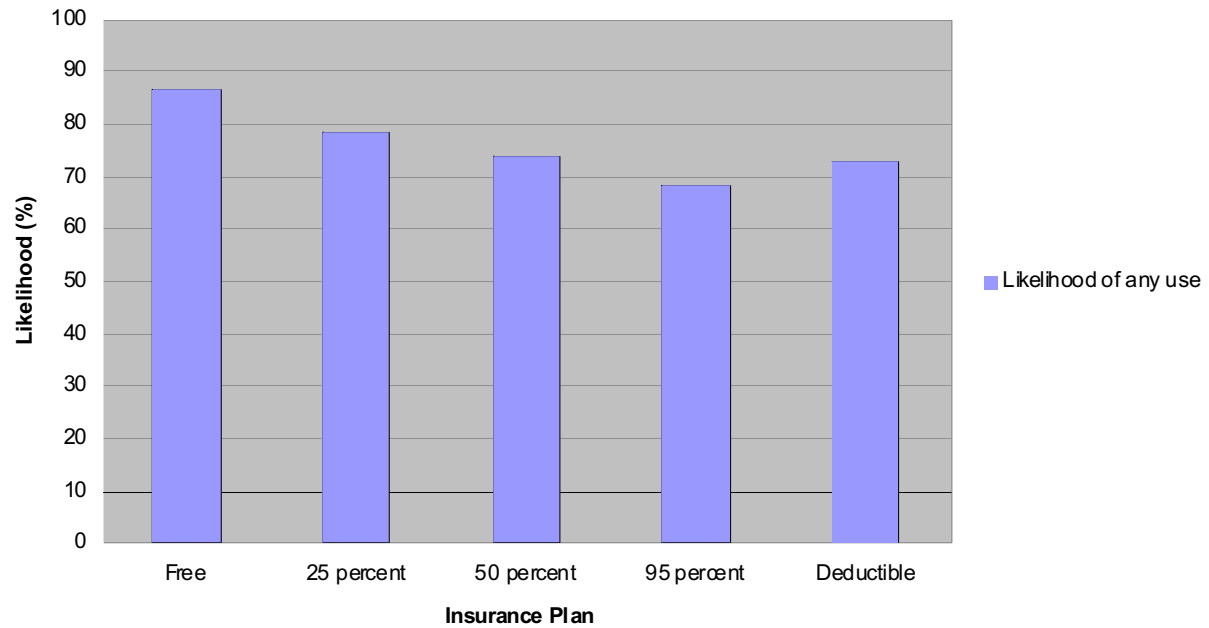
¹ This is a simplification of the RAND study. Families were divided into 14 different insurance plans, with different co-insurance rates - 25, 50, or 95 per cent - as well as different maximum dollar expenditure caps (MDEs) on how much patients could be billed in a given year (5, 10, and 15 per cent of family income up to US\$1,000 a year). An alternative plan entailed a 95 per cent co-insurance, with a US\$150 maximum (US\$450 per family), in effect a plan with a US\$150 deductible. Since the HIE was a controlled experiment, so that patient characteristics did not differ systematically amongst the different insurance schemes, the HIE researchers could conclude that any observed difference in health expenditure, use, or outcomes was the result of differences in insurance schemes. In other words, any difference in outcomes would be the result of the user fees.



Medical Expenses



Likelihood of Any Use



While the HIE may be the gold standard in terms of considering the impact of user fees on patient demand, other studies support its conclusions:

- Phelps and Newhouse (1974) found demand to be six per cent higher for hospital and physician services at a co-insurance rate of 10 per cent than at a co-insurance rate of 25 per cent.
- Newhouse, et al. (1980) found that demand for health care was a third less for individuals with a US\$1,000 deductible than for individuals with a US\$50 deductible (in 1975 dollars).
- Freiberg and Scutchfield (1976) estimated that moving from a co-payment of US\$44 to US\$2.50 (roughly equivalent to moving from a co-insurance rate of 50 per cent to free health care) resulted in a 50 per cent increase in hospital admissions.

Other studies based on so-called “natural experiments” have yielded more mixed results. Scitovsky and Snider (1972), for example, examined how physician visits by Stanford University employees changed after their coverage was switched from a free-care plan to 25 per cent co-insurance. Visits fell by a quarter after one year, a result that remained unchanged four years later when it was re-examined by Scitovsky and McCall (1977). On the other hand, when Roddy et al. (1986) studied a similar change in the insurance plan of the United Mine Workers of America, they found only a short-term drop in patient consumption. In part, this result may stem from the fundamental flaw in using natural experiments, namely, the absence of a proper control group to account for larger trends in health care consumption. A similar problem bedevils a study by Beck and Horne (1980) that examined the impact of user fees in Saskatchewan between 1968 and 1971.

A final group of studies used micro-data surveys to examine differences in health consumption by individuals with different insurance plans. These studies generally agree that user fees reduce health care consumption, although there is substantial variation in the magnitude of this reduction (Newhouse and Phelps 1976, and Feldstein 1977). While these types of studies have some virtues, they depend heavily on respondent recollection (of health care use and of insurance type) and fail to properly take into account differences in health status. In light of this evidence, we can conclude that health care demand is responsive to differences in price.

Cost sharing on different types of health services

The evidence clearly suggests that patients do respond to changes in prices, but this raises the question: exactly how appropriately do people respond to different user fees? Once again, we can turn to RAND. One type of health service carefully studied was ER visits. Consider these findings:

- individuals on the cost-sharing plans made on average 23 per cent fewer ER visits than those on the free plan.



- user-fee plan individuals made on average 47 per cent fewer visits for cases deemed “less urgent.”
- for the “less urgent” cases, a small degree of cost-sharing (25 per cent) had approximately the same impact as a large degree of cost-sharing (95 per cent).

Even small user fees can deter inappropriate health care consumption.

To further test this hypothesis, the HIE researchers examined the impact of user fees on ER visits for cuts, depending upon whether or not suturing was needed. For those cases where lacerations required suturing (the “more urgent” cases), cost sharing had no significant impact on ER visits. On the other hand, for less serious cuts (the “less urgent” cases), ER visits were 63 per cent higher in the free group. This finding suggests that one result of free health care is that patients will use expensive forms of health care, like ERs, to treat minor injuries.

This result is supported by a study by Selby et al. (1996) that examined the impact of a US\$25-\$35 user fee for emergency room use by two American HMOs. Overall, they found that the introduction of cost sharing resulted in a 15 per cent decline in emergency room use. More importantly, they discovered that user fees had no impact on the use of the ER for those conditions that were classified as “always an emergency.”

Unfortunately, while these results hold with regard to ER visits, the HIE found that they were mixed with regard to other forms of health care consumption. Among children, the user fees were found to reduce the consumption of “rarely effective” medical care for acute conditions among non-poor children, with no reduction in the consumption of “highly effective” care. Among poor children, however, fees reduced the use both of “highly effective” and “rarely effective” care. More on this later. Similar results were found for adult non-ER services. The reduction in consumption due to cost sharing was not specific, in that it reduced both appropriate and inappropriate care.

While the HIE demonstrated that the introduction of user fees could reduce the consumption of expensive means (notably ERs) of receiving health care services, it is important to understand that this result depends on the nature of the user fee. A study by Roemer et al. (1975) examined the impact of the imposition of user fees on doctor’s office visits, with no corresponding user fee on ER visits, by California’s Medicaid program. As a result of this new user fee, office visits decreased but this drop was more than offset by an increase in hospital visits, a result deemed by the authors to be “penny-wise and pound-foolish.”

The authors of the HIE warn about reading too much into their results. While this may appear on the surface to be an indictment of cost sharing, they warn that, “such a verdict should not be accepted without some evidence on outcomes” (Newhouse et al. 1993: 180). In this regard, categories such as “appropriate,” “more urgent,” or “highly effective,” are only imperfect measures of the impact of health care on health outcomes. What we are really interested in is the health outcomes.

Moreover, the evidence does seem to support the claim that a carefully designed system of user fees could be used to induce patients to choose different forms of health care services. Thus, for example, a high user fee for ER visits coupled with a relatively low one for GP visits could steer patients away from using the ER for minor problems.

User fees and health outcomes

There is some evidence that user fees may also discourage the consumption of health care that is “appropriate.” Superficially, this evidence seems to provide credence to critics of user fees who argue that patients are not well enough informed to make decisions about health care. Fortunately, the impact of cost sharing on health outcomes was a question of particular interest to the designers of the HIE, and it is one which the authors devoted considerable resources to answering.

Did user fees make patients sicker? Despite spending less on health care, people who faced user fees had no significant difference in their health outcomes. Among adults, those on the user fee plans seem only to have experienced modest improvements in correctable vision and periodontal health over those on the cost-sharing plans. (Neither one of these services is covered by medicare at present.) More seriously, user fees did have a detrimental effect on blood pressure amongst the poor already suffering from high blood pressure, although this finding was limited to a very small sub-sample of the population and the effect was sufficiently small that most of the improvements in blood pressure under the free plan could be achieved by a free one-time screening. Similarly, among those members of the poor who were already in bad health as a result of pre-existing conditions, those on the free plan reported fewer serious symptoms than those on the cost-sharing plans. Again, this finding was limited to a small and identifiable sub-set of the population.

Interestingly, there was no significant difference between the overall satisfaction with health care for those on the free plan and those with user fees. Furthermore, individuals on the free plan experienced 20 per cent more days per year of restricted activity due to illness and 13 per cent more work days lost to sickness than those on the cost-sharing plans.

Based on this evidence, the authors of the HIE concluded that “the free care plan had little or no measurable effect on health status for the average adult” (Newhouse et al. 1993: 243). The HIE also found similar results for children: there was no significant difference in health outcomes between those children who received free care and those on the cost sharing plan. The researchers concluded that, “the most likely effect of free care is none.” (Among poor children, a higher likelihood of anemia was noted although their general health was similar to the non-poor.)

In this light, the HIE concluded that the reductions in the utilization of care caused by user fees were



not associated with corresponding reductions in health outcomes. Instead, they found that, in general, user fees had no adverse health effects and concluded that, for most of the population “the cost of free care seems substantial and [the] health benefits minimal” (Newhouse et al. 1993: 351).

To the extent that user fees do affect the health of certain individuals, the authors of the HIE suggested several simple measures. They recommended exempting certain types of care from user fees (for instance, screenings for high blood pressure) or exempting individuals from user fees based on income (as Canada already does with prescription drugs and long-term care). Similarly, to avoid imposing undue financial hardship on the chronically ill, the authors of the HIE suggested exempting these individuals from some types of costs (kidney dialysis for chronic renal failure patients, for example).

The evidence from the HIE suggests that a well designed system of user fees, while reducing health care consumption will have little or no negative impact on health outcomes. Moreover, this evidence appears to be supported by other studies on the impact of user fees on health. While Lurie et al. (1984, 1986) does support the HIE’s result that user fees may have adverse health effects among the very poor, particularly with regards to hypertension, Selby et al. (1996) found that cost sharing did not generally adversely affect the health outcomes of the larger population. Moreover, these studies are consistent with the broader literature on the impact of health insurance on health outcomes; for instance, Kaestner, Royce, and Racine (1999) that found that providing health insurance did not generally improve the health outcomes of previously uninsured poor children.

User fees and the supply side

Thus far, the consideration of user fees has yet to look at the supply of health services. One critique of user fees is that physicians facing a loss of income respond by inducing patients to consume more health care, thus offsetting the impact of the user fees.

Unfortunately, this issue was not carefully examined by the HIE. There is some evidence from other studies suggesting that “physician-induced demand” may be a concern. For instance, Horne and Beck (1980), examining the impact of user fees in Saskatchewan, found that while user fees did reduce overall health care consumption, wealthier patients saw their family doctors more. However, it’s important not to read too much into this result since Horne and Beck lacked a proper control group. Other studies, notably Epp et al. (2000), and Roddy et al. (1986) have found that physicians do respond to changes in demand caused by user fees, often by charging more for their services, although the relevance of this finding to a single-payer public health care system is debatable.

There is, however, a body of evidence that suggests that while physician-induced demand may offset some of the benefits of user fees, it will not negate most of them. Nguyen and Derrick (1997), for instance, examined the impact of a decline in US Medicare compensation for physician services as a

result of the 1990 reforms. Since a reduction in compensation is, all things being equal, equivalent to a fall in income, one would expect such a result to have an impact similar to a decline in demand. They concluded that a one per cent fall in price (hence income) resulted in a 0.4 per cent increase in volume. In other words, physician-induced demand would offset 40 per cent of the savings due to user fees. This finding is similar to that of Yip (1998) who examined the impact of the 1990 Medicare reform on thoracic surgeon behaviour in New York and Washington. In this case, physicians offset 70 per cent of the decline in their incomes through increased volume.² While that was a large response, there was still a substantial net savings due to the introduction of user fees. Even Horne and Beck (1980) concede that overall health consumption fell.

These studies, however, aren't particularly relevant to the Canadian situation. Given the almost universally acknowledged shortage of physicians in Canada and the ever growing waiting lists, the most likely physician response to the introduction of a user fee would not be to induce their current patients to come more often but rather to see more patients. As a result, even if user fees provided no net reduction in health care consumption (which is not likely, in light of the evidence presented), the redistribution of medical care would still be desirable.

Thus, while the physician-induced demand critique of user fees does raise some serious concerns, the evidence seems to suggest that even allowing for it, overall health care costs would still fall. Moreover, to the extent that physician-induced demand does occur in response to user fees, its impact may, ironically, be beneficial in that it would likely result in a more equitable distribution of health care consumption within the public health care system.

²These studies tend to overstate the response of physicians to user fees. In both cases, while the reforms did reduce physician income, they imposed no cost on patients. However, under a user fee scheme, patients are likely to be less responsive to physician inducement than if their health care is free (witness the difference in consumption with user fees). If anything, these estimates represent the higher end of physician response to a reduction in income due to user fees. In light of this evidence, it is not unreasonable to believe that, even accounting for physician-induced demand, user fees would still be largely successful in reducing aggregate health care costs.



SECTION 5

ARE USER FEES RIGHT FOR CANADA?

The issue of health reform raises a number of difficult questions. This section is more limited in its scope -- we will answer ultimately just one question: Are user fees right for Canada? To decide this, we will consider a summary of the evidence from the economic literature. We will also look back at the international evidence. Finally, we will consider the arguments forwarded by both the proponents and critics of patient cost sharing.

User fees in the literature

As described above, user fees have been extensively considered in a variety of studies. A summary of the evidence:

1. Health care consumption is influenced by price. As user fees go up, people tend to consume less health care.
2. User fees reduce consumption primarily for those services that are “discretionary,” or have marginal health benefits. Moreover, they also reduce inappropriate care in some environments, notably the emergency room.
3. While health care consumption is influenced by price, health outcomes are not (within reason). In other words, with free health care, people will over-consume health care with no corresponding improvements in health.
4. While user fees may have some limited impact on the poor and sick, it would be simple to design a user fee system to overcome this problem.
5. Physician-induced demand resulting from the introduction of user fees will not fully offset the reductions in consumption due to user fees. To the extent that it does offset the impact of user fees, this may be desirable, in that they will ensure a fairer distribution of health care consumption within the public system.

User fees internationally

Numerous countries have some form of cost sharing. A summary of the experiences:

1. User fees are commonly used in a variety of different developed countries, including many with rich social democratic traditions.
2. Though the models for user fees differ greatly, from co-insurance to deductibles, direct patient participation in payment is seen as crucial to reduce overuse and misuse of health services.
3. User fees do not prevent other types of health reform – such as regionalization and capitalization – from proceeding.
4. Every country makes exceptions for the poor and the chronically ill.
5. Though Canadian experts prophesy dire consequences from user fees, we find no evidence of them elsewhere.
6. After many years of experimentation, the trend among European countries with user fees in their health systems is to increase and expand fees, not to abolish them.

Responding to the critics (and the proponents)

As noted in the introduction, user fees are dismissed by Canadian health experts. They put forward various arguments that, although eloquent, simply don't stand up to the weight of evidence.

Health care isn't about supply and demand. At the heart of this argument is the claim that patients don't respond to prices or user fees because health care is different. Health care is not a commodity, health economist Robert Evans once suggested. It's possible to make glib examples: If barium enemas are free, why don't we all get one?

The evidence seems to be that patients do respond to user fees. The RAND Health Insurance Experiment, for example found a significant difference in the expenses of those on a medicare-style, free plan and those facing user fees when they accessed health care. It's no wonder, then, that so many countries use some type of user fee. Johan Hjertqvist described to us the impact of user fees on pediatric emergency rooms in Sweden. "The waiting rooms used to be packed with people. Children everywhere. Now, it is different. They come when they need to" (Gratzer, Hjertqvist and Irvine 2002).



Patients aren't proper consumers because they're ignorant. Critics suggest that user fees will deter both inappropriate and appropriate use of health care, leading to people suffering from more illness. Thus, people will not rush to the hospital with a chest cold but will die at home from heart attacks.

Evidence again suggests otherwise. The RAND study concluded with the observation that: “[free health care] has little or no measurable effect on health status for the average adult” (Newhouse et al. 1993: 243). While other studies have more limited scopes, the results are reproducible.

A note of caution: studies like RAND were careful to exclude high expenses from user fees. Thus, a patient facing a heart transplant and an extended stay in hospital would not face the loss of his house. These experiments, in other words, distinguished between minor expenses (discretionary spending, as economists term it) and major expenses (catastrophic spending).

The poor and the chronically ill will suffer. Critics put forward the argument that people with lower socio-economic status will be affected differently than wealthier citizens. After all, if money is tighter for the poor, they will be less willing to part with it, even if their health dictates that they should.

There is some evidence for this claim. As noted above, several studies have suggested that economically-disadvantaged individuals are affected by user fees. That being said, it is equally clear that many countries have addressed this issue in a simple and elegant manner: by exempting people from user fees. In Ireland, for example, a full 33 per cent of people don't face user fees when they visit a physician. Other countries have capped the total amount that can be owed for health expenses.

Proponents of user fees are, on the whole, right in their claims. User fees would temper excessive demand for services, patients would access health services more appropriately, and people would better appreciate the cost of health care.

We find only one flaw in the case put forward: that user fees would provide a (new) source of revenue. Internationally, there seems to be limited evidence for this. In Sweden, for instance, only two per cent of health funding comes from one type of user fee or another. With administrative costs and exemptions, we believe that user fees would not provide a rich source of cash for medicare.

Designing a Canadian user fee

User fees, then, seem to be a reasonable idea to pursue. This conclusion raises the question: what would constitute a “well-designed” system of user fees? There are several issues to consider: the cost of the user fee, its structure, and provisions made for the poor and chronically ill.

With regard to the magnitude of cost sharing, the evidence from the HIE suggests that even modest user fees have an impact. Indeed, in RAND's experiment, the largest drop in health care consumption resulted from a shift from the free plan to the 25 per cent plan. Even nominal charges affect people's behaviour. Perhaps it is not surprising, then, that in Europe co-insurance rates range between five per cent and 40 per cent, while co-payments for GPs range between US\$12 and US\$32.

This issue is complicated by the stop-loss provisions that would be used with user fees. Since stop-loss provisions provide free health care for all services above the cap, a large co-insurance rate or large co-payment schedule would result in patients exceeding their cap sooner, potentially offsetting the benefits of the cost sharing. A system with a moderately high stop-loss provision and a moderately low co-insurance rate would thus have advantages. One system proposed by Aba, Goodman, and Mintz (2002) would entail setting the stop-loss provision as a portion of family income, perhaps three per cent.

The exact structure of the user fee is debatable since each type of patient cost sharing has its own advantages. Co-payments are almost certainly the easiest to understand and implement. Consider the simplicity of charging, say, \$20 for an emergency room visit. Although deductibles are not commonly used in other universal health care systems, they may well play a role in Canada. One advantage of a moderately small deductible, say \$100 to \$300, is that it can have the effect of discouraging the use of low-valued services, while having no effect on more expensive services.

Medical savings accounts would have the advantage over simple deductibles in that they could have a higher deductible limit, without resulting in a similar increase in risk and financial burden. As well, since patients receive a direct "dividend" from reducing costs (in the form of increased value of the MSAs), an MSA-style system would probably be more popular than either co-payments and co-insurance, or a simple deductible.

With regard to the poor, any cost sharing system has to address equity concerns. One possibility, frequently used in Europe and suggested in the HIE, would be to exclude certain procedures from user fees. Thus, for instance, an annual breast-screening examination might be exempted, as well as preventive measures like flu shots.

Alternatively, cost-sharing provisions may vary by income group. Several European countries already have differential rates, or outright exemptions for the poor, which may serve as a model. Similarly many countries have stop-loss limits for different income groups, as did the HIE. Even in Canada, we have differential user fees based on income, for example for long-term care, or for public health insurance premiums, where the amount paid varies by income.

Similarly, any cost sharing scheme requires provisions for the chronically ill. One possibility suggested by the HIE is to exempt individuals who exceed their "cap" for a specified number of years. One problem with this approach is that it still imposes a financial burden on the chronically ill before they reach



the threshold for exemption. In addition, any such threshold has to be sufficiently high to prevent large numbers of non-critically ill individuals from reaching it.

Once again, the European experience suggests a solution. Their experience has shown that it is possible to design a user fee system to waive or reduce fees for individuals with chronic conditions. Since these sorts of illnesses are easy to diagnose (and relatively difficult to fake), such a system will exempt individuals as soon as they are diagnosed. At any rate, either system can work with any of the different forms of cost sharing discussed above. For co-insurance and co-payments, the rates or schedules can be reduced or the sick exempted. Similarly with deductibles and MSAs, the deductible level can be reduced, to zero if necessary, as in the case of the chronically ill in Singapore.

SECTION 6

CONCLUSION

“The literature is replete with studies clearly demonstrating that user fees deter only the needy from seeking health-care services. There is no evidence that user fees diminish the demand for services, necessary or unnecessary, by the great majority of patients.”

- Dr. Duncan Sinclair, 14 February 2000

Duncan Sinclair’s career has been long and accomplished. Dr. Sinclair has served in a variety of academic positions, including Dean of Medicine at Queen’s University, but is best known for chairing Ontario’s Health Services Restructuring Commission. In this capacity, he oversaw the closure and amalgamation of dozens of Ontario hospitals in the late 1990s. Dr. Sinclair, then, has played an integral part in changing Canadian and, in particular, Ontario’s health care system.

Yet when the topic of user fees comes up, Dr. Sinclair’s response is almost identical to the view put forward by many Canadian experts. User fees are described as dangerous, reckless, and ineffective. Not surprisingly, then, the idea has been dismissed by many influential policy makers. But is the dismissal founded on solid evidence? Is it true that study after study has, in the words of Dr. Sinclair, demonstrated that user fees punish only the needy and achieve little else?

In our research, we found that user fees are commonly used in other countries. From Dublin to Stockholm to Zurich, we found that countries with public health care systems (often not all that different from our own) use some type of patient cost sharing. We also extensively reviewed the literature. Numerous studies, including one of the largest social science experiments in history, suggest that user fees do change patient behaviour. These studies also suggest that, if properly employed, user fees have no impact on health outcomes. User fees, thus, are safe and effective.

We are not suggesting that user fees are a panacea for Canadian health care. The problems facing medicare are numerous and complex and there will still be much need for reform. Issues such as nursing shortages require separate and broad reforms.

That being said, governments have been increasingly willing to experiment with new initiatives over the past decade. Primary care reform, once considered a fringe idea, is the focus of experimentation in most provinces. If governments across the land are willing to tamper with the fee-for-service physician compensation scheme that has existed since the days of Hippocrates, why not consider a modest co-payment such as they have in Sweden? The time has come for user fees.



APPENDIX A: THE “PURE” MARKET MODEL OF USER FEES

Let's first develop a model of the demand for health care. The key assumption of this model is that the demand curve for health care is downward sloping, which is to say the elasticity of demand³ is negative. The demand curve can be thought of as a measure of the dollar value of the marginal benefit of an extra unit of health care consumption. Another important element of this model is that the marginal cost of providing an extra unit of health care consumption is positive, which is simply the constraint that health care is not free for society as a whole. In a market equilibrium, consumers will consume health care until the marginal benefit of an extra unit of health care is equal to the marginal cost of producing an extra unit of health care. Thus, in Graph 1, they will consume quantity Q1.

The model presented above is the demand for health care in the absence of insurance but it may simplify matters to think of it as the demand for health care with insurance and a 100 per cent co-insurance fee. Thus, patients who bear the full cost of their health care and receive the full benefit will optimally seek to equalize the two.⁴ Now, suppose we change the co-insurance rate from 100 per cent to 50 per cent; that is, we provide our representative patients with partial health insurance.

From the perspective of the patients, the marginal cost of an extra unit of health care is half what it was in the absence of health insurance. Whereas before, patients would only consume extra units of health care if the marginal benefits were equal to the marginal costs, now they will consume more health care up until the point where the marginal benefits equal 50 per cent of the marginal costs of production. Thus, on Graph 1, quantity demanded will shift from Q1 to Q2.

From the patients' perspective, this decision is optimal since their private costs are equal to their private benefits. However, from a societal perspective, in this model, this decision is sub-optimal since the total cost of the extra units of health care (the patients' costs plus the insurer's costs) is greater than the patients' benefits from the extra units. The difference between the marginal costs and marginal benefits of the extra units of health care, measured by the area ABC on Graph 1, represents the deadweight loss to society of the increased health insurance.

³ Elasticity of demand is defined as the percentage change in quantity demanded given a percentage change in price. Elasticity of demand is usually negative, in that an increase in price results in a decrease in quantity demanded.

⁴ This assumes that patients are sufficiently wealthy to afford to pay for their own health care. Obviously, this is an unrealistic assumption but it simplifies the analysis at this level. We will address alternative scenarios later on.

Despite this deadweight loss, the partial insurance model still retains some elements of the market, or 100 per cent co-insurance, model, namely that patients still remain sensitive to differences in prices. This means that patients still retain an incentive to seek more efficient health care producers,⁵ which in turn induces competition among health care providers. Moreover, the introduction of insurance reduces the risk of large health care bills a consideration that for risk-averse patients, increases their welfare.

We can extend this analysis to the case with full insurance, that is, with no co-insurance. In this special case, the demand for health care becomes vertical and the elasticity of demand becomes zero, or infinitely inelastic. In this case, patients will consume more health care until the marginal benefits of extra units of health care equal zero (see Graph 1). Thus, consumption will increase to point Q3. Moreover, unlike the partial or no-insurance models, in this case patients are insensitive to the cost of producing extra units of health care so health care consumption will be constant regardless of the changes in the monetary costs of providing health care services.⁶ Therefore, patients have no incentive either to reduce their use of health care services or to seek the lowest cost producers of health care services. As in the partial insurance case, the presence of insurance creates a deadweight loss to society, in this case the area ADF on Graph 1.

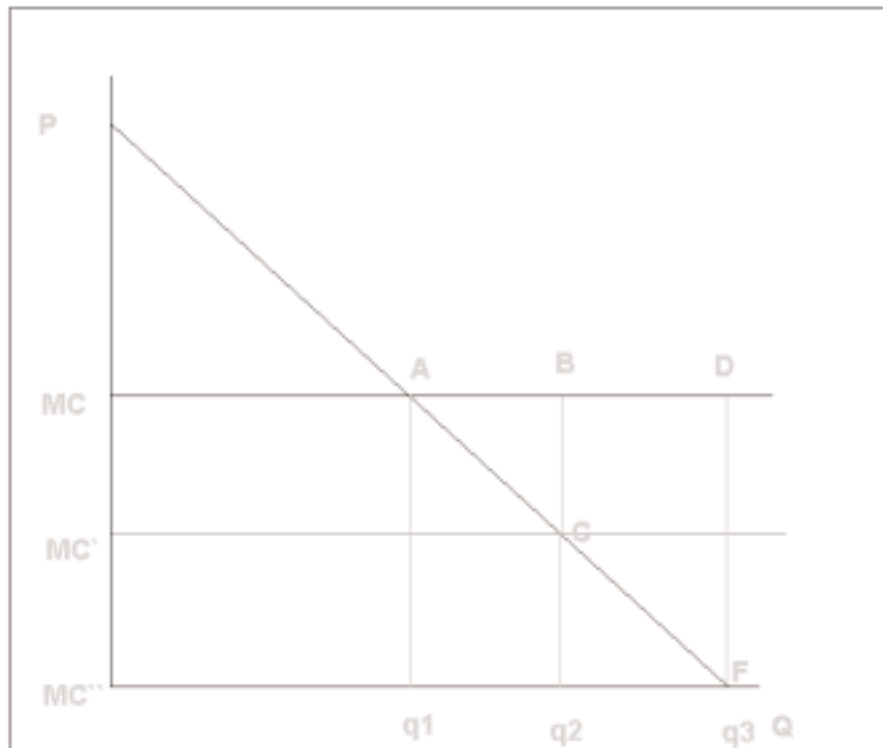
Clearly, if this model holds, a theoretical case can be made for user fees. Moving from a scenario with full insurance to partial insurance will reduce health care consumption and the deadweight loss to society. More importantly, from the perspective of health insurance providers (in Canada, the provincial governments), such a fee would, theoretically at least, reduce health care expenditure.

⁵ Efficient in the sense that, for a given quality of health care they have the lowest costs.

⁶ Note, however, that demand may still vary due to other non-monetary costs, such as waiting times.



Graph 1



APPENDIX B:

REVIEW OF THE LITERATURE

Study	Scope	Type	Key Results	Limitations
Beck and Horne (1980)	Approximately 40,000 families in Saskatchewan between 1963 and 1977	NE	Co-payments of approximately 33 and six per cent on medical and hospital services respectively reduced demand for physician services by 5.6 per cent and had no effect on demand for hospital services	No control group. No evidence on impact on health outcomes
Cherkin, et al. (1989)	52,047 state and federal employees in Washington, DC, over one year	CE (HMO)	\$5 co-payment resulted in an 11 per cent decline in primary care and optometry visits	No evidence on health outcomes
Cherkin, et al. (1990)	52,047 state and federal employees in Washington, DC, over one year	CE (HMO)	Co-payments resulted in a 14 per cent decrease in physical examinations but had no significant impact on the most valuable types of preventative care services	No evidence on health outcomes
Duffy (1983)	Moncton, NB, Hospital outpatient visits over seven months	NE	Outpatient visits declined 12.7 per cent in the seven months the user fees were in effect compared to the same seven months the year before	This study does not control for individual effects. No control group
Fahs (1992)	1,089 residents of Kensington, PA, including both UMWA and non-UMWA members	NE	User fees resulted in a decline in medical costs for the cost-sharing patients but an increase in health care costs for patients who did not cost share	Not applicable to a health system with one payer



Study	Scope	Type	Key Results	Limitations
Freinburg and Scutchfied (1976)	Premium data from Blue Cross/Blue Shield of Kentucky	PCD	A 10 per cent decrease in the co-insurance rate results in a 2 per cent increase in in-patient hospital admissions	Non-experimental data. Also, this study cannot control for individual level characteristics
Hill and Veney (1970)	15,000 Blue Cross/Blue Shield contracts in Kansas over eight months	CE	Providing free outpatient care did not reduce demand or hospital services or health care costs	
Lurie, et al. (1984)	186 medically indigent adults in Los Angeles over six months	NE	Co-payments reduced outpatient visits by 45per cent after six months but resulted in an increase in uncontrolled hypertension and a decline in general health status	Very small sample size cannot be extrapolated to a larger population. Some evidence of difficulty in accessing services unrelated to the co-payments.
Lurie, et al.(1986)	186 medically indigent adults in Los Angeles over one year	NE	Co-payments reduced outpatient visits by 35per cent after one year but resulted in an increase in uncontrolled hypertension and a decline in general health status	Very small sample size cannot be extrapolated to a larger population. Some evidence of difficulty in accessing services unrelated to the co-payments
Newhouse and Phelps (1976)	2,617 observations from the 1963 Center for Health Administration Studies Survey	CS	Estimated price elasticities of demand of -0.1; that is, a 10 per cent increase in price reduces health care demand by 1 per cent	Non-experimental data. Possibility of measurement error. No data on health outcomes
Newhouse et al. (1980)	Premium and claims data from two large American health insurance companies	PCD	Demand for health care was very responsive to a \$50 deductible (1975 dollars) but grew less responsive to higher deductibles	Non-experimental data. Also, this study cannot control for individual level characteristics
Roddy et al. (1986)	Members of United Mine Workers of America over two years (approximately 8,000 each year) 40,661 AFDC	NE	User fee had significant short-term effect that was not persistent. No difference in use after two years	No control group. No evidence of impact on health outcomes

Study	Scope	Type	Key Results	Limitations
Roemer et al. (1975)	Medicaid beneficiaries in California over one year	CE	User fees on physician services only resulted in an increase in hospitalization among the user fee cohort	Control and treatment group differed in key areas, notably socio-demographic attributes and family incomes. No evidence on health outcomes
Roemer et al. (1975)	40,661 AFDC Medicaid beneficiaries in California over one year	CE	User fees on physician services only resulted in an increase in hospitalization among the user fee cohort	Control and treatment group differed in key areas, notably socio-demographic attributes and family incomes. No evidence on health outcomes
Rossett and Huang (1973)	8,298 observations from the 1960 Consumer Expenditure Survey	CS	Estimated price elasticities of demand of -0.35 to -1.5; that is, a 10 per cent increase in price reduces health care demand by 3.5 per cent to 15 per cent	Non-experimental data. Possibility of measurement error. No data on health outcomes
Scitovsky and Snider (1972)	Approximately 3,800 members of the Stanford University group health plan (GHP) over one year	NE	25 per cent co-payment resulted in 24.1 per cent decline in all physician services and a 23.8 per cent decline in per capita costs	No control group. No evidence on impact on health outcomes
Scitovsky and McCall (1977)	Approximately 3,000 members of the Stanford University group health plan (GHP) over four years	NE	25 per cent co-payment resulted in a substantial decline in physician visits. This effect remained true four years after co-payments were introduced	No control group. No evidence on impact on health outcomes
Selby et al. (1996)	30,276 persons under the age of 64 in northern California over one year	NE	(HMO) Co-payments reduced ER use by 15 per cent with larger decreases for less serious cases and no change for always-serious cases. No differences in health outcomes	Measurement of health outcomes was limited. The sample did not include the elderly and the sample of poor people was small

Key to Type of Study: CE: Controlled Experiment, NE: Natural Experiment, PCD: Estimates based on Premium/Claims Data, CS: Estimates based on Cross Section Data, HMO: Experiment took place in an HMO setting.



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