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## **Notes**

- 1 One has only to look in a few newspapers across Canada for examples of the increasing pressure on the system: "Doctors' Protest Crimps System: Nearly 7,000 Physicians Will Close Offices Today to Protest Funding." (*The Vancouver Sun*, March 8, 1998); "Health Crisis Ignored by [Health] Authority, MD Says." (*The Edmonton Journal*, January 28, 1998); and "Surgery Gets the Squeeze: Hospitals Clear Way for Emergency Cases." (*The Montreal Gazette*, February 16, 1998).
- 2 *Maclean's/Medical Post/*Angus Reid poll results reported in *Maclean's* (December 2, 1996).
- 3 Ekos Research Final Report to the National Forum on Health submitted on January 31, 1997, Exhibit 2.8.
- 4 In the insurance market, this is known as the law of large numbers. Roughly, the law of large number states that random movements of a large number of individual items tend to offset one another. It is based on the well-known statistical normal curve. See Lipsey and Steiner 1978: 21 for more details. As well, for more details on modeling the benefits of insurance see Evans 1984: 30–33.
- 5 Extensive health insurance can be blamed in part for the low degree of competition in the medical market-place as it tends to reduce or even eliminate (if coverage is extensive) individuals' and physicians' incentives to shop around for lower prices (Arrow 1963). As well, individuals have little incentive to demand the lowest paid qualified worker (Feldstein 1971a). It follows that in a health care system with widespread insurance coverage, it is more difficult to incorporate alternate health professionals, such as registered nurses, who in many instances can provide the same quality of service as physicians but at a lower cost.
- 6 The premium charged by the insurer likely will exceed the actuarial value because of administrative costs. As long as different policies are offered at premiums that are similarly unfair, however, Arrow's results still hold. For more details see Arrow 1963: 969–71.
- 7 By definition, with catastrophic insurance (or MRI) very few families should be deprived of medical care since

- there is an income-related limit on how much is paid out-of-pocket.
- 8 See Evans 1984: 60–64 for more details on the altruistic and paternalistic nature of this externality. Arrow 1963 notes that the individuals' preference for improving the health of others seems to be stronger than for improving other aspects of their welfare.
- 9 This would be true only if the government, and not the health care provider, received the user charge.
- 10 It has been argued that many theoretical analyses avoid distributional issues and assume a single-person economy. For example, Arrow (1963) made such an assumption when he demonstrated that deductibles and co-insurance can be welfare enhancing. Years later, Arrow relaxed this assumption and used a model with a very large population but assumed that each member of the population was identical in order to bypass distributional considerations. Evans (1993) notes that no one, with the exception of Arrow, has pointed out the limitations of such restrictive assumptions. Evans argues that models based on these restrictive assumptions do not and cannot help us analyze the welfare effects of cost sharing.
- 11 Supplier-induced demand will be discussed in more detail in a later section.
- 12 In economics this is generally referred to as "asymmetric information."
- 13 It is also important to note that if market failure occurs, even efficient government intervention will not necessarily improve overall welfare. This is known as the theory of second best: "correcting an inefficiency in one part of an economy will not necessarily improve welfare, and could actually reduce it, if there remain uncorrected inefficiencies in other parts of the economy." See Kennedy 1995: 17–18 for more details.
- 14 There can be a clause that allows individuals to opt out and purchase a similar catastrophic policy in the private insurance market. However, because of risk-pooling and economies of scale, in theory it should be difficult for private insurance providers to match the premium offered by the government.

- 15 It is important to keep in mind that there is an opportunity cost associated with the employer's contribution. That is, the money put by an employer into an individual's MSA cannot be spent elsewhere—on wages or the latest computer equipment, for example.
- 16 For a more detailed analysis and evaluation of the introduction of Medisave, Medishield and Medifund accounts in the Singapore health care system, see Hsiao 1995, Massaro and Wong 1995, and Asher 1995.
- 17 Price elasticity measures the responsiveness of quantity to a change in price. In this particular case, it measures how individuals change the amount of medical care they use when the price of care changes.
- 18 It is important to note that most studies exploring these issues are conducted using data from the United States, and that the Canadian and American health care systems are quite different. The former is mainly publicly funded and is characterized by universal health care (every citizen is insured) and free access (no deductibles, co-insurance, or user charges for insured services). The latter is about evenly split between public and private funding, and uses different forms of cost sharing rather extensively. One would, therefore, expect a larger welfare loss from health insurance in Canada than in the United States.
- 19 MDE or maximum dollar expenditure is a term commonly used by The RAND Corporation. It is synonymous with upper limits on out-of-pocket expenditures.
- 20 The RAND Corporation, based in Santa Monica, California, is a nonprofit institution that tries to improve public policy through research and analysis. It attempts to achieve complete objectivity by avoiding partisanship and disregarding vested interests. For a more in-depth discussion of the design of the HIE experiment, see Newhouse 1993: ch. 2.
- 21 Due to the difficulty in translating the MDEs used in the HIE into current Canadian dollars, all figures are in late 1970s US\$. The transformation introduces several technical problems as it is not clear what price level indices, which base year, and which exchange rates should be used to calculate these amounts into more appropriate figures. According to Manning and Marquis 1996, the \$1,000 deductible of the 1970s is approximately \$2,500 in 1995 US\$.
- 22 Statistical significance means that conclusions can be drawn from the data. If a parameter estimate is not statistically significant, then there is too much variability in the variable, and nothing can really be said about the

- variable's effect. In this case, since the tests are significant, we can reject the hypothesis that there are no differences in the effect that the insurance plans have on people's use and spending on health care.
- 23 The RAND HIE estimates have the advantage of being based on experimental data, which are preferred because they originate from random controlled trials (RCTs). RCTs that examine health insurance have the advantage of controlling for adverse selection. In an RCT, individuals are randomly assigned to a health insurance plan; they do not choose a plan. Studies that rely on historical data connot control for adverse selection. Individuals who have similar sociodemographic characteristics may choose the same insurance plan. Thus, the responses to the variable examined (*eg* cost sharing) may not be due to the insurance plan but rather to common sociodemographic characteristics.
- 24 The HIE (Newhouse *et al.* 1993) elasticity estimates, based on the experimental data, range from –0.10 to –0.22 for all care and from –0.13 to –0.31 for out-patient care.
- 25 Feldstein and Gruber use data from the 1987 National Medical Expenditure Survey (NMES), which is collected by the Agency for Health Care Policy and Research. The sample used contains 6,000 insurance units and the data are weighted to correct for any changes in income and demographic mix between 1987 and 1995. Health care spending is defined as expenditures on physicians and hospitals.
- 26 The data used by Feldstein and Gruber tend to overestimate the "original" average level of spending by the lowest income group because the lowest income group represents the rather peculiar combination of being below the poverty line and being insured privately.
- 27 See Keeler *et al.* 1996. The absence of a control group does not allow researchers to isolate the precise effect of the variable studied and variables other than the introduction of MSAs may explain a change in health spending.
- 28 Note that these firms adopted MSAs despite unfavourable tax treatment. MSA benefits are taxed as income at the federal level while traditional employer-based health benefits are not.
- 29 The firms surveyed were the Golden Rule Insurance Company Plan in Indianapolis, IN; Valley Surgical Group in Phoenix, AZ; Morris County Hospital in Kansas; Dominion Resources in Richmond, VA; Progress Sharing Company in Saco, ME; Quaker Oats Company; and Windham Hospital in Willimantic, CT.

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- 30 Those who are both poor and sick are the most disadvantaged segment of the population but it is important to note that the vast majority of the population is neither sick nor poor.
- 31 The "poor" are defined as families that spend 70 percent or more of their income on food, clothing and shelter. This was the standard definition used by the Economic Council of Canada. See Beck 1974 for details.
- 32 These results suggest that a 100 percent increase in surgeons—a doubling of the surgeon population—would only increase the total number of surgeries by 9 percent.
- 33 To justify this conclusion, Rice and Labelle cite Barer, Evans and Labelle 1985, 1988; Barer and Evans 1986;

- and several studies that have been reviewed in Gabel and Rice 1985 but are not cited in Feldman and Sloan 1988
- 34 Results of a COMPAS poll conducted for Southam News between November 15 and 25, 1997. They were printed in *The Vancouver Sun* (December 17, 1997).
- 35 Results of a national poll conducted among 1,515 Canadians in September, 1997 by the Angus Reid Group and commissioned by the Consumer Policy Institute.
- 36 While the costs of such a computer system may be high, there will be cost savings in the form of increased efficiency and decreased fraud, as well as additional benefits in the form of more accurate and more accessible information.

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