Issues on the Distribution of Health Care: Some Lessons from Canada

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A LEADING QUESTION about the effects of statutory health insurance is whether it improves access to health care. An estimated 40 million people in the United States are believed to be denied access to health care for economic reasons (*1*). Access is also denied as a result of other factors, including distance from and distribution of physicians. Variables that affect the appropriate distribution of physicians are their numbers and types, the numbers and types of facilities in which they practice, and the availability of sufficient financial resources and incentives to practice in a community. To examine the issues of access, U.S. health services researchers, administrators, and policymakers are looking at Canada's experience with national health insurance (NHI) during the past decade.

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As part of its program to study national health insurance issues, the National Center for Health Services Research has supported a number of studies of the effects of national health insurance in Canada and of the problems associated with the distribution of health services. These studies are useful for identifying methods that can be tested for possible implementation of national health insurance in the United States. My purpose here is to report the findings of specific studies relating to the distribution of health care, rather than to present a comprehensive review of all studies of the Canadian system.

Background

The Medical Care Act of 1966 permitted Canadian Provinces to participate in universal health insurance as soon as they could implement it. Participation began in 1968. Saskatchewan and British Columbia joined immediately, and in 1972 the Yukon Territory was the final Province to join. The Provinces had to meet the following four basic requirements to be eligible for Federal contributions to their medical care plans:

- To provide insured services on uniform terms and conditions to all residents, and at least 95 percent of the residents had to be enrolled in the plan by the third year that it was in force (universality).

- To maintain insurance coverage even if a resident moved from one

Province to another or was temporarily absent from the Province (portability).

- To cover all medically required services provided by medical practitioners, with no limit on cost (comprehensive coverage).
- To administer the plan as a nonprofit activity by public authority that is accountable to the Provincial Government (public administration).

For medical care plans that meet these requirements, the Federal Government makes contributions that are equal to one-half of the national average per capita costs of operating the plans.

In implementing their plans, the Provinces varied in structuring administration, in ways of financing, and in scope of benefits. In some Provinces, benefit packages include items that are not cost shared with the Federal Government. However, all medically necessary services are cost shared, including certain dental surgical procedures performed in hospitals.

Most of the studies that I cite concern Ontario, Nova Scotia, and Quebec. Ontario joined the NHI system on October 1, 1969. In the early years, the overall plan was administered jointly by two agencies of the Province—the Health Services Insurance Division and the Health Insurance Registration Board. Payment aspects were administered by an insurance division of the Provincial Department of Health, which designated operational functions to a consortium of health insurance carriers. Later, beginning in 1971, the services of the commercial insurance carriers were phased out, and a public agency was established for fiscal management. Enrollment in the plan is voluntary. The Provincial share of the plan is financed through premiums (for hospital and medical care); premium assistance is available for low-income families. A committee appointed by the Premier of the Province periodically sets physicians' fees.

Quebec joined in November 1970. Medical insurance is administered at the Provincial level by a public corporation with an appointed board that is responsible to the Provincial Minister of Social Affairs. The Provincial share of the plan is financed through contributions by employees and employers. The health insurance program includes hospital care, physicians' services, dental surgery in

hospitals, optometrists' services, drugs for specified categories of persons on public welfare, and dental services for children.

Nova Scotia joined in April 1969. The Province contracted with a private insurance company to be the administrative intermediary of the plan, under the direction of a health insurance commission of the Provincial Department of Health. The health insurance plan includes hospital care, physicians' services, drugs for senior citizens, and dental care for children. The Provincial share of the plan is financed through general revenues.

Distribution of Physicians

An adequate supply and appropriate distribution of physicians is a major element in assuring access to care. Merely having money to pay for medical care does not assure its availability for some people. Yet, the ability to pay for care has changed the behavior of physicians as well as of consumers, as exemplified by what happened in Montreal when the availability of money was the prime facilitator of access. In that city, Enterline and co-workers noted some structural changes in the physician work force after NHI was enacted (*2*). Fewer physicians were actually at work on any given day, although the total number of physicians rose. Moreover, the physicians worked fewer hours per day or per week. More of the physicians' time was spent in the office than in home visits, hospital visits, and telephone consultations. How physicians divided their time in performing procedures also changed—there was a shift away from having nurses change dressings, take medical histories, and give injections. Changes in the composition of their practices also were noted; for example, greater numbers of lower income people came to the physicians' offices.

The ratio of general practitioners to the population as a whole is higher in Canada than in the United States. Of all the physicians in Canada, 41 percent are in general practice, in contrast to 18 percent in the United States (*3*). Further, the number of Canadian general practitioners grew at an annual compound rate of 10.5 percent from 1971 to 1975, in part a result of a policy that encouraged enrollment in medical school (*3*). During those years, the ratio of all Canadian physicians rose from 104 to 140 per 100,000 population, whereas in the United States the ratio rose from 128 to 132 per 100,000 (*3*).

As mentioned before, a serious maldistribution of primary care physicians restricts access to care in certain U.S. communities. If the economic barrier to health care were removed by national health insurance, the access problem in these communities could be worsened. For example, persons seeking care undoubtedly will have to wait longer for appointments, if the Canadian experience holds true for the United States (*2,4*).

Consumer Satisfaction

According to Berry and co-workers (*3*), in 1977 the average waiting time for an appointment with a physician in Quebec Province (rural and urban) was substantially higher (60 to 100 percent) than in the United States. Use of emergency rooms increased in Montreal because of the need for prompt care (*2*). Increased waiting time for nonemergency appointments may reflect an attempt by physicians to ration their time according to the nature of the illness (*2,3*) or it simply may reflect more effective use of their time. The physicians had shortened their work week (*2*), a process observed in the United States as well as in Canada in recent years. This trend toward more leisure time attenuates the possibility of physicians lengthening their work hours in order to see more patients.

Despite the longer waiting time for appointments, however, most health care consumers in Montreal were pleased with the care they received from physicians, according to Enterline's household survey (*2*). But when the survey data were examined in relation to family income, it was noted that under NHI higher income families received fewer services, and lower income families received more services than before NHI. This finding is congruent with the inverse relationship seen between income and the incidence of illness, showing a greater need for services by lower income people. Although patients rated physicians' care the best possible, before and after NHI in Montreal, the higher income groups expressed less satisfaction (*2*). Yet, no changes in health status, as measured by morbidity and mortality data, were evident in the population of Ontario after NHI was implemented (*4*).

Fewer adverse consequences, such as redistribution of services away from the poor, were observed in Quebec than might be expected in the United States, because physicians are more evenly distributed among the population of Quebec (*3*).

Brown, at Dalhousie University in Halifax, Nova Scotia, in a continuing study is examining whether the disadvantaged poor of that Province are adversely affected by NHI (*5*). Before NHI, the poor had special medical care insurance coverage, which was paid for by the Province; thus, the poor had coverage similar to that of the rest of the population. Brown is examining records to compare use of

physicians' services by a group of insured welfare recipients with use by a control group of insured nonpoor persons before and after implementation of NHI. The findings are expected to show if any changes occurred in the use of physicians' services, but, of course, consumer satisfaction cannot be determined from these records.

Location of Physicians

Many unmet medical needs in the United States, particularly in rural and central urban areas, are partly attributable to the wide disparity in density of physicians (*3*). Berry and co-workers found that population centers in Canada where a high gross income could be sustained attracted new as well as older, migrating physicians (*3*). Badgley and co-workers also found that in Canada community size and income of the population are determinants of physicians' choice of location (*4*). The response of U.S. physicians to such determinants is unknown. In the early years of NHI in Canada, the incomes of rural physicians increased because their patient loads became greater than those of urban physicians (*3*). Subsequently, however, migration of physicians to high-income areas, and new physicians locating in growing suburbs, tended to even out the differences in income and workload. Uniform fee schedules also are believed to contribute to physicians' geographic distribution. Moreover, immigration authorities encouraged foreign physicians to locate in shortage areas; they denied entry to physicians who would not.

In the first 5 years of NHI, physicians' incomes rose at a compound annual rate of only 2.25 percent per year, while payment per capita for medical care during the same period rose by nearly 9 percent per year, probably because of the increased numbers of physicians (*3*). Although there was evidence of a trend toward more uniform distribution of physicians and their services (*3*), rural areas continued to be underserved, despite the overall increase in physicians, and the preexisting disparities remained (*4*).

The loss of Canadian physicians to other countries lessened shortly after NHI was enacted; however, it has since risen to its former levels (*4*). Active recruiting for jobs in the United States has attracted experienced and mature Canadian physicians—the number rose from 140 in the first quarter of 1978 to 185 in the same period of 1979, according to the AMA News. Those physicians typically complained of low fee schedules and heavy patient loads as reasons for leaving their Canadian practices.

Physicians' Fees and Income

Some U.S. physicians refuse to treat patients under the Medicare, Medicaid, and CHAMPUS programs because they believe that the fees are too low. Efforts toward cost containment under NHI inevitably will entail negotiations of fees to reduce the upward spiral of costs; other means of control may also be needed. Action aimed at control will be a change from past policies under which physicians were not confronted with negotiations over health care issues, such as cost.

Badgley and co-workers (*4*) noted that after NHI Canadian physicians' incomes increased more than those of other health workers, as well as those of other workers in general. Even so, some physicians migrated to the United States because of Canada's low fees, as mentioned before. U.S. physicians are compensated significantly more than most workers today. If they can be convinced that national health insurance will tend to sustain or restore an earnings lead for them, they may become less resistant to it.

Use of physician extenders may also influence income. Roemer and Roemer (*6*) noted that these workers are not used in Canada to the extent that they are in the United States. In Canada, nurse practitioners are being used in some experimental programs and in outpost nursing stations, but physician assistants are not. Registered psychiatric nurses and school dental nurses are accepted as alternative manpower sources for circumscribed areas of need. Berry and co-workers found that few physicians' offices in the Province of Quebec employ registered nurses or technicians (*3*), probably because physicians are not reimbursed by the health insurance plan if the nurse gives an injection or a treatment (*2*). The message is clear: the physician is unlikely to delegate a procedure for which only he can be reimbursed or if a lower fee is paid when the procedure is performed by someone else. A physician will delegate tasks to persons competent to perform them, if he is not penalized for doing so. This situation argues for reimbursement at rates comparable to realistic costs, that is, the same fee for the same service regardless of the training of the person performing it (*7*), an important point for U.S. health services planning.

Berry and co-workers also found that the cost of a procedure affects the decision to perform it (*3*), demonstrating again how important price is. Consumers' attitudes also affect physicians' services and fees. Consumers' attitudes are changing with regard to participation in their own health care, and physicians' authority is being increasingly challenged (*8*). Questions are also being asked by third-party payers, the health care in-

surers, about high costs for medical care services ordered by physicians, and there is a definite need to examine physicians' attitudes toward costs of care and their incentives to maximize personal income. Because of more intensive questioning of physicians' compensation, there is a need for further investigation of the patient-physician-insurer triad's effect on cost behavior.

Planning

Rational planning and negotiation are essential for the successful operation of a national health insurance plan. The U.S. political process tends to enact national laws that set principles, define frameworks, and permit State and local jurisdictions to devise ways to implement these laws. This system of pluralism, although affirming States' rights, presents some disadvantages in terms of providing for rational planning and for negotiation on such universal issues as service fees. Additionally, less affluent States sometimes lack the resources for developing the method of implementation suited to their particular needs. An example of the problems in our pluralistic system has occurred under Medicaid, in which some States initially chose not to participate. Arizona still does not participate, and some States are threatening to withdraw.

In Canada, the political subdivisions are fewer and generally larger than in the United States —12 Provinces and Territories compared with 50 States. These numbers indicate to some extent the complexity the United States faces in monitoring enforcement of statutes, as well as the greater likelihood for uncertainty and delay.

Glaser (*9*) has suggested ways to improve U.S. national-State consultation, based on his studies of the national-Provincial conference system in making decisions and monitoring the public health services programs in Canada. He also compared Canadian attempts to control health care costs and administration of conditional grants with the U.S. and West German experiences. He recommended that the United States adopt a formal conference system:

> This would mean establishing a method to obtain advice from the states in a systematic way through regular conferences between the President and the Governors, between national and state department heads, and between national and state program specialists, rather than the haphazard approach currently used.

Even with their more advanced style of consultation, the Canadians have not fully enhanced intergovernmental communication in planning for the provision of health services, although there have been successes in planning and regulating beds, services, and technology, as evidenced by a substantially lower rate of increase in nonpersonnel costs since 1974 (*10*). During the 2 years of the study—1974–76, per capita hospital costs grew at an annual rate of 7.9 percent in the United States and 7.4 percent in Canada. In the United States, 4.4 percent of the increase was attributable to nonlabor cost per patient day equivalent; in Canada, only 2 percent was attributable to this reason. Canadian regulators set limits on hospital expenditures to control costs by using the concept of prospective budgeting, which sets a limit in advance of the forthcoming year. No post hoc adjustment is made, and the health care personnel must stay within the budget. The effectiveness of this method is not yet proved.

Some new management techniques are being worked out on the Provincial level, as well as on the local level in certain Provinces, to overcome the limitations of the new budget process (*10*). For example, the Vancouver Health Department is using a system called Outcome Oriented Management. Objectives are being set for levels of health to be achieved within a reasonable time. Measures of health status and program effectiveness are being formulated. For example, infant care goals include specified reductions in infant mortality, with numerical goals. The stated major or general outcome goal is that "babies are born healthy and thrive." Specific outcomes include acceptable standards of prenatal development and an expected standard that has been established for newborns to reach a state of functional equilibrium. Achievement indicators have been defined and the data sources identified. The health care providers are major participants in creating goals and data sources and setting standards. Information about further experience with this system will be useful for U.S. planning efforts.

Health status goals are highly dependent on the population base, much as insurance actuarial tables are. The Vancouver achievement-indicator approach offers an ideal setting for a well-designed prospective research study on effectiveness and costs and emphasizes the need for building a reliable data base. When outcome data from the Vancouver experience are available, more will be known about the effectiveness of this planning process. However, because the system was carefully designed and implemented, it is anticipated that it will yield more useful insight than that gained from the experience in Ontario, where evaluation studies were undertaken on the performance and cost of community clinics (*4*).

Badgley and co-workers reported that the Ontario government, under pressure to complete the evalua-

tion and to use the findings for the purpose of establishing health policies to implement community clinics, designed the study and determined the questions to be asked (*4*). The evaluators did not use adequate data sources, and their report was not published; thus, critical evaluation was limited. Since it was a flawed study, the findings were not clear cut. As a result, support of the community clinic movement was ambivalent, and the use of clinics as a means of organizing health services is only slowly emerging. Badgley and coworkers concluded that methodologically unsound studies do not foster confidence in their results and are likely to selectively support self-fulfilling prophecies, allowing antagonists of an issue to cite these studies for divergent purposes.

Conclusion

Despite the difficulties in gaining support for the community clinic movement in Canada, the concept holds promise for a new approach to the organization of health care services. Early studies of clinics operated by unions and voluntary associations in Canada revealed advantages in reduced hospital care (*3*). The U.S. counterpart of the clinic movement is the health maintenance organization (HMO), or the prepaid group practice. The results of early studies on enrollees of U.S. HMOs have shown lower medical care costs, resulting from shortened hospital stays, lowered hospital admission rates, reduced morbidity days, and fewer inpatient services per person (*11*). There is some question about the rate of ambulatory visits being higher in HMOs or the same as among comparison groups (*11*). Because of Federal funding, encouragement, and support of HMOs, their numbers are expected to increase. Comparative studies to determine the effectiveness and cost benefits of HMOs must be designed carefully to prevent ambiguous and irrelevant results. There is a current need for methodologies appropriate to the evaluation of these organizations and for a suitable data base, a problem area that requires special attention.

National health insurance is not a panacea for equitable distribution of health care. It may make health care available to economically disadvantaged people, but it will not solve other problems of access unless it is accompanied by a process of rational management to examine critically the geographic distribution of physicians and other allied health personnel and their migration patterns, incomes, wages, and fees. Comparative studies on cost and effectiveness of various institutional arrangements for the delivery of health care are essential. The foremost need is for a data base that can be used locally and nationally to permit use of analytical management techniques in decision making about the distribution of health care services and to serve the research function. New sociological and political approaches are required to solve the issues that are now defined only as economic and geographic.

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