



HEALTH CARE: A COMMUNITY CONCERN?

by Anne Crichton, Ann Robertson,
Christine Gordon, and Wendy Farrant

ISBN 978-1-55238-572-2

THIS BOOK IS AN OPEN ACCESS E-BOOK. It is an electronic version of a book that can be purchased in physical form through any bookseller or on-line retailer, or from our distributors. Please support this open access publication by requesting that your university purchase a print copy of this book, or by purchasing a copy yourself. If you have any questions, please contact us at ucpress@ucalgary.ca

Cover Art: The artwork on the cover of this book is not open access and falls under traditional copyright provisions; it cannot be reproduced in any way without written permission of the artists and their agents. The cover can be displayed as a complete cover image for the purposes of publicizing this work, but the artwork cannot be extracted from the context of the cover of this specific work without breaching the artist's copyright.

COPYRIGHT NOTICE: This open-access work is published under a Creative Commons licence.

This means that you are free to copy, distribute, display or perform the work as long as you clearly attribute the work to its authors and publisher, that you do not use this work for any commercial gain in any form, and that you in no way alter, transform, or build on the work outside of its use in normal academic scholarship without our express permission. If you want to reuse or distribute the work, you must inform its new audience of the licence terms of this work. For more information, see details of the Creative Commons licence at: <http://creativecommons.org/licenses/by-nc-nd/3.0/>

UNDER THE CREATIVE COMMONS LICENCE YOU **MAY**:

- read and store this document free of charge;
- distribute it for personal use free of charge;
- print sections of the work for personal use;
- read or perform parts of the work in a context where no financial transactions take place.

UNDER THE CREATIVE COMMONS LICENCE YOU **MAY NOT**:

- gain financially from the work in any way;
- sell the work or seek monies in relation to the distribution of the work;
- use the work in any commercial activity of any kind;
- profit a third party indirectly via use or distribution of the work;
- distribute in or through a commercial body (with the exception of academic usage within educational institutions such as schools and universities);
- reproduce, distribute, or store the cover image outside of its function as a cover of this work;
- alter or build on the work outside of normal academic scholarship.

CHAPTER 21

Economic Evaluation of Models of Community Services: A Critique of Applications of the Concept

The terms of the grant under which this project was funded required an economic review of community health services. The federal government had been trying to encourage that more emphasis be placed on community care since 1977, when a special grant was included in the Established Programs Financing Act (EPF) package to promote home care. It was argued by some politicians and bureaucrats that community care would not be less expensive than institutional care. The request for this chapter to be included was to provide some proof of this controversial area. This chapter was written by Christine Gordon in 1991.

Evaluation Methodology and Health Goals

Economic evaluation of alternative health delivery modalities must be seen in terms of the goals set for the evaluation process. These may range from the most narrow — cost containment — to the broadest concept of health promotion in the sense of the World Health Organization (WHO) definition. Evans and Stoddart (1990) express reservations about the usefulness of the latter approach:

Such a comprehensive concept of health, however, risks becoming the proper objective for, and is certainly affected by, all human activity. There is not room for a separately identifiable realm of specifically health-oriented activity. The WHO definition is thus difficult to use as the basis for health policy, because implicitly it includes all policy as health policy. It has accordingly been honoured in repetition, but rarely in application. (p. 3)

However, it is also clear that a strict adherence to narrow concerns of efficiency in health care delivery cannot encompass adequately the full social costs and benefits flowing from alternative delivery structures. In this chapter the appropriateness of economic evaluation techniques will be discussed with regard to the goals set for the evaluation process. Significant results reported in studies on community health clinics and alternative delivery modalities for care of the elderly will be reviewed.

Evaluation Methods

Almost all studies evaluating the economic performance of health care projects are based on concepts of cost effectiveness analysis (CEA). Theoretically this technique allows for the evaluation of the economic performance of a given project in terms that allow for comparison with other projects. In practice, however, comparison between projects can be accomplished only if outcomes are similar. The reason for this is that CEA is not a full substitute for cost-benefit analysis (CBA). CBA requires that all costs and benefits be measured in monetary or equivalent terms. Monetary valuation supports the calculation of a project's net benefit, which in turn allows for direct comparison between projects. However, health project outcomes rarely are suited to monetary valuation, so that a single common measure of net benefit cannot be computed.

On the other hand, CEA "accepts the difficulty of money valuation of outputs such as health improvement, and instead compares the cost per outcome of different interventions" (Green and Barker 1990, 922).

This approach can be applied in a straightforward manner if a project's outcome can be defined in terms of a single outcome category, but if there are different types of outcomes then some method of comparing them is required. Fried, Worthington and Deber (1989) take a strict position on the valuation of outcomes, insisting that, like costs, benefits be measured in a single unit: "The most common effectiveness unit is the 'life year.' If morbidity is a greater concern than mortality, one could use such measures as 'symptom-free years.' ... The important matter is that all relevant consequences must be measurable in the chosen unit" (p. 634).

This approach may be applicable to projects investigating the effect of a specific intervention targeted to a single health condition, but many alternative delivery projects involve a wide variety of outcome categories, including, for example, psychosocial outcomes or the level of patient satisfaction.

Evans' view (1984) of CEA, which is closer to that utilized in practice, does not require a common unit of measurement for outcomes. He states that "at least some of the consequences of a project are measured only in terms of their natural units" (p. 252). This implies that projects with differ-

ent categories of outcomes cannot be directly compared to each other, so that a purely economic evaluation cannot be made.

An example of this situation can be found in a review of thirty-one studies of long-term care alternatives by Weissert, Cready and Pawelak (1988). The authors state that "for home and community care to produce savings and avoid cost increases, the savings on institutional and outpatient services, plus an imputed value for patient benefits, must collectively be greater than the cost of new home and community care services" (p. 310). However, none of the studies reviewed actually attempted to impute values to patient benefits, but only reported findings in terms of morbidity rates, activities of daily living scales, cognitive function scales, etc.

The point here is that an objective economic evaluation of these projects is not possible — value judgements must be made to assess the importance of non-monetary benefits along with direct costs and monetary benefits. The authors of the study mentioned above were not impressed with these non-monetary benefits; even though they state that "increased life satisfaction appears to be a relatively consistent benefit of community care, caregivers and patients who use community care are more satisfied and, as a whole, community care users may also have fewer unmet needs" (p. 365). They emphasize that "for community care to operate at lowest net costs, the new costs of community care services must be substantially offset by savings on the use of existing services, such as institutional care" (p. 367). This suggests that whatever the potential benefits in terms of patient outcomes are, they are not worth very much.

This attitude is not unique; in general, studies evaluating alternative modes of care delivery emphasize the categories of costs and benefits that can be readily calculated in monetary terms. Green and Barker (1990) have argued that standard techniques of economic appraisal are inappropriate for setting health care priorities: "The major difficulty [CEA] faces stems from the need to have a single outcome measure, which is common to those interventions being compared. For it to measure the effectiveness of a service the outcome should be in terms of health objectives; if not, the analysis is reduced to measuring efficiency in service provision alone" (p. 925).

Efficiency in the delivery of health care is, of course, a critical element of evaluation, especially with current concerns about increasing health care costs. Indeed, the majority of evaluation studies of alternative delivery projects have focussed on efficiency concerns. Alternative delivery modalities can be viewed as substitutes for existing delivery systems, so that the level of efficiency obtained by an alternative structure can be determined by the extent to which the alternative can lower overall costs while providing a level of care that is at least equivalent to that currently available. From this

viewpoint, evaluation can be split into two parts: the first is an economic analysis defining the net benefit as the difference between the costs incurred by the project and those that would have been incurred in the absence of the project; and the second is a non-economic analysis of patient outcomes, the purpose of which is to ascertain whether the project maintains current standards of care, and thus is an acceptable substitute for current delivery modes.

The weakness of this approach is that it does not allow for a specific evaluation of the potential of alternative delivery modes to improve the health of a community. This is true whether "health" is defined in the restrictive sense as absence of disease, or whether it is defined in the more encompassing sense of the WHO definition.

In the first instance, a number of studies have indicated that community health centres are more effective than are private practice physicians in disseminating health information and providing preventive services (Bozzini 1988; Battista, Williams and MacFarlane 1990; Abelson and Lomas 1989). To the extent that these services are successful in realizing improved future health status of patients, they will be responsible for producing reductions in future health care costs. Lomas (1985) states: "It might well be that the additional preventive and educational programs of alternative delivery facilities increase the overall general health of their population and decrease their future use of, and therefore costs to, the health system" (p. 164).

However, current knowledge of the effectiveness of preventive services is limited (Evans 1984), so that it is impossible to estimate the magnitude of these potential cost savings. But it is not clear that economic analysis could evaluate the importance of these services even if their impact were known. For example, the health care savings gained from treatment cost reductions would only account for cost savings and ignore the benefits (both economic and psychological) gained from improved health. This effect would be compounded if future health status improvements are not manifested over the near term, as the present discounted value that could be assigned to causal preventive measures would be small.

Net present valuation of health benefits would be even more distorting in the case where health status improvements crossed generational lines, as could be an expected outcome of improvements in maternity and pre-natal care. Green and Barker (1990) state: "Whilst it is clear that, as individuals, we view the future as of less importance than the present (partly as a result of uncertainty), there is an equally valid argument that a social view, as exercised in a public sector appraisal, should defend the interests of future populations, and should deliberately take a long term view" (p. 925).

The demonstration effect of alternative delivery projects can also provide significant benefits. In the case of the community clinic in Sault Ste.

Marie, Lomas (1985) notes that: "as a consequence of the competition from the health centre, the other physicians reduced their hospitalization rates below the provincial average (although still above health centre figures) and aggressively sought to increase the range of specialist services available for the community. Such benefits are not credited to the alternative when the cost-saving and quality-improvement potential is calculated in the evaluation process" (p. 165).

If we accept a broader definition of health, community-based health care may provide an effective means of empowering a community to participate actively in health care decision-making. "Community involvement may often lead to the provision of services more appropriate to the health needs of the population than services provided without such input. ... The general appropriateness of the care being delivered is not a factor which receives much attention in the current cost-oriented evaluation process" (p. 165).

In a study of the impact of consumer participation in the control of Centres locaux des services communautaires (CLSC) in Quebec, Godbout (1981) concludes that such participation is necessary to effect some types of change: "It is clear that participation becomes merely an instrument for the benefit of the organization when no formal power independent of the organization (in this case, legal power) is granted to participants. This has been shown by comparing the power exercised by users on the CLSC board of directors with the absence of real power in other types of bodies established by professionals, except when these bodies are responsible to the board of directors" (p. 165).

It is for these reasons that Green and Barker (1990) reject economic evaluation as a suitable approach to the setting of priorities for health expenditures. "[Economic evaluation] can be a powerful tool at the level of determining the most efficient way of dealing with a specified health problem, but as such is essentially concerned with questions of 'how,' not questions of 'what' — process not prioritisation" (p. 926).

Brown et al. (1990) agree with this assessment of the utility of economic evaluation, but for different reasons. They argue that the dichotomy between investment and consumption decisions in the private sector is paralleled in the public sector:

While investment/management decisions are subject to evaluation, decisions based on consumer sovereignty are not. In the public sector consumption/expenditure decisions are ruled by 'cabinet' sovereignty.'

The introduction of any cost-effective change in the health care system creates the potential for cost-saving in the system as a whole by freeing up resources in various parts of the system. It is then,

in principle, a policy decision as to whether these freed-up resources should be withdrawn from the system, thereby capturing the potential cost-savings, or should be left within the system, thereby foregoing cost-savings in order to expand the total supply of health care and community services. (p. 26)

This implies that even if health outcomes were measurable in monetary terms, it would not be appropriate to use economic evaluation techniques to guide health policy decisions.

In the discussion which follows, emphasis is placed on the effectiveness of alternative delivery modalities in terms of the narrow evaluation goal of cost containment. Economic evaluation methods are suited to this level of analysis, and the results suggest that these delivery approaches offer promise for the realization of significant cost containment.

Community Health Clinics (CHC)

A number of studies have examined the efficiency of CHCs in Canada,¹ and overall, the results have been positive. The most thorough of these studies, conducted by the Saskatchewan Ministry of Health in 1983, looked at the experience of two community clinics in Saskatchewan. The costs of medical services and hospitalization incurred by patients of the clinics was compared to that incurred by patients of private practice physicians. The study indicated that higher costs for medical services were more than compensated for by lower hospitalization and pharmaceutical drug plan expenses, with reduction in hospital days and drug costs for clinic patients, most pronounced in the over sixty-five age group. Per capita total costs were found to be thirteen percent less for clinic patients in Prince Albert and seventeen percent less for clinic patients in Saskatoon. It should be noted that the major portion of total costs for clinic and private patients was made up of hospital costs (on average this category was sixty-four percent of the total).

Studies of the Sault Ste. Marie and District Group Health Association (Hastings et al., 1973; Mott, Hastings and Barclay 1973; DeFrieze 1974) and the St. Catharines' community health clinic (University of Toronto and University of Michigan 1973) have shown similar reductions in hospitalization rates of clinic patients. In a review of these studies, Birch et al. (1990) state:

The reductions in hospitalization seen in the three controlled studies and the current ACIP [Ambulatory Care Incentive Program] data were of the order of 30%. The St. Catharines' clinic was estimated to have approximately 20% lower rates of hospital utiliza-

1 The concept of health centres/community clinics/CLSCs is discussed in Chapter 11.

tion for its patients. The studies of the Sault Ste. Marie clinic showed the lower utilization of hospital care was largely due to a lower number of admissions. The average length of stay for an admission was approximately the same. The study of St. Catharines showed the opposite trend: lower hospital utilization at that clinic was largely due to shorter lengths of stay, not fewer admissions. (p. 4)

A CBA of four rural community health centres in British Columbia undertaken by the Audit Committee on Community Resources and Health Centres found that each centre provided a net benefit, mainly from reduced hospitalization costs. Hospitalization cost savings were estimated by using incidence data from each community in years immediately prior to the opening of the centres, and multiplying the number of hospital days saved by the average per diem rate at area hospitals.

The Canadian studies indicate that the importance of hospital cost reduction to the cost-effectiveness of community health clinics cannot be over-emphasized. In light of these findings, it is surprising that so few studies have been undertaken, and, in the case of CLSCs in Quebec, there appear to have been no systematic estimates of their effect on hospitalization rates.

A thorough investigation of the impact of community health centres on hospital utilization in the United States was conducted by Freeman, Kiecolt and Allen (1982). Five community health centres located in areas widely separated geographically were selected for study. The results confirmed the findings of the Canadian studies: "The rate of admissions for patients whose usual source of care is a community health centre is almost one-half that of hospital outpatient users, with patients of private physicians in between" (p. 256).

Similar differences between groups were reported for the average number of nights spent in a hospital. To test whether the results were due to differences in the populations of care groups, the authors used statistical methods to control for a number of social and demographic variables: "These analyses allow the simultaneous consideration of the effects of race, sex, education, poverty status, age, insurance status, chronicity, and source of ambulatory care ... the findings do add to the evidence: when selection variables are taken into account, source of ambulatory care still is associated with number of hospitalizations" (Freeman, Kiecolt and Allen 1982, 261).

The conclusions reached by studies of community health centres is reinforced by evidence from the Rand Health Insurance experiment. Newhouse (1993) states: "Although the experiment was primarily concerned with the estimation of the responsiveness of health-service utilization to the user price, the design of the study included service utilization under both fee-for-service and capitation based modalities. The researchers were therefore able to

consider the impact of delivery modality on the utilization of health care and patient health status" (p. 52).

Studies based on the experiment concluded that the average cost of the patients enrolled in the group health co-operative (GHC) was twenty-eight percent less than the cost per patient in the fee-for-service plan (Manning et al. 1984, 53). "Lower hospital use was largely responsible for the lower total cost. GHC groups used almost 50% fewer hospital days than the fee-for-service group" (p. 54).

Home and Community Care for the Elderly

A number of projects in Canada, the United States and Great Britain have been established to provide ambulatory care for elderly patients in their homes. The primary aim of these projects is to reduce the demand for long-term hospital and nursing home care, both because institutional care is expensive and because the provision of care in the home allows patients to remain in familiar surroundings among family and friends, a situation believed to be more conducive to positive health outcomes than is the institutional setting.

A major impetus to the growth of government funding of these projects is the aging of the population. In a study of the demand for hospital and nursing home services by the elderly, Roos, Shapiro and Tate (1989) state: "How do [these conclusions] affect such often recommended policies as targeting the high hospital use by the elderly patient? They reinforce the importance of this approach and suggest a time frame for continued monitoring. Because future costs incurred by the high user group are so substantial (particularly when both future hospital and nursing home costs are considered), special interventions targeted at high hospital users make very good sense" (pp. 365-66).

Robertson (1987) notes that: "the approximate institutionalization rate of 9% in Canada is higher than figures reported in the United Kingdom and the United States" (p. 63). He calls for de-institutionalizing care for the elderly, both through home care funding and through centralized case management:

Comprehensive geriatric assessment, both diagnostic and functional, is critical in any long-term care system since inappropriate or premature institutional admission may be prevented, remediable conditions may be detected and treated, and appropriate matches may be made between needs and services. ... 'Deinstitutionalizing' the elderly does not imply discharge of more than a few existing long-term care residents, rather it implies de-institutionalizing care by developing alternative methods for delivering health care to the elderly. (pp. 67-68)

Studies of the cost-effectiveness of alternative care for the elderly have shown mixed results. In Great Britain, a non-randomized study of the South Tees Family Support Unit (FSU), which provides daycare, respite care and occasional residential care, showed that, although FSU services were three times more costly than that which would otherwise be provided, the project resulted in a prolongation of life at home for elderly patients (Donaldson and Gregson 1989). However, FSU costs per patient day were forty-one percent of the per diem cost of a long-term hospital bed. The study indicated that these potential savings could be realized: on average, the study group remained in the community 172 days longer than did the control group (p. 204). It should be noted that the study design did not allow for a firm conclusion on this point. The authors discuss the type of data that would be required to make such an evaluation:

To predict the resource consequences of this alternative it is necessary to have a much larger sample of clients than has been possible in this study and a longer time period over which data are collected. Data collected would be on whether each person in the group eventually enters some kind of long-term care before death, quality of life whilst maintained at home and in long-term care, and also on the number of life years gained by one treatment over the other. ... True cost effectiveness cannot be determined without such data. (p. 208)

It is important to note that if the number of life years is found to be extended by the alternative care project, this may result in an overall increase in per patient health care costs even if the project provides cost savings in other respects. Thus it is imperative that studies of alternative care for the elderly be able to evaluate health outcomes and costs together; otherwise projects which offer poorer health outcomes may be judged to be superior as they provide more overall cost saving benefits. It is unlikely that standard economic evaluation approaches are able to handle this situation in a satisfactory manner.

The evidence indicates that home care services are cost effective in the case where the patient would be institutionalized otherwise. In a British study the costs of intensive home care services were compared with costs for hospital care. The study was controlled so that patients in each group had comparable disabilities. It was found that in seventy-five percent of the cases, costs for hospital care was higher (Gibbins, Lee and Davidson 1982).

Studies in the United States have shown similar results, but indicate that alternative care for the elderly may be cost effective only when it is coupled with a strict screening process. Weissert, Cready and Pawelak (1988) examined the results of thirty-one studies, nineteen of which had obtained data

critical to estimating cost effectiveness. They found that of these only seven exhibited net cost savings.

The authors concluded that the key to cost efficiency in alternative delivery of services to the elderly was in targeting appropriate client populations: "If home and community care programs are to avoid raising overall costs, they must serve patients who would have entered nursing homes for long stays. These admissions or stays must be avoided or shortened. ... But if patients served would not have gone to a nursing home anyway, or if they had gone would have stayed only a short time, costs must go up because nursing home use is not being avoided but new services are being used" (p. 321).

One approach to handling this problem (Robertson 1987) is through case management: "The services a client or patient receives may depend less on assessed needs than on the service array provided by the agency with whom contact is first made. Case management can facilitate appropriate utilization of community support and facility services" (p. 66).

A study by Davidson, Moscovice and McCaffrey (1989) analysed the allocative efficiency of case managers for community-based elderly in a pre-admission screening program in Minnesota. The study results "implied that case managers were allocating alternative care services in a reasonably efficient manner" (p. 553).

Other Home Care Projects

It should be noted that the scope for effective and efficient home care delivery is not restricted to the provision of services for elderly patients. In a study of home care that was not oriented exclusively to elderly patients, Fenton, Tessier and Contandriopoulos (1982) investigated the cost-effectiveness of home psychiatric care as compared to hospital care in a pilot study in Montreal. The results indicated that home care costs were from sixty-four percent to eighteen percent less than hospital care costs, while providing equally effective treatment.

On the other hand, a study of the Verdun Hospital-in-the-Home Program (HITH) found that HITH is eight percent more costly than inpatient care (Beaudin 1989). However, the program was judged to be cost-effective overall due to benefits obtained by alleviating problems of hospital overcrowding and shortage of beds (p. 55). The study suggested that costs could be lowered by reducing the level of service integration offered, specifically social services.

A recent study of the New Brunswick Extra-Mural Hospital (EMH) found that the EMH has had some effect in reducing hospitalization utilization (M.G. Brown 1990; Brown et al. 1990). In addition EMH regions have had lower rates of increase in the utilization and costs of physician services than

have had non-EMH regions in the province. While the authors emphasize that the study did not include a cost-effectiveness component, they feel that "the evidence collected suggests that the EMH might well pass a cost-effectiveness test if a comprehensive analysis is done, insofar as total health system and community service costs for EMH patients in regions served by the EMH may be lower than those for patients with similar conditions living in regions not served by the EMH" (p. 26).

Estimation of Hospital Costs

In all the studies cited above, the monetary value accorded to institutional (primarily hospital and nursing home) utilization is a critical element in calculating the net benefit obtainable. This aspect of economic evaluation is problematic.

For example, the practice employed to estimate hospital costs utilized in the Saskatchewan Ministry of Health (see Annual Report 1983) and British Columbia studies was to multiply total hospital days by the average per diem hospital rate. There are two sources of difficulties with this approach. The first is that the type and severity of illness affects the actual per diem hospitalization cost: "Actual costs for particular patients could be quite different from the per diem rate. First, diagnosis and illness severity affect cost. No reliable information was available on illness severity. Secondly, the first days of a patient's stay are usually more costly due to the work-up required initially. ... To gain a true picture of costs incurred, the costs of lab test, x-rays, special diets and special therapy should be included. Present hospital information systems do not provide this cost information" (pp. 30-31).

In order to estimate actual hospitalization costs for patients of both private physicians and community health clinics, utilization data related to individuals must be available. Lomas (1985) notes that the Ontario government discontinued individual identifiers in 1972, making it impossible to trace the health care received by an individual. "[The 1972 decision] demonstrated the government's lack of understanding and commitment to the use of the OHIP data bank as a health planning and evaluation tool, and confirmed it as simply a centralized billing system" (p. 165).

The second source of difficulty with the average per diem rate approach is that the hospital days saved are unlikely to be average days; savings in utilization will occur mainly at the margin. Hospital costs are affected by economies of scale, so that marginal costs should be significantly lower than average costs. Barer (1981) calculated that a twenty percent reduction in the number of hospital days might lead to a saving of only five to eight percent in hospital costs.

On the other hand hospital costs are based on supply indivisibilities; that is, capacity cannot be increased incrementally — once capacity has been reached, it is necessary to build a new hospital. If community clinics or hospital-in-the-home programs can reduce the demand for hospitalization sufficiently, it may be possible to at least delay the construction of new hospitals; in this case, savings in hospital utilization would be valued at more than the average per diem rate.

The evidence for benefits of this nature are mixed. In discussing the effect of Health Service Organizations (HSO) in Ontario on hospital utilization, Birch et al. (1990) state: "We would expect the savings to accrue mainly at the margin. In other words, the days of inpatient stay or the reduced admissions for a ward saved do not amount to enough reductions in any one community to close a hospital. It may be difficult to justify (on economic terms alone) laying off some staff or developing a community program on the basis of the bed-days saved by HSOs unless the market penetration of HSOs is greater than that seen in Ontario up to this point" (p. 11).

On the other hand, the British Columbia Ministry of Health recently transferred the funds allocated for sixty long-term care beds to the Victoria community care system. The president of the Greater Victoria Hospital Society stated: "Without a doubt, the Victoria Health Project is proving that coordinated changes in the health care delivery system can have a positive impact on the need for costly acute care facility beds." (Victoria 1990b).

Clearly the scale of the project to be evaluated is critical. Reduction in hospital utilization obtained from a small pilot project would be at the margin, while a full-scale project run along the same lines may realize significantly higher cost savings.

A final point on the difficulties of estimating savings due to decreased hospital utilization comes from Wennberg's study (1985) of the variability in hospital utilization by hospital catchment areas in Vermont. Utilization rates varied by a ratio of 1.9; Wennberg states that "in some areas, physicians are much more prone to admit a patient with a particular medical condition or to perform a particular operation in the hospital than are those in other areas" (p. 513). While it is possible that protocol variations are wider in the United States than in Canada, it is important to recognize that savings reported in a given study may not be generalizable geographically.

Summary

Economic evaluation techniques are useful in determining whether an alternative delivery modality is a cost-effective substitute for an existing modality if the evaluation criteria are sufficiently narrow. Evaluation goals that include measurement of health outcomes, especially those derived from the

provision of health promotion or prevention services, cannot be handled properly by economic evaluation alone.

On the whole, studies of the cost-effectiveness of community health clinics, alternative delivery of care for the elderly and home care have obtained positive results. These studies indicate that cost savings can be gained through a reduction in the demand for institutional services, particularly hospitalization. The valuation of these savings, however, is problematic. The usual method of assigning average per diem rates to all hospital days saved may overestimate or underestimate the true savings, depending on the particular characteristics of the demand reduction and the scale of the project.

