MEASURING EFFECTIVENESS IN LONG-TERM CARE FACILITIES IN BRITISH COLUMBIA

By

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B.Sc.N., The University of Saskatchewan, 1967

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE (HEALTH SERVICES PLANNING and ADMINISTRATION) in

THE FACULTY OF GRADUATE STUDIES (Department of Health Care and Epidemiology)

We accept this thesis as conforming to the required standards

THE UNIVERSITY OF BRITISH COLUMBIA

SEPTEMBER 1986

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ABSTRACT

The involvement of government in the funding of health care, and especially the substantial expenditure of health care dollars for facility-based long-term care for the elderly, has led to rising pressure for accountability for the funds expended. The public expectation is that government will ensure an adequate quality of care is provided while at the same time ensuring the optimum and efficient use of the funds. While government wishes to maintain an arms-length relationship with providers, recently, an interest in linking the payment for care to its assessment has been expressed.

It has been proposed that these expectations can be met through providing government funders with information about the effectiveness of care, using outcome measures. Such an approach would provide the information needed for assessing the adequacy of care, for use in cost-effectiveness and efficiency studies and potentially for use in assigning all or part of the payment for care. Also, from the funders' perspective, if the outcomes of care are satisfactory, how these outcomes are achieved need not necessarily be of concern.

The purpose of this study is to investigate and, if possible, to develop an outcome-based approach which links the assessment of the care provided in long-term care facilities in British Columbia (B.C.) to the current payment system. The long-term care system in B.C. was reviewed to identify the current mechanisms for assuring adequacy of care, the system of reimbursement and any problems encountered with these. The methodological, definitional and system factors which would act
as constraining variables to the application of an outcome-based reimbursement system in B.C. were identified.

The study reviewed and critiqued organizational and individual level outcome measurement approaches used in private industry, the public sector, health care and long-term care for their feasibility of application in the B.C. situation. Outcome approaches reviewed included generic approaches such as CBA/CEA, MBO, ZBB and health care approaches such as mortality and morbidity rates, and health status indexes. Existing applications in long-term care of the latter approach were reviewed.

As the study progressed it became clear that effectiveness measures must be developed and the impact of effectiveness on efficiency determined before a link to reimbursement can be made. A predictor model, using a multiattribute health status index as the outcome measure of effectiveness, and which uses "expected" versus "actual" outcomes to determine if the results were Better, Worse or the Same as predicted was recommended for use in B.C. Such an approach takes into account the fact that improvement of health status is not the only outcome expected in long-term care. It allows for multidimensional measures which accommodate the heterogeneity of long-term care residents. It is proposed that this effectiveness measurement approach be implemented as a joint research and service application to allow for empirical testing and resolution of the methodological and feasibility issues noted, including the limited experience with the use of effectiveness measures in facility-based long-term care.

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ACKNOWLEDGEMENT

I would like to extend my heartfelt thanks and appreciation to a number of people for their help and support while I was researching and writing this thesis. The contributions of each and everyone were valued. I would first like to thank my thesis committee - Dr. Annette Stark - Chairman, Dr. Robert Modrow and Dr. Dean Uyeno - for their continued support, invaluable help and constructive criticism.

I would also like to extend my thanks to the members of my family who provided much appreciated moral support and encouragement. Thanks go especially to my parents - Mr. and Mrs. Clifford Levenick, to my sister Ruth and her family, to my brother Keith and his family and to my aunt and uncle - Mr. and Mrs. Raymond Bradford.

I would also like to extend my thanks to my colleagues for their help and support, as well as staff at the Ministry of Health.
CHAPTER I: INTRODUCTION

THE PROBLEM

Over the last two decades in western societies, governments have been increasingly involved in the funding of the health care system. At present, long-term care services\(^1\) are the fastest growing area of the system [1:11,18; 2; 3].

One major reason for this growth is found in the changing population demographics. The elderly, particularly the middle-old (75-84 years) and old-old (85+ years), are currently the major users of long-term care services and population trends show increasing numbers and proportions of elderly in the world population [1; 3; 4; 5:1-6; 6]. In Canada, the percentage of persons 65 years and over has grown from 7.6% in 1960, to 8.0% in 1970, to 9.5% in 1980 [5:4]. The rate of increase is even greater for the middle-old and the old-old groups.

The demographics also show a disproportionate number of females living alone, and in Canada, an urban-rural shift in the elderly population (where there is a higher proportion of elderly in small towns under 5,000 than is true for the general population) [5:2-7; 6; 7]. This underlies both the higher proportion of females in the long-term care population and the numbers of small long-term care facilities in Canada [4; 5].

\(^1\)Long-term care services (LTC) is the generic term used in this study to refer to a system which provides a continuum of community and facility based services which enables the chronically disabled and the elderly infirm to maintain as high a level of independence as possible. Care is provided over a longer period of time than is usual in acute care.
These demographic trends, which are predicted to continue, have created a heightened social awareness and public pressure on governments to plan for long-term care services. As Havens notes, "Canada has recently joined the ranks of the old nations ...", that is nations where those 65 years and over (65+) exceed 7% of the population [7:1].

Concurrently there has been a growing public expectation of accountability for the public funds expended in health care generally. It is well established that institutional or facility-based services account for the major portion of the funds expended within the health care system as a whole [2; 3:253-56; 8; 9:99]. A similar pattern is seen in facility-based care² within the long-term care system [9; 10]. Evans suggests that two equally important trends in Canada are related to the increasing utilization and expenditure for health care amongst the population 65 years and over. One is the trend to "...more frequent intensive acute care episodes..."[1:15], and the other is the increase in the public programs provided. These programs extend the range of health care services to the elderly, such as long-term care facilities and home care supports [1:18].

Evans notes, in a comparison of relative hospital utilization rates by age and sex among the elderly, that "both separation and length of stay rates increase sharply with age" [1:15]. For instance, in Canada, from 1962 to 1974 the

²Facility-based long-term care refers to residential care facilities providing care on a 24 hour basis such as nursing homes or community care facilities.
separations per capita for 'old-old' males rose forty percent relative to the general population. For females the increase was over twenty percent for the 'young-old' (65 to 74) and up to thirty percent for the 'old-old' [1:15].

A review of health care expenditures in Canada shows that the 'homes for special care' (which includes most long-term care facilities) category of the national health care expenditures has risen from 5.8% of the total in 1960, to 7.2% in 1970, to 13.7% in 1982 [9:24; 11]. There is an expectation that accountability for these expenditures will be demonstrated in two ways: one is by ensuring the provision of adequate care (quality control); and the other is ensuring the optimum and efficient use of the government funds expended in providing care (cost control) [11; 12; 13; 14; 15:22-32].

The increasing emphasis on efficiency in care provision, as well as on the quality of health services, particularly in times of fiscal restraint, has influenced the development of approaches for assessing efficiency and assuring quality. A review of the literature suggests that evaluation of the adequacy or quality of institutional (acute or long-term) care is moving from the measurement of the structures (inputs) and processes (activities) of care to measurements based on the expected outcomes, using as outcome measures either the health status of patients or organizational outputs, or both [13; 14; 16; 17; 18; 19; 20; 21; 22; 23; 24; 25; 26; 27].
A similar evolution has occurred in the reimbursement of health care providers. Reimbursement approaches have evolved from retrospective (i.e. payment for care already received) to prospective payments approaches (based on expected or average costs), with the unit of payment changing from an organizational or service base approach (e.g. by hospital or by service department) to a case mix approach (payment based on the numbers of patients cared for, grouped by diagnostic related groupings (DRG's), and from determination of payment using a cost based orientation to an outcome-based approach (e.g. the use of zero-based budgeting with organizational outcomes) [28; 29; 30; 31].

Reimbursement approaches in facility-based long-term care have evolved in a similar manner to those in acute health care. But the mix of for-profit and non-profit providers with their differing motivations for effectiveness and efficiency has led to a variety of proposed reimbursement approaches [32; 33; 34; 35; 36; 37; 38]. The multidimensional problems of long-term care clients has made reimbursement linked to case mix approaches such as Diagnostic Related Groups (DRG's) unworkable [39], but other case-mix approaches which incorporate functional (patient) and service or care problem characteristics have been gaining support [40; 41; 42; 43].

There is a growing interest, particularly in facility-based long-term care, in linking the payment system with quality of care or outcome (effectiveness) evaluations [30; 32; 33; 37; 41; 44]. This approach emphasizes the need to move from reactive
evaluation approaches to proactive methods which will assure the adequate provision of care. That is, when called to account, the responsible parties (government funders, providers) must be able to show that mechanisms are in place (or provide evidence of effective outcomes) which assure quality care is provided and in a cost efficient manner. As yet there is little agreement on what measures of outcome can be linked to the reimbursement system for facility-based long-term care despite the numerous measurement tools and approaches that have been developed [20; 21; 22; 24; 27; 37; 39; 41].

Two major problem areas have been identified with the current accountability practices of government decision makers for facility-based long-term care: inadequacies in the regulatory system; and lack of control of reimbursement mechanisms [10; 34; 45; 46; 47; 48]. These two aspects have often developed separately, resulting in areas of conflicting and overlapping accountability.

For instance, on the regulatory side, public health agencies have had the responsibility for establishing structural, life safety and care standards aimed at ensuring the quality of the care provided [15; 47; 49]. Whereas public funding of facility care was initially the responsibility of the social welfare system which paid for (or subsidized) the care provided to indigent residents [15; 47; 49]. Thus the minimum cost allowances of social welfare funding often came in conflict with the ability of facilities to meet the required life-safety
and care standards established through health care regulations. Even where funding and regulations have been linked, as under Medicare-Medicaid in the United States, jurisdictional differences and overlaps are a continuing problem [11; 35; 47] and where publicly insured services with universal access have been introduced, as in British Columbia, there has been a lag in reconciling these two aspects [15; 46; 48].

NEED FOR THE STUDY

At present the Long-Term Care (LTC) Program\(^3\) in British Columbia does not include provision for the assessment of the effectiveness or outcomes of care provided in facilities nor does the program directly link the payment system to assessment of the adequacy of care. The licensure and inspection services to ensure compliance with the regulatory requirements of the Community Care Facility Act (1979) \([50; 51]\) provides the only formal monitoring of the adequacy of long-term facility care in British Columbia \([52]\). The standards established through the Act consists mainly of structural standards. The annual review by Long-Term Care Program staff of the care levels of facility residents provides some potential for assessing utilization of

\(^3\)The Long-Term Care Program is one of three programs administered under the Continuing Care Division, Institutional Services Branch of the Ministry of Health in British Columbia. The program provides for facility-based long-term care and home support programs for long term care clients living in their own homes \([\text{Ministry of Health, Annual Report 1983}]\)
the appropriateness of client placement [52; 53]. However, these reviews have neither been consistently completed nor analyzed from this perspective, except on an individual resident basis.

Management staff of the Long-Term Care Program have developed but not implemented a proposal for long-term care standards which identifies structure and process standards for the care provided in facilities (1981)[53], but they now feel that measures of outcome should be included in the proposed standards. A renewed impetus to revise and implement care standards is expected in 1986 [54].

On the reimbursement side, during 1982/83 a joint committee with representation from the Ministry of Health and providers reviewed the present reimbursement system for facility-based long-term care [52]. As a result, a new system has been approved and is to be introduced in stages, beginning in the fiscal year 1984/85 [52]. Questions have also been asked about whether an assessment of the adequacy of the care provided should form part of this new payment system.

A January 1985 report noted three outstanding issues to be pursued through in-depth studies: capital costs, staffing, and quality of care standards [55]. While the new system appears to have progressed well in identifying factors on the cost side of the equation (with the exception of capital costs), key informants note that the approach to monitoring the quality of care is less well developed [54]. This study is an attempt to suggest a solution.
PURPOSE OF THE STUDY

The purpose of this study is to investigate and, if possible, to develop an outcome-based approach which links the assessment of the care provided in long-term care facilities in British Columbia to the current payment system. It is assumed that the current organizational system will prevail.

This study seeks to answer the questions:

1) How is the concept of outcome-based reimbursement operationalized in private industry, in the public sector and in the health care industry;

and based on that knowledge;

2) What (if any) are feasible approaches to establishing an outcome-based system of reimbursement for the care provided in long-term care facilities in British Columbia?

To be feasible, an outcome-based system of reimbursement for the care provided in long-term care facilities in British Columbia must:

i) meet acceptable scientific standards for the measurement of outcomes (e.g. validity, reliability, aggregation and valuing methods);

ii) address the multidimensional needs of the long-term care industry (e.g. residents with multidimensional problems; the varying levels of care required by residents; a mixed provider group of for-profit and non-profit providers; and differences in size, location and structure of facilities);

iii) recognize the specific constraints of the government (funders) in British Columbia (e.g. government restraint programs, statutory requirements, provincial and local community values and assumptions, maintenance of an arms length relationship with providers, administrative feasibility, etc.).

(See Appendix A for details of these criteria)
OBJECTIVES OF THE STUDY

It is the purpose of this study to:

1. Review the current system for the provision of long-term facility care in British Columbia in order to identify the current mechanisms for ensuring adequacy of care, the system(s) of reimbursement for the care provided, and any accountability problems encountered with these mechanisms.

2. Identify the methodological, definitional and system factors which would act as constraining variables to the application of an outcome-based reimbursement system for facility-based long-term care in British Columbia.

3. Identify alternative approaches to outcome-based financial management or quality control taken by in private industry, the public sector and the health care industry.

4. Determine the appropriateness of the alternative outcome measurement approaches identified for use in the measurement of effectiveness and for linking to the reimbursement for the care provided in facilities within the long-term care industry.

5. Determine the relative feasibility of using these approaches to outcome measurement as a basis for reimbursement for the care provided in facilities within the Long-Term Care Program in British Columbia.

6. Develop, if possible, an approach for outcome-based reimbursement for the care provided in long-term care facilities in British Columbia.
CHAPTER I

THESIS FORMAT

CHAPTER TWO provides the context for the study - the Long-Term Care Program in British Columbia. A review and analysis of the accountability and reimbursement mechanisms in place is presented.

In CHAPTER THREE some of the factors which would act as constraints when considering the feasibility of applying an outcome-based reimbursement approach in facility-based long-term care in British Columbia are examined. The need for value preference measurement in health care, and in particular in long-term care, is presented as a major methodological constraint. The definitional context used in this study for the concepts of outcome measurement, reimbursement and outcome-based reimbursement, effectiveness and efficiency as they apply in facility-based long-term care are discussed.

Other system variables such as the constitutional and social policy base for health care provision and the economic and financial environment are also examined. Differences between Canada and the United States are noted as many of the approaches reviewed were based on the United States experience.

CHAPTER FOUR presents an in-depth review of the ways in which outcome approaches have evolved in the private and public sectors in general, including approaches used in the health care
sector. The first section presents the broad-based, generic approaches to effectiveness measurement and outcome-based reimbursement, that is the organizational level approaches used. The second section reviews the more specific, individual level approaches used in health care.

The approaches examined in CHAPTER's FOUR and FIVE were evaluated for their scientific merit and for their feasibility for use in facility-based long-term care assessment and reimbursement (see Appendix A for the scientific and feasibility criteria used).

CHAPTER FIVE considers how outcome approaches have been adapted to 'fit' the requirements and complexities of facility-based long-term care, including both organizational level and individual level approaches. This chapter also considers the ways in which these two types of approaches may converge to address the differences in reimbursement incentives among providers and the information needs of assessors, providers and government decision makers.

CHAPTER 6 presents a proposal for the development and implementation of an approach to measure the effectiveness of the care provided in long-term care facilities in British Columbia. There is also a brief discussion of the potential application of outcome-based effectiveness measures in efficiency studies and/or in reimbursement.
LIMITATIONS

This is an exploratory study in which information was collected from many sources and in many forms. The synthesis of the information collected is subject to the usual errors, omissions and misinterpretations of such a review, especially the inability to obtain accurate or complete information from all sources and the need to rely on summary material on the approaches reviewed in order to contain the scope of the literature review. Misinterpretation may also come from a lack of recognition of all the underlying assumptions basic to the information presented.

This is a particular problem in this study where so much of the material reviewed was based on experiences in other systems or other countries, in particular the United States. An attempt to delineate the system differences between Canada and the United States has been made in CHAPTER THREE. However a lack of knowledge about the experience of countries other than the United States and the relevance of their experience for Canada is a limitation.

The ability to test the validity and reliability of the information used in an exploratory study is more limited than in the more rigorous approaches used in experimental studies. In order to test validity and reliability in an exploratory study the analysis must move back and forth between discovery (review of the literature) and verification (review of documentation of the program experience, key informant sources); between the
parts (outcome measurement approaches, reimbursement mechanisms, system factors) and the whole (outcome-based reimbursement of facility-based care, the long-term care system as whole); and between experience and reflection [56].

The study is limited to a description of the characteristics of the phenomenon under study (i.e. outcome-based reimbursement for facility-based care) and a discussion of its feasibility for implementation in a given setting. This type of study does not provide answers to questions of causality or consequence [57; 58]. In order to do that, a hypothesis testing approach, using quantitative data derived from an experimental or empirical experience would be required. This presupposes that there is sufficient readiness and knowledge about the question under study to proceed.

Whereas, in British Columbia, the reimbursement system for facility-based long-term care is neither outcome-based nor are outcome measurements used to ensure the effectiveness or quality of care. The feasibility of such methods must be explored first before experimental approaches can be used to test causality or consequences. That is, this study will not demonstrate the effect of outcome-based reimbursement on cost containment or on the adequacy of the care provided in the setting of interest. However, "speculation on the causal relationships are entirely appropriate - as long as they are clearly labeled as speculative" [58].
Bias cannot be completely eliminated due to the unstructured nature of an exploratory study [59]. The qualitative nature of an exploratory study also limits the generalizability of the study. The generalizability of this study for use by other provincial long-term care programs will be limited to the extent to which their system and other constraining variables are similar to those experienced in British Columbia. For example, the proposed approach would be most appropriate to systems which have a single point of entry, a continuum of community and facility-based care, an integrated approach to reimbursement for both non-profit and for-profit facilities and universal access to services based on need.

Further, limited empirical experience with the use of an outcome-based effectiveness measurement approach (using multi-attribute health status indexes) in the facility-based long-term care system limits, to some degree, the specificity of the recommendations about which approaches to use in the evaluation and monitoring of facility care in British Columbia. It is anticipated, given the limited empirical experience elsewhere, that any approach taken in British Columbia would be implemented as a joint research and service application, that is a demonstration project to provide the needed empirical testing.
CHAPTER I

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CHAPTER II: FACILITY-BASED LONG-TERM CARE IN BRITISH COLUMBIA

INTRODUCTION

Before considering approaches to an outcome-based system for the measurement of effectiveness and reimbursement for facility-based long-term care in British Columbia, it is necessary to understand the setting into which the system would be introduced. This chapter examines: the historical development of long-term care services; the current mandate; the organizational structure; and the current status of quality of care standards and the reimbursement system in British Columbia. Specifically this chapter addresses Objective 1: Review the present system of providing facility-based long-term care in British Columbia in order to identify the current mechanisms for ensuring adequacy of care, the system(s) of reimbursement for the care provided, and any accountability problems encountered with these mechanisms.

HISTORICAL DEVELOPMENT

Government interest in the development of a long-term care system, particularly facility-based long-term care, in British Columbia followed a pattern similar to that in other North American jurisdictions. That is, services began in response to social welfare needs and subsequently acquired more of a health care orientation. Government involvement in British Columbia began as early as 1938 with the regulations established under the Welfare Institutions Act [1]. These regulations were
designed to ensure the protection and safety of dependent residents in adult and child care facilities. Over the years, responsibility for facility-based care moved back and forth between the social service and health ministries. In 1970 the Ministry of Health was designated as responsible for the regulation of facility-based long-term care in B.C. [2]. Since that time the Ministry of Health Annual Reports [3] suggest that quality of care has been a continuing concern. Several organizational changes should be noted [3]:

1970 - the new Community Care Facility Act, established regulatory accountability for facility-based care of children and dependent adults under one regulatory board responsible to the Minister of Health.

1975 - the growing number of facilities resulted in separate boards (and regulations) for adult and child care facilities. Community representation was added to the regulatory boards to reflect a growing public concern about facility-based care. The Adult Care Board included representatives from the Ministries of Education, Health and Human Resources.

1977 - saw a major revision to the Adult Care Regulations in which the government's concern for quality of care for elderly residents was reflected. The Adult Care Board was given the added responsibility of developing a proposal for a Long-Term Care Program to be inaugurated in 1978.

1978 - under the coordination of the Adult Care Board the Home Care/Long-Term Care Program was implemented January 1, 1978. The program was to provide an integrated approach to the provision of home nursing care, home care support services, and facility-based long-term care through the administration of client assessments and referrals, and a purchase/payment system to providers.
1983 — the department of the Ministry of Health responsible for the Long-Term Care (LTC) Program was renamed the Continuing Care Division, Institutional Services Branch. This division is responsible for the Long-Term Care Program (facility-based care and home supports), Home Nursing Care and Community Therapy Services. Facility-based long-term care in British Columbia is, therefore, just one area of the Continuing Care Division's responsibilities.

As of 1983, responsibility for the overall development, implementation and operational control of the Continuing Care Division was moved from coordination under the Adult Care Board to management by the Executive Director and management team of the Continuing Care Division. Under the direction of the Executive Director, the management team works closely with the Adult Care Board to ensure congruence between the regulations and program guidelines for facility-based care. The Director(s) of the regional public health units continue to administer facility licensure and enforcement activities, along with the assessment and referral activities of the Long-Term Care Program [4].

The goal of the Long-Term Care Program is to provide "home and institutional care to persons who no longer function independently as the result of health-related problems". [5]. The program's introductory guide further elaborates that the aim of the program is "to promote the highest level of independence possible... to allow the beneficiaries to live as normal an existence in their own communities as their infirmities permit" [6:4].
ORGANIZATIONAL STRUCTURE OF THE FACILITY-BASED SECTOR

As in other jurisdictions, facility-based long-term care in British Columbia is a mixed provider system of for-profit and non-profit facilities. In the literature a variety of names have been used to denote facility-based care for dependent adults who require care because of age and/or chronic disease and disability. The term nursing home is the most common or 'generic' term applied to such facilities, but in British Columbia these homes are most often referred to as long-term care facilities [4; 7].

Although the Long-Term Care program includes several types of facilities, the majority of residents are placed in non-profit or for-profit long-term care facilities which provide Personal (PC) and Intermediate Levels (IC) of care. In 1981, slightly more than half (58 per cent) of the 270 long-term care facilities (PC and IC) were proprietary (i.e. privately owned, for-profit facilities), but non-profit facilities provided care

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4 Five levels of care have been defined, each of which can be provided either at home or in a facility. The levels, from lowest to highest are: Personal Care (PC); three levels of Intermediate Care (I₁, I₂, I₃); and Extended Care (EC). Personal Care (PC) clients are independently mobile and able to eat and toilet without assistance but may require minimal help with bathing and dressing. Such clients may be mildly confused and forgetful but in general their medical conditions are stabilized to the point where they do not require daily professional supervision. Those assessed as requiring one of the levels of Intermediate Care (I₁, I₂, I₃) are more impaired. Although technically still independently mobile, these clients may require assistance with toileting, have mild to moderate mental impairment, and require daily professional supervision of medication, application of special appliances, etc. Extended (EC), on the other hand, implies that the client is virtually bedridden and in need of 24-hour skilled nursing care" in Stark, Annette J.; Kliwer, Erich; Gutman, Gloria M.; and McCashin, Brian. "Placement Changes in Long-Term Care: Three Years' Experience." AJPH 75(May 1984):459.
to more than 65 percent (N=8,745) of the total 15,000 persons in facilities [5]. In 1983 there was a slightly higher proportion of for-profit facilities, almost sixty percent of the total 301 facilities. The majority of the residents are elderly, with chronic disease or disability [5:43-44; 8].

ELIGIBILITY AND ASSESSMENT PROCESS

Aside from a residency requirement\(^5\) and the limitations of available long-term care resources in some areas, any resident of British Columbia in need of care may apply to the LTC program. Referrals may be initiated by anyone who has knowledge of an individual's need and no distinction is made on the basis of the individual's financial resources [6:5]. Cost to the system is one factor considered in deciding which care alternative (home care or facility care) best meets the client's needs. All residents in long-term care facilities in British Columbia have been assessed as eligible for benefits under the LTC Program and it has been judged that facility care, rather than care at home, is the most appropriate care alternative.

Perhaps the most outstanding feature of the Long-Term Care Program in B.C., and one found in only two other provinces in Canada, is the single point of entry for admission to the program [9; 10; 11]. Applicants are assessed by Long-Term Care Program assessors (employees, usually graduate nurses located in

\(^5\)The residency requirement is adult Canadian citizens or landed immigrants who have lived in B.C. at least twelve months prior to application for benefits.
local public health units) to determine whether they require long-term care and how their need can most appropriately be met. An important aspect of the program is the underlying commitment to a continuum of care which provides appropriate and realistic care options, and which encourages care at home until this is no longer feasible.

In complex situations, the assessment may take an interdisciplinary approach in which professionals with nursing, social work, mental health or rehabilitation expertise, as well as physician and facility representation may participate. If the need for placement in a facility is established, applicants and their families are encouraged to visit available facilities and identify their preferences. Facilities within the LTC Program have the right to refuse an applicant, but the facility operator does not have first or only input into the decision about the need for placement [6].

Program staff monitor the waiting lists for facility placement (based on a priority system established by the program) and plan for care support at home while the applicant is awaiting placement. Long-term care assessors also periodically (at least annually) re-assess facility residents and home care clients to determine the current level of care required. Re-assessment may be initiated at the request of the facility if there is a concern about the clients changing condition or about the appropriateness of the placement decision [12; 13:459].
ACCOUNTABILITY MECHANISMS:
LEGISLATION, STANDARDS AND BUDGETARY GUIDELINES

Government accountability for ensuring the adequacy of care provided in long-term care facilities in British Columbia is currently accomplished through a number of mechanisms which have not always been entirely compatible. The most formalized mechanisms are the statutory regulations which were in place prior to the implementation of the Long-Term Care Program.

The specific legislation governing long-term care facilities is found in two acts:

1) The Community Care Facility Act (1979) and Adult Care Regulations (1980) which governs the licensing and operation of the Personal/Intermediate Care facilities and the Mental Health Boarding Homes administered by the Provincial Adult Care Facilities Licensing Board (PACFLB).

2) The Hospital Act (1978) which governs the operation of Private Hospitals and Extended Care Units6 in Public Hospitals and is administered through the Hospital Programs branch of the Ministry of Health [14].

The majority of the long-term care facilities (Personal and Intermediate Care) are regulated under the Adult Care Regulations (1980) of the Community Care Facility Act (1979) [2]. The regulations establish structural standards for the safety and protection of residents, the required qualifications of staff, staffing ratios, and the types of services or programs

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6Extended care units/hospitals provide care for clients requiring the heaviest level of care, that is those that are "virtually bed ridden and in need of 24 hour skilled nursing care" [Stark et al. "Placement Changes in Long-Term Care: Three Years' Experience." AJPH 75(May 1984):459.] Most of these types of beds are hospital based.
to be provided. The regulations also make provision for the establishment of a financial reporting system for all licensed facilities.

The monitoring of facilities to ensure compliance with the regulations has been a decentralized function of the regional public health units. The PACFLB provides general guidelines for the monitoring and enforcement process. However, the specifics are left to the discretion of individual Health Unit Directors. This provides the flexibility to approach each facility's needs and problems in an individualized manner but limits the ability to develop a common and consistent data/information base for provincial decision makers [4].

There has been some criticism that the Adult Care Regulations are minimal and, as a result of the different reimbursement methods used, were unequally applied (e.g. in terms of staffing) to for-profit and non-profit facilities. To add to the confusion, the regulations governing Private Hospitals (which provide Intermediate Care) and Extended Care units come under the Hospital Act. This Act is administered by another section of the Ministry (Hospital Programs Division), has different monitoring guidelines and, in the case of Extended Care, different funding mechanisms. Some feel these differences vary to a greater extent than is necessary to accommodate the various levels of care provided [15; 16].
Standards for long-term care facilities, which "would ensure a minimum standard of care throughout all facilities in the province" have been drafted, but have not yet been implemented [5:42; 17; 18]. The standards for facility care are mainly of a process (activities) and structural (inputs) nature. They do, however, attempt to address more specifically the needs of clients in facility-based long-term care than is possible under the more general Adult Care regulations [17].

The Ministry of Health planned to introduce these standards through a demonstration project in which outcome standards were to be included [17; 18; 19]. Although this has not happened to date, new initiatives are expected following the recent appointment of a Manager for Standards and Quality of Care [18]. As the Facility Reimbursement Report notes "With the exception of the Licensing Board, there [are] few program incentives to provide good quality care and there [is] little ongoing monitoring and evaluation by the Continuing Care staff of the quality of the care provided." [20:2].

Up to 1984 the Long-Term Care Program budgetary guidelines (mainly for staffing) were used to determine what inputs would be funded in non-profit facilities. They did not apply to for-profit facilities. To the extent that staffing inputs affect adequacy of care, the guidelines provided at least an implicit standard of care in the non-profit facilities. The following section examines the reimbursement mechanisms in more detail.
FINANCIAL CONTROL AND REIMBURSEMENT SYSTEMS

The following description of the reimbursement system in British Columbia is confined to the payment systems used for the long-term care facilities under the direct responsibility of the Long-Term Care Program (i.e. licensed Personal and Intermediate Care Facilities). Up to the end of the 1983/84 fiscal year, the method of reimbursement and financial control differed depending on whether a facility operated as a for-profit or non-profit facility [19; 20; 21]. That is, a dual system was in place.

Although the guidelines in the Financial Section of the Long-Term Care Program Manual (1978)[12] and a section of the Adult Care Regulations (1980)[2] made provision for a financial reporting system for all long-term care facilities, this had not been the practice. Until the 1983/84 fiscal year, only the non-profit facilities were required to submit budgets and quarterly financial reports to government funders [19].

During 1983 a joint committee with representation from the Ministry of Health and provider agencies was established to explore the development of such a reporting system within the context of a new, common reimbursement system. For-profit facility reporting of quarterly financial statements was introduced for the first time during the latter part of the 1983/84 fiscal year. This was just prior to the implementation of the a revised reimbursement system which was phased in, beginning in April 1984 [19; 20].
On the other hand, the assessment of a co-payment or user fee for all residents ($15.25 as of April 1, 1986) was common to both the for-profit and non-profit facilities. The user fee is essentially a daily board and room charge and does not exceed the amount available to individuals through the supplemented Old Age Security Pension [13:460]. The co-payment accounts for approximately one third (33 percent) of the established per diem rate [21:App.B.]. The balance of payment comes from government funding sources. Some income may be derived from a room differential fee (charged within set limits). Up to fifteen percent of newly constructed beds in a facility may be designated as preferred accommodation. Data on the percentage of beds so designated and for which a charge is made is not available [18].

**FOR-PROFIT FACILITY REIMBURSEMENT**

Until 1984/85 for-profit (private) facilities were reimbursed by the Long-Term Care Program on a flat-rate per diem basis by level of care. This rate was expected to cover all operating costs including negotiated wage settlements. However, since 1982, exceptions have been made for some facilities in order to adjust for wage settlements. As noted by Bainbridge [7:32], the original rates set when the program was implemented in 1978 were based on a survey of facility costs at that time. There had been yearly percentage increases, but by 1983 this flat-rate was lower (by approximately $6.00) than the average non-profit per diem rate [19; 21:11]. Prior to 1984, the for-
profit facilities were not required to submit financial statements.

The following problems have been noted with this for-profit flat-rate reimbursement system:

- Operator/owners claim the rates have been insufficient to meet operational requirements, and some facilities have closed for this reason. Concerns have also been raised about capital costs - are they or should they be considered in the flat rate, are operating costs eroded to cover capital costs, and does this effectively reduce the quality of care?

- Large private nursing home chains have been reluctant to enter the B.C. market; these chains are perceived to be more efficiently managed. Their lack of participation is seen by some as a loss to the industry in B.C., at least in terms of management skills and the ability to maintain viable facilities [22; 23:248]

- The widening gap between the per diem reimbursement of non-profit and for-profit facilities. The Ministry could not maintain a flat rate payment due to union contract settlements [20].

- Perhaps a greater issue is the concern that lower reimbursement rates 'potentially' create an even greater likelihood that profit-maximizing facilities will introduce efficiency measures at the expense of quality care. The lack of financial reporting hampered the Ministry's ability to evaluate expenditure patterns.

For the private, for-profit facilities the incentive of the flat rate reimbursement system has been to accept clients requiring higher levels of care and/or to require reassessment of clients to higher levels once they are in the facility. This in turn creates the potential for conflicting pressures on the LTC assessors and/or discourages the facility from promoting independence in its residents. A lack of effectiveness measures makes it impossible to establish if this was the case. The result may be greater costs to the funders in terms of more staff time spent assessing facility residents or in reimbursing,
perhaps inappropriately, for greater numbers of clients at higher levels of care. On the other hand, the flat-rate fee encourages efficient expenditure of funds and discourages inflationary cost setting.

NON-PROFIT FACILITY REIMBURSEMENT

Prior to the 1984/85 fiscal year, non-profit facilities were reimbursed through a budget review/individual-rate system. Each non-profit facility was required to submit a budget for review and a single per diem rate was then determined for each facility. Adjustments were made based on a number of factors: the mix of residents at each level of care (and the consequent effect on staffing needs); financing arrangements for capital costs; wage agreements; limitations in building structures which may affect costs (e.g. communal bathrooms which require more staff to assist dependent residents). This resulted in differing per diem rates for each facility, and an average rate which was higher than the rate determined for the private facilities [19; 20; 21].

Problems noted with the non-profit, individually set rate of reimbursement include:

- a more complex process and more direct involvement of the LTC Program (government) in a facility's budgetary process, thus eroding the goal of an arms-length relationship.

- there is no real incentive for more efficient operation of the non-profit facility or for the facility to accept residents at higher levels of care.

- non-profit facilities occasionally found themselves in a deficit position and needed government assistance to meet the shortfall [20:2].
On the positive side this process did require non-profit facilities to provide the funder with considerable financial information. However, the Facility Reimbursement Report notes that non-profit facilities were often slow with quarterly reports, thus reducing the government's ability to control costs [20:2]. Since 1984, all facilities provide financial reports on a quarterly basis giving the Long-Term Care Program the potential to develop comparative data analyses on costs and efficiencies amongst all program facilities [19; 20; 21].

PROBLEMS WITH THE REIMBURSEMENT SYSTEM

As described above, there was a dual reimbursement system in operation in British Columbia until the 1984/85 fiscal year - one for for-profit facilities and another for non-profit facilities. A number of problems were experienced with dual system:[4; 19; 20; 21].

- The differences in the method used to reimburse for-profit and non-profit facilities provided different incentives for effectiveness and efficiency in the management of facility care in British Columbia (In fact the Facility Reimbursement Report notes that there were insufficient incentives for efficiency in non-profit facilities and few incentives for providing quality of care in either type of facility.) [20:2];

- These differences created an uneven data base for decision makers concerning the actual costs involved in providing effective and efficient facility-based long-term care;

- Government decision makers (funders) were also more directly involved in determining inputs such as staffing and other structural aspects for the non-profit facilities, thus reducing a facilities' scope and flexibility in making decisions;
The differences in the acts and guidelines which govern facility operations further complicate matters.

NEED FOR A NEW REIMBURSEMENT SYSTEM

It was felt by care providers and government staff alike that, while maintaining a mixed provider system, some other reimbursement process should be considered which would give more autonomy and flexibility to the managers of facilities, retain an arms-length involvement by the funders, and still meet the accountability responsibilities of government (funders) to ensure adequacy of care and efficient expenditure of funds [19; 20; 21].

The goal of the new integrated reimbursement system is to develop one system of reimbursement for all providers which can be adapted to account for the differing needs, purposes and programs of all facilities. It is planned to include variables which address the issue of ensuring or providing incentives for adequacy of care [20; 21], as well as incentives for efficient operation of a facility. The Facility Reimbursement Report specifically notes that the new system would not reward efficiency at the expense of quality (see Appendix B for details about the goals and how they are to be achieved).

Administrative feasibility, provision for an arms-length relationship between government funders and providers, and the ability to adjust provincial bed requirements are other aspects which were identified by the funders as needing to be addressed [21:11,25] in order to overcome current problems and to meet their objectives for an efficient and effective system.
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CHAPTER III: DETERMINANTS OF FEASIBILITY FOR THE USE OF OUTCOME-BASED MEASURES IN FACILITY-BASED CARE IN B.C.: THE CONSTRAINING FACTORS

INTRODUCTION

In this chapter the constraints or limitations which affect the successful application of an approach to measuring effectiveness and outcome-based reimbursement for facility-based long-term care are discussed. While Chapter 2 describes the current system of monitoring the adequacy of care and reimbursement in British Columbia, in this chapter some of the system constraints to introducing the measurement of client/care outcomes into a reimbursement system for facility-based long-term care are developed.

Included in the discussion is an exploration of the need and methods for valuing in the development of assessment measures for facility-based long-term care. For instance the determination of the underlying values or beliefs about health and long-term care can be a major methodological constraint in the development of an outcome-based reimbursement system: what outcomes are desired, by whom and to what extent? The major concepts of the study - outcome measurement, reimbursement, outcome-based reimbursement, effectiveness and efficiency as they apply in the study are then presented.

The remainder of the chapter presents the organizational and structural constraints imposed by social policy, the
constitutional and legal base, and the economic and financial environment of the long-term care system in Canada. In this aspect of the analysis it was important, prior to a review of the outcome-based measurement and/or reimbursement approaches, to identify the constraints peculiar to Canada as most of the experience and research has been based on applications from the United States. To that end, a comparison of the long-term care system in Canada and the United States is presented.

Influences from the United States include the early joint accreditation ventures in hospitals [1], international exchanges among health care professionals and/or providers, and the voluminous American health care literature.

CONSTRAINT - THE NEED FOR VALUING IN THE ASSESSMENT OF LONG-TERM CARE

In any political (or production) system, policy decisions and the assumptions on which those decisions are based, reflect certain values or beliefs. In the competitive market system, consumer behaviour acts as the "normative" measure of a society's values and is a constraining factor in determining what is produced. In the Canadian public service sector, which is a non-competitive market system governed by elected representatives, it is expected that such policy decisions will reflect not only the value preferences of the system's users, but also the collective preferences of the society. [2:3].

In the health care system the choice of which services to consume (or purchase) may not be directly or solely a decision
of the consumer, nor is the decision necessarily based on the consumer's values or preferences alone [3:28-29]. Such decisions usually involve an agent such as a physician or other health care worker who acts in whole or in part for the consumer. In health care, therefore, an alternative to the competitive market system of value setting is needed to determine consumer preferences or values. This approach to valuing is called value preference measurement.

Lipscomb [3] states that currently there are three mechanisms through which public policy options are valued. Two are indirect mechanisms: administrative decree and legislation. These are the most commonly used in health care decision making [3:36]. In these instances the decision maker makes the decision on behalf of the population served. One advantage of the indirect mechanisms is that decisions are made on the basis of the implicit values of the people served, thus avoiding the problems associated with determining explicit values. However, on the negative side, the decision makers' knowledge or understanding of consumer preferences may not coincide with the "true" societal value [3:33-34].

The third mechanism is direct assessment of the preferences of the individuals in a population, to which some aggregation rule is then applied to translate this information into a societal value. Lipscomb suggests that for health policy makers, "... the purpose of measuring value preferences... is to construct effectiveness or benefit indexes that facilitate either the retrospective evaluation of programs of the
prospective allocation of resources..." [3:28]. Both of these purposes are of interest in this study.

In acute care a considerable body of research about the direct approach to valuing has been developed, using direct survey mechanisms in which the concentration has been on measuring preferences for alternative types of health care services [3:28-54; 4:228; 5:233-54; 6:277-90]. Kane and Kane note that in long-term care there is no similar body of work on valuing. They also suggest that in addition to the methodological problems experienced in acute care, there are additional problems to address in the measurement of health status and its associated valuing in long-term care [6:3-26]. The heterogeneity of the residents of a long-term care facility and the long-term nature of facility placement are major factors which contribute to these problems [6:277-90]. The presentation on Health Status Indexes (HSIs) in Chapters Four and Five review these methodological problems and discuss some of the specific approaches proposed for resolving them.

From another perspective, perhaps the more critical issue for this study is whether, if the methodological issues can be solved, value preference information can or will be used by health policy makers. Neu states that, to his knowledge, "there has never been ... a successful direct application of this concept to health policy planning" [7]. McNeil and Pauker point out that it is almost impossible to make policy decisions that reflect all or even the range of individual preferences in a
society [4:228]. Neu further suggests that measuring value preferences may provide more information than the policy maker wants or can use [7]. Access to survey results will make the implications of a decision based on the survey results more explicit. Group(s) less positively affected in such a decision process may be of specific concern to the policy maker who may not wish to make decisions with such a clear knowledge (or at least with public knowledge) of these implications [7:261]!

Much theoretical (and empirical) work has been done in value preference measurement for health care: however, a number of issues remain unresolved, particularly in the long-term care sector [6:277-85]. The value weighting process is one of the major feasibility problems yet to be fully addressed in reimbursement schemes for long-term care.

 CONSTRAINT - THE DEFINITIONAL CONTEXT OF OUTCOME MEASUREMENT, OUTCOME-BASED REIMBURSEMENT, EFFECTIVENESS AND EFFICIENCY

There are several key concepts which form the underlying basis of this study: outcome measurement, reimbursement, outcome-based reimbursement, effectiveness and efficiency in long-term facility care.

In order to determine the feasibility of applying specific outcome measurement and outcome-based reimbursement approaches in the British Columbia setting, it is necessary to have some understanding of how these concepts apply in general to
facility-based long-term care. The definition of these concepts as they are used in this study is presented in the following sections.

MEASUREMENT OF OUTCOMES IN FACILITY-BASED LONG-TERM CARE

Funk and Wagnalls dictionary defines outcome as "a result that makes visible or evident the working of an agency." [8:421]. Another suggests that outcome is the end result of the production process. In private industry "output" is a term which is synonymous with outcome and which is used to denote either the result of a production process or the "amount of anything produced in a given time" [8:959]. Both of these concepts, outcome and output, suggest a phenomenon that can be identified and measured.

In health care, Palmer notes that a number of classifications of outcome have been proposed (e.g. patient outcomes, process outcomes, administrative outcome) but suggests that for clarity Starfield's concept of a health outcome as "the actual change in health status of patients" be adopted [9:32-33].

Outcome measurement is the process of measuring or identifying the extent to which the objectives of the production process have been met (i.e. whether or not the process resulted in the expected outcome). In order to measure outcome, the objectives of the production process must be defined in a measurable way.
In this study approaches to outcome measurement used in private industry, in the public sector and in the health care sector in particular, are investigated for their relevance to the facility-based sector of the long-term care industry. Figure 1 briefly outlines how the concepts of output and outcome might be defined from a shareholders or funders perspective in the various sectors.

Figure 1 illustrates that as one moves from the private to the public sector, and then to the health care industry the expected outcomes become less concrete and the relationship between the funder and the production function become more complex. This increased complexity has a direct bearing on the ability to measure the outcome of production in health care.

When 'goods' are being produced outcome measurement is a relatively easy matter, both conceptually and in fact. However, when the entity of interest is a 'service', measurement becomes more difficult. The concept of 'service' implies a relationship with or impact on the consumer. Service production is therefore subject to all the variability that characterizes human interactions, making the measurement of outcomes more complex. The private sector of the service industry usually operates within the competitive market model, "where many suppliers are competing for consumers" [10:156-59]. In this situation customer satisfaction and the price of the service at equilibrium (representing maximized profits) act as outcome measures [10:156-59].
Figure 1: The Concepts of Output & Outcome as they Apply in Private Industry, the Public Sector, the Health Care Industry and Long-term Care.

<table>
<thead>
<tr>
<th>SECTORS</th>
<th>OUTPUTS</th>
<th>EXPECTED OUTCOMES</th>
<th>SHAREHOLDERS/GOVERNMENT RELATIONSHIP TO THE PRODUCTION PROCESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRIVATE INDUSTRY</td>
<td>The amount of product (goods/services) produced for consumption in a given time period.</td>
<td>That profits will be maximized while minimizing the cost of production.</td>
<td>Shareholders have invested in the company and may or may not have input into the management policy.</td>
</tr>
<tr>
<td>PUBLIC SECTOR</td>
<td>The amount of goods or services provided in a given time period (e.g. yearly).</td>
<td>That the services will meet public needs and at the least possible expenditure of public funds.</td>
<td>Government acts as the funding agent for the public and usually sets some management guidelines or policy; may or may not provide goods or services directly.</td>
</tr>
<tr>
<td>HEALTH CARE INDUSTRY</td>
<td>The amount of health care services (preventive, acute, rehabilitation, long-term care) provided in a given period (e.g. yearly).</td>
<td>That the care provided results in a satisfactory (usually improved) level or state of health, and at the least possible expenditure of public funds.</td>
<td>Government acts as the funding agent for the client and is guided by legislation; may provide services through third party agencies (profit and non-profit); consumers may incur some direct costs.</td>
</tr>
<tr>
<td>LONG-TERM CARE INDUSTRY</td>
<td>The amount of long-term care services provided to support maintain, or restore residents at home or in a long-term care facility in a given time period (e.g. yearly).</td>
<td>That the long-term care provided results in the highest level of independence possible for residents of a facility and at the least possible expenditure of public funds.</td>
<td>Government acts as the major funding agent; sets overall policy guidelines; regulates for safety and protection of the client; most services are provided through third party agencies (profit and non-profit); consumers (residents) usually incur some direct cost.</td>
</tr>
</tbody>
</table>
In the public sector the measurement of outcome becomes more complicated. In this situation government funds the provision of services deemed necessary for the public good, for example transportation, education, health care. For the most part these services are supplied on a non-profit (or even a loss) basis and the outcome to be measured is whether the specific need identified has been met to the public's satisfaction.

In the health care sector, structural (inputs) and process (activities of production) measurements have often been used in lieu of measurement of the outcome of a production process, both because of measurement difficulties and because of the acceptance of structure and process as proxies for outcome [11:5].

According to Donabedian, however, health planners, policy makers and managers often support the use of outcome measurements, citing cost effectiveness reasons [11:117]. From the funders perspective, if all that is needed is to establish the value or impact of care (regardless of the process used) outcomes are a "logical" and "easy" choice [11:107]. As such, outcomes would provide some measure of general program effectiveness [11:120]. Outcome measurement is also seen as an advantage when the causal link between process and outcome is not clearly established. Thus rigid adherence to unproven interventions may be discouraged while encouraging innovation and flexibility in management, which may result in less costly care [11:120].
Some of the disadvantages of outcome measurement, however include the difficulties in specifying outcomes that can be measured, along with the inability to identify what or who is responsible, particularly if the results are not satisfactory. There is also the pitfall of choosing outcomes that are not relevant to the objectives of care [9:34-38; 11:120].

The feasibility of any system, particularly in times of restraint, must include consideration of the cost of implementing and using a particular approach. No definitive studies in acute or long-term care were found which compared the cost of implementing an outcome measurement system to the cost of using a process measurement approach. The level of care that society wishes (values) or is willing to pay for is a major determinant of costs. Outcome measurements clearly should be established in relation to some definition of "expected" outcome which is based on the objective of the health care program to achieve an adequate quality or level of effectiveness of care.

REIMBURSEMENT IN FACILITY-BASED LONG-TERM CARE

The term reimbursement as used in this study refers to the methods developed by provincial governments for payment to providers of facility-based long-term care, not the overall financing or resource allocation within the long-term care system. Reimbursement policies influence the quality or effectiveness of care, the efficiency of production and the scope of service available [12:185].
In the long-term care industry, reimbursement is the payment made to an agent (physician) or agency (nursing home or community care agency) for services provided to a consumer (patient/resident).

Buchanan sets out five objectives to consider in a reimbursement system in facility-based long-term care:

- encouraging delivery of care consistent with established standards (effectiveness);
- encouraging delivery only of necessary services, that is there should be a measure of effectiveness (such as outcome measures) and the payment should be related to that measure;
- encouraging efficiency (i.e. using incentives to minimize costs);
- allowing proprietary facilities to make a competitive rate of return on investment;
- encouraging efficient overall use of resources, i.e. the funding of a range of services including alternatives to facility care.

The form a reimbursement system takes depends on: the timing of payments; the method of rate setting; and the organizational level at which the payment is made.

Timing is a major issue in long-term care reimbursement. It is felt that retrospective reimbursement (payment made after costs are incurred) does not encourage cost control and indeed may be "an invitation to waste." Retrospective reimbursement, it is generally assumed, will promote quality of care.
Prospective reimbursement has been promoted by funders as an incentive for cost containment. Concerns have been expressed, however, about the potential threat to the quality under a prospective reimbursement system, particularly where profit maximizing is a factor. Also about the effect on utilization or access to all levels of care. Comparative studies of retrospective and prospective reimbursement in long-term care facilities in the United States showed no significant difference in utilization or access, but did show that per diem costs were lower using prospective methods [13:62-63; 14; 15].

Several methods of rate setting are used (or proposed for use) in funding facility-based long-term care, including: fixed or negotiated rates, usually based on a level of care; cost based (based on actual or averaged costs, or a cost-plus profit factor); and incentive or outcome-based reimbursement (often proposed as efficiency incentives) [13:59-63; 14; 15].

The organizational level or unit of service at which the rate is set includes decisions about whether to assign cost(s) on a global budget basis; by department or functional areas; by levels of care or other case mix criteria; by the average cost of a peer group of facilities; or by organizational outcomes and/or the outcomes of care as expressed by the health status of the individuals receiving care [13; 14; 15].
OUTCOME-BASED REIMBURSEMENT IN FACILITY-BASED LONG-TERM CARE

In facility-based long-term care, outcome-based reimbursement involves the measurement of the outcome or effectiveness of the care provided to residents. This measure of effectiveness is then transformed into some aggregate index of the facility's effectiveness, which may be used as the basis for reimbursement. Efficiency outcomes may also be considered.

EFFECTIVENESS and EFFICIENCY IN FACILITY-BASED LONG-TERM CARE

As noted above, measures of effectiveness and efficiency may both be part of an outcome-based reimbursement system. As Stoddart notes, evaluation of efficiency should not take place unless there is a "prior validation of effectiveness" and further that "efficiency evaluations, by themselves, are incapable of establishing effectiveness" [16:14]

Efficacy and effectiveness are two closely related terms which refer to the extent to which health care interventions benefit or have an impact on the health problems or health status of the patient. The efficacy of a program or intervention as Ibrahim states, refers to "the benefit accrued above and beyond no program or a standard program" or as others suggest, the results obtained in the ideal situation [17:9].

Ibrahim further states that the "effectiveness of a health service relates to the acceptance and use of efficacious services ... by those members of the population to whom it is offered.", in other words the results achieved in the usual clinical environment [17:9]. Determining effectiveness requires
some form of measurement of the outcome of the intervention, that is a determination of the extent to which the intervention made a difference [18]. Brook and Lohr suggest that assessment of the quality of care should be integrated into a more 'macro' approach which integrates efficacy, effectiveness and quality of care in an approach which would allow the specification of the "permissible ranges of effectiveness" [19:714].

For facility-based long-term care to be effective there are three essential components: one is a body of knowledge and experience about what processes and interventions constitute adequate care (i.e. are capable of producing efficacious results); another is placement in facilities with the structural capability and resources to provide adequate care; and the third is the appropriate placement of residents (i.e. the right client placed in the right place for his/her level of care need) [20].

On the cost side, Palmer states that "efficiency requires maximizing the units of effective health care delivered, to all who are eligible, for a given unit of health resources used" [9:17] and that assessment of efficiency should include consideration of both the quality and quantity of output, as well as the cost of resources used [9:17]. Others in discussing cost effectiveness analysis, suggest that such an economic analysis must also include the opportunity costs [16]. A more detailed discussion on the use of cost-effectiveness and cost-
benefit analysis in health care is presented in Chapter Four.

The expectation that government is to provide adequate care for its citizens (including long-term care), while ensuring that the funding provided for health care is efficiently expended has become a concern. These expectations give rise to a potential conflict known as the 'quality/cost trade-off' or the conflict of effectiveness versus efficiency.

CONCLUSION

A review of the underlying concepts of the study illustrates that some of the constraining factors on the feasibility of outcome measurement and outcome-based reimbursement approaches lie, in part, in the difficulty of determining and measuring the outcome(s) or effectiveness of care in such a complex human service system as long-term facility care. Added to that are the constraints on the reimbursement side such as the need to promote efficiency, and the factors related to timing, the methods of rate setting and the levels or units at which payment is made.

CONSTRAINT: ORGANIZATIONAL STRUCTURE OF LONG-TERM CARE SYSTEM

At first glance the organizational and structural make-up of the facility-based long-term care systems in Canada and the United States appear deceptively similar. Both countries have a mixed provider system, extensive government funding, and similar
levels of care provision, types of clients and manpower utilization. The method of regulation in both countries is through facility licensure, regulatory standards, and self-governing professionals groups. Both counties also face similar issues such as the need for cost-effectiveness and efficiency, appropriate utilization and client placement, concerns about the quality of care/life provided and how to best approach reimbursement.

The following discussion notes some of the potential implementation problems if outcome-based measures of effectiveness or outcome-based reimbursement approaches derived in the United States were to be considered for direct application in Canada. Because of differences between the two countries in their social policy, constitutional, legal and economic bases, application of reimbursement approaches may more problematic than measures of effectiveness.

CANADA

The health care system in Canada is organized as a publicly administered, national system of interlocking provincial medical and hospital care insurance plans eligible for federal block funding. Under a sub-agreement of the block funding agreement some provinces, such as British Columbia, have expanded the insurance plan to include facility-based and home-based long-term care services [24:29-44; 25]. Social policy, the constitutional and legal base, and the economic and financial environment in Canada have led to this organizational approach to health care in Canada.
SOCIAL POLICY - INCENTIVES AND VALUES

Social policy in Canada is essentially derived from the social welfare model wherein the state (government) assumes a major responsibility for the provision of social services. Prime examples include the development of the publicly insured and administered hospital (1958) and medical care (1966) systems [21; 25; 26] and the recent movement in most provinces to some level of insured long-term care services [24; 25].

Equity of access for those in need of health care and social support has been an underlying social value [21]. Eligibility criteria for government funded health care services in Canada is based on the need for health care only, not on need plus some financial and/or other social dependency criteria. Other eligibility criteria (e.g. age) may be applied, but still within the overall concept of universal access based on need.

Most long-term care programs are derived from a perspective of promoting or maintaining independence which is often translated as the ability to remain in a community (independent living) situation. Within this framework institutionalization is sometimes seen as a societal failure to provide sufficient or appropriate community supports such as home care, which would allow an individual to remain in a non-institutional setting. But all provinces in Canada recognize that some individuals have a need for support which may only be provided through care in an institution.
THE CONSTITUTIONAL AND LEGAL BASE

Within Canada the governing legislative bodies - the federal and provincial parliaments - have supremacy over the judicial and administrative bodies. A parliament can therefore change the regulation, organizational structure, and funding or reimbursement mechanisms of the health care system. Constitutionally the provision of health care in Canada is a provincial responsibility, while the federal government has the major taxing power [25; 27].

Historically, in Canada the statutory basis for government involvement in the provision of long-term care services began with categorical funding mandated by social welfare acts such as the Old Age Pension Act of 1927 and culminating with the Canada Assistance Act of 1965 [28:102-09]. The latter act provided for the funding of health care services, including long-term care services, for recipients of social assistance.

Since the 1950's, three federal government statutes: the Hospital Insurance and Diagnostic Services Act (1958); the Medical Care Act (1966); and the Established Program Financing Act (1977) [21; 25; 26] have established the principles and funding mechanisms for Canadian health care. The Established Program Financing Act included an agreement known as the Extended Health Services Program which provided for the funding of alternative care services including long-term institutional care and home health care [21:101; 26:48; 28:108-10; 29].
These health acts established the national health insurance system in Canada in which the provinces must ensure compliance with the five broad principles: universality; accessibility; portability; uniformity of terms and conditions; and public administration in order to be eligible for federal block funding [30]. Some provinces recently have moved towards the provision of long-term care services which are publicly administered, insured services with universal access.

In all provinces, facility-based long-term care services are provided through a mixed provider system of for-profit (private) and non-profit (public and voluntary) facilities. Most provinces have more non-profit beds [24:41-42; 26:101].

Each of the provinces have statutes and guidelines which establish the specific responsibilities and services they have undertaken to provide in long-term care, including eligibility for benefits, reimbursement mechanisms, the expected standards for safety and protection of residents, and latterly, the quality of care to be provided to facility residents. The enforcement of regulations concerning facility-based care is seen as an administrative function, with the established standards usually of a structural and process nature. These regulatory responsibilities have led to questions about how best to determine reimbursement levels and about the standards which would ensure that adequate care is provided [31:87-91].
Reimbursement is not directly tied to regulatory compliance in any of the provinces. Licensure may, however, be a pre-requisite to participation in a provincially sponsored, facility-based long-term care program, as it is in British Columbia. It is conceivable that regulations could be made which would require reimbursement to be linked to regulatory compliance, as was done in Manitoba for special care facilities and group homes for the adult mentally retarded [32].

THE ECONOMIC AND FINANCIAL ENVIRONMENT

Kingson and Scheffler predict that for the USA "long-term care and its financing will be the single most important issue in health care in the next decade" [33:212). The potential in Canada for a similar scenario appears to be even greater given:

- that institutional care (hospital and nursing home) currently accounts for the largest portion of all health care expenditures for the elderly and the chronically disabled [27:4; 29:98; 34];

- that the predictions for the next thirty to fifty years are for both increasing absolute numbers and an increased average age for persons requiring institutional care in Canada [35:238-48]. (Variations in both fertility and migration rates may either ameliorate or intensify this impact)

- Canada's higher rate of institutionalization [36] and more extended range of publicly funded long-term care services [34];

- that the current trend in Canada is towards an inflationary economy with lowered economic growth, and continued public pressure to reduce or maintain taxation.
CHAPTER III

These economic and demographic pressures, along with the funding mechanisms noted earlier for health care and long-term care, set the limitations and context within which outcome-based reimbursement approaches can be developed in Canada. Within the publicly administered system in Canada, most of the revenue resources for acute and long-term care come from the federal-provincial tax base.

Municipal tax contributions are not significant, particularly for operating costs. In 1960, private sector funds accounted for fifty seven percent of the total health care expenditures in Canada and since the early '70's, less than twenty five percent [37]. Only three provinces assess hospital and medical care premiums. In provinces with "insured" facility-based long-term care, clients are assessed a user fee, usually at the rate of approximately twenty five to thirty three percent of the per diem rate [24]. The balance is paid out of by provincial revenues. The proportion of the Gross National Product (GNP) and the rate of growth of health and long-term care from 1970 to 1983 in Canada are as follows:

- from 1970 - 1980 Total Health Care expenditures were relatively stable at just over seven percent;

- from 1970-78 Nursing Home Care expenditures, as a percentage of the GNP, increased from .52% to .88% ;

- from 1970-78 Nursing Home expenditures, as a percentage of Total Health Care expenditures, increased from 7.2% to 12% [37; 38].
All provinces except one (Ontario) are using or have endorsed the single point of entry concept for nursing home placement, and even Ontario is making some movement in this direction [24:29-30]. At least two provinces (Manitoba and British Columbia) have formally expanded this concept to include the whole continuum of long-term care services — home care, community services and facility care, while in other provinces there are close working relationships between these sectors [24:41; 26:48-49,95-101].

UNITED STATES

In the United States, on the other hand, all health care services (hospital, medical and long-term care) are provided through a combination of private, voluntary and public providers who are funded through a combination of private-pay, third party insurance, and categorical social assistance and health care benefits for the medically and financially indigent. The latter are provided by at least two levels of government — state and federal.

As with Canada, social policy, constitutional powers and legislation, along with the economic and financial climate have influenced the organizational structure of long-term care and its facility-based system in the United States.

SOCIAL POLICY

Social policy in the United States has leaned more towards the free enterprise ideology which suggests that individuals should take responsibility for their own social needs (while
allowing that there may be a need for some categorical subsidy for the indigent) and 'the least government is the best government' philosophy. There has been continued and strong resistance in the United States to any proposals for a national health insurance scheme [23; 39:509,511-66; 40; 41].

However, in the facility-based long-term care sector the growing costs, the numbers of the population who receive subsidies for such care through the Medicare and Medicaid programs and the predominance of for-profit facilities (76.8% of the facilities and 69.3% of the beds in 1977) [39:520] has led to a strong public expectation and actual federal and state government involvement in funding and regulation.

Eligibility for government funded long-term care (home and facility) is largely based on the need for health care, not on a need for social support and it is only for those eligible because of low income, or medical indigence and age (e.g. 65 years and over for Medicare) [39; 41:10,14; 42].

Thus, on one hand, one sees in the United States a resistance to government involvement, and on the other the actual growth in (and predicted need for) facility-based long-term care creating pressure for increased monitoring and other government initiatives to ensure an accountable system. Added to this are the questions raised about equity of access to facility-based long-term care. Pressure from the increasing numbers of frail elderly on low incomes, has had and will continue to have a direct impact on the categorical beneficiary
group approach used by the United States government to fund long-term care services [23; 42].

These pressures have led to proposals for a variety of funding and reimbursement approaches. A number of these approaches attempt to resolve the equity problem in the United States related to the gatekeeper role of proprietary facilities which dominate the industry. Some see the solution is to fund a national system of health insurance, particularly for long-term care services [23]. Others propose reimbursement approaches aimed at nullifying the gatekeeper role of private, for-profit providers whose revenues are based on a mix of publicly funded (with government set rates) and private pay (with market or provider set rates) clients [43; 44; 45; 47; 48].

Although several theories have been proposed it is not clear what drives the private pay rates or what combination of 'provider incentives' to for-profit operators would ensure both equity of access and adequacy of the care provided. This has led to reimbursement proposals such as voucher systems and market model formulas [14; 48; 49].

THE CONSTITUTIONAL AND LEGAL BASE

In the United States the legal basis for the provision of government services, including health care services, is rooted in the tripartite system of checks and balances of the judicial, legislative and administrative bodies at both the federal and state levels of government [48]. This allows change to come from a variety of sources and more public scrutiny. Constitutionally, responsibility for health services in the United States rests
with the federal government, with residual powers only at the state level. Legislation at the state level has taken the traditional role of regulating for the protection and safety of facility-based clients under what is now commonly referred to as life-safety codes [39]. The states also have an enforcement function for all federal and state health care legislation [50].

Government involvement in the funding and provision of health care services came initially through categorical benefits under social welfare programs and since 1966 has developed under the Medicare (federal) and the Medicaid (federal-state) programs [39; 41]. The latter are primarily long-term care programs.

The resultant increased government involvement in funding for all aspects of the health care industry, plus concerns raised by the public about the quality of care, led to statutory requirements designed to ensure efficiency and effectiveness for the funds expended. Thus in the United States hospitals and long-term care facilities must meet extensive regulations in order to be certified as eligible to accept and receive payment for residents who are recipients of Medicare or Medicaid [23; 48; 49; 51].

This multi-layered involvement of the federal and state governments has led to some very complicated and onerous regulatory requirements for facility-based long-term care. The regulations often overlap, and are administratively costly to enforce (often by third party, quasi-government agencies), and leave very little flexibility for innovative management and care
CHAPTER III - 62 -

provision [41:40]. Most of the statutory regulations are directed either towards the private, for profit providers with a focus on the protective mechanisms, or, towards assuring accessibility to facility care for indigent individuals who meet the age and/or care requirements [23:822,888; 42; 50; 52].

ECONOMIC AND FINANCIAL ENVIRONMENT

Although the economic environment in the United States may be somewhat more positive, there has been continued and growing concern about the impact of long-term care expenditures on government and public expenditures overall. Kingson and Sheffler predicted in 1981 that "long-term care and its financing will be the single most important issue in health care in the next decade" [33:212] for the United States.

In the United States the government funds are allocated from general tax revenues at the federal, state and local levels. Some programs are solely funded by the federal government (Medicare) and others are federal-state cost-shared programs (Medicaid) with the federal portion ranging from 25 to 85 per cent [39:518; 41:10]. Individuals who do not qualify for categorical benefits must pay the costs for long-term care. For acute care the costs are usually covered by insurance. Third party insurance is limited for long-term care, and often tied to Medicare.

Since the 1970's the private sector funding share has shown some decline - from 62.8% in 1970 to 57.8% in 1980. In 1980, 38.4% of all long-term care residents used their own or family income. In the period from 1970 - 1982, the proportion of Total
Health Care expenditures rose from 7.52% to 10.49% of the GNP and during 1970 - 1980, expenditures for Nursing Homes, as percentage of Total Health Care expenditures, rose from 6.3% to 8.3% [39:527; 53].

In summary, the existence of and commitment to a national system of publicly administered, insured health care services with universal access in Canada which is moving towards inclusion of long-term care services versus a mixed funding system of categorical benefits, funded by tax revenue and private sector funding in the United States is one of the major organizational differences between the LTC system in the United States and Canada. In the United States, a more direct linkage of the payment to providers based on meeting regulatory requirements has led to reimbursement proposals being developed which largely address problems of equity in the mixed revenue system rather than addressing the problems of budgetary constraints, cost containment and assuring adequacy of care that is needed in Canada.

To be feasible in the economic and financial environment in Canada (and B.C.) the outcome measurement approaches must not add significantly to the administrative or other costs of a publicly administered facility-based long-term care system. This is of particular importance since health economists suggest that low administrative costs has been the main reason for the comparatively low percentage of the GNP expended for health care in Canada [54].
THE NEED AND PROBLEMS IN THE CANADIAN SYSTEM

The need in Canada is for better approaches to the provision of incentives (and cost control) which will promote provider efficiency and effectiveness in both the for-profit and non-profit sectors. Outcome-based reimbursement approaches developed in the United States, particularly from the reimbursement side, tend to be designed to resolve problems in the system which do not exist (or not to as great a degree) in Canada. These approaches must be viewed with caution for their use and generalizability in facility-based care in Canada.

Notwithstanding the trends noted in the Canadian system, there are a number of factors which continue to contribute to the lack of achievement of the objectives of optimum use of resources while assuring the provision of adequate care:

- historically government responsibility for reimbursement and regulation has shifted back and forth, or been split between health and social service departments, leading to fragmentation and real or perceived discrepancies in their goals and guidelines;

- the original thrust of much of the existing legislation was the safety and protection of dependent adults, as opposed to the recent trend towards assurances of an acceptable quality of care and/or life;

- the ability to obtain an accounting of facility expenditures is more difficult in the private sector of the industry;

- present funding mechanisms are not viewed by the industry as an incentive either to maintain or upgrade the quality of care, or to achieve optimal, efficient expenditure of funds;
Two other aspects of feasibility are important. One is consideration of the costs of implementation and ongoing operation of a particular approach, especially in times of economic restraint. The other relates to whether the results will provide government policy makers with the information on which to base funding decisions. For instance, can the measurement method or approach:

- provide the information needed in a clear and concise form which will minimize the need for further subjective judgement or qualitative assessments;
- be applied equally to for-profit and no-profit providers;
- be applied either prospectively or retrospectively;
- act as an incentive for providing effective care or more efficient expenditure of funds?

In addition, is the method politically acceptable? That is, does it:

- support/promote the objectives of the program;
- represent an incremental change or a major reform;
- recognize cost restraint guidelines and/or other economic realities;
- meet/concur with federal and provincial legislative requirements?

SUMMARY
We have noted in this chapter a number of constraints which must be addressed in order for an outcome measurement or outcome-based reimbursement approach to be feasible for use by
by government funders and regulators in the facility-based long-term care industry in British Columbia.

The first constraint noted was the methodological constraint of the need for the measurement of value preferences in a public service industry such as long-term care where there is a lack of competitive market forces to determine consumer choice. A method of value preference measurement is needed to determine what outcomes are valued and therefore expected from facility-based care. The definitional context of the measurement of outcomes, the application of outcome-based reimbursement, effectiveness and efficiency measures in human service industries such as long-term care with its complex and multidimensional need structure were also noted.

Other system variables, such as social policy, constitutional roles and the economic and financial environment which may act as constraints to outcome measurement, particularly those arising from differences between the system in Canada (and B.C.) and the United States were noted as they would affect the feasibility of applying outcome approaches developed in the United States. It may be that these differences are more significant in terms of outcome-based reimbursement approaches than for effectiveness measurement approaches.

The methodological, definitional, political and system constraints noted in this chapter are used as guides to assess the outcome measurement and outcome-based reimbursement approaches explored in the following chapters.
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CHAPTER IV: APPROACHES TO OUTCOME MEASUREMENT - PUBLIC SECTOR and HEALTH CARE SERVICES

INTRODUCTION

Given acceptance of the need for a common reimbursement system for the mixed provider system of facility-based long-term care in B.C., and more specifically, one which would promote both effective and efficient expenditure of funds, an outcome-based reimbursement system has been proposed as one solution. Various forms of outcome measures of effectiveness and outcome-based reimbursement have evolved in both the private and public sectors of industry, including some approaches that are specifically oriented to health care. A selection of these approaches are reviewed in this chapter for their feasibility for application in outcome-based reimbursement for facility-based long-term care in British Columbia.

Keeping in mind the constraints, problems and needs noted in Chapter 3, two sets of criteria were used to evaluate the various outcome measurement and outcome-based reimbursement approaches. One set of criteria was used to assess the scientific merit of the approaches such as identification of the problem, design and methodology criteria (e.g., validity and reliability), limitations and findings noted. The second set was used to determine the feasibility of the approaches for implementation in the long-term care industry, such as did the study problem and objective relate to outcome measurement, did the design and methodology recognize population variance and the
multidimensionality of long-term care, did the findings and limitations relate to outcome measurement and/or reimbursement (see Appendix A for the detailed criteria).

The criteria for the scientific acceptability were developed from guides used for critiquing existing works. The feasibility criteria were drawn from the constraint factors noted in Chapter Three and from the literature related to the use of outcome measurement and outcome-based assessment tools in health or long-term care [1; 2; 3; 4; 5; 6].

Measurement of outcomes has been at two levels - one focus is the effect or outcomes of the organization as a whole and the other is a focus on outcomes at the individual product, or in the case of health care, the individual patient level. The organizational level approaches reviewed included:

- generic organizational effectiveness approaches including cost-benefit and cost-effectiveness analysis, management by objectives, and zero based budgeting;

- and a specific concept used in health care known as Quality Assurance Programs in which outcome measures may be used.

These approaches have been used in both the private and public sector, including the health care sector.

From the review of these approaches a historical trend was noted which showed that initially the emphasis was on measures of effectiveness but later more approaches supported the inclusion of measures of efficiency [7; 8; 9; 10; 11; 12; 13].
At the individual product or patient level the approaches presented here are those applicable only in health care, since the more generic approaches to productivity measurement and quality control could not be readily adapted for testing the results of health care on human individuals. The individual level approaches reviewed included the following:

- health care industry approaches including mortality, morbidity;
- and health status indexes.

**GENERIC ORGANIZATIONAL EFFECTIVENESS APPROACHES**

The measurement of organizational effectiveness is a major theoretical orientation developed to answer decision makers questions about the performance of an organization.

Organizational effectiveness models have usually taken a broad, macro approach. Many of the early evaluation models were univariate in that they measured only one aspect of the organization's performance, such as productivity (e.g. actual output, profit or rates or return, employee satisfaction, etc.) [7:546-47]. Questions have been raised about how representative such univariate measurements are of the overall effectiveness of an organization.

Evaluators then developed multivariate models, most of which were derived from a systems perspective. These models were often normative or prescriptive rather than descriptive. They suggested what should be and did not measure what was.
Many problems were encountered in defining the effectiveness construct for these models including:

- how to accommodate the complexity of organizations;
- a lack of generalizability;
- how or whether to combine micro and macro levels of analyses [7:547-54].

For these reasons, as Steers points out, these models are not very helpful in explaining or measuring organizational effectiveness. He therefore suggests a new type of model, the "weighted goal optimization model".

Such an approach to evaluating organizational effectiveness should, he suggests;

- develop measurements in relation to the operational goals (behavioural intentions) of the organization and measure goal attainment;
- be flexible enough to account for the diversity of goals;
- weight the measurements to account for the different values placed on each of the goals; and
- recognize that there are some constraints that will impede goal attainment. Therefore what is to be measured is the 'optimized' or realistically achievable goal [7:555-57].

The Steers model appears to be similar to what Campbell [14] describes as the goal-oriented view of organizational effectiveness [14:31]. Based on Campbell's description of goal-oriented and systems approaches to organizational effectiveness,
the goal-oriented approach is essentially an outcome measurement perspective, whereas the systems view considers the characteristics (the structure and process variables) of the system and how they affect performance. Campbell identifies cost-benefit analysis, management by objective, and a criterion problem model as operational examples of the goal-oriented perspective [14:31-40].

In contrast to Steers suggestions, Campbell cautions against a multivariate approach to developing effectiveness measures and any "attempts to develop results-oriented measures ..., (e.g.) terminal outcomes...such as return on investment, productivity and the like" [14:39-40]. His concerns arise from the difficulty in identifying the variables which actually affect outcomes and whether these variables, if identified, can be specifically attributed to the organization [14:39-40].

Spray notes that much of the academic (theoretical) research on organizational effectiveness has been based on systems perspective, and not on goal oriented models. He suggests that this may account for the communication gap between academics and practitioners [15:166-72]. It would seem, therefore, that although outcome models have been inherently attractive to managers, organizational research has not focused much of its effort in that direction.

Notwithstanding these concerns, the focus of this study is outcome measurement of effectiveness and several of the
organizational effectiveness models are explored for their possible use in facility-based long-term care. The models include: the generic models of cost-benefit analysis; management by objectives; and zero-based budgeting as used in private industry and the public sector - including health care and the application of outcome measurement in health care through the Quality Assurance Program concept.

COST-BENEFIT AND COST-EFFECTIVENESS ANALYSIS (CBA-CEA)

The thrust of the cost-benefit and cost-effectiveness models is to assist decision makers to rationalize resource allocation by considering the relative effectiveness (the cost and the benefits) of alternative approaches to achieving the objectives of an agency or program. This is done by analyzing the results (outcomes), measuring the costs, and comparing them with alternative ways to achieve the objectives [13:3, 80]. These approaches essentially attempt to combine effectiveness and efficiency measurement.

In the public sector the lack of competitive market forces, the varying types of costs and benefits, and the differing perspectives among the interest groups (funders, providers, consumers) all suggest the need for and the complexity of analyzing resource allocation. CBA/CEA is proposed as one approach to this problem.
In this study, the analysis of the cost-benefit/cost-effectiveness approach is based on Campbell's review of organizational approaches [14:32-33]; government (or public sector) applications as described by Hovey and Stoner [16; 17:607-08]; and health care industry applications as described by Warner/Luce, Musgrave, and Stoddart [12; 13:114-29; 18].

In the public service sector, the major impetus for the recent use of CBA-CEA in the United States dates from the 1960's with the implementation of the planning-programming-budgeting (PPB) system [16]. In this form, CBA had a limited lifespan. According to Warner/Luce and Musgrave cost-benefit analysis has been used in one form or another in health care for hundreds of years [13:46; 18:115].

Warner/Luce and Stoddart suggest that CBA and CEA be considered as essentially one type of analysis. Each basically use the same methodology while differing somewhat in the variables included in the analysis, and thus the outcome information provided [12:3; 13:60]. CBA includes a monetary value for both the costs and benefits, while with CEA the outcomes or consequences are measured in non-monetary units.

The literature reviewed on CBA and CEA essentially met the scientific assessment criteria: the problem was identified (i.e. the need for more systematic budgetary control in government, control of increasing government health care expenditures), as
was the objective of providing decision makers with information to identify and promote cost effectiveness and efficiency.

Both Hovey and Warner/Luce provide considerable information on design and methodology, including a discussion of both the principles and the empirical applications of the approach [13; 16]. Warner and Luce note the considerable gap that currently exists between the principles and the practical applications of this approach in health care, as well as the numerous technical and environmental (e.g. political, economic) constraints [13:130-238].

The findings included a description of current practice, covering both the methodologies used and examples of applications. The conclusions drawn by these researchers considered both the potential and the future use of the CBA-CEA approach and provide guidance for use of the approach in different types of decision making situations (e.g. monitoring, reimbursement) [13:176-206]. Figure 2 summarizes the pros and cons of the existing methods of CBA-CEA as approaches which might be applied to outcome-based reimbursement in facility-based long-term care.
Figure 2: THE PROS and CONS of CBA/CEA AS AN OUTCOME MEASUREMENT APPROACH in FACILITY-BASED LONG-TERM CARE

<table>
<thead>
<tr>
<th>PROS</th>
<th>CONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>The problems and objectives addressed fit with those of long-term care.</td>
<td>Difficult to develop measurements for both the cost and benefit sides in health care.</td>
</tr>
<tr>
<td>Uses outcome measurements.</td>
<td>Approaches to date have not considered the information needs from the funders perspective or values - would need more development in this aspect.</td>
</tr>
<tr>
<td>Has the potential to provide information to decision makers, if the technical and environmental problems can be resolved.</td>
<td>Measurements have been largely disease based, and developed for acute care and/or high technology concerns, or to compare institutional care to alternative services in long-term care.</td>
</tr>
<tr>
<td>Is seen, at the very least, as a consciousness raising approach for considering the need for outcome measurement.</td>
<td>Is traditionally used to choose among alternative programs and not to monitor results among the providers within a program.</td>
</tr>
</tbody>
</table>

Intuitively this approach is appealing as a solution for outcome-based reimbursement in facility-based long-term care as it would seem to answer the need for effectiveness and efficiency information. That is, if you can measure the effectiveness and at what cost, you would have the basic ingredients for an outcome-based based reimbursement approach.

However, a major difficulty with this approach is in its application in health care. As will be noted later, measuring effectiveness in health care is a very complex process itself,
while as Warner and Luce suggest the ability to derive cost measures is equally complex. The multidimensional nature of long-term care residents with multiple problems, the differing goals of providers, assessors and government funders, and the quality of care versus quality of life issues all add to the complexity.

Recommendation: To be applied to long-term care reimbursement, this approach would need more development from an external funders perspective, as well as more development and use in the measurement of outcomes applicable to long-term facility care. However, it could be useful as a conceptual framework and may have potential in the development of cost data, efficiency studies and/or outcome-based reimbursement once effectiveness measurement is in place in facility-based long-term care.

MANAGEMENT BY OBJECTIVES (MBO)

There is general agreement that the three main components of the MBO approach include [3:251; 9:16-17; 10:227-31; 17:155-71; 19]:

1. Establishing objectives, with an emphasis on management participation at all levels;

2. Developing and directing the plans to achieve the objectives, with an emphasis on the flexibility to choose the means of achievement;

3. Establishing the measurements or the results, with an emphasis on review and measurable results or outcomes

This analysis of the management by objectives (MBO) approach is based on the use of MBO in the private sector as noted by Stoner and Ivancevich [17:151-61; 20:460-65]; in the public sector as described by Odiorne, Morrisey, McConkey, Mali and Balk, [7; 9; 10; 11; 19]; and in the health care sector as described by Kaluzny [3:251-52, 300].
A review of this literature showed a lack of agreement about the exact purpose or thrust of MBO. Generally MBO is presented in this literature as having two major purposes – i) planning and ii) control, with some proponents supporting one purpose more than the other. Drucker (who originated the term MBO) sees the approach as a planning method to "achieve an efficient operation", whereas McGregor stresses the control aspect as used in performance appraisal programs [17:152]. Ivancevich, however, suggests that MBO formalizes the strong relationship between planning and control [20:460]. McConkey and Morrissey postulate that the real impact of MBO has been on measuring the effectiveness of management performance and the more recent trend towards including efficiency measures. Morrissey calls this latter adaptation the MOR approach (Management by Objectives and Results) [9:24-25; 10:226-32].

Mali takes the MBO approaches one step further. He proposes an approach called Management of Productivity by Objectives (MPBO) as the method to meet the goal of today's managers for improved accountability [11:3-21]. Both Mali and Balk see measurement of productivity as a major method for understanding public sector performance, and that productivity includes both effectiveness and efficiency measures. Both authors also emphasize the need for measurable inputs and outcomes. They also recognize that these inputs and outcomes are less well
defined than financial measurements and may require the use of both qualitative and quantitative measurements [11:3-21,77-103; 7:210-15]. Balk points out, as did Neu when discussing value preference measurement, that too much "...clarification may be dysfunctional to the process of government..." given the varying perspectives and goals among legislators and other consumers [7:215].

In assessing the scientific merit of the MBO approach it appears that, from the literature reviewed, there is no clear consensus about which problem (planning or control) the MBO approach addresses, or whether the objectives include those for both effectiveness and efficiency. The presentation of the findings, the limitations and the conclusions and recommendations are more clearly presented. But the presentation of design and methodology information is somewhat limited. Of concern is the fact that specific information about the instruments used to measure results is not presented or discussed, nor are any details given about testing the measurement instruments for validity and reliability.

Figure 3 is a summary of the pros and cons of existing approaches to MBO as an approach which might be applied to outcome-based reimbursement in facility-based long-term care.
Figure 3: THE PROS AND CONS OF MBO AS AN OUTCOME APPROACH IN FACILITY-BASED LONG-TERM CARE

<table>
<thead>
<tr>
<th>PROS</th>
<th>CONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>The philosophy and concept of setting objectives,</td>
<td>No consensus about the problem (planning or control) or about the objectives (effectiveness or efficiency) - which leads to different designs and usage,</td>
</tr>
<tr>
<td>Allowing managers flexibility to achieve outcomes and</td>
<td>Limited information about designs, methodologies, or measurement instruments used - therefore generalizability not clear.</td>
</tr>
<tr>
<td>Measuring results in terms of effectiveness and efficiency fit with the need in Long-term Care currently being used by providers to meet government funding constraints.</td>
<td>Time and cost to implement and monitor may be considerable.</td>
</tr>
</tbody>
</table>

The underlying philosophy of a management approach using measurable objectives and the trend towards the inclusion of both effectiveness and efficiency measures lends itself to adaptation for outcome-based reimbursement in facility-based long-term care. However, the limited information available about the actual measures used may be a problem due to the potentially conflicting objectives of funders, providers and consumers, restrictions of statutory mandates and guidelines, the complexity of a mixed provider system, and the multidimensional needs of clients.

Recommendation: This approach could be used as theoretical framework, incorporating both effectiveness and efficiency as part of the objectives. Further use of this approach by long-term care providers would provide a greater empirical experience on which to assess its feasibility for more general use by external funders.
ZERO-BASE BUDGETING (ZBB)

ZBB (zero-base budgeting) is presented as an alternative to the traditional incremental approach to budgetary control and planning. In ZBB, the budget is considered each year from a 'zero-base', that is all priorities and activities have to be justified each year. ZBB is therefore seen as a management oriented, flexible and responsive approach which supports planning, budgetary control and operational decision making [21:37; 22:36]. A basic part of the approach is the development of objectives and the measurement of results [3:111; 21; 22; 23:23]. The approach allows decision makers to consider budgetary increases or reductions, new proposals and a range of choices at different levels of funding [21:5].

The process requires the participation of managers at all levels. Objectives must be set at each management level and for each activity (decision unit) as well. Performance criteria, including the benefits and costs for each decision unit at various levels or percentages of funding must be established. In this way, comparative evaluation of the benefits and costs of competing activities within an organization can be made [17:608-09; 21:6].

The review of zero-base budgeting as an outcome measurement approach is based on the following references: Hebert's edited work which explores the concept of ZBB, with the major focus
being the use of ZBB by United States federal government services [21]; Stoner whose emphasis is use in the public sector [17:608-09]; and the discussions by Kaluzny, Boehm, Dillon, and Clayton on the use of ZBB in the health care industry [3:111-12; 22; 23; 24].

Essentially the literature reviewed met the scientific assessment criteria: the problem (the need for management accountability) and the objectives (e.g. cost containment, improved productivity, etc.) were identified; the description of design and methodology focused on the use of ZBB in the public sector where numerous design strategies have been developed. There was no clear presentation of the measurement instruments used, although the use of process outcomes (work units per staff ratios) is implied and economic outcome (cost-effectiveness) is the one outcome measurement approach specifically suggested [23:31; 24:3]. Improved efficiency and productivity within activity areas or overall, is not inherent in the ZBB approach. But efficiencies may come as a result of using the process or adaptations may be made which specifically encourage efficiency [21:137; 23:32; 24:3].
Other limitations that were noted included: the problems that arise due to the lack or inadequacy of measurement information (which prevents meaningful comparison of the costs and benefits amongst different activities); the need for direct involvement of managers at all levels; and the time and effort needed to develop and review the information [22:37; 21; 23].

Conclusions about the success of the approach in the public (health care) sector were optimistic though somewhat cautious, based on the limited experience to date [23; 24:4]. It was, however, a recommended approach in industries (such as health care) where overhead costs (labour) represent a substantial outlay. Suitable cautionary notes and recommendations for future study were made [24:4].

Figure 4 presents the pros and cons of ZBB as a feasible approach for outcome-based reimbursement in facility-based long-term care.
Figure 4: THE PROS & CONS OF ZBB AS AN OUTCOME MEASUREMENT APPROACH TO FACILITY-BASED LONG-TERM CARE

<table>
<thead>
<tr>
<th>PROS</th>
<th>CONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information developed could be used by funders;</td>
<td>Unable to assess the generalizability to long-term care, as measurement instruments were not presented;</td>
</tr>
<tr>
<td>Uses objectives and measurement of results, particularly effectiveness measures;</td>
<td>Need to build in efficiency objectives;</td>
</tr>
<tr>
<td>Has been used in health and long-term care facilities in Canada;</td>
<td>Time/effort required of managers at all levels to implement;</td>
</tr>
<tr>
<td>Combines MBO and CBA;</td>
<td>Has been used mainly for internal management - would have to adapt to use as an external management approach e.g. government funders;</td>
</tr>
<tr>
<td>Allows for the use of a variety of outcome measurements.</td>
<td>Need for regulatory changes to obtain information for external funders - may be resistance by for-profit providers.</td>
</tr>
</tbody>
</table>

Again the measurement approaches used in ZBB are not clearly identified and the approach has been developed essentially for internal management. However, as a conceptual framework the approach could be adapted to provide information on effectiveness and costs which would support efficiency studies and/or outcome-based reimbursement in facility-based long-term care. The process as it is now established may be too unwieldy to be easily adapted for use by external funders. On the other hand, there is potential for use by internal management as a budgetary approach in which effectiveness measures for long-term care could developed.
Recommendation: Encourage use as a conceptual framework, and by providers as an internal management approach in long-term care. This will provide more empirical experience in determining what outcome measures can or should be used.

CONCLUSIONS ABOUT THE USE OF GENERIC ORGANIZATIONAL EFFECTIVENESS APPROACHES

Conceptually these outcome approaches (particularly MBO and ZBB) fit the criteria for approaches to be used in long-term facility care as they are based on: setting objectives, allowing managers (providers) flexibility in how they achieve results and yet require accountability through measurable outcomes which will provide information for decision makers (e.g. funders). These approaches allow for the use of a variety of outcome measurements which could accommodate the multiplicity of outcomes that may be necessary in facility-based long-term care with its mixed provider system, and where there is a need to consider the multidimensional needs and problems of the clients.

Although organizational effectiveness approaches initially leaned more towards measurement of effectiveness, there has been a recent trend towards the inclusion of efficiency measures. In outcome-based reimbursement measurement of both effectiveness and efficiency are required to balance the different responses or incentive motives of the for-profit and non-profit providers.

However the lack of information on the design, methods and actual measurement instruments on which the reports are based
makes it difficult to assess the scientific credibility, acceptability and merit of the organizational effectiveness approaches reviewed. Their limited use in health care, particularly in long-term care, and the time and cost to implement them also raise questions about their feasibility.

In general it would appear that these approaches are not yet ready for direct application in an outcome-based reimbursement system for facility-based long-term care. However, use of these approaches by individual providers would provide a greater empirical base, and at the very least raise providers' consciousness about the need for outcome measures of effectiveness and efficiency in facility-based long-term care.

These limitations led to a review of organizational effectiveness measures and outcome measurement approaches more specifically designed for health care use.

ORGANIZATIONAL LEVEL APPROACHES - APPLICATIONS IN HEALTH CARE

The discussion of outcome measurement in both health and long-term care reveals that there is a lack of agreement about what is meant by an outcome of health care. Some approaches propose that outcome should be measured at a broad, macro or organizational level, such as the achievement of operative organizational goals (e.g. goals such as providing client centered care, resource utilization goals, patient perceptions
and opinions about the care or the environment, or decreased mortality rates, improved discharge patterns, etc.). These organizational outcomes are viewed by some as inputs or intermediate outputs and by others as outcomes [25:26,27].

Luke and Modrow [26] suggest that what is measured or evaluated is contingent on how accountability is perceived or defined, that is what is the scope or limit of one's obligations? They propose that the definition of accountability should begin with the conceptual model, from which is developed an operational definition and which in turn is measured in some way in the empirical application [26]. In this case, what is measured are the actions (or results) taken to meet these obligations. In this study for instance, the funders obligation is to ensure the effective and efficient expenditure of the public funds allocated for the care provided in long-term care facilities. In order to determine the scope of the accountability, Luke and Modrow suggest there are 'delimiters' which can be identified. These include:

- the content or constituent elements (e.g. effectiveness and efficiency;

- the level of focus - individual or population (e.g. aggregations of facility residents at specific levels of care;

- and the empowered agent (e.g. government funders and regulators).
Thus, if accountability is defined, then the outcomes to be measured will be within the limitations of that accountability.

Viewed from another perspective, Baker [27] and Woy [28] in their reviews of the similarities and differences between Quality Assurance Programs and program evaluation approaches shed some light on the confusion and disagreement about the level at which outcomes should be measured. Quality Assurance Programs have been instituted in health care in recent years to assure adequate quality of care is provided and in a cost effective manner.

Baker and Woy both suggest that quality assurance has primarily been client centered, with assessment criteria derived mainly from clinical judgements, analysed by peer review, and used for evaluation and change in the clinical or service situation; whereas program evaluation emphasizes the total organizational system, evaluates the worth or value of a program, and provides information which is used by management level decision makers [27:152-57].

In program evaluation, outcomes are used in the measurement of total performance (e.g. effectiveness and efficiency). In quality assurance programs assessment of outcomes may be used only as a measure of quality achievement (effectiveness). The major difference in the two approaches appears to be the level at which data are aggregated. Whereas quality assurance traditionally considers outcomes for individual clients, program evaluation is based on data analysis aggregated at the group
level. Some argue that the latter is the only valid approach because a client-specific outcome is at the mercy of the differences in client response and compliance [27:152-55; 28].

The technical methods of analysis have also varied. Quality Assurance often relies on manual chart reviews, and uses clinically oriented assessors and/or peer review, along with clinical standards for analysis. While program evaluation on the other hand tends to review data derived from an information systems database, and uses computer generated and relatively sophisticated statistical analysis approaches [27:156]. Baker suggests that there should be a convergence of these two techniques to meet the needs at all levels for measures of outcome. This convergence model approach and its potential for outcome-based reimbursement in facility-based long-term care is the focus of Chapter 5, but the impact of quality assurance programs on the development of individual and organizational level outcome measures is discussed next, followed by a review of more specific health care approaches.

QUALITY ASSURANCE AND THE USE OF OUTCOME MEASUREMENT

The assessment of institutional care, both acute and nursing home care, has evolved from protective regulations which utilized structural standards [29:22-24; 30; 31; 32], to accreditation programs which included structure and process standards [29:25; 33; 34], to needs assessment and utilization reviews [35; 36] to Quality Assurance programs which have now been incorporated as a requirement of accreditation.
Since the 1970's, there has been pressure on government funders for more accountability for the monies expended on health care provision, as well as for the quality of the care provided [29; 33; 37]. There were concerns both about quality for its own sake, as well as a recognition that poor quality care could actually increase the costs of providing health care (e.g. over-utilization, unnecessary surgery, etc.). Quality Assurance programs are therefore currently promoted as one of the major vehicles for assessing and monitoring the provision of care in the health care industry.

Monitoring the quality of care has had a long history in health care [2:72]. However the recent impetus has come from the United States federal government Medicaid Act (1966) which mandated utilization reviews, and the 1972 Act which mandated the establishment of Professional Standards Review Organizations responsible for both utilization (cost containment) and quality assurance [2:76; 38:381]. In Canada the impetus for Quality Assurance came from the requirements for hospital and long-term care facility accreditation rather than specific legislation [39]. Quality Assurance programs were thus launched, but not without some uncertainty about whether such programs were to answer questions of assurance or cost containment or both [2; 33;].

Quality assurance is variously referred to as quality audit, quality assessment and quality review, all of which imply
measurement and monitoring of care provision. Quality assurance is further defined as having two basic functions: quality assessment which measures the level or effectiveness of care provided (i.e. identifies the problem) and quality achievement which suggests problem solving or intervention for improvement [29:5; 37:126-7; 38:382]. The implications of the latter is that provider behavior may need to be changed to improve quality.

Slee takes the Quality Assurance concept one step further towards organizational level outcomes by suggesting the use of the term quality management which reflects the responsibility of line managers for the achievement of quality within an institution [40:14]. He recommends a quality audit process similar to a financial audit, which results in a "Quality Statement" much like a financial statement. The quality statement could be derived by developing a profile of the institution's (e.g. hospital's) performance compared with established process and outcome standards or against the performance of other institutions (peer comparison) [40:9]. This could result in a "system of 'grading' of hospitals ... much as financial ratings are constructed." [40:14]. Slee emphasizes the need for more movement towards the development of the assurance side (i.e. changing provider behavior) of the quality assurance equation to balance the research done on the assessment or audit side [40:27].
The main focus of quality assurance to date has been the development of measurement criteria using Donabedian's concept of measuring the quality of care provision through the measurement of the structure, process and outcomes of care [41]. The initial concentration was on measurement of the structures and process of care, usually developed from the professional providers perspective (i.e. medicine and later nursing) [33; 43]. However there was and continues to be support for the use of outcome measurements in Quality Assurance programs [33; 34; 38:382; 43:33-47; 44].

Outcome measurement is promoted because:

- it measures the end result of care (i.e. the effectiveness);

- the approach is a multidimensional concept which can be used at several levels (organizational, managerial, professional provider, client, etc.);

- more than just the technical variables of health care may be included [2:35-36; 29:123-24; 33:857; 41:100-09; 42:262; 45:122-27].

However, as Kessner [29] points out, considerable cognitive dissonance has been experienced with Quality Assurance programs due to: the acceptance, on the one hand, of the need to monitor quality of care while on the other hand experiencing the difficulties in developing acceptable (valid and reliable) measures to do the monitoring; the lack of knowledge of the causal links between process and outcome; the fact that a measurement of health status does not necessarily represent the results (outcome) of the care provided; and the lack of understanding of how to motivate change in provider behavior if
a deficit in care is found. With outcome measurement there is also the issue of whether the expected outcomes should be determined by normative standards (those developed by a group of experts or peers of the providers) or comparative (empirically developed) means [1:131].

To overcome some these problems the concept of using health status as outcome, based on a fairly narrow definition (i.e. targeted to specific groups of individuals with specific problems who are receiving care), was proposed as the way to develop outcome measures [46]. Two of the major approaches to outcome measurement within Quality Assurance programs noted in the literature are the approach developed by the Joint Commission on Hospital Accreditation known as the Patient Evaluation Procedure for Auditing and improving Patient Care (PEP) [43], and the Health Accounting Approach developed by Williamson [44]. Both of these approaches were based on a medical audit approach in which a specific group of diagnoses (types of cases) were selected, and the expected outcomes were identified. These cases were then used as audit points in order to review the process of care which led to these outcomes.

These outcome audit approaches have been used mainly in acute care settings (a Quality Assurance approach for long-term care is discussed in Chapter Five). In these instances outcomes were used an an intermediary step, to determine if the process of care was effective and to direct provider change, if necessary.
These essentially process oriented approaches are more helpful in meeting the internal management requirements of an organization than for the more aggregate information required by external decision makers such as government funders and program planners.

In the same timeframe there has been a move from the more traditional outcome measures of health status - mortality rates and morbidity rates - to the more complex measurement approaches known as health status indexes.

INDIVIDUAL LEVEL OUTCOMES: MEASUREMENT OF OUTCOMES AT THE LEVEL OF THE INDIVIDUAL IN HEALTH CARE

In the health care industry the product is the care (services and programs) provided to individuals with disease or disability in order to improve or maintain that individual's health status at the highest possible level. Over the years several types of measurement have been devised to determine the impact of care. That is, to determine what is the health status of an individual or population as a result of care. These measures are derived from an assessment of an individual's health status which is then aggregated to represent larger population groupings.

The two major types of outcome measures, developed at least in part to determine the need for and the results of health care interventions, are measures of mortality and morbidity, and health status indexes. These measures were originally applied
to describe the health of the population and subsequently the impact of care on acute and chronic illnesses. The following sections discuss the feasibility and application of these approaches in facility-based long-term care.

MORBIDITY AND MORTALITY MEASUREMENTS

Mortality and morbidity data are the traditional approaches to the measurement of health status and the impact of health care services [6:199-200; 46; 47; 48:423; 49:76-77].

Mortality data are measures of the occurrence of death in populations. Historically, infant mortality rates and life expectancy (a variant of age-adjusted mortality) were two of the major rates used to describe the health of a population. However in developed countries, other than for international comparisons, there now appears to be more drawbacks than positive reasons for using mortality rates either to assess the health status or the impact of health care on populations [6:199-200; 49:76-77; ]. That is, as the infant mortality rates declined this measurement was considered less relevant and chronic illness and disability, which are not well expressed by mortality rates, have now emerged as significant entities [47:2-3].

Figure 5 summarizes the pros and cons of using mortality rates as a feasible approach to outcome-based reimbursement in facility-based long-term care.


**Figure 5: THE PROS AND CONS OF MORTALITY RATES AS AN OUTCOME MEASUREMENT APPROACH IN FACILITY-BASED LONG-TERM CARE**

<table>
<thead>
<tr>
<th>PROS</th>
<th>CONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data are widely available</td>
<td>Measure only a negative endpoint, e.g. death</td>
</tr>
<tr>
<td>Data are often differentiated by age, sex and geography</td>
<td>Are dichotomous measures which do not reflect quality of life</td>
</tr>
<tr>
<td>Infant mortality can be used as a proxy for the health status of the population</td>
<td>Too insensitive, in developed countries to reflect the impact of care</td>
</tr>
</tbody>
</table>

Although mortality rates are widely available and the data are differentiated by age, sex and geographic groupings, the data are too insensitive a measure to use on their own as a measure of effectiveness in long-term care. The mortality rates may be of some use as part of a broader set of outcomes about the discharge status of residents of long-term care facilities.

**Recommendation:** Used alone, mortality rates are not a suitable outcome approach for long-term care.

As mortality rates declined, *morbidity* rates were considered an alternate for explaining or defining the health status of populations. Morbidity rates measure the occurrence of disease or disability in populations. Patrick notes that various morbidity indexes have been developed based on "disability, dysfunction, discomfort, or other clinical, subjective or behavioral categories" [49:77-78].
Figure 6 summarizes the pros and cons of using morbidity rates as a feasible approach to outcome-based reimbursement in facility-based care.

**Figure 6: THE PROS & CONS OF MORBIDITY RATES AS AN OUTCOME MEASUREMENT APPROACH IN FACILITY-BASED LONG-TERM CARE**

<table>
<thead>
<tr>
<th>PROS</th>
<th>CONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data are readily available in the form of diagnostic codes.</td>
<td>Traditional morbidity indices do not account for multiple outcomes or differences in severity, duration or intensity or chronic disease states; Insensitive to the wellness - illness continuum; Often based on implied, not explicit assumptions and preferences about the relative values of various morbidity states; Problems with reliability, completeness, and relevance.</td>
</tr>
</tbody>
</table>

Traditional morbidity rates do not lend themselves to the need in long-term care to measure multiple attributes of health status or the need to recognize the goals in long-term care of promoting, supporting or maintaining the positive (independent) aspects of the wellness-illness continuum: morbidity is usually a negative measure. In addition, "quality of life" with it's implied need to consider societal values is being expressed as a
major requirement in relevant measurement approaches in long-
term care. Morbidity rates do not directly measure "quality of life" aspects.

Recommendation: Traditional morbidity measures are not
sensitive enough outcome measures either of the health status of
residents or of the impact of long-term care in which care is
directed at populations with high rates of chronic disease and
disability for which there are multiple outcomes.

The inadequacies of the mortality and morbidity rates to
meet the assessment needs for populations with chronic disease
and disability has led to the development of the health status
index approach.

HEALTH STATUS INDEXES (HSI)

Health status indexes (HSIs) have been the major approach
developed in recent years in countries such as the United States
and Canada to specifically address the need for information to
support decision making about the policy, planning, funding and
evaluation of health care. In fact, in the United States, under
the Planning Bill of 1975, the use of HSIs was mandated as a
part of the planning process [50:xiii].

The term health status index refers to the form of outcome
measurement used to assess the state of health of groups or
populations, based on indicators which represent some definition
of health and/or social well being. These indicators are
scaled, weighted (valued) and aggregated into an index which is
said to represent either the health of a population or the
impact of a health service [46; 51:71-73; 52:74].
Boyle and Torrance provide a more specific definition which reflects the complexity of the state of health: "A multiattribute health index is a health status measure based on the notion of health as a multiattribute phenomenon."

[53:1046]. Bergner defines health status as containing "...those elements that are an integral part of the person but exclude those that exist and behave independently of the person."

[54:698]. As an operational concept Bergner has identified five dimensions of health status which can serve as a guide for choosing health status instruments. These five dimensions are:

1. Genetic foundation or inherited characteristics;
2. Biochemistry, physiologic and anatomic features, including disease and disability;
3. Functional condition;
4. Mental condition;
5. Health potential - including longevity, functional potential and prognosis of the disease or disability.

Three areas have been suggested where health status indexes might be of use to decision makers: policy making (priority setting, resource allocation); planning (comparative analysis of populations, comparing variables associated with health or health care impact); and evaluation (looking at the end results or outcomes, estimating benefits) [4:246; 35:255-58; 46; 54; 55; 56:703-04].
In the literature reviewed on HSIs the information was presented in terms of both the historical development of HSIs and by using a categorical framework. Included in the review were works such as the Health Status Indexes Conference of 1972 edited by Berg [35]; two compilations on the state of the art edited by Elinson et al in 1977 [36], and by Elison and Seigmann in 1979 [50]; and a compendium of scales and indexes by Reeder et al [52]. Articles of a general nature by Chen and Bryant [46], Sackett et al [48], Boyle and Torrance [53], Bergner/85 [54], Bergner/77 [55], Sackett and Torrance [56], Ware [57], and Brooks and Lohr [89], as well as specific proposals which might have relevance to long-term care were reviewed. The latter included Bergner et al's Sickness Impact Profile (SIP) [59; 60]; Katz's Functional Scale of Activities of Daily Living (ADLs) [61; 62]; and the research conducted by Bush, Fanshel and Patrick on a Functional Health Index [1; 63; 64] and Skinner's Debility Index [65].

Much of the development of HSIs has been a collaborative, multidisciplinary approach combining perspectives from economics, health care systems and health care management, psychology, medicine, and sociology. Scientific research and statistical methodologies are used. Throughout their development there appears to have been a conflict between meeting the needs of the scientific researcher to as Lerner states "discover the 'true' nature of social reality" [47:3] and the needs of
administrators for empirically tested findings that can be used for decision making [4:251; 52:5-6].

A further conflict or dilemma has been whether index development should be directed towards measuring the health of populations or the impact of health care services, or both [35; 52:74]. Although much of the research on HSIs has used the broad approach of measuring the health of populations, some of HSIs developed can be disaggregated to identify subgroups [35; 59; 60]. Others have taken the narrower focus of the impact of health care services on specific target groups [6; 48; 56]. A small percentage of the latter have been developed for target populations (or to establish the impact of care) in long-term care. For instance, there has been considerable study and use of Katz's functional scale of ADLs for assessing populations of the chronically ill and disabled in a variety of settings, including institutional care settings [46:261; 61:127-63; 62:39-59]. Other indexes such as Bergner's Sickness Impact Profile [59:9-32; 60] and the Functional Health Index [1; 63; 64] could, either by disaggregation or by specific application, be used to establish HSIs for long-term care populations. The SIP instrument has been used in populations with a specific chronic disease and with home care clients with chronic diseases [60].

Several investigators have developed guidelines and standards for assessing the scientific merit (e.g. validity and reliability) of HSIs and for their selection and use. These
investigators also stress the importance of knowing the original intended purpose and the underlying assumptions of the index [4; 6; 46; 48; 53; 56]. Problems may be encountered and use may be limited if there are difficulties understanding the index, or if the index does not meet the purpose (e.g. an inexpensive planning tool) for which it is required [4; 35; 46; 56; 66]. There may also be problems with implementation if data collection and analysis are too costly and/or too time consuming or complex [54].

The presentation of HSIs in the literature essentially met the scientific assessment criteria: the problems addressed and the objectives of HSIs have been noted in the introduction to this section; and the literature provided considerable detail and discussion on study designs and measurement methodologies including both theoretical and conceptual concerns, as well as the specific design approaches used for the development of the specific indexes. It was clear that indexes have been developed for a wide variety of groups and populations, and from a number of orientations.

The findings were usually clearly presented, the conclusions were based on findings, and were usually qualified with recommendations for further research.

Figure 7 summarizes the pros and cons of the existing methods of HSIs as approaches which might be applied to outcome-based reimbursement in facility-based long-term care.
Table: The Pros & Cons of HSIs as an Outcome Measurement Approach for Facility-Based Long-Term Care

<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measures relevant outcomes (i.e. health status);</td>
<td>Three major problem areas:</td>
</tr>
<tr>
<td>Recognizes the complexity of the health care continuum;</td>
<td>i) how to operationalize the definition of health that will validity reflect that definition (e.g. with a functional assessment what functions should be assessed, what values and weighting should be attached and how to aggregate?)</td>
</tr>
<tr>
<td>Recognizes other utilities in addition to productivity in cost-benefit analysis (e.g. quality of life in non-income producing populations such as elderly, disabled);</td>
<td>ii) measurement and scaling problems - developing appropriate scaling and validity testing for the indicators chosen. Some progress has been made with reliability testing, but validity testing continues to be a concern</td>
</tr>
<tr>
<td>Allows for value weighting, scaling and aggregation of the multiattributes into a single numeric value;</td>
<td>iii) application, use and implementation problems have been noted - should HSIs apply to the health status of populations or the impact of health? what are the underlying assumptions and original intended purpose and do they fit this application? what is the cost, time and complexity of the data collection and analysis process?</td>
</tr>
<tr>
<td>Increasing consensus about the need for multiattribute indexes which measure more than physiologic or physical functioning (e.g. mental, social or satisfaction).</td>
<td></td>
</tr>
</tbody>
</table>

To be useful for the purpose of more specifically allocating resources, such as in reimbursement, the outcomes of the impact of long-term care services must be measured. As Miller notes, HSIs used for comparison between groups and between time periods for a given group (both of which may be required by an outcome-based reimbursement system) have special requirements. That is, there are both distribution (prevalence) and prognostic (measures of transitional probability) factors to be considered.
and each may pose significant methodological problems [4:254]. More recent literature suggests that sufficient significant progress has been made and that health care researchers and health care providers should not use these methodological concerns as an excuse not to proceed with more empirical testing of these indexes [53; 54; 57; 58]. In fact, Bergner strongly suggests that it is no longer tenable to avoid the collection of health status information about whole populations or population sub-groups, and that health status indexes should be used more in three areas: to evaluate the effects of clinical treatments; to assess the impact of changes in health care delivery and for the planning of health care delivery [54]. As noted earlier, the SIP instrument developed by Bergner et al has been used with long-term care community clients.

**RECOMMENDATION:** That the use of a Health Status Index be the method of choice to meet the outcome measurement objectives of an outcome-based reimbursement system for facility-based long-term care. Further research and especially empirical testing will be required to overcome the problems of reliability, validity, scaling and valuing in developing a generalizable approach, as well as the needs related to both distribution and prognostic factors. Prognostic factors must be considered when using HSIs for comparison between groups and between time periods in long-term care.

**CONCLUSIONS ABOUT THE USE OF HEALTH CARE OUTCOME MEASURES**

The development of Quality Assurance programs has resulted from the increasing concerns in recent years about the quality of health care and the impact of quality on costs. As the use of Quality Assurance Programs moved from acute and ambulatory care to long-term care the use of outcome measures was promoted as a way to assess the results of care provided by an organization.
A number of concerns have been raised about Quality Assurance Programs. These included concerns about the cost and time involved to develop and implement a program, as well as how to motivate provider change if the quality of care must be improved. There has been little documented experience to date with Quality Assurance Programs in facility-based long-term care.

In a review of specific measurement approaches used in the health care industry one sees that the traditional approaches of mortality and morbidity measures are not suitable given the complexities of the present day health care system. This is particularly so given the emergence of chronic disease and disability as significant entities in western societies and resultant need to provide long-term care services. The complexities of this type of longer term care has resulted, at least in part, in an increased emphasis on the development of HSIs to determine health care needs and the impact of health care on populations.

Development of HSIs has moved more and more towards measuring the functional status or abilities of individuals, often along several dimensions: physical, social and emotional. In fact recent literature presents a strong argument for considering health status as multiattribute phenomenon which must be measured by multiattribute indexes. While some HSIs were developed for application to the general population, there has been more recent research using indexes which can be disaggregated to subgroups or are for specifically targeted
populations. The development and use of HSIs has not been without problems, including problems in defining what is health, problems related to validity, reliability and aggregation (including value weighting), and problems of relevance and implementation.

This review has shown that there has been a significant move towards addressing the complex problems of outcome measurement in health and long-term care, through the use of functional health status in its broadest sense as the measure of the impact or result of care. Researchers such as Boyle and Torrance, Bergner, and Brooks and Lohr suggest that the development of HSIs is sufficiently well developed to begin use them more widely [53; 54; 58]. Although further empirical testing is required, this should be approached as a joint effort between the researcher and the provider. Recent applications of the use of health status indexes in long-term care look promising and these applications will be discussed in Chapter Five. Although some attempts have been made to control (or at least compare) the cost of care through these approaches, few concrete results have been seen to date.

SUMMARY AND CONCLUSIONS

The studies reviewed in this chapter show that accountability is an over-riding theme in management practice today, particularly as it relates to the effectiveness and efficiency of the production process. Measurement of the outcomes of production is viewed as one way to provide evidence
of accountability. An outcome measurement is defined as a measure of the extent to which the goals and objectives of production are achieved. In the health care system, evidence of accountability is provided through outcome measures which show evidence of the impact of the care provided (effectiveness), and at what cost (efficiencies).

In both the private and the public sector the early focus of accountability was organizational effectiveness approaches which supported internal management requirements. Use of these approaches in the public sector has led to some recognition of the needs of funders and regulators for evidence of accountability of the service providers operating (and funded) within their jurisdictions.

The major thrust of these organizational approaches was aimed at promoting accountability through the involvement of managers (or providers) at all levels in the organization, with the intent of motivating changes in manager (provider) behavior where needed.

From this review it appears that these organizational approaches provide a general framework for outcome measurement, but their orientation to internal management and their lack of clarity and specificity about the measurement approaches used make them less than useful at this time in outcome-based reimbursement for facility-based long-term care. Use by internal management, however, would raise the general level of
consciousness of the need for outcome measures of effectiveness and efficiency and provide empirical experience.

In health care, the focus of outcome measurement has been to measure the impact or outcome of health care interventions on individuals. The changing needs of the health care sector to provide longer term care to those with chronic disease and disability could not be predicted with the traditional outcome measures of mortality and morbidity. Measurement of the health status of individuals receiving care thus evolved and was assumed to be a proxy measurement for the outcome of health care, and latterly long-term care.

Both the organizational level and individual level of outcome measurement approaches concentrated heavily on effectiveness measures. Although expressing a need for efficiency measures actual evidence about how this is done is limited.

Given the thrusts and trends of these many approaches, and the constraints on feasibility of application in long-term facility care in B.C., it seems that what is needed is a combination of organizational and individual level approaches. Such an approach should involve providers and must motivate behavior changes to meet the effectiveness and efficiency imperatives. It also must recognize the complexities of the
long-term care system and its clients. To address these complexities requires an approach which can determine the impact of care on clients with multiple needs and within a total living environment.

The following chapter reviews some of the approaches developed more specifically within the facility-based long-term care system which have moved towards an approach which combines the organizational and individual level approaches to outcome measurement.
REFERENCES


45. MacAuliffe, William E. "Measuring the Quality of Medical Care: Process Versus Outcome." *Millbank Memorial Fund Quarterly* 57 (Winter 1979):118-152.


INTRODUCTION

One sees from the review of outcome measurement approaches in the previous chapter a trend towards the use of outcome approaches in both the private and public sector, including the health care industry. In long-term care the increasing emphasis on measurement of effectiveness approaches has arisen from two factors - the changing government perception of its responsibilities in long-term care, and public pressure for accountability in the provision of facility-based long-term care [1; 2]. Historically this trend to responsibility and accountability can be seen as movement from:

- 
  the traditional licensure process with regulations (based largely on structural standards) intended to ensure protection and safety for dependent adult residents [3; 4] to;

- 
  delegation of the responsibility to professional groups (medicine, nursing) for the establishment of standards of practice for their members. This resulted in both structural and process standards intended to ensure the provision of an adequate and acceptable quality of care [5];

- 
  to a more recent trend towards some form of institutional accountability and the use of standards or regulations as the basis for determining the eligibility of institutional providers to be reimbursed for the care provided [1; 5; 6; 7; 8; 9]. There is also a growing pressure for and acceptance that outcome measures would one way to meet these accountability requirements [10; 11; 12; 13].
To provide for these accountability requirements, a number of approaches to outcome measurement have been developed. Some of these approaches have their origins in the Quality Assurance process noted in Chapter Four. More recently these include an assessment of the health status of individual recipients of long-term care, where health status is assumed to be related to or a proxy for the outcomes of care. Other approaches have been developed more towards a program evaluation approach and are based on organizational outputs or outcomes. This chapter explores these two levels of outcome measurement as they have been developed and proposed for use in facility-based long-term care.

OUTCOME MEASUREMENT AT THE ORGANIZATIONAL LEVEL IN LONG-TERM CARE

As noted earlier for health care, the discussion of outcome measurement in long-term care reveals that there is a lack of agreement about what is meant by outcome. While many recent approaches measure outcome at the level of the individual (patient) functioning [13], other approaches propose that outcome should be measured at a more macro level, such as the achievement of operative organizational goals [14; 15; 16; 17; 18]. These organizational outcomes are viewed by some as inputs or intermediate outputs and by others as outcomes.
Within the long-term care literature, measurement at the organizational level is seen mostly in the many cost comparison studies which have attempted to measure cost-effectiveness or efficiency of facility-based care as compared to alternative community based long-term care [19]. The organizational level approach has also been used in studies which have compared the outcomes of for-profit and non-profit long-term care facilities [20; 21]. Other studies have compared the relationship of quality and cost, where the quality of care is measured, at least in part by outcome measures [22; 23; 24; 25].

A study of the impact of quality on the cost of facility-based long-term care in New York by Ullman is an example of the latter [25]. The quality of care in New York nursing homes is determined by a three-prong survey assessment process - there are two surveys to assess compliance with federal-state regulations "concentrate on structure and process aspects of facility quality", while the third survey, the Periodic Medical Review, "examines process and outcome oriented measures ... through direct observation of each resident..." [25:294]. Except for seeking to determine if there is resident abuse or neglect, it is not clear what outcome measures are made [25:294] or how they are used. It appears that this approach may be similar to the Chambers approach in which the outcomes measured are directly related to evaluation of the process (care) activities required to address care problems frequently found in long-term care, such as incontinence [25:294; 26].
Information from these three surveys then form the basis for a quality rating process which rates facility quality in a range from "very good" through "needs improvement" to "unacceptable". It is not clear from the report what impact the outcome measures have on the rating process [25:295].

Two other approaches developed around the outcomes of specific long-term care problems are the "Criteria Mapping Process" developed by Chambers et al [26], a Canadian group, and a three-part incentive reimbursement process for long-term care developed by Weissert et al in the United States [18]. These are similar to the Criterion problem model noted by Campbell earlier and may be considered as organizational level approaches in facility-based long-term care.

THE CRITERIA MAPPING MODEL

The focus of the Chambers et al approach is quality assurance in long-term care facilities. They refer to resident outcomes as the "measurement of the end result of resident care. Examples ... include descriptions of health states such as fever reduced, decubitus ulcer healed..." [26:138]. They propose that quality assurance standards can be anchored to observable resident outcomes, and further propose that outcomes may be influenced by many factors that should not be considered in isolation from the process of care. The major emphasis of this approach is to provide a vehicle to promote changes in care giver behaviour, that is to correct deficiencies in resident care, if required.
Chambers et al have developed "criteria maps" for four health care problems prevalent in long-term care - constipation, decubiti, dehydration, and falls. Each criteria map outlines explicit process and outcome criteria for the selected problem. The process and outcome criteria used are based on minimal adequacy standards. A chart review is performed to determine the extent of achievement of the process and outcome criteria [26:144]. If expected outcome results are not achieved, then the process criteria can be used to determine if the outcome is related to the process of care and what remediation, if any, is required.

In the article reviewed, a report of the feasibility study, only process outcomes were scored using an "adequate or questionable" rating as the score results [26:146]. A percentage (aggregation) score of the adequate outcomes is derived, based on the extent of compliance with the management (process) criteria achieved by all residents reviewed with a particular problem. In this way an aggregate organizational or facility level performance scores of "adequate quality" can be developed [26:46]. It is assumed that outcome scores could be developed in the same way. Another study is planned by Chambers et al to examine further the validity of this approach and to present the outcome results.

Figure 8 summarizes the pros and cons of the Criteria Mapping Approach in its application to outcome-based reimbursement in facility-based long-term care.
Figure 8: THE PROS & CONS OF CRITERIA MAPPING AS AN OUTCOME MEASUREMENT APPROACH FOR FACILITY-BASED LONG-TERM CARE

<table>
<thead>
<tr>
<th>PROS</th>
<th>CONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uses outcome measures specific to facility-based long-term care;</td>
<td>Report on outcome results not yet available;</td>
</tr>
<tr>
<td>Can develop an aggregated organization score of &quot;adequate quality&quot;;</td>
<td>Assesses only a limited number of problems to derive outcomes;</td>
</tr>
<tr>
<td>Has been used in the Canadian long-term care system;</td>
<td>Outcome measures may not be sensitive enough to use as single measure of effectiveness;</td>
</tr>
<tr>
<td></td>
<td>Focus is Quality Assurance, not reimbursement.</td>
</tr>
</tbody>
</table>

Recommendation: These outcome measures may not be sufficient or sensitive enough by themselves to be used as a measure of effectiveness for different levels of care, such as the five levels of care provided in long-term care facilities in B.C. This approach, however, may be useful if used in conjunction with other approaches to outcome measurement of effectiveness.

The other organizational level approach reviewed is a more comprehensive incentive reimbursement model developed by Weissert et al to overcome problems of access, inappropriate utilization and non-optimal care in long-term care facilities in the United States [18]. The outcome measurement approach incorporated in this model provides the measures of effectiveness needed to provide an information base for the financial incentives to overcome the problems of non-optimal provision of care for selected care problems.
THE INCENTIVE REIMBURSEMENT MODEL

The nursing home payment system developed in the United States by Weisert et al, as proposed, has three incentive components designed to improve both the effectiveness and the efficiency of the reimbursement system to for-profit providers of facility-based long-term care. The incentives are aimed at overcoming problems of access for Medicaid patients "who are severely dependent" [18:42] and require more intensive care than the average resident; inappropriate bed utilization by lighter care clients; and addressing the need to encourage the use of resources towards maintaining residents' independence [18]. These three incentives are directed at organizational behaviour change in a system in which access and utilization problems are the result of facility care providers acting as the gatekeepers for facility placement.

The three incentives include bonuses paid: for admitting patients classified as requiring care more costly than the average patient; for successful discharge of long-term care patients; and for achieving outcome goals of either 'improvement or maintenance of health status for specified health care problems which are costly to provide [18]. Although only one of these is specifically identified as an outcome-based reimbursement incentive, given the goals of effectiveness and efficiency noted by the authors, one might categorize the measured results of all three incentives as organizational level outcomes.
The admission incentive is to be based on assessment of the resident's need for human assistance and unusual/costly services. The bonus is scaled to a fourteen level classification system based on the marginal costs of care for those care levels and adjusted to the daily reimbursement rate for the average patient [18:44].

The discharge bonus is to be paid for any long stay resident where there is evidence of an appropriate discharge plan and that the discharge has been maintained for at least 90 days at a lower level of care or in the community. The bonus paid is to cover the cost of discharge planning and case management for the first 90 days after discharge [18:46].

These two bonuses (admission and discharge) would provide incentives for organizational level outcomes that demonstrate that providers accept heavy care level residents and relinquish more independent, lighter care residents. The third incentive is the outcome incentive to encourage providers "to provide restorative nursing care, devices, aids and other services that will lead to achievement of selected care goals" [18:48].

There are six health care problems with goals to either improve or maintain a health status or function (e.g. maintenance of good skin condition in a comatose patient). The bonus is to be paid for patients with any of the six health care problems until improvement is achieved or the problem is maintained for a period of time.
To test this approach to reimbursement for facility-based long-term care, a study (18) was carried out in 36 proprietary skilled nursing homes in the San Diego area of California; eighteen of the homes were treatment homes which received the incentive bonuses and eighteen did not. The number of clients surveyed is not noted. To-date the study results have not been published (based on a literature search completed May 1986).

Figure 9 summarizes the pros and cons of the Incentive Reimbursement model as an approach which might be applied to outcome-based reimbursement in facility-based long-term care.

**Figure 9: The Pros & Cons of the Incentive Reimbursement Model as an Outcome Measurement Approach for Facility-Based Long-Term Care**

<table>
<thead>
<tr>
<th>PROS</th>
<th>CONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uses outcome measures specific to facility-based long-term care;</td>
<td>Reimbursement incentives based on problems found largely in the United States;</td>
</tr>
<tr>
<td>Includes the reimbursement perspective;</td>
<td>Assesses only a limited number of problems to derive outcomes;</td>
</tr>
<tr>
<td>Provides measures of effectiveness;</td>
<td>Outcome measures may not be sensitive enough to use as single measure of effectiveness;</td>
</tr>
<tr>
<td>Has potential for an aggregate organizational level score.</td>
<td>Report on results not yet available;</td>
</tr>
</tbody>
</table>
While care providers in British Columbia are not the gatekeepers of the system, at least not to the extent they are in the United States, there is the potential for some of the problems noted by Weissert et al. Providers in British Columbia can accept residents requiring different levels of care based on the case mix allowed under their operators license. To that extent, providers may accept residents whom they feel best 'fit' that mix. There has also been some concern in British Columbia over the potential for providers to retain residents at the more independent levels of care as their condition improves [27].

The access problems for individuals in British Columbia, however, appear to be more related to bed shortages, or an inappropriate mix of beds in the bed pool, or to a lack of sufficient home care resources in some areas. This has resulted in the 'blocked bed' phenomena both within long-term care facilities and acute hospitals, and the blockage is related to the extended (heavy) care levels [27].

As with the Chambers et al model, the outcome measures used in this approach may not be sensitive or specific enough to be used at all levels of care or as the single measure of effectiveness. However, this proposal for a reimbursement incentive model illustrates, in theory at least, the potential for the use of a variety of outcome measures to motivate provider behaviour towards effectiveness and efficiency; that use of a combination of resident level and organizational level
outcome objectives is possible; and that reimbursement can be linked to the achievement of these objectives.

Recommendation: To the extent that there are 'gatekeeper problems' the first two incentives noted in this model would have application in the B.C. long-term care payment system. The third outcome incentive might be of use from another perspective. That is, if aggregated, the outcomes measured could provide an organizational or facility level measure of effectiveness of care (at least for some of the common facility-based long-term care problems) or they may be used to test the validity of more extensive and sensitive outcome measurement approaches such as Health Status Indexes.

OUTCOME MEASUREMENT AT THE INDIVIDUAL/RESIDENT LEVEL

The historical development of outcome measurement in long-term care, particularly the assessments of health status, has both benefitted and suffered from the experience in the acute care sector of the health care industry. Among the benefits was the realization that the 'medical diagnostic or morbidity model' was too limited an approach for assessing individuals with multiple problems which have interactive effects. This realization stimulated the movement towards developing functional and multidimensional assessments, for example specifically targeted Health Status Indexes. Another benefit was the research efforts toward developing reliable and valid measuring instruments.

On the negative side, development of multidimensional assessment instruments has often taken the form of combining instruments originally developed to assess single functional dimensions, without paying attention to the differences in the original purpose, in the underlying assumptions, or in the original target population [27:10-24].
As in acute care, functional assessment in long-term care has moved from assessing needs in order to plan interventions, to patient classification approaches for use in determining appropriate staff utilization and work load, to approaches for determining the effectiveness (or quality) of the care provided [27; 28:19-25]. In addition, the long-term care industry now also recognizes the need for assessment approaches which address and support a multidisciplinary approach to care and the 'quality of life' issues [9; 27:140-200; 29].

The literature reviewed on individual assessment approaches in long-term care included several general overviews of approaches to assessing health care in which the assessment of long-term care was included [30; 31; 32]. These reviews often focused on the efforts of a particular professional group (e.g. medicine or nursing); usually used the concepts of structure-process-outcome as a way of defining and categorizing the approaches; and the assessment instruments were usually developed within the framework of Quality Assurance programs.

Other works reviewed assessment approaches specifically developed for use in the long-term care industry [13; 15; 16; 17; 27; 28; 33; 34]. These approaches were presented using either the structure-process-outcome framework or used a categorical framework representing the functional dimensions assessed (e.g. physical, psycho-social, etc.). The functional assessment approaches included both single dimensional
assessments of either physical or mental or social functioning and multidimensional assessments which attempt to evaluate some combination of these functional dimensions. Additionally, the latter approaches often attempt to quantify the influences of a dimension or dimensions through assessment of competency in Activities of Daily Living (ADL). ADLs are felt to be reflective of the level of an individual's ability for self-care or independent living [27].

A growing trend towards approaches that include measurement of the 'quality of life' aspects of institutional care was also noted [9; 17:342; 27:140-200; 35]. 'Quality of life' is gaining importance as an outcome variable in institutional care as there is an increasing recognition that placement in a long-term care facility for most individuals represents a permanent and final living situation and not just a temporary care situation. It is suggested that 'quality of life' assessment could include aspects such as the 'fit' between the individual and the environment, satisfaction with care, etc. [9; 17:305]. It should be noted that approaches to the measurement of quality of life aspects are even more divergent than are functional measures.

THE EXPECTED OUTCOMES APPROACH

A number of the recently developed approaches to outcome measurement at the individual level in long-term care appear to be an adaptation of the goal attainment scaling approach [36].
This adaptation might be labelled the "expected versus the actual" outcome model. An expected outcome is defined (or predicted) on the basis of some form of clinical prognosis (and/or predictor variable(s)) developed either through a normative or comparative process. At this point the quality of care is assumed to be optimal and therefore is constant. After a stated time period, the actual outcome is measured.

Examination of the differences between the expected (predicted) outcome and the actual (observed) outcome would then provide information about the effectiveness of care. If the actual outcome is different from what was expected such an approach might provide direction for managers as to areas which may need further investigation and/or change. This adaptation of goal attainment scaling attempts to standardize the establishment of the expected outcomes, rather than the expected outcomes being negotiated between the provider and the individual client [13; 14; 18]. The flexibility and consideration of the uniqueness of the individual found in the goal attainment scaling approach is retained [36].

Ideally, the prognoses or predictor variables should be derived from a knowledge about the expected course (or response to intervention) of individuals with a given combination of functional disabilities and disease(s). That is, assuming that "optimal or totally appropriate care" is provided, what is the expected response for individuals, given the unique characteristics of their health state [34]? Current knowledge,
however, is limited about the relationship of outcomes to the process of care, and even more limited about the expected course (or response to intervention) for individuals with varying combinations of functional disability and disease. But Zimmer notes that the measured functional level (ability) of an individual is often the strongest predictor of outcome [17].

Two methods have been used to develop the standards from which to establish expected outcomes - i) normative and ii) comparative. With the normative approach expert opinion is used to develop the criteria which measure functional ability and/or to identify the expected results of care interventions [13]. The problems with this approach include the following:

- difficulty in determining which experts with what experience and perspectives should be consulted;
- establishing what methodology should be used to validate the criteria or even achieve consensus;
- and whether the expert opinion actually represents these achievable in the empirical situation.

On the positive side, the normative approach provides for the input of providers and professionals who will be using the instruments (promotes ownership), the expert opinion is based on experience with the local situation and may be less time consuming and costly than empirical testing.

In the comparative approach, the expected outcomes are developed from an empirical base through measurement of the characteristics of the populations or subgroups of individuals in an actual care situations. The resultant outcomes are then assumed to represent the expected outcomes for individuals with
similar functional (or health) states. These outcomes can then be used as the predictors or prognoses for assessments of care in other similar populations (e.g. another long-term care facility). One problem with this approach is the need to assume that the quality of care provided is optimal and can be held constant when developing the expected outcomes [34].

A combination of these two measurement approaches may be applied in the development of the expected outcomes. The normative approach could be used in developing the criteria or attributes of the health status classification system and/or to specify the prognoses. The normative approach should also be used to determine which facilities currently provide optimal care (in order to designate facilities for which quality is considered to be held constant while establishing the comparative standards for health status or prognosis). The normative instruments so developed would be used as standards to assess, and later compare the outcomes found in the empirical situation. That is the comparative approach could be used to:

- establish both the expected and actual outcomes [13];

- compare the empirical results with the normative prognosis or with the other types of comparatively derived outcomes (e.g. death, discharges of various types) [13; 14];

- compare the aggregate results of one group (e.g. one facility) with the aggregate data for several population groups (e.g. all the facilities in a region, or a peer group of facilities) [13; 17].

In addition to the problems and differences noted when measures are developed through either the normative or
comparative method, other variations were noted among the tools reviewed. These variations appear to be due chiefly to disagreements among researchers about which methodological approaches to use. The differences seem to be related to real or perceived differences in the purpose or intent of the assessment tool and were particularly related to the complexity and multidimensionality of long-term care assessments. (See Appendix C for examples of some of the questions raised).

A number of these issues must be addressed within the context of the purpose of the assessment: that is, in this study, what aspects of accountability is the assessment process expected to support? To meet accountability requirements some measure of effectiveness of the care provided in long-term care facilities is required.

If one assumes that assessment of individual/resident outcomes provides, at least in part, the information needed about a facility's effectiveness and that these outcomes are to be used in an outcome-based reimbursement system, the following aspects would have to be part of the assessment method. The assessment should be:

- administered by external assessors to maintain objectivity, and to avoid provider conflict of interest;
- based on information supplied by self-report by the resident and/or immediately observable behavior or conditions to maintain objectivity and validity and to reduce the reliance on (and requirement for) facility record keeping;
- comprehensive and multidimensional, and which can be aggregated into a single score for an individual;
- and then further aggregated into a facility score;
- which can be applied in a prospective reimbursement system.

The assessment procedure will be more acceptable if the decision makers have input into the valuing/weighting process prior to aggregation, either by actually providing the scheme (i.e. how the various aspects of the assessment are valued within their specific jurisdiction or ability to fund), or by identifying whose perspectives they would want considered [13; 19]. Decision makers should also identify the extent to which quality of life vis a vis functional responses to care is to be included.

The most current and developed example of an approach which attempts to meet many of these requirements is the one developed by Kane and Kane [13; 33].

THE KANE MODEL

The Kane Model is a specific attempt to develop a reimbursement method based on achievable outcomes [13]. An assessment tool has been developed and tested which measures an individual's status in six domains: functional status (ADL); physical health (e.g. pain, blood pressure); cognitive ability; affective state; social activities; and satisfaction.

In the initial testing of the model, assessments were carried out in four nursing homes (which by expert opinion provide an acceptable quality of care) in four waves (one approximately every 3 months) in which approximately 250
residents are assessed each time. The results of the first wave were used as the predictor variables for the expected outcomes in subsequent waves. Clinical prognoses were also made during the first wave of testing. The Kanes study found that the results (outcomes) of previous assessments did predict future performance in each scale, whereas clinical prognoses did not. Clinical prognoses, were better predictors of the outcomes of "death, discharge home, discharge to hospital or remain in the hospital" [13].

Although single scores have been developed for each domain, to date these scores have not been aggregated as the process of weighting through value attachments (preferences) is not complete. The Kanes suggest the valuing of an assessment tool which is to be used by funders has two components; one is consideration of the resources required for each outcome; and the second is the preferences of individuals for different health states.

The Kanes suggest that the first component (needed resources) can easily be estimated on a direct time/cost basis which would reflect, at least in part, the funders perspective. Health economic theory however, suggests that variation in inputs, the potential for variation in technical efficiencies, and the effects of external factors (e.g. physicians' practice modes) can make this a rather complicated process (as noted in the costing aspect of the CBA/CBE approaches - Chapter 4).
In the Kanes study, data for the second component (valuing) is being collected from residents, families, providers, other professionals and government decision makers. To date the results from these groups have shown similar trends among all the groups except the family [37]. When valuing and weighting is available, a single aggregated score could be developed for each individual. It is not clear yet if both the health status assessment results and the outcomes referred to as complex outcomes (e.g. death, discharge status) will be included as one outcome, and if so, with what trade-offs [13; 14].

Whatever the future refinements in the Kane model, the intention is that the 'actual' results will be compared with the 'expected' (predicted) results to determine if the outcome achieved was better, worse or the same as expected. By assigning the result a number value (e.g. better = 1.5; worse = .5; same = 1), a formula can be developed for reimbursement which rewards (or penalizes) care providers on the basis of this formula. The Kanes call the number value the Prognostic Adjustment Factor (PAF). The formula suggested by the Kanes is:

\[
\text{Nursing Home Payment} = (\text{Cost} \times \text{Prognostic Adjustment Factor})
\]

The cost represents the "average cost" of caring for an individual in a facility. The Kane study does not clarify how
the base cost should be determined but rather suggests that the base cost can be applied using any current method of determining costs or rates. These investigators feel that prospective reimbursement systems with their alleged potential for providers to sacrifice quality in order to achieve efficiency, may be the most useful place for this approach.

Depending on how the PAF is set there may be no effect on the total cost to a system as the adjustments will average out or the costs can be controlled by the share of the 'true' costs the funder pays. It is suggested that in the long run costs would fall to the extent that more efficient practices emerge in a less structurally regulated environment. It is perhaps surprising that this study assumes that use of this approach will lead to de-regulation (or will be applied in a deregulated environment) but other studies have failed to substantiate the connection between increased costs and regulatory requirements [3; 20]. Other effects on the system would be dependent on how the "average cost" in the formula is derived (e.g. whether the PAF is tied to an average cost using variable, or fixed, or total costs).

Figure 10 summarizes the pros and cons of the Kane Model as an approach which might be applied to outcome-based reimbursement in facility-based long-term care.
Figure 10: THE PROS & CONS OF THE KANE MODEL AS AN OUTCOME MEASUREMENT FOR FACILITY-BASED LONG-TERM CARE

<table>
<thead>
<tr>
<th>PROS</th>
<th>CONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is outcome-based and developed specifically for long-term care;</td>
<td>How to establish 'cost' may be a problem;</td>
</tr>
<tr>
<td>Is linked to the reimbursement system;</td>
<td>The system may be costly to implement and monitor as it is currently set up (e.g. time to do assessment, professional level of assessors, and the need to establish funders values);</td>
</tr>
<tr>
<td>Would work well with prospective reimbursement system, such as proposed for B.C.;</td>
<td>Still have considerable work to do to determine the generalizability to facility-based long-term care in all jurisdictions (e.g. in B.C.);</td>
</tr>
<tr>
<td>Dependent on how the PAF is set, may be no additional cost to the system;</td>
<td>Potential for promoting efficiencies is not clear (assumes will come with deregulation);</td>
</tr>
<tr>
<td>Cost may fall if efficiencies are achieved;</td>
<td></td>
</tr>
<tr>
<td>Meets the scientific criteria, given the current state of the art for HSIs.</td>
<td></td>
</tr>
</tbody>
</table>

Of the outcome measurement approaches reviewed, the Kane Model appears to best meet the criteria established for measuring effectiveness and establishing an outcome-based reimbursement approach in facility-based long-term care. It has been specifically developed for long-term care and unlike the Weissert model, does not focus on the gatekeeper problems experienced in the United States. It would therefore be more applicable in Canada (B.C.). The strength of this approach is the measurement of the effectiveness side where the use of a multiattribute Health Status Index within the prognostic model
allows it to give credit for outcomes other than "improved health status". The assumptions related to the cost data and the superficial treatment of that aspect in the model could be a problem in developing the reimbursement component.

Recommendation: That the functional assessment tool, based on a prognostic factor formula as developed by the Kanes, be given serious consideration for use, at least in the effectiveness part of a reimbursement formula for long-term facility care, and that further empirical testing be done using this or similar assessment tools in a number of facility types (size, provider, location, care levels) to determine the generalizability of the assessment process based on an expected versus actual outcome approach.

THE CONVERGENCE MODEL

Although the preceding approaches are presented as examples of either organizational level or individual level approaches, each in fact has its basis in both, or as Baker and Woy suggest the two approaches are converging [38; 39]. They illustrate this concept by considering the approaches used for individual level (Quality Assurance) and organizational level (Program Evaluation) outcome measurement [38; 39].

With increasing pressure for accountability from all sides, Baker suggests there should be a planned movement towards convergence using a common conceptual framework which encourages an interaction of the skills and perspectives from each approach, and which develops and uses a common data base. He calls such an approach "an integrated program monitoring system" [38:157-59]. Goldberg [35:278-87] also presents monitoring as an approach which can be used for both accountability and evaluation. Such an approach on the one hand provides
disaggregated data as feedback to individual providers or small
groups, enabling them to evaluate their own work and to document
trends, while at the same time providing aggregate data for
policy decision makers which meets their planning, management
and accountability requirements. While discussing its use in
community social services, Goldberg suggests such monitoring
should be used for residential care services as well [35:287].

In this light, we can view approaches such as the proposed
Kane model as a movement towards Baker's convergence model since
it begins with client-centered data on functional status, adds
data about more general outcomes such as death and discharge
patterns, and attempts to aggregate the data to provide some
form of organizational outcome data. Such data could be used in
a disaggregated form for quality assurance functions, or in an
aggregated form for program evaluation or as an accountability
measure for use in effectiveness measurement and an outcome-
based reimbursement system. Comparative analyses using
longitudinal analysis to compare present with past performance
(linked to a payment system if desired) could be established or
cross-sectional analysis could be used to compare the results
among groups of providers [10; 16; 17:342-43]. All of these
possible outcome measurements are dependent on the operational
and accountability goals that are established.
CONCLUSION

This chapter has considered the specific models and approaches used (or proposed) for outcome assessment in facility-based long-term care. The long-term care sector has reaped both positive and negative benefits from the experience with outcome measurement in the acute care sector of the health care industry. The following are some of the problems which have been noted in the current approaches which would affect the feasibility for use in an outcome-based reimbursement system in facility-based long-term care:

- assessment goals and objectives which are not clearly identified, or at least not from a funding perspective, as well as the fact that most objectives for long-term care identify independence as an important goal of care, yet most measurement tools measure levels or aspects of dependence; and

- conflict or confusion over the definition of outcome, that is should organizational level measures be considered inputs, outputs, outcomes or intermediate outcomes, or should outcomes be a measure of what happens to individual recipients of care, or both?

- and if outcomes are measured at the individual recipient level, there are problems about what to measure which will reflect the outcomes of care (given the multidimensional nature of most facility residents' problems) or the quality of life (given the fact that institutional placement represents a permanent living situation);

- validity and generalizability continue to be concerns, along with the problems associated with value weighting and the aggregation of the multiple measurements involved; or the further aggregation of the individual scores to represent the overall results for a facility;

- that a particularly important aspect of valuing is determining the funders perspective about what they wish to support.
Some of these problems could be addressed by clarifying the program's goals and objectives. Decisions must also be made about what levels of achievement and/or combinations of outcomes will provide the information about whether the goals and objectives have been met. Other problems are more related to establishing the scientific credibility of the outcome measurement tools. This is improving, but will require more research and more particularly, more empirical testing.

In this regard, the developmental work done by the Kanes [13; 33], the comparative work done by Weissel as described by Kurowski and Shaughnessy [34:130-31], and Zimmer [17], and the Weissert et al demonstration project under way in California [18] as well as the direction provided by Bergner [40; 41], and Boyle and Torrance [42] in health status measurement are all important steps in the attempt to address both the scientific and accountability issues from the funders perspective. Further research in this area should resolve the questions about the potential for outcome-based measurement of effectiveness and the resulting potential for outcome-based reimbursement in facility-based long-term care.

Some of the later work in long-term care has also attempted to link outcome measures of effectiveness to reimbursement, given the growing pressure for accountability in assuring both the adequacy of the care provided (effectiveness) and the efficient use of the funds expended for the provision of that care. What is seen in all instances is that the measurement of
effectiveness must be in place in order to apply a reimbursement scheme. With the exception of Weissert et al, the reimbursement side appears less well developed than the effectiveness measurement side. However, even with Weissert the system problems that formed the basis of this approach - providers as gatekeepers - are much less pronounced and/or have different underlying causes in British Columbia, making some aspects of this approach inappropriate. A more global approach to effectiveness measurement is needed in the British Columbia system. In the Kane model, the effectiveness measures were quite well developed but limited attention was given to the payment side. It would appear that as Schlenker and Shaughnessy suggest, "it may not [yet] be appropriate to link quality [effectiveness] directly in reimbursement" [24:61].

Finally, notwithstanding the above concerns, there is the question of whether making implicit values and expectations explicit through an outcome measurement process is acceptable or workable in the larger political decision making arena. Can or should government meet the rising expectation for explicit public accountability?
From this Chapter one sees that the progress towards feasible outcome measurement approaches for use in facility-based long-term care has been considerable. There are, however, still some problem areas to be resolved, the first being the design and methods issues in the measurement approaches, while others relate more to the feasibility aspects of application within the public and political environment.

On the assumption that the scientific problems will, in time, be resolved the following chapter explores the conditions under which a outcome-based measures of effectiveness may be applied in British Columbia.
REFERENCES


Chapter V


42. Boyle, Michael H. and Torrance, George W. "Developing Multiattribute Health Indexes." Medical Care. 22 (November 1985):1045-1057.
OTHER TOOLS TO ASSESS EFFECTIVENESS

The overriding theme noted in the literature reviewed in this study is the need for accountability. It pervades all sectors of industry - private, public, acute and long-term health care. Increasingly managers seek approaches that will satisfy the need of external funders (shareholders, government funders, taxpayers) to ensure that the funds expended on their behalf have been managed effectively and efficiently. Initially these approaches were heavily weighted towards effectiveness (quality) but later the inclusion of efficiency measures (cost control) was promoted. The connection, if any, made between these two aspects of management was often tenuous in the literature reviewed and illustration of efficiency measures was limited. Yet there is continued external pressure on all sectors to show accountability for both.

The pressure for accountability has become increasingly strong in the public sector, particularly in health care. The national commitment in Canada to a universal health insurance system which is publicly funded and administered draws increasing public attention when health care expenditures make up a major portion of a provincial budget [1; 2; 3].

Accountability in facility-based long-term care in British Columbia (B.C.) is beginning to coalesce as the traditional roles of government for regulation and funding have begun to move closer together. Responsibility for regulation, program development and funding are now all responsibilities of the Ministry of Health. Since the inception of the Long-Term Care
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Program in 1978 the development of quality of care standards which would promote effectiveness and an integrated approach to reimbursement (with efficiency as one goal) have been ongoing concerns [4; 5; 6; 7].

As this study progressed, it became clear that effectiveness measures must be developed and the impact of effectiveness on efficiency determined before a link to reimbursement could be made. This chapter proposes an outcome-based approach to the measurement of the effectiveness of facility-based long-term care in British Columbia. The proposal provides funders in British Columbia with an accountability approach to ensure that an adequate quality of care is provided (effectiveness) and includes some discussion about the relationship of these effectiveness measures to efficiency.

COMPONENTS OF EFFECTIVENESS IN FACILITY-BASED LONG-TERM CARE: HOW ARE THEY MET IN BRITISH COLUMBIA?

In this study it is assumed that the three components of effectiveness in facility-based long-term care: a body of knowledge which assures efficacy; appropriate resources; and appropriate placement are sufficiently in place the long-term care system in British Columbia to make possible the measurement of effectiveness. This assumption is based on the following factors.

Body of Knowledge:

- Accreditation and other quality assurance standards which have been established for long-term care facilities in Canada [8; 9] and the rapidly increasing amount of research and experience in gerontology and geriatrics, provide a growing body of knowledge about how to meet the care needs of residents of long-term care facilities.
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- The three major universities in B.C. support research directed towards facility care and there are also numerous training and education programs offered specifically for professional and auxiliary staff providing care in long-term care facilities [10].

- The increasing longevity and length of stay of residents in long-term care facilities may also be indicative of the increasing understanding and capability of facilities to provide effective care [11].

Facility Resources

- Legislative regulations, program standards and funding allocations in B.C. all recognize that residents require different levels of care and that resources must be allocated differently based on the level of care required [12; 13; 14].

- As a resident's level of dependency increases there are different (usually more) staffing resources allocated to provide that care adequately [4; 15; 16].

Appropriate Placement of Clients:

- The single point of entry allows the program to limit access to the system to only those residents of British Columbia in need of care. At the point of entry the applicant is assessed as to what type and level of care is needed, if any, and then referral is made to the appropriate community support service or long-term care facility. Emphasis is on care in the home (where possible) so that only those in need of institutional care are referred to a long-term care facility [12; 13].

- The establishment of the five levels of long-term care: Personal Care (P.C.), three levels of Intermediate Care (IC) and Extended (EC) allows for a continuum of placement options [12; 13; 14].

- One indicator that the current assessment process is providing appropriate placements is a reduction in the placement of persons at the PC level of care into facilities and the resulting increase in the proportion of persons at the higher Intermediate and Extended Care levels. It is felt that, for the most part, the former (PC level clients) can be maintained with home and community supports and that facility care is appropriate only for persons requiring Intermediate or Extended Care [17].
However a word of caution about the reliability of the current placement process must be raised. A test of reliability of care decisions for assessing levels of care in the British Columbia system completed in 1978 showed "excellent" reliability for placement decisions at the PC and EC levels but only "fair" for the IC levels [18:9-10]. These results suggest potential problems in the assessment of effectiveness if it can not be assumed that the right client is in the right place.

A number of studies in other jurisdictions have also noted problems with inappropriate placements [18:3; 19:38-39]. This may be less of a problem in British Columbia, given more experience with the program. Or, a better assessment tool may be required (e.g. multiattribute Health Status Index). Reliability testing of the current placement assessment tool should be repeated prior to full implementation of an outcome-based effectiveness measurement approach. Notwithstanding these qualifications, the components for effective facility-based long-term care are in place in B.C., but the measurement of effectiveness, particularly from an outcome-based perspective is not.

AN OUTCOME-BASED APPROACH TO THE MEASUREMENT OF EFFECTIVENESS IN FACILITY-BASED LONG-TERM CARE IN BRITISH COLUMBIA

Given the direction of the new integrated reimbursement system for the facility-based long-term care in British Columbia and the intent to develop and apply quality of care standards, it would seem the time is right to consider moving towards the
goal that at least part of the reimbursement will be based on measures of effectiveness and efficiency. A first and necessary step towards that goal is to establish outcome measures of effectiveness.

The following sections present the elements considered necessary to develop and implement an outcome-based approach to the measurement of effectiveness in facility-based long-term care in British Columbia. Using the "expected versus actual outcome model", the development and implementation of such an approach would include the following steps:

1. Identifying the relevant values and assumptions about facility-based long-term care in B.C. and confirming and/or setting program goals and objectives for effectiveness;

2. Devising an outcome measurement approach and establishing a protocol for measuring the outcomes of care;

3. Applying the results of the outcome measure in the monitoring and evaluation of the effectiveness of the care provided by facilities;

   and/or

   Applying the outcome results in efficiency studies;

   and/or

   Applying the outcome results in a reimbursement formula once the relationship between effectiveness and efficiency has been established.

Building on the known features of the current system, the following sections describe how these steps might be attained in British Columbia.
1. IDENTIFYING THE RELEVANT VALUES, ASSUMPTIONS, GOALS AND OBJECTIVES

The overall objective of facility-based long-term care in British Columbia is to promote or maintain the independence of individuals, to the extent possible, given the health-related problems for which they require care [11; 12]. It would seem that effectiveness therefore should be measured in terms of how well the individual's health status is maintained, based on a prediction of what could be expected given his/her unique combination of problems, and assuming that adequate care is received.

This proposal for the measurement of effectiveness in facility-based long-term care in British Columbia is based on the following values and assumptions:

- that the Continuing Care Program will continue to have a single point of entry for beneficiaries of long-term care, providing a continuum of care options to meet health care and social support needs;

- that the Continuing Care Program will control access through a needs assessment and admission of only those in need of care;

- that the facility-based sector of the long-term care system will continue to be publicly administered and funded by government;

- that in developing the revised standards of care for long-term care facilities, outcome standards will be included;

- that government will continue to support a mixed provider system of for-profit and non-profit providers, and that there will be only one system of reimbursement for both types of providers.
Prior to embarking on an outcome-based approach to the measurement of effectiveness, these values and assumptions should be re-confirmed against the existing situation.

As this study sees it, the following should be the four major goals for the Long-Term Care Program in British Columbia and which an outcome-based approach to the measurement of effectiveness in facility-based must support:

"PROPOSED" PROGRAM GOALS

1. To fund facility care only for those in need of it, with the objective of facility care being the promotion of independence to the extent possible given the limitations of the individual and the facility setting;

2. To ensure adequate care is provided;

3. To ensure optimum use of the funds allocated for facility-based long-term care;

4. To maintain an arms-length relationship with the providers of facility-based long-term care.

Goals 2 and 4 could, at least in part, be accomplished through an outcome-based approach which determines effectiveness. The following are "proposed" program objectives which identify how, as this study sees it, these goals might be achieved.

"PROPOSED" PROGRAM OBJECTIVES

1. To control entry to the program through assessment and admission of individuals to the most appropriate services, giving first consideration to home based supports and services (supports Goal 1 as effectiveness is dependent on appropriate placement).
2. To monitor and fund the care provided by facilities through a system which allows providers to determine how they will provide care (with the exception of meeting some safety standards), but that requires them to demonstrate the effect (results) of the care provided, that is what outcomes are achieved (meets Goal 2 & 4);

3. More specifically, to measure the effectiveness of the care provided at each of the five levels of care, based on established (expected) effectiveness outcomes, using a prognostic or predictor model which rates achievement (outcomes) on whether the actual outcomes were Better, the Same or Worse than the predicted outcome (meets Goal 2).

Once effectiveness measures had been implemented other outcome related goals might include:

4. To measure the cost-effectiveness and efficiency with which funds are expended to provide care (meets Goal 3);

5. To establish an outcome-based reimbursement system which recognizes the extent to which expected outcomes are met and uses the results to determine the total reimbursement paid or to determine an incentive reimbursement which motivates providers to meet the effectiveness and efficiency standards established (meets Goal 2 and 3).

2. DEVISING AN OUTCOME-BASED EFFECTIVENESS MEASUREMENT APPROACH

Methodology and feasibility issues for outcome measurement approaches as they have been developed to date were noted in Chapters Three, Four and Five. Despite some of the concerns noted, there is an increasing recognition of the need for comprehensive and aggregated health status indexes for use by health care researchers, and health planning and policy analysts which is encouraging [20:702-03; 21:706]. The Kanes' outcome-based model (reviewed in Chapter Five) is an attempt to meet this need in long-term care and the experiment conducted in California, using that model should provide some answers to the
feasibility and implementation concerns [22; 24]. Further refinements in the use of the multiattribute assessment tools developed for by the Kanes and in Bergner's Sickness Impact Profile (SIP) illustrate attempts to overcome these concerns [24; 25].

The progress in the development and use of multiattribute Health Status Indexes appears to be sufficient for this investigation to recommend that the Ministry of Health in British Columbia begin to develop an outcome-based approach to the measurement of effectiveness of the care provided in long-term care facilities. The development (or selection) of an effectiveness measurement tool could proceed as part of the development of quality of care standards which are to be tested in the near future in British Columbia [7].

THE PROPOSED MODEL

As noted in Chapter Five, the heterogeneity of the residents of long-term care facilities, and the complexity of the health-related problems experienced by residents makes a health status measurement approach based on an expectation of improved health status unsuitable. This study therefore proposes that a predictor or prognostic assessment model, which can accommodate outcomes other than improved health, be used to measure effectiveness at the individual client level in facility-based long-term care in British Columbia.
To do this, assessment data from a multiattribute Health Status Index would be used to calculate an expected outcome for each resident. The expected outcome would then be compared with the actual outcome as assessed at the next point in time. The result of the comparison would provide the level of achieved effectiveness for that resident [22].

To obtain a single numeric value for these comparisons of the outcomes of effectiveness for each resident, the attribute areas measured must be value-weighted prior to their aggregation. The aggregated numeric results can then be used to determine whether the outcome for an individual resident was Better, Worse or the Same as Expected (predicted). These predictor scores, attained for the individuals assessed at each of the five levels of care (PC through to EC), could then be aggregated. This would provide a facility-level (organizational) effectiveness outcome score for each level of care provided by a facility. These aggregated facility scores could then be used for comparison across time and amongst groups of facilities. The prognostic model developed by the Kanes is an example of what is needed in this type of approach [22; 24].

The use of a predictor model approach would allow consideration of the range of potential outcomes that may occur amongst long-term care residents rather than a more limited focus which uses levels of functional dependency [26], or discharge outcomes/mortality [22; 24; 27], or the outcomes of a limited set of health care problems common to residents of long-
term care facilities [26; 28]. Options such as the latter two may be useful in determining underlying causes if an adequate level of effectiveness is not achieved.

**SELECTION AND DEVELOPMENT of an EFFECTIVENESS MEASURE**

The following steps would be required to develop and implement the outcome-based effectiveness measures. It is suggested that all these initial phases be completed as a joint health services research and clinical application approach, that is, using a demonstration project approach.

The first step would be to select a multiattribute health status measurement instrument for use within the predictor model. For instance, the multiattribute tool developed by the Kanes [22; 24] may be appropriate for application in British Columbia, but other instruments, such as the Sickness Impact Profile (SIP) [29] may be as appropriate. In order to make the selection, a normative process using expert representatives from providers groups and other health professionals and empirical testing in facilities will be required. Bergner's five dimensions of a Health Status Index should be considered as a guide for selection to ensure that the instrument has sufficient scope [20]. More specifically, normative means should be used to select the attributes to be measured and to develop the instrument. Once this is completed, comparative means should be used to test the instrument for validity and reliability, and to establish the expected outcomes.
It is important to select attributes which during the scaling and aggregation process can be defined into levels (i.e. which reflect a stepwise progression for each attribute between good and poor health or functioning) [30]. This progression may also become very important later, when applying the index at the five levels of care. For instance, if a resident's health status is at the first (good health) step, further assessment would not be required. This would reduce the time needed for assessment and/or for aggregation activities.

An intermediate process may also be required to reduce the amount of data to be considered (and assessment time) before scaling the instrument for aggregation [30]. Boyle and Torrance suggest two ways to approach data reduction: one is to identify and eliminate those attributes which are considered unimportant to life quality. The other is to combine attributes which are conceptually related [30:1049]. Boyle and Torrance caution that "data reduction by factor analysis is not a suitable way of testing for ordered responses and should not be used to reduce the number of attributes." [30:1059]. In factor analysis the solutions depend on covariation or ordering, and might result in elimination of rarely occurring items which are important indicators of good or poor health [30:1059].

Similar concerns were expressed as a result of a study completed in 1981 in B.C. using variables from the current long-term care assessment form. A multivariate statistical analysis of the data elements was done in an attempt to reduce the
variables needed to allow consistent placement decisions [31:2]. The results showed that using a set of just six variables, about 60 percent of clients were correctly classified and another 20 per cent were within one level (out of 5 levels) [31:6]. However these researchers were reluctant to recommend the use of this small set of variables. This reluctance was due to the multiple use of the assessment form and the concern that loss of data, such as those related to behaviour problems, could cause difficulties in deciding on the service needs of an individual or in using the assessment as a record against which to evaluate change in condition [31:7].

Once the attributes have been selected, value weighting and scaling approaches would have to be determined and applied as a basis for aggregating or "mapping" the attributes and criteria levels of the selected instrument into a single numeric scale [30:1046]. Boyle and Torrance provide a comprehensive review and advice on the selection of the scaling techniques needed to assign numeric values [30]. As with this study, (see Chapter Three - valuing) Boyle and Torrance also emphasize the importance of "the incorporation of social preferences" into the scaling process [30:1050].

The amount of instrument development required will be dependent on the Health Status Index selected and the extent to which it has been tested in long-term care settings, particularly in facility-based care. The aim of the experiment with the Kane instrument in California (described in Chapter
Five) was to resolve many of the methodological and feasibility concerns noted above. Depending how well their goals were achieved, the Kane instrument may well be quite suitable in British Columbia. But it should be remembered that it was applied only in large skilled nursing homes (which provide care to residents similar to those at the heavier IC and EC levels in B.C.).

Examination and testing of the value weighting aspect of the Kanes' model would be important to see if residents, families, providers, other professionals and government decision makers in B.C. have similar values to those found in California. If not, changes would have to be made. It should be noted that the attributes (or domains) measured in the Kane instrument are similar to the broad areas of variables included in the current long-term care assessment form in British Columbia. The major divergence in the B.C. tool appears to be a lack of a direct measure of satisfaction [22; 31:1], along with less stringent measurement criteria and no ability to scale or aggregate the variables into a numeric score.

If the Kane instrument was found not to be acceptable to funders and providers in British Columbia, the Sickness Impact Profile (SIP), although not developed specifically for long-term care, is another Health Status Index which might be considered [29]. As Bergner et al state, the SIP "was developed to provide a measure of perceived health status that is sensitive enough to detect changes or differences in health status that occur over
time or between groups ... It was designed to be broadly applicable across types and severities of illness ... and is intended to provide a measure of the effects or outcomes of health care that can be used for evaluation, program planning and policy formulation." [32:787]. The goals in developing the instrument were to develop an index that was methodologically sound and practical, and feasible to administer.

The index has been well tested for reliability and validity and has been used widely in a variety of settings, including use with individuals with chronic diseases and with home care clients with chronic illness. An example of the use of the SIP instrument in nursing homes was not found in the literature reviewed, but not all applications were specifically noted. Of the applications reviewed, the acceptance of SIP has been high [29; 25; 32].

The instrument can be self-administered by the client or administered by an interviewer with the client or client substitute (e.g. family caregiver). Administration has been found to take between 20 to 30 minutes which is comparable to the time for use of the Kane instrument. There has been some suggestion, based on empirical testing that some test items could be eliminated for some groups. This might be the case for the different levels of facility care in B.C. [25;29;32]. The wide field testing and application of this instrument may give it some current advantage over the Kane tool. Also the SIP tool has items that could apply to clients on a home care program
which may be an advantage for B.C., if a similar effectiveness measurement process were to be incorporated into the standards for home care.

In this section some of the activities that are required to select and develop a health status index for the outcome evaluation of the effectiveness of care provided in long-term care facilities in British Columbia have been identified. The amount of development and testing required will vary depending on the extent of previous use of the index in facility-based long-term care evaluation and the extent to which it is generalizable to facility care in B.C. Two instruments have been suggested as possibilities - the Kane and the SIP health status indexes [22; 29]. In either case information about the results of their most recent applications would be needed, specifically those in long-term care. Some testing for applicability in B.C., particularly in the value weighting would be necessary.

DEVELOPMENT OF PROTOCOLS FOR TESTING AND APPLYING OUTCOME MEASURES

Once the initial activities in the selection of a health status instrument are completed, empirical testing in long-term care facilities would be required. This could be accomplished through an experimental or demonstration project in which the selected instrument is developed and tested for reliability and validity in long-term care facilities in B.C. The protocols for this development should proceed in two stages. For the initial
testing, facilities which are known to provide quality care should be selected to develop and test the expected outcomes.

Once the expected outcomes are determined (assuming validity and reliability) for each level of care, a second protocol for application of the full predictor model approach would need to be devised and tested. During this phase, long-term care facilities should be selected that would be representative of the size range, case mix and provider types found across the province in B.C. Decisions related to the implementation protocol would include: how or whether to incorporate the effectiveness assessment with the annual utilization reviews; whether the same staff should be used; whether the new instrument should replace or augment the current assessment used in the level of care form (LTC-1); how often or at what intervals would health status assessments be made (every six months, annually); and who would have access to the results of the effectiveness measures, in what form (aggregated or disaggregated) and for what purposes (program planners, standards managers, funders, providers). Other evaluation concerns would include the cost to implement the approach, the impact on existing legislation and regulations, and the whether there is the political will to move towards decision making based on more explicit values and outcomes.

OTHER OPTIONS FOR OUTCOME MEASUREMENT OF EFFECTIVENESS

Two other more global or organizational level approaches to outcome-based effectiveness measurement in long-term care have been proposed in the literature. One is based on discharge
outcomes, usually using four or five categories (e.g. death, discharge to hospital, discharge to another long-term care facility, discharge home, remains in facility) of outcomes [22; 26; 27]. Conceivably, discharge data could represent outcomes of care at a specific level and could be used as predictor (expected) outcomes to be measured against actual performance. In one study, these outcomes were linked to reimbursement incentives in an effort to discourage inappropriate discharge of heavy care residents [26].

Another approach is to assess the outcome of commonly occurring health care problems (e.g. incontinence, bed sores, etc.) [26; 28]. In this approach, as proposed by Weissett et al, reimbursement incentives are assigned to each of a specified list of care problems. Payments are then made, dependent on the results of the expected outcomes (i.e. improvement or maintenance) [26]. In the Chambers et al approach, four health problems have been selected based on knowledge of the efficacy of the appropriate interventions (process of care) and both the processes and outcome of care are assessed [28].

This study proposes that either of these latter outcome approaches could be used as an additional source of outcome measures. Or they could provide one source of construct validation for the prognostic model with its multiattribute health status index. Alone these approaches would not be sufficient nor sensitive enough to develop organizational level outcome effectiveness scores, particularly for each of the five levels of care.
3. APPLYING THE RESULTS

Use of a multiattribute health status index would provide data in a disaggregated form which could be used by providers and assessors as needed in planning care, as well as by the local registry to establish levels of care. Aggregated data could be used for effectiveness monitoring and evaluation, and for policy, planning and/or funding decisions. For instance aggregated (or some levels of disaggregated) data could become part of the central registry’s computer data base and used in comparative studies and trend analysis. With the exception of analyses examining the potential for reducing the variables necessary to make accurate levels of care decisions, data based on the current assessment form have not routinely been utilized for program and policy planning. The multiattribute health status approach would provide the information to do so.

Once an approach to measure effectiveness is established, the costs related to the provision of adequate and effective care must be determined. Numerous recent studies in the United States have approached the costing of facility-based long-term care, using patient level and case-mix approaches, along with attempts to determine the impact of quality on costs [33; 34; 35; 36; 37; 38; 39; 40]. Experience gained from these studies, along with the current undertakings related to cost assessment in B.C. should provide the information sources to develop the needed cost related information. Once the costs and their interrelationship to the effectiveness of care have been determined an outcome-based reimbursement system for facility-
based care in British Columbia may be developed. Initially the measures of effectiveness may be used in cost-effectiveness and efficiency studies.

CONCLUSION

This study has outlined the present facility-based long-term care system in British Columbia, noting current problems with monitoring the adequacy of the care provided and some of the problems experienced with the reimbursement system. The study has also reviewed the assumptions, values and organizational structures which underlie the long-term care system in Canada and British Columbia. These include the social policy, constitutional and economic environment, and the socio-demographic variables which have affected its development. These variables were used as reference points in a comparison of the seemingly similar systems of facility-based long-term care in Canada and the United States, noting particularly the implications if outcome-based approaches to evaluate care developed in the United States are considered for use in Canada.

Several factors were noted as providing the stimulus for consideration of an outcome-based approach: the heterogeneity of the residents of long-term care facilities which makes it difficult to determine at an organizational level which structure and process standards provide the best care results; the continuing concern that structure and process standards in and of themselves do not assure effective and adequate care; and
the funders goal of an arms-length relationship with providers. These factors have led funders to the position that providers should have the flexibility and responsibility to determine their own approaches to care, as long as the outcomes demonstrate that the care provided was effective and that funds were expended efficiently. From the funders perspective, if the outcomes are satisfactory in terms of effectiveness, how these outcomes are achieved need not be a concern. The exception may be retention of basic safety standards.

Approaches to outcome measurement and outcome-based approaches linked to reimbursement as used (or proposed for use) in private industry, the public sector, the health care system in general and the facility-based long-term care sector in particular were reviewed and critiqued. The purpose of the review was to assess the feasibility of these approaches for use in conducting outcome-based assessments of the effectiveness of care and the potential, if any, of linking the measurement of effectiveness to reimbursement in facility-based long-term care in British Columbia.

This study proposes that the time is right to begin to develop outcome measures of the effectiveness of the care provided in long-term care facilities in British Columbia, as the first step towards an outcome-based reimbursement system. The study has concluded that effectiveness measures must be in place before efficiency studies can be properly undertaken and/or outcome-based reimbursement established.
The use of a comprehensive, multiattribute health status index within the framework of a predictor model has been selected as the approach of choice to measure the outcome of the effectiveness of the care provided in long-term care facilities in British Columbia. This approach was chosen as it was felt, that despite some possible methodological concerns, it would provide the most comprehensive and most sensitive assessment of effectiveness in a system which recognizes five levels of care and allocates resources on a case-mix basis using those levels of care. This assessment approach also appears to be the closest and most useful alternative to the current assessment process currently in use and given the multi-purpose nature of the form. Four different sources make use of the information on the current assessment form: the central registry, the local registry, the provider and the assessor.

The predictor model approach to measuring effectiveness proposed in this chapter is one attempt at an outcome-based approach which would assist government funders in meeting the need for accountability for effective and efficient provision of facility-based long-term care in British Columbia. The readiness of the B.C. facility-based system for such an approach was
noted, as well as the fact that there still some issues related to methodology and feasibility. In relation to the latter concerns, it has been recommended that any development and implementation of an effectiveness measurement approach be undertaken as a joint project involving both health sciences researchers and providers. This will provide the empirical basis required to further develop this approach for use in facility-based long-term care in British Columbia and to allow for ongoing evaluation.
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APPENDIX A

SCIENTIFIC AND FEASIBILITY CRITERIA

I. SCIENTIFIC CRITERIA TO ASSESS OUTCOME APPROACHES

II. CRITERIA TO ASSESS THE FEASIBILITY OF OUTCOME MEASUREMENT APPROACHES

III. CRITERIA FOR NEW APPROACHES TO REIMBURSEMENT
I. SCIENTIFIC CRITERIA TO ASSESS OUTCOME APPROACHES

STUDY PROBLEM

- Has the problem been adequately identified?
- Does the formation of the problem indicate the theory, the related research and the factors related to the present situation?
- Does the study show adequate awareness of other related work?

OBJECTIVES

- Do the objectives flow from the problem, and are they consistent with the problem statement?
- Do the objectives state what the study/approach effort proposes to accomplish?

DESIGN AND METHODS

- Does the study/approach link the theory and methodology from the related literature to the present study?
- Are the methods appropriate to the objectives of the study?
- Is the setting and the methodology clearly specified to facilitate replication?
- Are the data sources identified, and were they developed specifically for the study, from pre-existing management data, or another study?
- Does the study clearly define the population studied?

LIMITATIONS

- Are the limitations of the methodology used adequately noted?
- Are the limitations adequately discussed in the analysis and conclusions?
- Is the scope of the study broad enough to accomplish the objectives of the study and narrow enough to complete within the resource constraints?

FINDINGS

- Are the findings clearly presented with proper use of tables and technical footnotes?
- Are the findings properly interpreted in relation to the objectives?
CONCLUSIONS

- Are the conclusions based on the findings?
- Do the conclusions adequately relate the findings to the study objectives and study problem?
- Are the conclusions properly qualified?

RECOMMENDATIONS

- Are the recommendations derived from the findings and conclusions?
- Are the recommendations related to the study problem?
- Do the recommendations provide a firm basis for decision making?

II. CRITERIA TO ASSESS THE FEASIBILITY OF OUTCOME MEASUREMENT APPROACHES

STUDY PROBLEM

- Was the problem studied/approach related to outcome measurement, productivity, and/or reimbursement, and in private industry, public sector, health care or long-term care?
- Are the assumptions of the study explicit or implicit, and are they similar to or related to the general goals of outcome based reimbursement for the long-term care industry?

OBJECTIVES

- Do the objectives relate to outcome measurement, productivity, and/or reimbursement?
- Do the objectives of the study/approach come from a shareholders or funders perspective?
- Will the information sought provide support to decision makers external to the production (facility) managers?
- Does the study include consideration of at least one of the following types of outcome measurement?

  i. process outcomes (client outcomes related to process interventions)
  ii. health status outcomes (measure outcomes or health state)
  iii. administrative outcomes (measures of efficiency, eg. unit cost of services)
  iv. economic outcomes (cost benefit, cost effectiveness, cost utility)
DESIGN AND METHODS

- Does the study/approach consider the need for multi-dimensional measurement approaches and/or multi-dimensional outcomes?
- Have the measurement instruments been tested for validity and reliability, across raters and over time?
- Does the sampling technique recognize the population variance expected in long-term care facilities, and the correlation relationship, if any, of the dependent variable of outcome to the independent variables of size, case mix, etc.

LIMITATIONS

- Would the limitations noted preclude the application in long-term care?
- Would the limitations noted preclude the generalizability across all types of long-term care facilities?
- Would the resources necessary to implement the approaches be a limiting factor eg. need for professional judgement, analysis design, costs to support the study or approach, time for administration.
- Is the study/approach capable of handling a large number of clients and facilities within a specific time frame, eg. a fiscal year?
- Is the assessment approach capable of being administered centrally or on a decentralized basis?
- Are there limitations related to the sources of data, eg. provider interests, stamina of clients, etc.

FINDINGS

- Do the findings reflect any effect the outcome measurements studied/proposed have on current or future regulation?
- Do the findings identify the impact on clients of the measurement process studied?
- Are any unanticipated findings discussed, including impact implication?
- Does the measurement instrument result in scores that can be aggregated to produce an overall performance score for the production process (facility care)?
- Is the measurement process studied predictive of the production process, eg. the adequacy of care and not of other variables, eg. case mix, size of facility, etc.?

CONCLUSIONS

- Do the conclusions relate to the findings about outcome measurement, productivity, or reimbursement?
- Are the approaches developed to support funding decisions clearly identified, eg. incentives, competition, the extent of the basis for reimbursement,
- Are issues such as the quality of life, the relationship of outcome to structure and process noted, the need for further study, and/or implementation issues mentioned?

RECOMMENDATIONS

- Are there recommendations made for corrective action, if what are they and by whom?
- Are these recommendations applicable and generalizable for facility care in Canada?

III. CRITERIA FOR NEW APPROACHES TO REIMBURSEMENT

A special project established address approaches to overcome the current problems in reimbursement system in British Columbia, to adapt to the organizational structure and to meet the funders objectives of efficiency and effectiveness proposed that changes to the reimbursement system in British Columbia must be evaluated against the following criteria 11; 25).

The proposed system must:

- provide sufficient compensation to enable the provision of adequate care (ie. effective care relative to resident need and the care level mix;

- provide incentives for efficient operation of a facility (ie. allow for manipulation of input combinations, and technical efficiencies);

- provide for fair and equitable reimbursement across facilities, given differences in type (profit/non-profit), size, location, levels of care and programs provided and fixed and variable costs;

- provide a mechanism (eg. a management information system) to monitor and assess provider performance in terms of efficiency and effectiveness;

- be administratively feasible (ie. fit budget constraints, require minimal manpower and other resources to establish and maintain, build on or incorporate the current data base, comply with current or future legislation);

- provide for an arms-length relationship between the government decision makers and the providers;

- provide flexibility to promote expansion or reduction of the provincial bed inventory.

Based on information in Bolton, Patricia "Reimbursement for Long-Term Care in British Columbia" Clerkship Report. British Columbia Ministry of Health. September 1983. (Mimeograph)
APPENDIX B

EXCERPTS FROM THE FACILITY REIMBURSEMENT SYSTEM REPORT
BRITISH COLUMBIA MINISTRY OF HEALTH
LONG TERM CARE PROGRAM, CONTINUING CARE DIVISION
JANUARY 1985

The goals of the project were:

1) To have a single efficient, effective and equitable system of reimbursement for all facilities.

2) To maintain a two sector industry in which the competing forces of cost and quality could be clearly identified and audited.

In addition, the new reimbursement system was seen as a vehicle to ensure efficient, effective and equitable service delivery. Finally, a major short term consideration was to minimize the number of facilities which might make excess profits from the new reimbursement system or, conversely, have difficulty maintaining operations.

It was felt that the above goals could be achieved using the following methods:

1) Apply the same standard reimbursement formula to private and nonprofit operators using industry cost standards. This would reduce the spread in per diem costs, fairly reimburse the private operators and require cost control among nonprofit operators.

2) Introduce detailed and timely financial accounting by both profit and nonprofit operators, thus ensuring comparability and effective Government control of costs.

3) Introduce the monitoring of quality of care to ensure an adequate standard is maintained within the private sector, and that quality is not compromised as costs come under control in the nonprofit sector.

4) Review the nonprofit staffing guidelines to determine what constitutes an adequate level of staffing in facilities.

5) Review the method of capital reimbursement to see if one method can be developed to apply to both sectors.
APPENDIX C

METHODOLOGICAL QUESTIONS IN LONG TERM CARE ASSESSMENT
From the literature reviewed on assessment in long term care the following are some of the questions raised about which methodological approaches to use:

- should assessments be based on self-reported data or observed behavioral data?

- should assessments be completed internally by staff/residents or by external assessors?

- should assessments measure single or multiple functional dimensions?

- if the assessment is multidimensional, should it include aspects which reflect only the results of care or should it include a quality of life perspective, or both?

- what are the outcomes which represent the quality of life perspective (e.g. life satisfaction, morale, privacy, opportunity for choice or risk, individual to environment 'fit')?

- if using a multidimensional (multiattribute) approach, should the assessment result in simply a profile of the individual status in each of the dimensions measured, or should there be an aggregation or the outcomes from each dimension into a single score or index?

- if the results are aggregated, how should the individual dimensions be value weighted within the aggregation (e.g. should the valuing be based on the preferences of the resident, or the family, or the provider, or the funder)?

- further, if the assessment of an individual results in a single aggregated score or index, can the scores for a group of individuals be further aggregated to represent some overall health care index for a facility, and how could this be done?

- should the assessment process be completed concurrently (at the time the care is provided) or retrospectively (i.e. at some stated following care provision)?

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