Assessing the Impacts of Health Reforms on Seniors

Part II: A Model for Analyzing Health Care Reforms: A Structure, Process and Outcome Approach

A Report Prepared for the National Advisory Council on Aging

December, 1997

Health Network
Réseau de la santé

CPRN RCRPP

Assessing the Impacts of Health Reforms on Seniors

Part II: A Model for Analyzing Health Care Reforms: A Structure, Process and Outcome Approach

A Report Prepared for the National Advisory Council on Aging

by Marcus J. Hollander

December, 1997

Health Network
Réseau de la santé

Health Network
Canadian Policy Research Networks
841 Fairfield Road
Victoria, B.C., V8V 3B6

EXECUTIVE SUMMARY

Due to the potential impact of health reforms, and their lack of evaluation to date, the National Advisory Committee on Aging (NACA), through its Research and Special Issues Committee, commissioned this project entitled Assessing the Impacts of Health Reforms on Seniors. The goal of the project was as follows:

> To develop an analytical framework to identify appropriate evaluation questions and indicators to assess the impact of health organizational and structural reforms on the availability, accessibility and quality of health care for seniors and their families.

The major deliverables for this project are divided into three parts. Part I is a synthesis report on regional reforms in Canada and on seniors' perspectives of the health system. Part II consists of an analytical framework and key indicators for evaluating the impact of health reforms on seniors. Part III is an evaluation guide which could be used by local organizations to conduct their own evaluations. This report provides the findings for Part II of the overall project, the analytical framework and key indicators for evaluating the impacts of health reforms on seniors.

An analytical framework was developed for this project using a structure, process and outcome model. This framework, and the views and values of seniors about what would constitute an appropriate health system (discussed in the report of Part I of this project), were combined. This combination of the conceptual framework with seniors values was used to guide the development of key questions and indicators presented in this report. These questions and indicators can be used as a "menu" of items to be included in future evaluations of the impact of health reforms on seniors.

Table 1 in this executive summary presents an overview of the six major components of the conceptual model. It indicates the major headings for each component and the specific areas of inquiry which should be addressed in an evaluation of health care reforms.

TABLE 1: The Structure, Process and Outcome Model of Analysis

CONCEPTUAL MODEL		
Structure	Process	Outcome
1. The Structural Aspects of Reforms: Legislation and Governance • Legislative Basis of Reforms • Governance • Geographic Boundaries	**2. Processes Related to Administration and Service Delivery** • Accountability Mechanisms • Labour Relations • Planning • Information Management • Quality Assurance	**4. Social, Political and Administrative Outcomes** • Greater Democratization • Public Acceptance of Regionalized Models • All Party Acceptance of Reforms • Regionalization Strategies • Implementation of Reforms
	3. Processes Related to Financing and Resource Allocation • Resource Allocation Methodologies • Cross Boundary Issues • Incentive Systems • Freedom to Raise Revenues	**5. Economic and Resource Allocation Outcomes** • Operating Efficiency • Placement of Clients • Inter-provider Movement of Clients
		6. Health Outcomes • Impacts on Key Health Indicators • Impacts on Systems Efficiencies • Equity in Resource Allocation • Impacts on Physicians

It was found that the goals of reforms and the goals of seniors were not always directly congruent. Reforms often focussed on restructuring, while seniors focussed on care related outcomes. It will therefore be necessary for those conducting an evaluation to clearly delineate which cluster of goals is to be studied. Where goals are somewhat congruent, it will be necessary to construct a logic chain to translate the goals of reform to the goals of seniors.

This report contains a brief discussion of the criteria which should be used to select indicators and of the methodological properties that indicators should have such as validity and reliability. Table 2 presents the key questions which should be used in an evaluation. We have included summary tables at the end of the main body of this report which present indicators for these key questions. Data sources and methods for each indicator, and a rationale for the inclusion of each indicator, are also provided. An example of these tables is presented in this executive summary as Table 3. Tables 5-7 of the main report use this format. They represent the main concerns of seniors and focus primarily on health outcomes. Tables 8-12 in the main report contain key questions related to evaluating the other components of the analytical framework for evaluating health reforms.

TABLE 2: Key Questions to Assess the Impacts of Health Reforms on Seniors

Questions Related to Services	Questions Related to Service Providers	Questions Related to Service Delivery Systems
Do seniors receive effective, high quality services? Do seniors have adequate and sufficient services? Are services available and accessible and provided at a time that is suitable for the client? Is there an appropriate continuity of services and are the services provided predictable? Are services acceptable and appropriate? Are services flexible and adaptable? Are services affordable? Is the care that is provided family focussed?	Are service providers reviewed by a provincial or national accreditation body on a regular basis? Is the nature and quality of communication provided by care staff appropriate? Are staff caring, and do they take the necessary time with clients, show an interest in clients, go the extra mile for clients and anticipate and plan for future needs? Are staff well trained and competent? Are clients treated with respect and dignity? Are there enough staff and volunteers in agencies to properly care for clients?	Are services adequately coordinated? Are medications prescribed appropriately and are they affordable? Are health services available and appropriate after reforms?

TABLE 3: A Sample of Key Questions and Indicators

Question	Indicator(s)	Rationale	Data Sources and Methods
Do seniors have adequate and sufficient services?	• The ratings of seniors and their informal caregivers on a five point scale of the extent to which services seem to be sufficient and adequate, by type of service.	This indicator provides seniors' views of the question.	Survey Comparisons across NHAs *and to provincial average Time Trends Analysis
	• Service units for each type, and sub-type, of service by NHA such as: - GPs per 1,000 pop - Specialists, by category, per 1,000 pop - Hospital beds per 1,000 pop - Long Term Care Facility beds per 1,000, 65 years of age or older - Acute psychiatric beds per 1,000 - Geriatricians per 100,000 pop, 65 years of age or older - Average Homemaker hours by level of care - Group home spaces per 1,000 pop, 19 years of age or older - Adult Day Care spaces per 1,000 pop, 65 years of age or older - Average Home Nursing and Rehabilitation hours/visits by level of care for longer term clients - Number of hours of nursing, rehabilitation, homemakers per 1,000 pop, 65 years of age or older	Utilization comparisons provide a good picture of service volumes, but it should be noted that not all services provided may actually be needed.	Ministry and NHA Data Comparisons across NHAs to provincial average and across provinces Comparisons to standards deemed appropriate by a panel process
	• Staff to client ratios within hospital and institutional services, overall and for professional staff, ancillary staff and administrative staff, by level of care or case mix indicators.	Staffing comparisons are useful in that two NHAs may have the same number of beds, but their bed to staff ratios may differ even after the care needs of clients have been accounted for.	Ministry and NHA Data Comparisons across NHAs, to provincial average, across provinces and internationally

***NHA** *in the summary tables refers to "New Health Authority". This could be a Régional Board, a Primary Care Agency or an Integrated Health System*

ACKNOWLEDGEMENTS

The author would like to acknowledge the support and guidance received on this project from the members of the Research and Special Issues Committee of the National Advisory Council on Aging and from the staff of the Division of Aging and Seniors, Health Canada. Funding for this project was provided by the Division of Aging and Seniors, Health Canada.

Most of this project was conducted when the author was the Director of the Health Network of the Canadian Policy Research Networks (CPRN). The author would like to acknowledge the support received from the CPRN. He would also like to acknowledge the contributions of the staff and contractors of its Health Network. Finally, thanks also go to Anthony Beks and Elizabeth Walker for their assistance.

TABLE OF CONTENTS

Page

Executive Summary i
Acknowledgements v
Table of Contents vi

1. INTRODUCTION 1

2. ANALYZING HEALTH CARE REFORMS: A Structure, Process and Outcome Approach 3

2.1 Introduction 3

2.2 The Structural Aspects of Reforms: Legislation and Governance 4
2.2.1 The Legislative Basis of Reforms 4
2.2.2 Governance 4
2.2.3 Geographic/Population Boundaries 5

2.3 Processes Related to Administration and Service Delivery 5
2.3.1 Accountability Mechanisms 5
2.3.2 Labour Relations and Human Resources 5
2.3.3 Planning 6
2.3.4 Information Management 6
2.3.5 Standards and Quality Assurance 6

2.4 Processes Related to Financing and Resource Allocation 6
2.4.1 Resource Allocation 6
2.4.2 Cross Boundary Issues 7
2.4.3 Incentive Systems 7
2.4.4 Freedom to Raise Revenues and Allocate Expenditures 7

2.5 Social, Political and Administrative Outcomes 8
2.5.1 Greater Democratization 8
2.5.2 Acceptance of Reform Models by the Public 8
2.5.3 All Party Acceptance of Reforms 8
2.5.4 Strategies for Regionalization 8
2.5.5 Implementation of Reforms 9

2.6 Economic and Resource Allocation Outcomes 9
2.6.1 Operating Efficiency 9
2.6.2 Placement of Clients 9
2.6.3 Inter-provider Movement of Clients 9
2.7 Health Outcomes 10
2.7.1 Impacts on Key Health Indicators 10
2.7.2 Impacts on Systems Efficiencies 10
2.7.3 Equity in Resource Allocation 10
2.7.4 Impacts on Physicians 10

2.8 Integration of the Six Components of the Analytical Framework 11

2.9 The Inter-Relationship Between the Analytical Framework and the Goals of Seniors 12

3. EVALUATION DESIGN 12

3.1 Introduction to the Evaluation Design 12
3.2 Evaluation Questions 16
3.3 Criteria for Selecting Indicators 16
3.4 Data Sources and Methods 18
3.5 Design of Summary Tables 18

TABLES 5 to 7
Indicators related to services 20
Indicators related to service providers 26
Indicators related to the Service delivery System 29

TABLES 8 to 12
Structural issues 32
Process issues 33
Resource allocation issues 35

FOOTNOTES 40

1. INTRODUCTION

Through anecdotal reports, and their own knowledge of changes in health care delivery, members of the National Advisory Council on Aging (NACA) became concerned about the impacts of health reforms on seniors. Problems noted related to delays in seniors receiving services, lack of coordination of care between the components of the health care system, and health care staff being under such pressure that they were "processing" seniors rather than listening to them and caring for their individual needs.

In addition to the need for medical and hospital services, seniors require services to address their functional needs. The challenges in caring for seniors relate to the coordination of a wide range of supportive health-related services, and to the maintaining of seniors' dignity while they are being cared for by others. It is the little things, such as making a meal, being able to go up and down stairs, being able to clean one's house, being able to groom oneself, and being treated appropriately by others, that lend dignity to one's life and that pose unique challenges to seniors and to their informal caregivers. NACA members became concerned that the level of "caring" in the health system had started to deteriorate.

Given the potential impact of reforms, and given their lack of evaluation to date, NACA at its February 1996 meeting directed its Research and Special Issues Committee (RSIC) to develop terms of reference for a project to assess the impacts of health reforms on seniors. The RSIC considered a range of factors such as possible research models, the lack of appropriate evaluation approaches, and financial and time constraints. It recommended that, at this time, the most significant contribution NACA could make to the current debate on the impact of health care reforms would be, as a first step, to develop a NACA position on key evaluation issues.

This recommendation was approved by the Council at its May 1996 meeting, and staff were directed to develop a detailed project plan for review and approval by the RSI Committee. In developing its project plan, staff identified that the overall goal of the project would be as follows:

- To contribute to the debate on the evaluation of health care reforms by advancing a NACA position on key evaluation issues and questions which need to be addressed in assessing the impact of changes on the delivery of services to seniors.

The staff also identified that the specific purpose, or key objective, of the project itself would be as follows:

- To develop an analytical framework to identify appropriate evaluation questions and indicators to assess the impact of health organizational and structural reforms on the availability, accessibility and quality of health care for seniors and their families.

The staff entered into contracts with the Health Network of the Canadian Policy Research Networks, an independent, national, policy think-tank, and with Dr. Elaine Gallagher of the University of Victoria to carry out the project.

In establishing this project, NACA wanted to develop an overall conceptual framework, and a set of key indicators, which would take a seniors centred approach to evaluating health reforms. This evaluation model could then be used by governments, Regional Boards, seniors' agencies, and others to address the key question of concern, i.e., are reforms resulting in health care that meets the expectations of seniors, and of their informal caregivers.

NACA members were also looking to the future in mandating this project as more and more seniors will be cared for by the health system in the coming years. In fact, the proportion of seniors in Canada has been increasing at a higher rate than the rest of the population for some time, and projections indicate that this trend will only increase as baby boomers reach 65 years of age in the year 2011. Thus, how seniors are served by the health care system will become an increasingly important issue over time. For example, while the non-senior population (those aged 0 - 64) is projected to increase by some 18.7% between 1996 and 2016, the corresponding projected growth rate for seniors is 61.1%, or more than three times that of non-seniors. The rate of increase for those 85 years of age or older, who use disproportionately more health services than any other age group, is projected to be 115% for the same period.[1]

The overall project entitled "Assessing the Impacts of Health Reforms on Seniors" has three parts. This document constitutes the report of the second of these three parts. The report of Part I provided an overview of what has happened in regard to health reforms across Canada, seniors' perceptions of the health system, and the issues of greatest importance to seniors and their caregivers about our health system.

This document, the report of Part II of the project, provides a framework for evaluating the impact of health reforms on seniors. It also provides a series of questions and key indicators which could be used by those conducting an evaluation as a "menu" of items from which they could select the set of questions and indicators with the greatest relevance to their particular study. The report of Part III of the project provides a "how to" evaluation guide for community agencies that may wish to conduct an evaluation of the impacts of health reforms on seniors in their communities.

2. ANALYZING HEALTH CARE REFORMS: A STRUCTURE, PROCESS AND OUTCOME APPROACH

2.1 Introduction

Health reforms in Canada have been, and are, of a wide and sweeping magnitude. The reforms encompass the whole system of health care delivery. They do not constitute tinkering at the margins, or a focus on one component of the system. They relate to fundamental matters such as legislation and governance and the way the service delivery system is organized and administered.

Given the wide sweep of reforms, it is proposed that the analytical framework for evaluating reforms adopt a structure, process and outcome model of analysis.[2] It appears that those adopting reforms have focused on structure and process and assumed that such reforms would lead to better outcomes. One needs to document structure and process-related reforms and to apply logical analysis to determine how changes in structure and process will lead to improved outcomes.

Table 1 presents an overview of the six major components of the conceptual model of the relationships between structure, process, and outcome.[3] It indicates the major headings for each component and the specific areas of inquiry which will need to be addressed in any evaluation of health care reforms. The following section provides an overview of some of the key issues and questions which would need to be addressed in an evaluation of health reforms. For convenience, the term New Health Authority (NHA) will be used to describe the service delivery unit in a reformed system. This term will be used to describe geographically based multi-sectorial health organizations such as Regional Health Boards (RHBs), Integrated Health Systems (IHSs), Primary Care organizations, and other such integrated models of service delivery.

TABLE 1: The Structure, Process and Outcome Model of Analysis

CONCEPTUAL MODEL		
Structure	Process	Outcome
1. The Structural Aspects of Reforms: Legislation and Governance • Legislative Basis of Reforms • Governance • Geographic Boundaries	**2. Processes Related to Administration and Service Delivery** • Accountability Mechanisms • Labour Relations • Planning • Information Management • Quality Assurance	**4. Social, Political and Administrative Outcomes** • Greater Democratization • Public Acceptance of Regionalized Models • All Party Acceptance of Reforms • Regionalization Strategies • Implementation of Reforms
	3. Processes Related to Financing and Resource Allocation • Resource Allocation Methodologies • Cross Boundary Issues • Incentive Systems • Freedom to Raise Revenues	**5. Economic and Resource Allocation Outcomes** • Operating Efficiency • Placement of Clients • Inter-provider Movement of Clients
		6. Health Outcomes • Impacts on Key Health Indicators • Impacts on Systems Efficiencies • Equity in Resource Allocation • Impacts on Physicians

2.2 The Structural Aspects of Reforms: Legislation and Governance

2.2.1 <u>The Legislative Basis of Reforms</u>

As one moves to a reformed model of health care delivery, legal vehicles must promote the clear demonstration of authority, power, roles, responsibilities, and accountabilities inherent in such functions as planning, management, delivery, funding/resource allocation and revenue generation. The legislative packages creating the new service delivery structures should be analyzed to determine if they reflect clear goals and objectives. Legislation, regulations, orders-in-council, and other pertinent documents should be analyzed. Investigators should assess whether expected outcomes have been achieved through the legislative models that particular governments have adopted, i.e., determine the logic chain between legislation and outcomes.

2.2.2 <u>Governance</u>

One will need to address the fundamental questions of governance structures and who has responsibility for what. How are responsibilities divided among provincial governments, the New Health Authorities (NHAs), individual institutions, and individual clients and providers? Are exceptions made for religious organizations and service clubs? What happened to the previously existing Boards of third-party agencies and hospitals? How is the membership of the New Health

Authorities or other multi-sector agencies determined, e.g., election, appointment? What authority do boards have over hiring and firing? What other powers have been delegated? What services have been transferred to the NHAs? What is the range of permissible variation of health services across geographic units in light of the Canada Health Act? Are tertiary services such as teaching hospitals and cancer clinics regionalized? What changes have occurred in the structures and responsibilities of provincial Ministries of Health?

2.2.3 Geographic/Population Boundaries

One will need to determine the appropriate size of the geographic boundaries adopted and the rationales for adopting the set of boundaries. Also, one will need to identify the size of populations if a rostering system is involved in which individuals sign up with a given NHA to receive services. One should attempt to determine how boundaries are defined, what their optimal size is, and what the minimum efficient scale is for service delivery. The issue of boundaries may be more critical for Primary Care models and IHS models than for regional models in regard to adequacy of size, transfers between geographic entities and so on. The questions may become even more complex if rostering of individuals, rather than geographic boundaries, is used to define the populations linked to the different NHAs.

2.3 Processes Related to Administration and Service Delivery

2.3.1 Accountability Mechanisms

One will need to address how accountability mechanisms have changed as a consequence of reforms. Who is now accountable to whom and for what? What mechanisms are used to ensure accountability? What kinds of accountability related information and data are collected, and by whom? What is the public's perception of accountability?

2.3.2 Labour Relations and Human Resources

One will need to review what changes in previous labour relations practices have taken place due to reforms. What types of labour accords have been struck between government, the NHAs, and the unions? How have transfers of staff been accomplished? Has there been a change in the number of unions or union locals? On what basis were differences in pay scales resolved when staff from different unions were amalgamated into one organization? Was it possible to obtain qualified managers, planners, and other professional staff for smaller and more isolated areas?

2.3.3 Planning

One will need to review changes regarding who has responsibility for what types of planning as a consequence of health reforms. To what extent do the NHAs have planning authority? Are their plans considered to be recommendations or blueprints for action? What types of plans, if any, had to be produced before the authority for service delivery was transferred to Regional Health Boards, IHSs, or Primary Care organizations?

2.3.4 Information Management

One will need to review how information is processed and managed. Have province-wide, central information systems remained in place after reform? If so, in what form? How are data and information shared between provincial governments and the New Health Authorities? Has there been an impetus for NHAs to develop their own information systems? Have innovative technological solutions been found to problems of sharing data? Has freedom of information and protection of privacy legislation constrained the sharing of client specific data in any way? Who are the owners and stewards of the data in a reformed system? What mechanisms have been adopted to ensure the confidentiality of client data?

2.3.5 Standards and Quality Assurance

One will need to address the issue of service quality in a reformed system. What standards and quality assurance mechanisms were in place prior to reforms, and what mechanisms are in place after? Has quality control increased or decreased as a consequence of reforms? Has it been possible to develop and maintain provincial service quality standards, and consistent standards enforcement, across regions? Have the NHAs started to develop their own standards and quality assurance mechanisms? What is the role of accreditation by national bodies in a reformed system?

2.4 Processes Related to Financing and Resource Allocation

2.4.1 Resource Allocation

One will need to determine what methodologies have been adopted for resource allocation in reformed systems of health care. Are these methods based on assessments of need or on a logic of equitable allocation based on the age and sex distribution of the population? If they are based on needs, what mechanisms exist to prioritize needs, given resource limitations? What was the extent of public participation in the development of the methodology? Was a custom made methodology developed for a given jurisdiction? If so, why? What are the ethical principles which underlie the methodology? Is the methodology comprehensive or are sub-methodologies used for different types of services, e.g., hospitals versus public health?

2.4.2 Cross Boundary Issues

One will need to address the topic of how cross boundary issues are handled within the respective resource allocation methodologies. If clients receive services from a provider from outside the region, or from another NHA with a rostered population, is the resource allocation to the "home" NHA reduced, and by how much? Is there a disincentive for residents to seek services outside their NHA? How have NHAs balanced the goal of providing services "closer to home" with the goal of retaining the consumer's freedom to select his or her own provider? Are benefits portable across NHAs? Are there incentives or disincentives for RHBs, IHSs or Primary Care organizations to provide services to consumers outside their catchment area?

2.4.3 Incentive Systems

One will need to explore the explicit and implicit incentive systems inherent in the different resource allocation methodologies. Does the methodology reward efficiencies in service provision? Does it eliminate or reduce inappropriate service provision? Does it enhance coordination across sectors? Does it provide an incentive for providers not to offer services that cannot be economically provided in a region? Does it shift resources to community and preventive services and to health promotion? Are health care providers responding to the implied incentives? Is the response what was anticipated or intended?

2.4.4 Freedom to Raise Revenues and Allocate Expenditures

One will need to focus on the extent to which RHBs, IHSs or Primary Care organizations have the freedom to raise revenues and allocate expenditures as they see fit. Are providers able to raise any form of revenue, in any jurisdiction, in Canada? If so, how is this done? If not, why was the decision made not to allow providers to raise revenues? Do providers receive an overall envelope or are funds pre-allocated to individual health service sectors? Is there a minimum set of core services which must be provided by all providers? If funding is "pre-allocated" to different sectors, can providers override this allocation, how, and by how much? Do provincial governments mandate a mechanism to be used by providers to allocate resources to agencies in a region or can they develop their own approach? Can provincial governments override resource allocation decisions made by providers? If so, what are the mechanisms which would be used and what are the likely repercussions?

2.5 Social, Political and Administrative Outcomes

2.5.1 Greater Democratization

A variety of techniques should be used to determine the extent of public participation in local decision making about health care services. Seniors should be asked about whether or not they feel they have more say about how services are delivered at the local level after the implementation of reforms. Respondents should be asked if they believe politicians, administrators and Boards are more responsive to local needs after reforms.

2.5.2 Acceptance of Reform Models by the Public

One may wish to use focus groups and survey techniques to determine the extent to which the public is aware of changes due to reforms and whether the public sees the changes in a positive or negative light. Respondents should be asked a series of questions to gauge their knowledge of health reform, whether, in their minds, it has positively or negatively affected service delivery, whether or not it has had a direct impact on them, and whether they think they are better or worse off than they were before the reforms were implemented.

2.5.3 All Party Acceptance of Reforms

One will need to determine what the position of each political party in a given jurisdiction was to reform. A determination should be made as to whether or not such positions have changed after the implementation of reforms. An analysis should be conducted to determine the extent to which the NHAs have been "captured" by special interest groups opposed to the government and/or by opposing political parties. If there are changes in government through an election, the actual impacts on the process of reform should be studied.

2.5.4 Strategies for Regionalization

One will need to enquire into the rationale for why a given model of health reform was adopted. One should look at what strategies were developed to maximize the positive benefits of regionalization, such as cost control and greater democratization, and to minimize the impacts of the possible negative effects of reforms. For jurisdictions which have chosen to engage in reforms, the reasons for this decision should be documented. An analysis should be conducted on how key actors assess the effectiveness of the strategies adopted.

2.5.5 Implementation of Reforms

One will need to consider how effectively reforms were implemented and whether or not reforms were actually implemented as originally planned. If not, why not? One should also address issues such as the time it took to implement reforms, the process which was used, and the extent of public participation in the reforms. Analysis should be conducted to determine what implementation strategies were used, why they were chosen, and how successful they were.

2.6 Economic and Resource Allocation Outcomes

2.6.1 Operating Efficiency

Health reforms may bring greater diversity within and between provincial health care systems. The consequences of these natural experiments should be examined with respect to their impacts on operating efficiencies. The operating costs per unit of output for hospitals, nursing homes, home care agencies, and other services should be examined to determine the impacts of the introduction of reforms. An analysis of overall cost impacts and the cost of administration in the NHAs should also be conducted. The analysis of the consequences of introducing alternative reimbursement practices is of particular interest.

2.6.2 Placement of Clients

Administrators of the NHAs have the opportunity to better coordinate activities. Their success in this regard may be measured by changes in the level of severity of cases in hospitals, nursing homes, and home care agencies, i.e., severity may increase in the institutional settings because more clients can be "placed" into home care to receive services. Attempts should be made to quantify the costs of the success, or failure, of such initiatives.

2.6.3 Inter-provider Movement of Clients

Administrators of the NHAs may be able to shorten lengths of hospital stays by moving clients to more appropriate care placements, such as nursing homes or home care. The flows of clients between hospitals and nursing home units should be examined. In relation to hospital lengths of say (including long stay cases), this analysis should provide an indication of whether resources are moving to more appropriate alternative levels of care and of the cost savings which have been achieved.

2.7 Health Outcomes

2.7.1 Impacts on Key Health Indicators

It is unlikely that changes in health status that are related to health reforms will be of sufficient size to demonstrate interprovincial and interregional changes in overall population health status within a three to five year time frame. However, intermediate measures of health outcomes (e.g., readmission rates and infection rates for hospitals, and rates of increase in service needs in Long Term Care facilities) may give some indication of health outcomes associated with various types of health system reforms. These and other measures should be studied to determine the extent to which reforms have had an impact on the health status of the population.

2.7.2 Impacts on Systems Efficiencies

One will need to determine the extent to which there has been an increase in systems efficiencies due to reforms. Correlation analysis could be conducted on the extent to which services are related to each other in a systemic way. By comparing the extent to which services are above or below provincial norms, one can determine if certain substitution effects are in play before and after reforms. For example, if there are fewer Long Term Care beds in a region after reforms, is there relatively more Home Care? Has there been a general shift from residential to community services? A comparative analysis of such systems based efficiencies should be conducted before and after reforms, and across jurisdictions which have, and have not, adopted reforms.

2.7.3 Equity in Resource Allocation

One will need to determine if there is greater equity in the allocation of resources after reform. For example, a typical resource allocation pattern is one in which some jurisdictions have relatively more of everything and others have less. These are patterns derived from historic resource allocation practices. Under reform, has there been a decrease in this type of relative inequity? Have previously disadvantaged groups received an increase in health services? Has there been a shift to needs based models of resource allocation?

2.7.4 Impacts on Physicians

One will need to review how physicians and other fee-for-service providers have been affected by reforms. The methods by which such professionals are paid, and the way in which they relate to the rest of the health system, could have significant impacts on care outcomes. For example, salaried physicians working in clinics may see fewer clients than fee-for-service providers, thus reducing potential access to the system. However, they may spend more time with clients and prevent future illness, thus reducing care needs by providing more holistic care. Have these providers been regionalized, i.e., are they now funded through the new NHAs? If so, in what manner? If not, why not? How do changes to hospital governance impact on fee-for-service practice patterns and the care

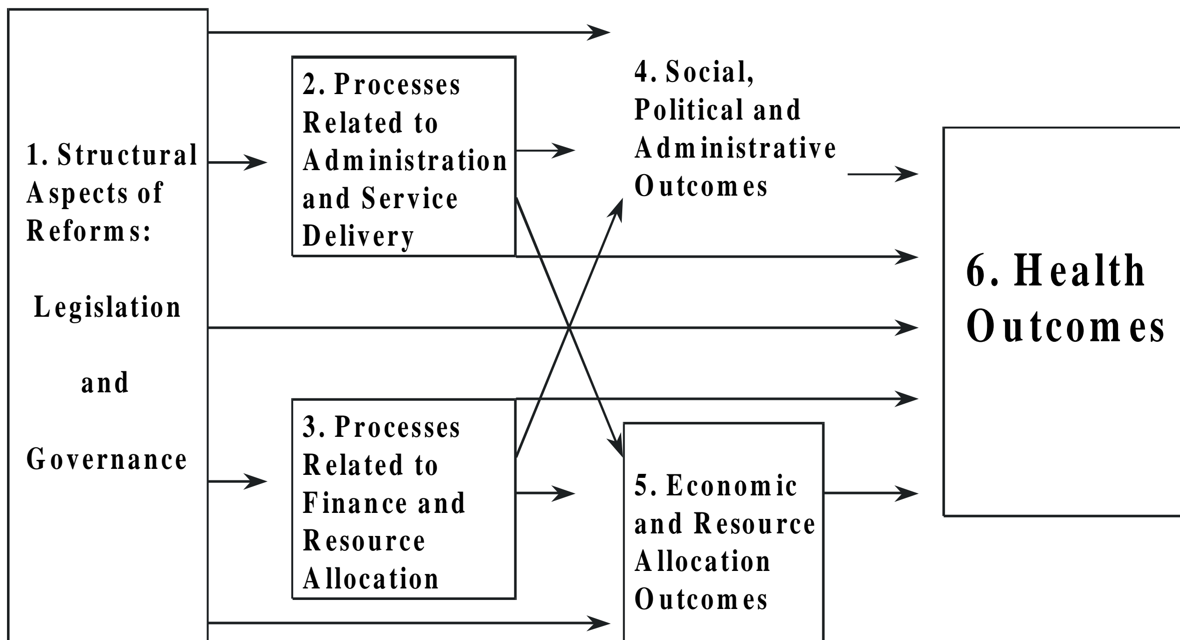
of clients? What are the perceptions of physicians and other fee-for-service providers in regards to whether reforms have had a positive or negative impact on the provision of care to their clients?

2.8 Integration of the Six Components of the Analytical Framework

Figure 1 presents a schematic of the relationship between the six components of the structure, process and outcome model discussed above. Structure provides the basic infrastructure or foundation for the model, i.e., the legislative basis and governance arrangements which underpin the whole service delivery system. The two process boxes represent the operational aspects of how services are actually delivered. Structure and process have an impact on outcomes. There are threeboxes related to outcomes. The social, political and administrative outcomes box and the economic and resources allocation outcomes box are included because many of the goals of reform relate to these areas, e.g., greater democratization, lower cost and so on. From the perspective of seniors, the bottom line outcomes are primarily health outcomes. These may be related to health care (if reform focuses on care), and to health status (particularly if a population health type of reform is adopted)

FIGURE 1

Structure, Process and Outcome Factors in Health Reform



2.9 The Inter-Relationship Between the Analytical Framework and the Goals of Seniors

Tables 2-4 represent an integration of the values and themes expressed by seniors (as documented in the report of Part I of this project) with the structure, process and outcome model of analysis. These tables are descriptive and, to some degree, diagnostic, as they allow for an analysis of where issues of interest to seniors are clustered, and where they are not. As can be seen from Tables 2-4, the interests of seniors tend to cluster in the areas of Health Outcomes and Economic and Resource Allocation Outcomes. It is also interesting to note the important role that quality assurance and accreditation can play in the assessment of service delivery organizations.

Relatively few of the values and themes raised by seniors relate to the items covered under Social, Political and Administrative Outcomes. Issues about greater democratization, public acceptance of reforms, how they were implemented, and so on, seem to take a back seat to issues related to the quality of care and the effectiveness of how services are organized.

3. EVALUATION DESIGN

3.1 Introduction to the Evaluation Design

This chapter presents a series of key indicators and measures which can be considered for inclusion in any evaluation of the impact of health reforms on seniors. The indicators are built up from the perspective of seniors, i.e., the primary focus in developing the indicators is on seniors' goals and values for the health care system. The indicators also relate to the goals of reforms. As the goals of reforms and the goals of seniors are not always congruent, it will be necessary for anyone conducting an evaluation to clearly delineate which cluster of goals is to be studied. Where goals are somewhat congruent, it will be necessary to construct, conceptually, a logic chain between the goals of seniors and the goals of reform.

The evaluation design in this report is a kind of blueprint or map which identifies major topic areas for evaluation and identifies key evaluation questions and indicators for each of these topic areas. The tables presented later in this chapter include key questions and indicators, a summary of the possible sources of data for each key indicator, and methods which could be used to conduct the required analysis or computations. The tables also include a rationale for why each indicator was selected.

TABLE 2: Mapping the Expectations of Seniors and Their Informal Caregivers Against the Structure, Process and Outcome Model for Evaluating Reforms: ***Expectations Related to Services***

Expectations of Seniors and Informal Caregivers Regarding Services	**Components of the Structure, Process and Outcome Model**
Effectiveness	Placement of Clients; Inter-Provider Movement of Clients; Impacts on Systems Efficiencies; Equity in Resource Allocation.
Sufficiency	Resource Allocation; Freedom to Raise Revenues and Allocate Expenditures; Equity in Resource Allocation.
Availability	Resource Allocation; Cross Boundary Issues; Incentive Systems; Placement of Clients; Inter-Provider Movement of Clients; Impacts on Systems Efficiencies; Equity in Resource Allocation.
Continuity and Predictability	Impacts on Systems Efficiencies; Equity in Resource Allocation.
Acceptability	Acceptance of Reform Models by the Public; All Party Acceptance of Reforms; Implementation of Reforms.
Flexibility and Adaptability	The Legislative Basis of Reforms; Governance; Incentive Systems.
Affordability	Operating Efficiency; Placement of Clients; Inter-Provider Movement of Clients; Impacts on System Efficiencies; Equity in Resource Allocation.
Accessibility	The Legislative Basis of Reforms; Placement of Clients; Inter-Provider Movement of Clients; Impact on Key Health Indicators.
Timeliness	Standards and Quality Assurance; Placement of Clients; Inter-Provider Movement of Clients; Impact on Key Health Indicators.
Family Centeredness	Placement of Clients; Impact on Key Health Indicators.
Control and Choice	Standards and Quality Assurance; Impact on Key Health Indicators.

TABLE 3: Mapping the Expectations of Seniors and Their Informal Caregivers Against the Structure, Process and Outcome Model for Evaluating Reforms: ***Expectations Related to Service Providers***

Expectations of Seniors and Informal Caregivers Regarding Service Providers	**Components of the Structure, Process and Outcome Model**
Clear Communication	Standards and Quality Assurance; Impact on Key Health Indicators.
Caring	Standards and Quality Assurance; Impact on Key Health Indicators.
Goes the Extra Mile	Standards and Quality Assurance; Impact on Key Health Indicators.
Anticipates/Plans for Future Needs	Standards and Quality Assurance; Impact on Key Health Indicators.
Competence of Staff	Labour Relations and Human Resources; Standards and Quality Assurance; Impact on Key Health Indicators; Impacts on Systems Efficiencies.
Well Trained Staff	Labour Relations and Human Resources; Standards and Quality Assurance.
Staff Who Show Interest	Standards and Quality Assurance; Impact on Key Health Indicators.
Staff Who Make Enough Time	Standards and Quality Assurance; Impact on Key Health Indicators.
Availability of Transportation	Impact on Key Health Indicators; Impact on Systems Efficiencies; Equity in Resource Allocation.
Adequacy of Staff	Labour Relations and Human Resources; Standards and Quality Assurance.
Expanded Role For Volunteers	Labour Relations and Human Resources; Standards and Quality Assurance.

TABLE 4: Mapping the Expectations of Seniors and Their Informal Caregivers Against the Structure, Process and Outcome Model for Evaluating Reforms: ***Expectations Related to the Health Care System***

Expectations of Seniors and Informal Caregivers Regarding the Health Care System	Components of the Structure, Process and Outcome Model
Coordination	Standards and Quality Assurance; Placement of Clients; Inter-Provider Movement of Clients; Impact on Key Health Indicators; Impacts on Systems Efficiencies; Equity in Resource Allocation.
Changes due to Reforms	Geographic/Population Boundaries; Accountability Mechanisms; Labour Relations and Human Resources; Information Management; Standards and Quality Assurance; Resource Allocation; Greater Democratization; Operating Efficiency; Placement of Clients; Impact on Key Health Indicators; Impacts on Systems Efficiencies; Equity in Resource Allocation; Impact of Regionalization on Physicians.
Concerns About Medications	Standards and Quality Assurance; Placement of Clients; Inter-Provider Movement of Clients; Impact on Key Health Indicators; Impact of Regionalization on Physicians.
Availability of a Range of Services	Placement of Clients; Inter-Provider Movement of Clients; Impacts on Systems Efficiencies; Equity in Resource Allocation.
Appropriate Settings for Care	Standards and Quality Assurance; Placement of Clients; Inter-Provider Movement of Clients; Impact on Key Health Indicators; Impacts on Systems Efficiencies.
Opportunities for Self-Managed Care	Standards and Quality Assurance.
Personal Responsibility for Health	Impact on Key Health Indicators; Impacts on Systems Efficiencies; Equity in Resource Allocation.

3.2 Evaluation Questions

It is important to clearly specify the questions to be addressed in any evaluation. It may be difficult to operationalize some concepts into quantifiable measures which reflect complex constructs. Thus, it may be useful to consider whether some of the concepts can be simplified or broken down into component parts for analytical purposes.

Those who will be engaged in evaluating the impacts of reforms on seniors will need to consider which areas of the analytical framework, and which goals and values of seniors, are to be studied. Once this is determined, a set of key questions or indicators will need to be developed. The indicators presented later in this chapter could serve as a useful guide or "menu" for the evaluator.

Given the findings about the interests of seniors which are documented in the report of Part I of this project, evaluators may wish to consider questions related to health services, service providers, and the health system. In terms of health services, questions could include items such as whether seniors feel that they are receiving effective service of high quality, whether services are accessible and can be obtained in a timely manner, and whether care is family focused.

Questions and indicators related to service providers could include items such as whether there is adequate and appropriate verbal and written communication by professional care providers to clients and informal caregivers, whether clients are treated with respect and dignity, and whether staff are well trained and competent. Questions related to the health system could include items such as whether services are adequately coordinated, and how appropriate and readily available health services are compared to the situation prior to reform.

3.3 Criteria for Selecting Indicators

A number of criteria have been developed to guide the selection of appropriate key indicators. These criteria typically relate to quantitative data. Nevertheless, many of the criteria are also useful as standards against which potential qualitative indicators can be assessed. If a given indicator does not meet most of the criteria, it may not be appropriate for inclusion in the study. The following is an example of one set of standards or criteria which can be used to select indicators.

- The indicators must be *useful* to decision makers.

- The indicators must be *sensitive* for relatively short time spans (i.e., values of the indicator must follow variations in the object they are designed to measure).

- The indicators must allow for *comparisons over time*--this means that the frequency of measurement must be five years or less.

- The value of indicators must show a degree of *variability* over time and space--if there are no variations over time, or from place to place, the indicator may not be informative.

- The indicators must be available on an *intraprovincial* (or *regional*) level.

- The indicators must be immediately *available*--that is, the raw data needed to calculate them must also be available.

- The indicators must be *mutually exclusive*--taken as a whole, they should not provide duplicate measures.

- The indicators must be relatively *well-recognized*, thus giving them a certain validity.

- Indicators that offer significant information *potential* might be used even though they are not well-known, not currently in use, or new.[4]

In addition to the above practical considerations, indicators should also have a number of methodological properties. These can be defined as follows:

- *Validity* - Which indicators measure most directly and accurately the outcome(s) of interest?

- *Reliability* - Which indicators are (or can be) gathered consistently year after year?

- *Clarity* - Which indicators are most easily understood by decision makers, service providers, and the public?

- *Timeliness* - Which indicators will give decision makers current information to inform policy and program decisions?

- *Cost* - Which indicators cost less to gather? This includes the cost of data collection systems as well as the ongoing costs of recording, analyzing and reporting data.

- *Comparability* - Which indicators are similar to those used elsewhere so that outcomes can be compared among regions or across programs?

- *Utility* - Which indicators can be used to monitor outcomes at multiple levels (province, region, community, program) and can be used by multiple audiences to make decisions?[5]

3.4 Data Sources and Methods

There is also a wide range of data sources which can be used. Population data to study trends in utilization is generally available from Statistics Canada or from provincial governments. However, provinces may use different geographic regions than those used by Statistics Canada, and thus data may not always be readily available in accordance with provincial level geographic regions. In addition, there may be significant charges for the acquisition of data.

Provincial governments typically have a wide range of administrative data bases which have client level data, financial data, and data on service providers. It may be possible to access these data bases. However, there may be a charge for obtaining the data, and the data may not always be available in an appropriate form. There will also be issues around the confidentiality of data which will need to be negotiated.

It will also be possible to conduct surveys directly to obtain the views of seniors on particular issues. Statistics Canada has developed a number of surveys which can serve as useful models. Permission may be required from Ministries of Health, Regional Boards and/or service delivery agencies to conduct surveys of individuals receiving care. There will also be confidentiality issues which will need to be negotiated. Conducting surveys can involve significant monetary costs. An alternative may be to hold a series of focus groups to obtain information on the needs of seniors or their perceptions about services.

3.5 Design of Summary Tables

This section constitutes an extended listing of indicators which could be used, in whole or in part, in conducting an evaluation. The listing is organized into three parts: seniors' expectations regarding services, seniors' expectations regarding service providers, and seniors' expectations regarding the health system. While the indicators listed constitute a menu of possible items which could be used in an evaluation, the actual indicators, data sources and methods selected will depend on the scope of the evaluation undertaken and the resources which are available.

The following three tables (Tables 5-7) focus on evaluating reforms from the perspective of seniors. The measures in these tables are largely oriented to health outcomes (section six of the analytical framework). The analytical framework has five other sections related to structure, to process, and

to social, political and economic outcomes. Those conducting evaluations may also have an interest in studying these matters as part of their evaluation plan. Therefore, a series of tables on these other topic areas and on related key questions, indicators, data sources, and methods are also presented (Tables 8-12). A rationale section has not been included in these tables as rationales for most of the measures have already been addressed in this report.

TABLE 5: ***Indicators Related to Services***

Question	Indicator(s)	Rationale	Data Sources and Methods
Do seniors receive effective, high quality services?	• Ratings of seniors and their informal caregivers for each type and sub-type of service, on a five point scale, in regard to their satisfaction with services.	This indicator provides seniors' and caregivers' views of the question.	Survey Research Focus Groups Public Consultations Comparisons across NHAs and to provincial average
	• Amount of time spent by staff with clients, and the quality of that time, by type of service.	This indicator provides information on how much time staff spend with seniors and the perceived quality of that time.	Interviews Workload Measurement Studies Focus Groups
	• Percentage of services which are accredited, by type of service.	National or provincial quality assurance and accreditation procedures provide some measure of assurance of quality.	Inspection of Documents Interviews Comparisons across NHAs and to provincial average
	• Percentage of staff with appropriate professional credentials, by type of service.	This indicator gives an indication of the quality and professional credentials of staff.	Inspection of Documents Interviews Comparisons across NHAs and to provincial average
	• Percentage of clients, by level of care, whose health or care level improves, remains constant, or deteriorates over a one year period in facilities and home care.	Continuing Care is essentially a care based system; thus, an important goal is to maintain clients at their optimum level of functioning for as long as possible.	Clinical Data
	• Percentage of clients with a clear care plan and clearly stated objectives for care in all forms of care services.	Documented care plans with clearly stated goals are an indication of proper, professional, and client focused care.	Clinical Data
	• Percentage of clients in community based, residential and home based care who are admitted to an acute care hospital.	This measure will allow for a better comparison of the cost-effectiveness of community versus residential care across the range of non-acute services and may flag problems if home based clients are not cared for adequately or have care needs beyond what can be handled in the community.	Clinical Data
	• Percentage of falls or other reported problem incidents in hospitals and institutional care.	Incident reporting around matters such as falls is very important as a measure of quality of care, particularly when rates are compared across NHAs or agencies.	Clinical Data

Question	Indicator(s)	Rationale	Data Sources and Methods
Do seniors have adequate and sufficient services?	• Ratings of seniors and their informal caregivers on a five point scale of the extent to which services seem to be sufficient and adequate, by type of service.	This indicator provides seniors' and caregivers' views of the question.	Survey Comparisons across NHAs and to provincial average Time Trends Analysis
	• Service units for each type, and sub-type, of service by NHA such as: - GPs per 1,000 pop - Specialists, by category, per 1,000 pop - Hospital beds per 1,000 pop - Long Term Care Facility beds per 1,000 pop, 65 years of age or older - Acute psychiatric beds per 1,000 pop - Geriatricians per 100,000 pop 65 years of age or older - Average homemaker hours by level of care - Group home spaces per 1,000 pop, 19 years of age or older - Adult Day Care spaces per 1,000 pop, 65 years of age or older - Average Home Nursing and Rehabilitation hours/visits by level of care for longer term clients - Number of hours of nursing, rehabilitation, and homemakers per 1,000 pop, 65 years of age or older	Utilization comparisons provide a good picture of service volumes, but it should be noted that not all services provided may actually be needed.	Ministry and NHA Data Comparisons across NHAs, to provincial average and across provinces. Comparisons to standards deemed appropriate by a panel process
	• Staff to client ratios within hospital and institutional services, overall and for professional staff, ancillary staff and administrative staff, by level of care or case mix indicator.	Staffing comparisons are useful in that two NHAs may have the same number of beds, but their bed to staff ratios may differ even after the care needs of clients have been accounted for.	Ministry and NHA Data Comparisons across NHAs, to provincial average, across provinces and internationally

Question	Indicator(s)	Rationale	Data Sources and Methods
Are services available and accessible and provided at a time that is suitable for the client?	• Ratings of seniors and their informal caregivers on a five point scale of the availability, accessibility and timeliness of services, by category of service, e.g., hospital, Home Care, adult day care centres.	This indicator provides seniors' and caregivers' views of the question.	Surveys Focus Groups
	• Waiting times in institutions by key services such as eating, bathing, toileting, relief of pain.	This indicator focuses on a key care issue for seniors, i.e., provision of basic services related to physical functioning.	Interviews Focus Groups Participant Observation
	• Perceived appropriateness of the times at which services are provided.	This indicator focuses on the suitability to seniors of when services are provided, i.e., whether services are provided to meet agency needs or the needs of seniors.	Interviews Focus Groups
	• Lengths of waiting lists, and waiting times, on average and by facility or professional care provider (e.g., specialist physician) for all types of services, e.g., waiting list and length of wait for heart surgery, for admission to LTC facilities, mental health community residences, adult day care services, homemaker services and so on.	Waiting lists may be inflated with people on the list who do not need services immediately, but they are still a useful comparative measure.	Ministry Data Comparisons, by type of service, across NHAs, to provincial average and across provinces
	• Percentage of clients and families who experience no delays or very modest delays in access to services, by type of service.	This indicator gives a sense of what proportion of clients are receiving prompt service.	Ministry Data Comparisons, by type of service, across NHAs, to provincial average and across provinces
	• Percentage of clients and families who experience delays in moving between agencies and regions, by type of service.	This may indicate systems blockages or problems with coordination.	Ministry Data Comparisons, by type of service, across NHAs, to provincial average and across provinces
	• Percentage of cases for which case managers have difficulty making referrals, by type of service.	This is a red flag indicator to note further investigation about problems in service delivery.	Clinical Notes Surveys

Question	Indicator(s)	Rationale	Data Sources and Methods
Is there an appropriate continuity of services and are the services provided predictable?	• Ratings of seniors and their informal caregivers on a five point scale of the continuity and predictability of services.	This indicator provides seniors' and caregivers' views of the question.	Survey Comparisons across NHAs and to provincial average Time Trends Analysis
	• Number of new agencies starting per year, and old agencies closing down per year, by type of service.	This indicator gives a sense of agency level turnover or stability.	Ministry and NHA Data
	• Number of agencies with more than a 5% increase or decrease in staffing.	This is a measure of stability based on agency level growth or decline.	Ministry, NHA and Agency Data
	• Staff turnover rate, by agency, for each type of service.	This is a measure of staff turnover. High turnover will mean that services may not be predictable.	Ministry, NHA and Agency Data
	• Percentage of agencies with policies to allow staff to care for the same clients over time, by type of service.	This is a measure of consistency or predictability of staff services.	Inspection of Documents

Question	Indicator(s)	Rationale	Data Sources and Methods
Are services acceptable and appropriate?	• Ratings of seniors and their informal caregivers on a five point scale regarding the acceptability and appropriateness of services.	This indicator provides seniors' and caregivers' views of the question.	Survey Comparisons across NHAs and to provincial average Time Trends Analysis
	• Extent of client and family involvement in the selection of services (e.g, LTC facility) and the development of their care plans.	This is a measure of the extent of family involvement and family-centered care.	Clinical Notes Interviews
	• Level of satisfaction, by type of service, for clients and families regarding: - protection of confidentiality - friendliness of staff and administration - approachability of staff and administration - social events - crafts and hobbies - input into agency decision making - quality of accommodation - access to preferred staff who come into the home - timeliness of Home Care staff	These are measures of satisfaction for clients and for their informal caregivers.	Surveys Focus Groups Public Consultation
	• Percentage of clients who complain about the care provided.	This is a red flag indicator about the quality of care.	Clinical Notes
Are services flexible and adaptable?	• Ratings of seniors and their informal caregivers on a five point scale about the flexibility and adaptability of care, by type of service.	This indicator provides seniors' and caregivers' views of the question.	Survey Comparisons across NHAs and to provincial average Time Trends Analysis
	• Percentage of seniors, and their informal caregivers, who perceive service providers to be flexible and adaptable in regard to the provision of care, by type of service.	It is important to obtain the views of seniors and of their informal caregivers about the degree of flexibility and adaptability in service provision.	Survey Comparisons across NHAs and to provincial average Time Trends Analysis

Question	Indicator(s)	Rationale	Data Sources and Methods
Are services affordable?	• Ratings of seniors and their informal caregivers on a five point scale about the affordability of health care services overall, and by type of service.	This indicator provides seniors' and caregivers' views of the question.	Survey Comparisons across NHAs and to provincial average Time Trends Analysis
	• Costs of accessing care.	This indicator provides a measure of the costs to seniors of traveling to a site where care is provided.	Interviews Focus Groups
	• Analysis of the nature and amount of user fees by type of service and the extent to which such fees are reasonable.	Fees can be compared across NHAs and across provinces.	Ministry, NHA and facility Data Panel Process
Is the care that is provided family focused?	• Ratings of seniors and their informal caregivers on a five point scale, by type of service, of the extent to which care is family-focused.	This indicator provides seniors' and caregivers' views of the question.	Survey Comparisons across NHAs and to provincial average Time Trends Analysis
	• Extent of seniors' involvement in decisions about their care.	This indicator provides a measure of the extent to which the senior is involved in family based care decisions.	Interviews Focus Groups
	• Percentage of cases with families, by type of services, in which families: - are involved in care planning - feel they can speak freely to staff - feel they can speak freely to administration - feel they can request reasonable changes to care plans - are not consulted about care decisions	This provides some context for the extent to which families are involved in care. It is a useful measure if tracked over time and across NHAs.	Survey Comparisons across NHAs and to provincial average Time Trends Analysis

TABLE 6: ***Indicators Related to Service Providers***

Question	Indicator(s)	Rationale	Data Sources and Methods
Are service providers reviewed by a provincial or national accreditation body on a regular basis?	Are agencies reviewed and/or accredited? (yes or no)	Almost all of the values related to services providers are typically included in a comprehensive accreditation process.	Agencies, accreditation bodies, Ministries of Health
Is the nature and quality of communication provided by care staff appropriate?	• Ratings of seniors and their informal caregivers on a five point scale, by type of service, of the quality of written and oral communication.	This indicator provides seniors' and caregivers' views of the question.	Surveys Comparisons across NHAs and to provincial average Time Trends Analysis
	• Ratings of seniors and their informal caregivers on the clarity of written communications, by type of service, for: - description of policies - description of services - care plans - choices and options for service - care objectives for the client - rights of appeal	These are measures of the adequacy of written communications.	Surveys Comparisons across NHAs and to provincial average Time Trends Analysis
	• Ratings of seniors and their informal caregivers of verbal communication, by type of service, for: - initial contact - choices and options for service - care planning - provision of care - discharge of planning - accessibility of staff to talk to them about issues	These are measures of the adequacy of verbal communications.	Surveys Comparisons across NHAs and to provincial average Time Trends Analysis

Question	Indicator(s)	Rationale	Data Sources and Methods
Are staff caring, and do they take the necessary time with clients, show an interest in clients, go the extra mile for clients and anticipate and plan for future needs?	• Ratings of seniors and their informal caregivers of staff on a five point scale, by type of service, about: - caring - taking time - going the extra mile - anticipating future needs - showing an interest in the client	This indicator provides seniors' and caregivers' views of the question.	Surveys Comparisons across NHAs and to provincial average Time Trends Analysis
	• Ratings by seniors in care and their families, by type of service, regarding: - the caring nature of staff - the extent to which staff take the time to listen to problems and show an interest in the client - adequacy of the time spent with the client - extent to which staff seem to be rushed - extent to which the agency seems understaffed - extent to which staff go beyond the call of duty to care for the client or explain things to family - extent to which care staff look ahead and plan for the future, i.e., lining up possible placements to another agency	These are basic indicators of the extent of caring and compassion for, and interest in, the client.	Surveys Comparisons across NHAs and to provincial average Time Trends Analysis
Are staff well trained and competent?	• Ratings of seniors and their informal caregivers on a five point scale, by type of staff and type of agency, of the competence of staff.	This indicator provides seniors' and caregivers' views of the question.	Surveys Comparisons across NHAs and to provincial average Time Trends Analysis
	• Ratings of seniors and their informal caregivers, by type of service, regarding: - Percentage of staff with appropriate certificates, licences and so on	This is a measure of professional training.	Agency Data
	- Number of training days provided to staff for each agency, by type of staff and type of service	This is a measure of the extent to which the agency supports staff training and certification.	Agency Data
	- Existence of policies to facilitate training opportunities for staff	This is a measure of the extent to which the agency supports staff training and certification.	Agency policy manual

Question	Indicator(s)	Rationale	Data Sources and Methods
Are clients treated with respect and dignity?	• Ratings of seniors and their informal caregivers on a five point scale, by type of staff and type of agency, of the extent to which seniors in care are treated with respect and dignity.	This indicator provides seniors' and caregivers' views of the question.	Surveys Comparisons across NHAs and to provincial average Time Trends Analysis
	• Existence, or not, of a code of ethics, policies or "client bill of rights" to ensure that clients are treated with dignity and respect.	This is a measure of the extent to which the agency has gone to ensure that clients are treated with respect and dignity.	Agency Information
Are there enough staff and volunteers in agencies to properly care for clients?	• Ratings of seniors and their informal caregivers on a five point scale, by type of agency, of the adequacy of staff and volunteers.	This indicator provides seniors' and caregivers' views of the question.	Surveys Comparisons across NHAs and to provincial average Agency staffing information
	• Comparisons of staffing levels, controlling for differences in case mix, across agencies, by type of agency.	This may be a bit complex in terms of the analysis to be conducted; it also requires that case mix classification systems are in place.	Agency data, statistical analysis
	• Ratio of volunteers to staff.	This is a comparative measure of the use of volunteers.	Agency data

TABLE 7: ***Indicators Related to the Service Delivery System***

Question	Indicator(s)	Rationale	Data Sources and Methods
Are services adequately coordinated?	• Ratings of seniors and their informal caregivers, on a five point scale, of the degree of service coordination before and after reforms.	This indicator provides seniors' and caregivers' views of the question.	Surveys Comparisons across NHAs and to provincial average Time Trends Analysis
	• Number of hospitals with discharge planning/utilization management groups to facilitate coordination of discharges to community agencies.	This measure addresses the degree of linkage between acute hospitals and home and community based services.	Hospital Information Time Trends Analysis
	• Extent to which home and community based services are coordinated with each other, and with institutional services.	This indicator addresses the degree of coordination among community services and across the institutional-community continuum.	Panel Process Interviews Focus Groups of Seniors
	• Existence of blockages to inter-agency and inter-regional transfers, due to policy, financial incentives, or other reasons.	This measure addresses structural and process matters which inhibit coordination. If possible, it would also be appropriate to count the number of blockages.	Panel Process Interviews
	• Extent to which there is a better balance and mix of services in a region after reforms.	This would be hard to determine empirically and is, therefore, measured by seniors' perceptions of the extent to which they feel there is a better mix of services.	Panel Process Quantitative Analysis

Question	Indicator(s)	Rationale	Data Sources and Methods
Are medications prescribed appropriately and are they affordable?	• Ratings of seniors and their informal caregivers of the appropriateness and affordability of medication prescribing, on a five point scale.	This indicator provides seniors' and caregivers' views of the question.	Surveys Comparisons across NHAs and to provincial average Time Trends Analysis
	• Extent of training, on an annual basis, of physicians and other care providers about medications, their use, interactions and effects.	This is a measure of the knowledge of drugs by formal care providers.	Surveys Comparisons across NHAs and to provincial average Time Trends Analysis
	• Number of problems recorded due to reference-based pricing.	Some seniors noted problems related to taking generic drugs.	Ministry Data Surveys
	• Average number of prescriptions for seniors by age and sex groups, and types of condition and disability.	This is a measure of overall prescribing practices for seniors.	Ministry Data Time Trends Analysis Comparison across NHAs and to provincial average
	• Proportion of seniors in care having moderate to severe side-effects from medications.	This is an indicator of the degree of discomfort of taking medications and may be a clinical trigger to review the client's medications.	Interviews Clinical Data
	• Out of pocket costs of medications.	This is a measure of costs to seniors of using medications.	Interviews Pharmacy Data
	• Extent of review of client's prescriptions by physicians and pharmacists.	This is a measure of how often the full range of medications prescribed for seniors is reviewed by their caregivers.	Surveys of Health Professionals Focus Groups with Clients

Question	Indicator(s)	Rationale	Data Sources and Methods
Are health services available and appropriate after reforms?	• Ratings of seniors and their informal caregivers on a five point scale of the overall effects of reforms for them, and of the availability and appropriateness of services.	This indicator provides seniors' and caregivers' views of the question.	Surveys Comparisons across NHAs and to provincial average Time Trends Analysis
	• Seniors perceptions of the major benefits and major shortcomings of reforms.	This indicator is an exploration of the pros and cons of regionalization from the perspective of seniors.	Surveys Comparisons across NHAs and to provincial average Time Trends Analysis
	• Seniors perceptions of the availability and appropriateness of services.	This is a measure of the extent seniors feel services are still available and appropriate.	Surveys Comparisons across NHAs and to provincial average Time Trends Analysis
	• Rates of service units/pop. for all types of services (i.e., are there more or fewer services after reforms?).	This is a basic measure of the resources in the health care system.	Ministry Data Time Trends Analysis and analysis across NHAs
	• Number of new types of services adopted after reforms.	This is an indicator of innovation in service delivery.	Ministry and NHA Data
	• Extent to which ancillary and socio-medical services are available before and after reforms such as: - seniors' transportation - palliative care - adult day care - assistance devices programs - friendly volunteer visitor programs - massage therapy - alarm systems - home renovations - other services	A measure of the extent to which services from other sectors have been linked to services in the health sector. Seniors need a range of services outside of health care to assist them due to their functional deficits.	Ministry and NHA Data Time Trends Analysis Comparisons across NHAs and to provincial average
	• Extent to which waiting lists for facilities, surgery, community services, and so on have been shortened, or lengthened, by type of service.	Waiting lists are an inexact measure, but it may be useful to look at trends over time.	Ministry and NHA Data Time Trends Analysis Comparisons across NHAs and to provincial average

TABLE 8: Structural Issues

Topic Areas	Question and Indicators	Data Sources and Methods
Legislation	• Does legislation exist for reforms?	Legal Analysis
	• To what extent does legislation provide a basis for clearly delineating: - goals of reform - who has what authority - accountability reporting	Legal Analysis Panel Process Inspection of Documents
	• Is legislation congruent with, and enabling of, goals of interest to seniors?	Panel Process Inspection of Documents Interviews with Officials
Governance	• How is the new system structured?	Inspection of Documents
	• To what extent do the structural arrangements at the provincial and NHA level incorporate the five best practices components for Continuing Care: - Single Entry - Coordinated Assessment and Placement - Case Management - Single Administration - Single Care Level Classification System	Panel Process Inspection of Documents Interviews
	• To what extent do structural arrangements enable better coordination of services in general?	Panel Process Inspection of Documents Interviews Focus Groups Public Dialogue
	• Does each component of the system have: - clear authority - clear responsibilities - clear boundaries on action	Panel Process Interviews Inspection of Documents
	• Does the system hold together and make sense or are there internal contradictions?	Panel Process

Topic Areas	Question and Indicators	Data Sources and Methods
Geographic Boundaries	• Does each NHA support a full range of services? • What proportion of clients are transferred between NHAs and to what extent does this present a problem?	Inspection of Documents Provincial Data Focus Groups Public Dialogue Interviews

TABLE 9: Process Issues

Topic Areas	Questions and Indicators	Data Sources and Methods
Accountability Mechanisms	• Is there a clearly identified and well defined accountability reporting system?	Panel Process Inspection of Documents Interviews
	• Is there regular, clear and structured accountability reporting to the community and to seniors from: - Ministry of Health - New Health Authority - Local Service Provider - Health Professionals	Panel Process Inspection of Documents Interviews Focus Groups Public Dialogue
	• Do accountability reporting systems conform to existing standards such as the 12 attributes of effectiveness reporting outlined by the Canadian Comprehensive Auditing Foundation?	Panel Process Inspection of Documents

Topic Areas	Questions and Indicators	Data Sources and Methods
Labour Relations and Human Resources	• Has there been disruption to staff in regard to: - transfers - salary levels - job security - union affiliation - geographic relocation	Ministry Data Inspection of Documents Interviews with Officials
	• Has reform increased or decreased the number of: - front line workers - administrative staff - middle managers - senior managers	Ministry Data Inspection of Documents Time Trends Analysis
	• Has there been an increase or decrease in salary levels for senior managers?	Ministry Data
	• Has there been a change in the proportions of professionally trained and certified staff due to reforms?	Ministry Data Time Trends Analysis
Planning	• Who is responsible for what level of planning and policy formulation as a consequence of reforms?	Ministry Data Interviews Inspection of Documents
	• Are there overlaps or conflicts in authority for planning and policy formulation between the Ministry of Health and NHAs?	Panel Process Ministry Data Interviews
	• What is the quality of the plans at the Ministry and NHA levels: - are plans public - are they clear and easy to understand - do they conform to existing standards for planning documents	Panel Process Inspection of Documents

Topic Areas	Questions and Indicators	Data Sources and Methods
Information Management	• Is relatively comprehensive information collected and computerized?	Inspection of Documents
	• Is there an existing provincial-level data base for each major type of service for client data, agency data and cost data?	Inspection of Documents Interviews
	• Do the Ministry and NHAs share the same data?	Panel Process Interviews Inspection of Documents
	• Have information systems and information dissemination improved as a consequence of reforms?	Panel Process Interviews Inspection of Documents Focus Groups
	• Who are the owners and stewards of the data?	Interview Inspection of Documents
	• Are up-to-date innovations in information technology in place or being adopted?	Panel Process Interviews Inspection of Documents
Standards and Quality Assurance	• What proportion of health care agencies, by type of agency, are accredited through a national or provincial process?	Agency and Ministry Data Time Trends Analysis Comparison to Provincial Average
	• What proportion of agencies, by type, which have been accredited, have received the highest ranking over the past three years?	Agency and Ministry Data Time Trends Analysis Comparison to Provincial Average
	• What proportion of agencies post their accreditation results for public inspection?	Agency and Ministry Data Time Trends Analysis Comparison to Provincial Average

TABLE 10: Resource Allocation

Topic Areas	Question and Indicators	Data Sources and Methods
Financing and Resource Allocation	• What method(s) or formula(s) are used for allocating resources to NHAs and service provider agencies?	Inspection of Documents
	• Are the methods consistent with current best practices and expert opinion?	Panel Process Interviews Inspection of Documents
	• Are resource allocation methods acceptable to NHAs and service providers?	Panel Process Interviews Inspection of Documents
	• Did the NHAs, agencies, experts, public and seniors have input into the process of developing the resource allocation methodology?	Panel Process Interviews Inspection of Documents
	• Do the rules for reimbursement allow clients to receive the best care possible, i.e., do NHAs encourage or discourage inter-NHA transfers due to financial incentives, and is coordination of care across NHAs enhanced or at least not impeded?	Ministry Data Interviews Inspection of Documents Time Trends Analysis
	• What is the overall quality of financial reporting? Can one obtain unit costs per unit of care, per day of care, per visit and so on? Is there a fairly detailed disaggregation of data?	Panel Process Interviews Inspection of Documents
	• Who actually pays for what? To what extent are revenues raised at the local level?	Inspection of Documents

TABLE 11: Social Political and Administrative Outcomes

Topic Areas	Question and Indicators	Data Sources and Methods
Greater Democratization	• What percentage of seniors are on the Boards of NHAs?	Inspection of Documents
	• What percentages of time spent and issues raised are on matters of relevance to seniors?	Inspection of Documents and Minutes of Meetings
	• Do seniors feel that their issues are being addressed?	Panel Process Focus Groups Public Dialogue
	• Are Board meetings public and if so how many people, on average, attend?	Participation Observation Comparison Across NHAs in Province and Across Provinces
	• Are issues of importance to seniors implemented?	Panel Process Focus Groups Surveys Public Dialogue
	• What percentage of voters turn out for the election of Board Members?	Government Data
	• How many public consultations are held per year and how many individuals participate in these consultations?	Participation Observation Comparison across NHAs in Province and Across Provinces
	• Do board members have provincial level party affiliations?	Interviews Inspection of Documents
	• Do seniors have a greater or lesser input into decision making about health care services after reforms compared to before reforms?	Surveys Focus Groups Public Dialogue Panel Process

Topic Areas	Question and Indicators	Data Sources and Methods
Acceptance of Reforms by the Public	• What percentage of the public feel that the health care system is better or much better after reforms?	Surveys Focus Groups Comparisons Across NHAs and to Provincial Average
	• What percentage of the public feel they have more input, or much more input, into health services after reform?	Surveys Focus Groups Comparisons Across NHAs and to Provincial Average
	• What percentage of the public support reforms strongly or very strongly?	Surveys Focus Groups Comparisons Across NHAs and to Provincial Average
	• What percentage of the public would agree or strongly agree that we should "go back to the way we were before reforms"?	Surveys Focus Groups Comparisons Across NHAs and to Provincial Average
All Party Acceptance of Reforms	• Is there all party agreement on reforms? What differences are there across political parties regarding reforms?	Interviews Inspection of Documents
Strategies for Regionalization	• Have the goals of regionalization changed over time as part of the planning process?	Inspection of Documents Interviews
	• What steps were taken to reduce the potential negative impacts of reforms?	nspection of Documents Interviews
	• What was the logic in determining the goals of reform?	Inspection of Documents Interviews
Implementation of Reforms	• Were reforms implemented as planned? Were there any key differences between plans and the eventual reality?	Inspection of Documents Interviews
	• How much money and time were required to implement reforms?	Ministry Data Inspection of Documents

TABLE 12: Costs

Topic Areas	Questions and Indicators	Data Sources and Methods
Costs	• What are the unit costs by type of condition, care level, and type of service?	Ministry Data Cost Accounting Time Trends analysis Comparison Across NHAs and to Provincial Average
	• What are the relative contributions of staffing, inflation and case mix to increases in costs, by type of service?	Ministry Data Cost Accounting Time Trends Analysis Comparison Across NHAs and to Provincial Average
	• To what extent have staff and resources been transferred to Regional Boards or other NHAs?	Ministry Data
	• What were the costs of planning and implementing reforms, and what benefits were received?	Ministry Data Cost Accounting Cost-effectiveness Analysis
	• How did reforms impact on the total cost of the health care system?	Ministry Data Cost Accounting Cost-effectiveness Analysis

FOOTNOTES

[1]George, M.V., Norris, M.J., Nault, F., Loh, S., and Dai, S.Y. (1994). Population Projections for Canada, Provinces and Territories: 1993 - 2016. Ottawa: Statistics Canada.

[2]Donabedian, A. (1980). Explorations in Quality Assessment and Monitoring, Volume I: The Definition of Quality and Approaches to its Assessment. Ann Arbor (Mich.): Health Administration Press.

[3]This section has been adapted from a major grant application for funding an evaluation of health reforms. Some sentences and paragraphs were written by members of the team but the bulk of the text was prepared by the author of this paper. Those who prepared the materials not originally written by this author are now Associates of the Health Network of the Canadian Policy Research Networks.

[4]Working Group on Community Health Information Systems and S. Chevalier, R. Choinière, M. Ferland, M. Pageau and Y. Sauvageau, Directions de la santé publique, Québec. (1995). Community Health Indicators. Definitions and Interpretations. Ottawa: Canadian Institute for Health Information.

[5]B.C. Ministry of Health and Ministry Responsible for Seniors. (1996). Framework for monitoring and reporting health outcomes: A guide for Regional Health Boards. Victoria: Ministry of Health and Ministry Responsible for Seniors.