

Perspectives on Home Care Data Requirements

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Members of MCHP consult extensively with government officials, health care administrators, and clinicians to develop a research agenda that is topical and relevant. This strength along with its rigorous academic standards enables MCHP to contribute to the health policy process. MCHP undertakes several major research projects, such as this one, every year under contract to Manitoba Health. In addition, our researchers secure external funding by competing for other research grants. We are widely published and internationally recognized. Further, our researchers collaborate with a number of highly respected scientists from Canada, the United States and Europe.

We thank the University of Manitoba, Faculty of Medicine, Health Research Ethics Board for their review of this project. The Manitoba Centre for Health Policy complies with all legislative acts and regulations governing the protection and use of sensitive information. We implement strict policies and procedures to protect the privacy and security of anonymized data used to produce this report and we keep the provincial Health Information Privacy Committee informed of all work undertaken for Manitoba Health.

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EXECUTIVE SUMMARY

Introduction

Manitoba has thus far relied on the Manitoba Support Services Payroll electronic data system (MSSP) for information on the province's Home Care Program. MSSP is the data system used to pay provincial home care workers and a client registry is maintained as part of it. Thus MSSP is the only system that collects standardized client-specific home care data from agencies across the province and reports the data electronically to Manitoba Health. Currently, the Regional Health Authorities (RHAs) in Manitoba are considering moving away from the MSSP system as the payroll and scheduling system for their home care workers due to its limitations. In light of these possible changes, it is timely to review the characteristics of a data system required for monitoring the delivery of home care across the province.

The Manitoba Centre for Health Policy (MCHP) was therefore asked to report on the strengths and limitations of the current MSSP data system for monitoring key aspects of the delivery of home care across the province and to make recommendations regarding how this system might be strengthened. This project was also asked to identify the key data components that any system moving away from the MSSP data system must contain.

Findings

- Approximately 10% of home care clients in 1998/99 were not recorded in the MSSP client registry and therefore data were not available on all individuals receiving home care.
- In 1997/98, approximately 23% of service data were not captured by the MSSP system or could not be used to determine who was receiving services. This serious shortcoming was largely due to: 1) block billing arrangements, which prevent attributing services to particular individuals, and 2) the provision of some home care services by outside agencies and some Rural District Health Centres that are not reported through the MSSP system.
- Despite these limitations in the MSSP home care data, it is evident that the current MSSP system is tracking 90% of those receiving home care and 80% of the home care services which are delivered. The current system is thus a potentially rich source for creating a reporting system on who is using home care and, if the identified holes were filled, the intensity (days/hours/expenditures) and type of home care services being provided.
- The major strength of the MSSP system is that comparable data are collected province-wide on 90% of home care encounters. Moreover, for monitoring purposes, home care encounters can be

linked to services received by individuals in other parts of the health care system which collect province-wide data including the Personal Care Home and hospital systems. Such data capabilities allow Manitoba Health and the Home Care Program managers to understand how home care is being used in relation to other health care services, where gaps and discontinuities in service use may exist, as well as the costs and benefits to Manitobans attributable to the home care program. This monitoring capability is essential in its own right, but also important given the rapid growth in expenditures invested in this program in recent years.

Recommendations

Given the movement towards replacement of the MSSP system, we recommend:

- The province should retain the MSSP until an adequate replacement for it is fully implemented.
- The province must require uniform reporting of home care data across all RHAs and monitor compliance.
- In a few key items where this is currently missing, adding explicit standards as to category definition and training in implementation would greatly enhance the utility of the data collected.
- High priority should be given to maintaining the current province-wide registry of home care clients.
- RHAs should be required to make regular client counts and to improve their reporting of client data where discrepancies between their reported numbers and the numbers found in the MSSP client registry (or its replacement) are found.
- A central repository for standardized home care data should be maintained at Manitoba Health; Manitoba Health should issue annual reports documenting Manitobans' access to home care across the province.

Client Information

- The collection of a small number of additional items would enhance the utility of the data for program planning and monitoring. These include marital status, living arrangement, date of PCH entry and hospital discharge if applicable, whether the sole service provided was an assessment, dates documenting the intake process and variables recording equipment and supplies.
- A minimum, standardized set of client assessment information should be collected for monitoring the health and functional status of patients admitted to the home care program across the province. This should include information on informal support and level of disability. The introduction of a new automated client assessment system in the Winnipeg Regional Health Authority (WRHA), the Minimum Data Set-Home Care (MDS-HC), is moving that region

towards collection of standardized client assessment data on all its home care clients. However, even a minimal set of electronic client assessment data is lacking in the rest of the province and is needed.

- The introduction of an electronic client assessment system in Manitoba, even in one RHA, is an important step towards providing additional useful data for program monitoring and evaluation. However, while assessment data effectively complements data currently collected by the MSSP system, it cannot substitute for MSSP-type data. Client assessment data helps to answer the question “why are services being delivered?” Such data do not however track who receives what services over what period of time.

Service Data

- In the event that the MSSP system as a whole is replaced, comparative client-specific service information, equivalent to that available through the MSSP system should be collected throughout the province at each home care encounter, i.e., what service was provided, for how long, by whom.
- The current gaps which exist in the service data due to recording and reporting practices in the Home Care Program (block care services and data not reported by outside agencies) should be filled in on a priority basis.

Conclusion

To achieve effective program monitoring, the province must require an electronic reporting system to be in place, which includes comparable, province-wide, *encounter-based*, home care data. For now, this means that the MSSP system with its client registry, must not be abandoned until a replacement system is fully integrated. Only through a common language, in the form of standardized data, can Manitoba Health assure Manitobans’ that their access to high quality home care services across the province is being monitored.

1.0 INTRODUCTION

The Home Care Program in Manitoba has experienced dramatic growth in terms of both clientele and expenditures. In 1999/2000 it was a \$149 million dollar per year program (Manitoba Health, 2000). This growth in home care is being experienced across Canada and it is expected to continue due to demographic changes in the population, a shift from institutional service provision to health service delivery in the home, and advances in the science and technology of home health care (CIHI, 2001).

Information collection for monitoring, planning and resource allocation becomes more crucial as the Home Care Program continues to expand. The task of reporting on the delivery of home care services in Manitoba is more difficult than in many provinces because Manitoba does not have a province-wide computerized home care information system.

As part of administering the Program the province has used the Manitoba Support Services Payroll (MSSP) system, a system designed to pay provincial home care workers and to maintain a client registry. Three types of home data are captured in the MSSP system: client data, employee data and time sheet information. The latter provides information on service provision at each home care encounter with a client. This system collects standardized client-specific home care data from agencies across the province and reports the data electronically to Manitoba Health.¹

In the Regional Health Authorities (RHAs) in Manitoba there is currently consideration of moving away from the MSSP system as the payroll system for home care workers. The MSSP system is not integrated with other health care sectors, in particular with acute care. This has caused problems in the accurate payment of some home care employees, for example those who also work in hospital settings. As a result, the RHAs would prefer an integrated payroll system for their employees: they are developing plans to implement several new systems for assessment, scheduling and payroll, the latter to eventually replace MSSP.

1.1 Considerations for Home Care Information System Development

In light of impending changes to the province's only home care data system, it is timely to identify the critical characteristics of a data system necessary for monitoring the delivery of home care across

¹ The MSSP system is an administrative database developed by Manitoba Health in 1998 as a payroll system for direct service workers employed by the Department of health (restructuring within Manitoba Health in 1997 resulted in these employees falling under the governance of Manitoba's twelve RHAs).

the province. From MCHP's experience, there are two quite different perspectives on what should be obtained from a home care data system: 1) that of the clients – this perspective captures data on those who are receiving services and variations across jurisdictions delivering home care services; and 2) that of the population – this perspective focuses on rates at which services are delivered to different populations across the province, and hence by necessity incorporates data on those who are not receiving services.

Based on Roos (1999), two key aspects of a population-based data system are:

- 1) A complete population-wide enumeration of encounters (of service delivery) is essential. A core set of data elements must be collected using the same definitions, province-wide.
- 2) Each encounter must identify the individual to whom service is provided and be linkable to the individual's area of residence. This ensures the service data can be tied to a specific population in order that counts of those receiving services as well as those not receiving services can be identified (typically by age and sex).

For the purpose of describing how a population uses home care services there are four critical elements for a data system:

- 1) Assessment data – an indicator of why an individual was assessed as requiring home care and who is making the assessment;
- 2) Registry information – accurate start and end dates for each home care episode keyed to the Personal Health identifier (PHIN) of the individual who receives services;
- 3) Service information – types, amount, and costs of services/resources delivered over a specified time period;
- 4) Linkage capability – the ability to link home care data to other data sources (e.g., hospital records, Personal Care Home data, pharmaceutical information, physician encounters, mortality data, and the provincial population registry).

While the first three items are self-explanatory, the fourth, linkage capability, builds on a particular strength of the health care data system in Manitoba. That is, Manitoba Health has maintained a province-wide reporting system on the use of physicians, hospitals, Personal Care Homes and pharmaceuticals. Because of the high quality and completeness of these data, it is possible for the province to assess how health care is delivered to Manitobans. The ability to link home care data to other data sets is key to identifying the characteristics of individuals who receive home care within the context of the whole health care system and the manner in which home care complements or

substitutes for other types of health care services. Linkage to the population registry provides the ability to identify those not receiving services, and hence to assess whether Manitoban's have similar access to and use of home care services regardless of where they live. In summary, these key aspects of a home care data system need to be developed and maintained regardless of what system is implemented.

1.2 Purpose of Project

It is a critical time to review: 1) the data available from the existing MSSP system, 2) determine what could be lost if RHAs move away from the existing system, and 3) assess those characteristics of existing data that need to be maintained or enhanced as part of implementing a province-wide home care information system. In a previous project entitled *A Look at Home Care in Manitoba* (Roos et al., 2001), the MSSP service data and client registry were explored to determine whether they could be used to assess home care service delivery across the province. Given MCHP's experience with this data set and the knowledge that changes in the MSSP system were imminent, MCHP was asked to report on our experience with the strengths and limitations of the current MSSP data system for monitoring key aspects of the delivery of home care across the province. Further, for this project, MCHP was asked to make recommendations regarding how this system might be strengthened, as well as identify the critical data components which any alternate system to the MSSP data system must contain. We were asked to consider this, not from the Home Care Program's perspective of data needed to deliver services, but from the perspective of monitoring the delivery of home care services to a population. Analyses of these data will be important both for the regional authorities and for Manitoba Health in order for them to understand how the system is used and to manage it.

The purpose of this project, therefore, is to evaluate available home care data and recommend which data elements are needed to permit a population-wide perspective on service delivery. This is a matter of recommending what data currently available need to be maintained as well as what additional data not currently collected are needed. At issue are the following:

- What home care information needs to be reported on an encounter basis?
- What must the RHAs routinely report to Manitoba Health to provide a province-wide accounting of the Home Care Program?
- What information currently reported through MSSP should not be lost due to revisions or implementation of other systems?

This project logically divides into four main sections:

- 1) Evaluation of MSSP Client Registry Data
 - Assessment of the strengths and limitations of MSSP data devoted to home care client registration and description
- 2) Evaluation of MSSP Service Data
 - Assessment of the strengths and limitations of MSSP data identifying the amounts and types of services delivered to clients
- 3) Evaluation of Client Assessment Data
 - Review of data collected with client assessment systems currently being implemented in Manitoba
- 4) Linkage Capabilities
 - Review of why it is critical to maintain the ability to understand home care data in the context of data on client's use of hospitals, personal care homes and other key services events

As indicated, several data sources were reviewed in an effort to define the data elements necessary in a system-wide home care information system. The greatest effort was devoted to the examination of MSSP data. In addition, home care documentation and literature surrounding data needs were reviewed.

2.0 EVALUATION OF MSSP CLIENT REGISTRY DATA

The MSSP client registry identifies many important aspects of a client's contact with home care. Information collected includes key characteristics of the client (e.g., sex, birth date and region of residence) and details about the period of time over which the client is receiving home care services (e.g., date of registration and termination). We focus on its use for describing home care clients as well as on its use for describing the Manitoba population's use, and non-use, of home care services. This section provides a review of the strengths and limitations of the MSSP client registry data that were illuminated through its use for a previous MCHP home care report, *A Look at Home Care in Manitoba* (Roos et al., 2001). For that report, the completeness and reliability of the MSSP client registry data was assessed, with methods of validation and results outlined in an appendix of the report. That appendix has been reproduced in Appendix A, and updated with other relevant details. The findings and their implications are discussed in the following sections of this chapter.

2.1 STRENGTHS

The MSSP client registry was found to be “an important and useful source of data” on Manitobans' use of home care (Roos et al., 2001, p.2). The overriding strength of the MSSP client registry is that it collects a basic set of comparable information across the province on essentially all home care users. This inclusiveness (documentation on all clients) is of critical importance for monitoring the program across geographic areas, agencies delivering care and time. Routine and consistent registration of home care clients using an identifier (called a Personal Health Identification Number, or PHIN), which is consistent across other Manitoba Health data, is an important reporting requirement that needs to be maintained even if there is movement away from the MSSP home care data system. That is, it is critical to maintain and keep current a central electronic database at Manitoba Health that contains a province-wide registry of home care clients with a few key standardized data elements.

2.1.1 Description of Home Care Clients

In general, nearly all agencies delivering home care are required to register their clients with the MSSP client registry. As a result it is possible to describe the characteristics of home care clients generally, and to compare and contrast how characteristics vary from one part of the province to another and vary over time. One of the findings of particular interest to the Home Care Advisory

Committee² was that 44% of clients were new admissions to the Program in 1998/99. This was important information relevant to the structure of case coordinators' work-loads. We also found that a higher proportion of individuals aged 0-18 and 19-44 are registered with the home care program for four or more years than individuals aged 45-74. This suggests that, although the number of home care clients under the age of 45 is relatively small, the home care program is likely to have a continuing and growing responsibility to younger clients over time.

Only the availability of a comprehensive provincial registry, tracking when clients start and conclude the receipt of services, provides this information capability. Table 2.1 outlines MSSP client registry variables utilized in *A Look at Home Care in Manitoba* (Roos et al., 2001) and the manner in which they were used to describe clients and their use of home care.

Table 2.1: Key MSSP Client Registry Variables for Client Description

VARIABLE	USE IN REPORT
Client Personal Health Identification Number (PHIN)	<ul style="list-style-type: none"> • Uniquely identified clients • Used to link client to other health care service use, (home care use after hospitalization, before PCH admission), and use before death
Birth Date	<ul style="list-style-type: none"> • Age range and average age of clients • Distribution of clients by age group
Sex	<ul style="list-style-type: none"> • Per cent of male and female clients
Client Postal Code/Municipal Code	<ul style="list-style-type: none"> • Regional distribution of clients; changes as well as current codes should be maintained
Registration and Termination Dates	<ul style="list-style-type: none"> • Duration of home care use
Program Code	<ul style="list-style-type: none"> • Used to differentiate Home Care clients from Family Services or Mental Health clients (latter two groups are also registered in the MSSP client registry)

2.1.2 Population Perspective on Home Care Use

With the existence of a registry that includes all Manitobans receiving home care, the use of home care can be looked at from a population perspective. A population perspective not only focuses on those who receive services, it also draws attention to those who do not. Thus in addition to reporting on the characteristics of those who receive services, it is possible to report on the proportion of **residents** in various areas of the province who use home care services. A population perspective enables us to make comparisons across the province, after controlling for differences in the age and

² Members of the Home Care Advisory Committee are listed in the Acknowledgements section at the beginning of this report.

sex characteristics of residents of different areas. This perspective, that is attainable with MSSP client registry data, is critical for monitoring access to home care across the province and is therefore one of the database's greatest strengths.

Using this perspective in *A Look at Home Care in Manitoba* (Roos et al., 2001), three population measures of home care use in 1998/99 were employed: the per cent of the population who were home care clients; the per cent of the population who were new home care clients; and days open (i.e., the total number of days that home care files were open) in the Home Care Program per 100 residents.

This population perspective revealed that despite the fact that there are no user fees associated with the receipt of home care, remarkably few Manitobans (2.7%) were registered in the Home Care Program in 1998/99. Closer examination of those who received home care suggests that the system to which clients are admitted based on assessed "need" for care works well. For example, while less than 2% of those aged 64 and younger received home care services, approximately one-third of those aged 85 years and older (35.7%) were receiving home care services in 1998/99. Also, those who were not married, and hence less likely to have resources at home for assisting in their care, were twice as likely to be registered with home care as those who were married.

Moreover, while there were important differences in home care use found across the RHAs, there were also many similarities. Data from the client registry was integral to the MCHP report on home care and is essential for monitoring how this service is being provided in different parts of the province. For example, in other provinces and particularly in the United States researchers have found great variation in how home care is used and have suggested that these "dramatic" variations may suggest a lack of "consensus" about their appropriate use (Welsh et al, 1996, p.327). In the US, concern over home care use resulted in major attempts at reform including an initiative labelled Operation Restore Trust that focussed on uncovering and preventing fraud and waste in home care delivery. In Manitoba we find quite a different story: about the same per cent of residents aged 75 years and older were registered with home care in Winnipeg as was true in the rural south. These measures of a population's access to and length of use of home care services provide powerful indicators of how a program functions across the province and in particular regions, while also providing a basis for benchmarking use of services.

The MSSP client registry variables utilized to calculate these population measures are the same variables outlined in table 2.1. However, this information is linked to the province's registry of all

Manitoba residents so that the results are presented in the context of how *Manitobans* use home care. Table 2.2 provides an overview of the population measures of access that were calculated in *A Look at Home Care in Manitoba* (Roos et al., 2001) and which are essential for continued reporting in order to monitor a program.

Table 2.2: Population Measures of Access Based on MSSP Client Registry Data

MEASURE	VARIABLES USED	USE IN REPORT
% of Residents who are Home Care Clients	<ul style="list-style-type: none"> • PHIN • Dates of registration & termination • Postal Code, Municipal Code • Birth Date • Sex 	Analysis by: <ul style="list-style-type: none"> • RHA • Age • Sex • Urban Income Quintile
% of Residents who are New Home Care Clients	<ul style="list-style-type: none"> • PHIN • Dates of registration & termination 	Analysis by: <ul style="list-style-type: none"> • RHA • Age • Sex • Urban Income Quintile
Number of Days Open to Home Care per 100 Residents	<ul style="list-style-type: none"> • PHIN • Dates of registration & termination 	<ul style="list-style-type: none"> • Frequency distribution of days and average number of days open to home care

2.2 LIMITATIONS

While the MSSP client registry provides fairly complete coverage of home care users across Manitoba, limitations were found to exist in the data. Limitations in the data can be categorized into two groups: 1) limitations in the existing data elements and 2) limitations in use of MSSP client registry data due to lack of data elements.

2.2.1 Limitations in MSSP Client Registry Data

2.2.1.1 Client Counts

In Manitoba, the majority of home care services are provided by direct service workers in the Home Care Program, but a number of other agencies also deliver home care services. One step in validating the MSSP data was to compare the counts of home care clients captured in MSSP against figures reported by the RHAs and tabulated by Manitoba Health which identify the number of persons registered with the Home Care Program each month. The procedure and results of this validation technique are fully outlined in Appendix A. This data check revealed that, in 1998/99, there were some regions where the case counts compiled by Manitoba Health were 10% to 14% higher than the

client registry counts in MSSP. Across Manitoba the MSSP client registry underestimated the number of clients by 10%. It was acknowledged that the monthly client counts tabulated by Manitoba Health could not be considered a “gold standard” against which MSSP data could be verified, since inaccuracies in reporting client counts to Manitoba Health were present. Nonetheless, the comparison highlighted that incomplete recording of home care clients in the MSSP client registry most likely exist. Some of these differences may result from different practices across the regions in reporting continuing care cases and in how information is entered into the MSSP database for these clients. Particularly, regions may differ in the way they report and record clients who are just receiving assessment services (that is, they are being assessed for Personal Care Home entry) but did not actually receive in-home direct services. Other differences may arise from delays in closing cases in the MSSP client registry that are no longer active, and in the accuracy with which cases are opened and closed in the MSSP client registry for cases handled by outside agencies. RHAs should be required to make regular counts and to improve their reporting of encounter data to reduce discrepancies between their reported numbers and the numbers found in the MSSP client registry (or its replacement).

In a separate analysis of data reliability, we compared the registration of clients in the client registry maintained by the Victorian Order of Nurses (VON) with the registration of clients in the MSSP client registry, focussing on the level of agreement in the data recorded independently in these two data sources (see Appendix A—Capture of VON Clients in MSSP Data). Inconsistencies between the two sources were found; 10% of the clients reported in the VON data were not found in the MSSP client registry. Conversely, it was also found that some clients, who were identified in the MSSP client registry as receiving services from VON, were not registered in the VON data set. Because the Winnipeg Regional Health Authority (WRHA) is now responsible for services that were once delivered by VON, it is expected that clients who are now receiving these services from the WRHA will be registered in the MSSP client registry. Thus this inaccuracy in client count found in the data should be resolved by this shift in responsibilities as long as the WRHA is required to do uniform reporting across all their clients.

Results from the checks in MSSP client counts reported here underscore the importance of having the capability to make comparisons across databases or with other information sources (such as the Manitoba client counts) to verify the accuracy of the MSSP data. This is an important capability that should be maintained with any future home care information system such that discrepancies in a client registry can be identified and rectified, thereby fostering confidence in the data for reports.

2.2.1.2 Termination of Home Care Episodes

Inconsistencies in the closing of home care episodes were also documented in the validation process. Home care end dates for clients registered between April 1, 1995 and March 31, 1999 were compared against PCH admission and end of coverage information (i.e., death or cancellation of health care coverage). The result of the comparisons revealed, for example, that in 1998/99, 16.5% of home care episodes were not closed upon death or PCH entry. Through linkage of data, MCHP was able to artificially close home care episodes for clients with inaccurate end dates. However, the discrepancies still exist in the original MSSP client registry and unless corrective steps are taken are likely to be perpetuated in any new system developed. Thus more timely closure of files in the MSSP client registry is needed for clients who enter PCH, die, or discontinue receiving home care services for other reasons.

2.2.1.3 Limitations in Other MSSP Client Registry Variables

A Look at Home Care in Manitoba (Roos et al., 2001) used much of the information captured in the MSSP client registry. However, additional important analyses could be done if some of the variables captured in the current system were more accurate and complete. These are described below.

Care Level. The MSSP client registry contains a variable that indicates the client's care level—a potentially important indicator for monitoring the types of clients admitted to home care across the province. Care level is to be determined at initial assessment and then at reassessment to keep it current. This care level code could be very useful as an indication of the client's level of functioning since code choices include which level the client would be classified at if in a PCH or in a hospital. If we had comparable functional status information on individuals cared for by home care equivalent to that of individuals cared for in PCH (level 1 – 4), it would be possible to make direct cost comparisons between home care and long-term institutional care. Alberta and British Columbia can currently make such comparisons. Since functional status has an impact on home care use, some routinely collected indication of clients' level of functioning would provide an important province-wide indicator of the key characteristics of clients when assessed for admission to home care.

Analyses on this variable revealed that, in 1998/99, care level of the client was completed for 51% of the clients, for another 48% of the clients it was filled out as “Care level is not applicable” and for 1% of clients a code was missing. For newly admitted clients, the proportion of clients with codes of “not applicable” rose to 53%. There is a scope of possible codes to apply to care level, therefore very

few, if any, home care clients should be coded as “not applicable”. In discussion with those knowledgeable about this data field, we concluded that care level is not reported consistently enough now to support using this field. Moreover, care level, when recorded, mostly refers to level at admission and is not revised when the client’s care level changes during a home care episode. However, a limited additional effort to ensure such data were routinely recorded would pay big dividends for program monitoring. Even if much more detailed assessment data are to be collected in some parts of the province (for example see the discussion in the next chapter of the home care assessment data which the Winnipeg office is moving to collect), even one item such as “care level”, consistently collected on all new clients across the province, would add critical monitoring capability for Manitoba Health.

Reason for Termination. Another variable that would be advantageous to have coded completely and accurately is the termination reason. This variable indicates why an individual is no longer receiving home care. Roughly 98% were filled out in the 1998/99 MSSP client registry data for clients who had a program terminated that year (table 2.3); however, 18% of these were filled using codes that are available for regions to use at their discretion—that is, the same code does not necessarily mean the same thing across all regions. The most frequent code used in this regionally-determined category was Code 25. The majority of records with Code 25 were opened and closed on the same day—likely identifying assessment-only cases. For other codes that were present, checks at MCHP indicate the coding may be fairly accurate. If completed consistently, this termination code could be used to study how home care is used before entry to PCH and before death without the necessity of linking to other Manitoba Health files. This field could also be used to identify those individuals who are referred to home care and assessed, but judged to not require services, or are assessed only for Personal Care Home entry. This is an important piece of information because assessments require a considerable investment of time by case coordinators, who are already coping with large caseloads. If there is an atypically high rate of assessments in an area, it may indicate a need to improve the intake process. Alternatively, a high rate of assessments combined with a relatively low rate of admission to the home care program may indicate more selective use of home care services and, if combined with good outcomes, might serve as a potential benchmark for other regions.

Table 2.3: Termination Reason

Termination Reason	Per cent Distribution	Comments
Recovered	26.6	
Deceased	16.4	Linkage confirms 97% died within 30 days of termination date.
Placed in PCH	11.4	Linkage confirms 95% enter PCH within 30 days of termination date.
Hospitalized	8.3	
Non-admission	2.0	Only 60% of these records are opened and closed on the same day.
Code 20, 24 or 25	17.7	These are codes which are available for the regions to use as they wish – that is, the same code does not necessarily mean the same thing across the regions
Other ³	15.2	
No code present	2.4	

Type of Referral. In 1998/99, the type of referral was recorded for only 54% of new clients while another 46% were coded as “not applicable”. If coded completely, patterns of referral would provide insight into issues of access to home care and regional variations; for example, distribution of routes of access to home care through referral by doctor, hospital, friends or family, or self-referral.

A summary of MSSP variables which were found to have limited value due to inconsistent coding but which would be useful in a home care information system if accurately coded, is provided in Table 2.4. Note that a small proportion of these discrepancies may be because we found it difficult to identify which clients received assessments only. Thus we may be including individuals who actually do not become clients; for these clients, a code of “not applicable” for care level would in fact be appropriate. In the next section, 2.2.2 Data Additions to MSSP Client Registry, we suggest that individuals who only receive assessments be clearly identified in any home care data system.

³ Other includes: no follow-up, refused further services, service limit reached, moved out of province, entered in error, services provided by other/another program, transferred to VON, service terminated, chronic care placement and inter-regional transfer.

Table 2.4: MSSP Client Registry Variables Identifying Limitations as Now Collected and Potential Uses

MSSP Variable	Current Limitations	Potential Information Gained
Care Level <ul style="list-style-type: none"> • PCH level 1 • PCH level 2 • PCH level 3 • Hospital – acute care level • Hospital – extended care level • Other facility • No facility level equivalent • Care level is not applicable 	<ul style="list-style-type: none"> • Approximately half of all clients are coded with “Care level is not applicable” • Similar discrepancy when looking at only newly admitted clients 	<ul style="list-style-type: none"> • Service use by care level • Types of clients assessed as needing care by region
Termination Date	More timely closure of files in the MSSP client registry is needed for clients who enter PCH, die, or discontinue receiving home care services for other reasons	<ul style="list-style-type: none"> • Accurate indication of length of home care use
Termination Reason <ul style="list-style-type: none"> • Recovered • Deceased • Placed in PCH • Hospitalized • Non-admission • Codes 20, 24, 25 • Other⁴ 	<ul style="list-style-type: none"> • 15.2% of records that were terminated in 1998/99 were codes which are available for the regions to use as they wish—that is, the same code does not necessarily mean the same thing across the regions • Other codes which MCHP could check look reasonably valid 	<ul style="list-style-type: none"> • Accurate identification of termination reasons • Indication of home care use before death, PCH admission, etc. • Identify cases requiring assessment only
Type of Referral <ul style="list-style-type: none"> • Self • Doctor • Hospital • Family/Friend • Other Agency • Own Agency • Referral code is not applicable 	<ul style="list-style-type: none"> • 46% of new clients were coded as “not applicable” in 1998/99 	<ul style="list-style-type: none"> • Distribution of referral sources by region • Indication of means of access
Program Code Examples: <ul style="list-style-type: none"> • Continuing Care – Home Care • VON short-term • Therapy (CTS/SCTS/ private) • Self-Managed Care 	From discussions with those knowledgeable about these data fields—it is a known problem that when a client starts a new program, the code is not necessarily entered in the client registry data if another program code is already ‘open’ in the data.	<ul style="list-style-type: none"> • Indication of programs’ use • Means of monitoring services provided • May identify when gaps in data occur (agency which does not report data)
Service Plan <ul style="list-style-type: none"> • Assisting client to move around the house • Dressing • Supervision • Nutrition • Assisting client with hygiene and skin care • Cleaning of living area • Providing personal care • Laundry 	Only present for 41% of new clients, and of these, only 29% were codes which had a corresponding label for interpretation	<ul style="list-style-type: none"> • Provides a profile of clients’ needs • Link with service data provides an indication of met and unmet needs • Province-wide data pertinent to client assessment

⁴ Other includes: no follow-up, refused further services, service limit reached, moved out of province, entered in error, services provided by other/another program, transferred to VON, service terminated, chronic care placement and inter-regional transfer.

The lack of consistency we found in the completion of certain data variables suggests that explicit standards for category definition and education on accurate coding may be beneficial. Furthermore, lack of completion of data variables may indicate that they require revision in coding or categories to choose from to reflect current situations in the Program or changes in the Program over time. Any changes to coding MSSP variables needs to be disseminated across the RHAs. Better standard definitions, continuing education on variable completion and on-going communication between the regions would improve the quality of data collected.

2.2.2 Data Additions to MSSP Client Registry

Given that MSSP is a payroll system and was not intended to be used for research or program monitoring purposes, it's no surprise that certain critical data elements that would be useful in a home care information system were not in the MSSP data. However, in the event that the MSSP system is revised or another home care system is implemented in the province to replace MSSP, the addition of several data elements would provide useful information to the Home Care Program.

Marital status is a basic and key variable routinely employed in analyses of a population's use of health care status. Marital status provides a rough indication of a client's informal support, which has been found to have an impact on home care service use. The MSSP data does not include a marital status variable, and therefore, in the report *A Look at Home Care in Manitoba* (Roos et al., 2001), marital status of home care clients had to be determined from the Population Registry. Addition of the variable to the client registry would eliminate the need to link databases to the client's status while at the same time improving the accuracy of its measurement. Another indicator of potential informal support is living arrangement, that is, whether the client lives alone or lives with others and if it is the latter, the person's relationship to the client (e.g., spouse, child, sibling, non-relative, etc). Both the marital status and the living arrangement data field would require updates as circumstances changed.

Variables that would provide an indication of home care use in relation to other health services use would also be valuable. For example, a variable that is not currently coded in the MSSP client registry but would be advantageous to have is an indication of whether home care services were started as a result of assessed need at time of hospital discharge. While "hospital" is listed under referral source in MSSP, the item was not filled in consistently and therefore was not useful. To determine patterns of home care use after hospitalization in *A Look at Home Care in Manitoba* (Roos et al., 2001), complex data linkages and data groupings needed to be performed. An indication of this reason for receipt of home care services would not only simplify the ability to evaluate aspects of care

delivery but also, once again, would improve the accuracy of the measure. Similarly, in the MCHP report, complex record linkages were needed to perform analyses on home care use before admission to a PCH. Improving the coding of the MSSP Termination Reason variable would rectify this problem, but recording the date of admission into a PCH would provide a check on both termination reason and termination date variables. For patients panelled for a PCH, information on the panel date, panel decision, etc., would be informative.

Another area that could be better identified in the data with its own code is whether individuals only received an assessment but were not found to qualify for home care and therefore did not receive services. To capture this information, dates of assessments and outcomes of the assessment (recommend home care services yes/no, PCH placement yes/no, etc.) would be key. At the minimum, a code that flagged clients who received an assessment (with no services recommended) would be desirable. As indicated previously, this information might be included as a termination code.

Calendar information such as date of request for services, assessment date and date of receiving first home care service would provide significant information about the length of the intake process and could be used to derive indicators measuring efficiency of service initiation. In addition, variables recording the type of resources/equipment (e.g. special bed, bath hoist) and supplies (e.g. total parenteral nutrition (TPN), oxygen therapy, incontinence pads) recommended each time an assessment occurs or at a minimum on the first assessment, would provide information about resources needed.

Another indicator that might be beneficial is a flag signifying if the client receives services provided through a block care arrangement. In the next chapter we discuss how block care arrangements create a gap in service information.

2.3 SUMMARY

- The MSSP client registry is the only home care database in Manitoba that collects comparable information across the province on home care clients. It provides the capability to monitor the delivery of home care services across the province.
- The population perspective that is attainable with MSSP client registry data is critical for monitoring access to home care across the province and is therefore one of the database's greatest strengths.

- It is imperative that a province-wide registry of home care clients not be lost if some areas of the province move away from the MSSP system.
- The province must make a major effort to ensure uniform reporting of home care data across the RHAs and monitor compliance.
- RHAs should be required to make regular counts and to improve their reporting of encounter data to reduce discrepancies between their reported numbers and the numbers found in the MSSP client registry (or its replacement).
- Refinements to the system (e.g. clearly identifying which clients only receive assessments, no other services) will not only improve the usefulness of the system, but may show that the registry is even more accurate than we can currently establish.
- A change in how a small number of fields are currently collected, (adding explicit standards as to category definition and training in implementation where necessary) would greatly enhance the utility of the data available: termination date, termination reason, care level, type of referral, program code and service plan.
- The addition of a small number of fields in MSSP, or ensuring their existence in a replacement system, would also enhance the utility of home care data for program planning and monitoring. These include marital status, living arrangement, home care use after hospital discharge, date of PCH entry, whether individuals only received an assessment, dates documenting the intake process, variables recording equipment and supplies, and a variable indicating if the client receives block care services.

3.0 EVALUATION OF MSSP SERVICE DATA

Any monitoring of the provincial Home Care Program should include an assessment of both the type (for example – personal care, nursing services) and intensity (hours or visits or expenditures per person per month) of services the program provides to individuals across the province. In the report *A Look at Home Care in Manitoba* (Roos et al., 2001), MCHP had planned to report on both the type and intensity of services provided per 100 residents and per client. Although the type, units (service hours) and expenditures for the great majority of home care services provided are recorded in the MSSP system, a number of issues became apparent which limited the validity of undertaking such analyses. That is, while the client registry contains information on close to 90% of the individual clients receiving home care in the province, the MSSP service data has “gaps”—it does not contain individual, encounter specific data for approximately 23%⁵ of the services delivered. With the WRHA now being responsible for those services that were formerly delivered by the VON, this gap could be reduced to approximately 16%. These gaps are created because some services delivered within the MSSP system are recorded not as services delivered to individuals but as services delivered to a group under a “block care” arrangement, and some services are not paid through MSSP (care delivered by outside agencies). Manitoba Health receives no person-specific electronic data on the type and scope of care delivered by outside agencies. This chapter reports on the implications of these limitations but also highlights the strengths and potential of the existing MSSP service data since encounter data on home care service provision could and should provide critical information for province-wide monitoring of the provision of home care services.

3.1 STRENGTHS

The MSSP service data are a rich source of information on the intensity and type of home care services provided to home care clients across the province. Regardless of gaps that exist in MSSP’s service information (discussed in later sections), many of the strengths we have described in characterizing the MSSP client registry data also apply to the MSSP service data. That is, the service data are collected on most home care clients in a standardized way, and hence provide the opportunity for programmatic comparisons in the delivery of home care services across the province.

⁵ This number was calculated for 1997/98; block care arrangements have since become more extensive, thus this number is likely to be underestimated.

Data on the type of home care service provided, by whom, and the associated cost are currently available in MSSP, *for each home care encounter*, for most home care clients (See Table 3.1 for a summary of the key service variables available in MSSP data). This rich set of data lends itself to standard comparisons across the RHAs in a comprehensive way. This encounter-based home care service information collected similarly across the province is an important data resource that currently collects over three million records per year (approximately 3,300,000). This type of coverage and detail (including costs) is not easily reproduced and should not be abandoned without putting an equivalent system in its place. What should definitely be avoided is putting different systems in place in different parts of the province. While there may be some local benefits to locally tailored systems, the loss of the ability to provide province-wide reporting and monitoring of the program cannot be treated lightly.

Table 3.1: Some Key Service Variables Available in the MSSP Service Data

VARIABLE	POTENTIAL USES
Client Personal Health Identification Number (PHIN)	<ul style="list-style-type: none"> • Uniquely identified clients • Used to link to client registry • Used to link client to other health care service use (home care use after hospitalization, before PCH admission), and use before death
Date of Service	<ul style="list-style-type: none"> • Used to identify frequency of contacts
Employee Number	<ul style="list-style-type: none"> • Uniquely identifies the employee who provided the service • Can be used to assess continuity of care, a key quality of care indicator
Amount of Time Spent on Service	<ul style="list-style-type: none"> • Time duration of visit • Used to calculate intensity measures
Pay Rate of Employee	<ul style="list-style-type: none"> • Combined with the length of the service this gives the cost of the service. • Used to calculate intensity measures
Job Classification of Employee	<ul style="list-style-type: none"> • Identifies the job classification of the employee—Home Care Attendant, Home Support Worker, Registered Nurse, Licensed Practical Nurse, Therapist etc. • Used to identify the type of service provided
Case Coordinator's Region and Staff Number	<ul style="list-style-type: none"> • Uniquely identifies the case coordinator of the client • Can be used to assess continuity of care of the case coordinators

3.1.1 Potential Applications of MSSP Service Data

If the existing gaps in MSSP data were filled (or the entire system were recreated with no gaps and with the same strengths represented by the MSSP system), several important measures for monitoring the province-wide delivery of home care could be calculated. These measures could provide comparisons of how the home care program delivers services across the RHA's, and importantly, would permit the monitoring of equity in the provision of home care services across the province. Once again, it needs to be stressed that these measures require that the system have the characteristics of the current MSSP service data—data reported electronically on worker specific delivery of home care services to every client.

A sample of the types of indicators, both client-specific and population-specific, that could be monitored include:

- Number of service days / year (per client and per 100 residents)
- Number of service units / year (per client and per 100 residents)⁶
- Number of service units / service day
- Costs of services delivered / year (per client and per 100 residents)
- Costs of services delivered / day of service
- Costs of services delivered / hour of service
- Clients actively receiving services / 100 clients registered with home care
- Clients actively receiving services / 100 residents
- Number of different nurses /100 units of nursing service

Some of these service measures could also be calculated for specific types of services based on the employee classification (e.g., nursing services, home help, etc.). As well, a comparison of the combination of services received by clients would also be possible. Much of the data to support these indicators is collected manually in the province, but until it is available in an electronic format, its usefulness limited.

The MCHP report on home care did not include analyses of the service data because of the gaps mentioned. However, because this current report is focussed on the types of data which are critical for a home care information system to collect, we felt it important that we illustrate the useful information which can be obtained from a province-wide information system which contains service

⁶ Service units refers to hours that the home care employee spends delivering services to the client—this is distinguished from time that the employee spends on other activities not directly related to a specific client, such as training.

data. Hence, examples of reports which could be built around such service measures are provided in Appendix B. These include RHA specific graphs for measures such as number of service days per client and number of service units per client, as well as number of service days and units per 100 residents. In these examples we concentrate on those aged 85 years and older as a way of focussing on a reasonably comparable group across the RHAs. Note that for all regions these figures are considered preliminary—we have not undertaken validity checks, and we are presenting the data for illustrative purposes only. While examples of costing information have not been presented in Appendix B, corresponding informative graphs could be prepared on the costs of services delivered (per year per client and per 100 residents, per day of service or by type of service). This is one of the great strengths of a payroll-based system—a large proportion of the Home Care Program’s expenditures is routinely captured in the MSSP system.

The figures presented in Appendix B not only provide examples of how valuable the MSSP service data can be in monitoring home care service delivery across the province, they also emphasize the importance of having complete service data collected. Where individual data are missing even for a minority of recipients, one can not have confidence in the comparisons. Again—these figures are presented only for illustrative purposes—but the availability of these types of data (encounter-based electronic service data) provide important potential for monitoring the equity in access to provincial services across the province—and for the RHA’s to learn from one another.

3.1.1.1 Days “Open” to Home Care is not a Proxy for Intensity.

For the MCHP report *A Look at Home Care in Manitoba* (Roos et al., 2001), we investigated the possibility of using the number of days open to home care as a proxy measure for intensity of services provided. We found that the number of days open is not a surrogate measure of intensity of services received. For individuals for whom there was at least one service record in the MSSP service data and who also had a record in the MSSP client data, we compared the number of days they were registered in the Home Care Program to the number of service days and the number of service units that they received. We found that for different individuals with approximately the same overall length of service, the number of services days that they had during that period varied widely. For example, among all individuals who had their home care file opened for a full year, 37% had only one to 60 days of service⁷ during the year, 26% had 61-180 days of service, and 37% had 181-365 days of service. Thus the correlation between the number of days open to the program and the number of

⁷ Some of these clients may have received services from other agencies for which we do not have the service data, or may have received their services through a block care arrangement.

service days was low (0.47), and the correlation between the number of days open and the number of service units was even lower (0.27). This underscores the importance of having detailed data on services provided for each home care client in order to accurately assess the intensity of services delivered to home care clients.

In the event that the MSSP system is replaced, service information, equivalent to that available through MSSP (individual based, amount of service delivered by whom) should be collected throughout the province.

3.2 LIMITATIONS

3.2.1 Limitations in MSSP Service Data

The process of reviewing and validating these data for MCHP's previous home care report uncovered two situations that resulted in gaps in the reporting system and therefore, gaps in the service information collected. These are: 1) gaps created by block care, and 2) gaps created by non-reporting of outside agencies.

3.2.1.1 Gaps Created by Block Care

The practice of block care occurs, for example, when a single home care worker provides services to several people living in a senior citizens housing complex and the worker records the services not according to who received them, but rather consolidated as one data entry. Services recorded under block care can not be attributed to an individual. Thus, many of the characteristics needed to support analyses of home care use (such as age, gender, or whether the individual was hospitalized, entered a PCH or died) can not be linked to the amount of home care services received. As well, heavy-use block care clients (for example a client recently released from hospital who receives frequent housekeeping services as well as weekly visits from a nurse and a physiotherapist) can not be distinguished from light-use block care clients (for example a client who only receives housekeeping services every two weeks). The practice of block care itself is not a difficulty, rather the problem is that the services that are delivered to many individuals are consolidated as one data entry that can not be attributed to any individual.

Block care is used in a number of RHAs in the province, and can account for large proportions of the units of services delivered. For example, block care accounted for approximately 12% of the direct MSSP units (service hours) delivered in Manitoba in 1998/99, and this figure rose to 22% in 2000/01. Since the vast majority of home care clients are not affected by block billing, filling in the gaps by

reporting client specific data on the services received by these clients should be feasible. However, without having a system that individually records services that block clients receive, it restricts the ability to use MSSP data, or any other similar data system, to assess the amount of home care services that clients receive. These gaps could be filled by electronically recording client-specific data on block care clients and by ensuring that the type of data available through the MSSP system (client specific data on types of services delivered, when, by whom) is routinely reported across the system. Repairing this deficiency in the MSSP data system or ensuring that province-wide MSSP type data (that is electronic records of the amount and type of services individuals receive on an encounter basis) are collected is essential if the province is to address questions such as how the increased expenditures on home care services are used. We recognize that the elimination of block care services would not be easy for the Home Care Program to do. Block care grew out of a need for more efficient and effective use of home care services in the face of limited resources. However, because no system of tracking services delivered to individual clients was implemented, the block care delivery approach creates a major gap in the data system and has essentially destroyed the ability to monitor the intensity and type of home care delivered. Without complete service data, comparisons between RHAs cannot be made, the types of services that are delivered across RHAs cannot be monitored, and expenditures and the effectiveness of expenditures cannot be properly evaluated.

3.2.1.2 Gaps created by Non-Reporting of Outside Agencies

Outside agencies that deliver home care may not report through the MSSP system (neither directly nor through some equivalent reporting system). This includes services⁸ delivered by some of the Rural District Health Centres and therapy services delivered by agencies such as Community Therapy Services and South Central Therapy Services. The MSSP system also does not include purchased attendant services provided for the group-shared arrangements such as the FOKUS project in Winnipeg. (Previously, services delivered by the VON were also not captured, but this gap in information should now be closed with the recent transfer of services formerly provided by the VON to the WRHA). This is a considerable gain in MSSP service information since the VON Home Help and Nursing Programs provided 10% of the total service units in Winnipeg in 1998/99. The VON Nursing Program itself accounted for 68% of the total units of nursing services in Winnipeg in 1998/99. The inclusion of VON service providers within the WRHA system should greatly reduce the amount of service data missing from MSSP, but steps should still be taken to routinely obtain electronic client-specific encounter data on services delivered by other outside agencies. Again,

⁸ Please see table A1 in Appendix A for a more comprehensive listing of agencies that deliver home care and their use/non-use of the MSSP system.

similar to problems associated with changing the reporting of care delivered to block care clients, we recognize that obtaining individual client service data from outside agencies delivering home care services will not be simple. However, without the routine reporting of individual level data, monitoring of service delivery cannot take place.

3.2.1.3 Completeness of MSSP service data

As a means of assessing the completeness of the MSSP service data, direct service units reported through MSSP were compared to total direct service units reported to Manitoba Health by the RHAs and Rural District Health Centres for 1997/98. Table 3.2 provides the results of this comparison. Winnipeg is shown twice, in two rows. The first row shows data as home care services and as the MSSP actually functioned in 1997/98 when the VON delivered a substantial proportion of home care services to Winnipeg residents but did not use the MSSP system. Because the WRHA has subsequently assumed the responsibilities of the VON, the second row for Winnipeg shows, hypothetically, what proportion of the units would be captured assuming all of the units that had been delivered in 1997/98 by the VON were to be contained in the MSSP data. Note that this assumed that these units would not be delivered via block care arrangements.

The first column of Table 3.2 shows the direct service units captured in the MSSP system in the form which lends itself directly to use in the population-based monitoring system we have described—that is, individual client based reporting on service units delivered. The fourth column shows the per cent of all units delivered to residents of this RHA that are captured in the individual client based data. As can be seen, five rural RHAs (Interlake, South Eastman, Central, North Eastman, and Nor-Man) currently capture 90% or more of home care services delivered to individual home care clients through the MSSP data. All other rural RHAs (except Churchill⁹) capture 74% or more of the home care services delivered to individuals through the MSSP system. In 1997/98, even Winnipeg was capturing the majority of its services on an individual basis (68% of service units), and if the VON workers were brought into the MSSP or an MSSP-type system, the total could potentially be 80%.

The second column of Table 3.2 reports the number of service units captured in the MSSP system under the block recording system. The column 2 units are added to column 1 units to report in Column 5 the total per cent of all home care service units recorded in each RHA under the MSSP

⁹ All services for Churchill residents are delivered through the Churchill DHC; Churchill DHC did not report service data to the MSSP system in 1997/98 (only client registration information), thus the per cent captured for Churchill is 0.

system. All of the non-Winnipeg RHAs except South Westman and Churchill report more than 90% of their services through the MSSP system, and South Westman reports 83%. Even Winnipeg captures fully 83% of its home care services through the MSSP system. This would increase to 94% if VON services were integrated.

These figures make it clear why the MSSP system offers such potential for monitoring the delivery of home care across the province. Changes in reporting procedures (such as the recording of block care services under individual identifiers and the transferring of individual based electronic data from other agencies that provide home care) would transform the MSSP system into a comprehensive province-wide population based reporting system on home care services. Any system/systems replacing the MSSP system should have as its standard the ability to exceed the proven MSSP capabilities at the population level.

Table 3.2: Direct Service Units By RHA – 1997/98

RHA	Units reported in the MSSP system		Units not reported in the MSSP system ¹⁰	Units reported in the MSSP system as a percentage of Manitoba Health Units		Total Units Delivered (as tabulated by Manitoba Health) ¹¹
	Column 1: By individual client served	Column 2: By block billing ¹²		Column 3	Column 4: By individual client served (Col.1÷Col.6)	
Winnipeg	2,925,705	633,296	722,500	68	83	4,281,501
Winnipeg (hypothetically with VON services)	3,405,835	633,296	242,370	80	94	4,281,501
Interlake	614,556	128	--	102	102	601,034
South Eastman	311,657	713	2,321	99	99	314,691
South Westman	129,157	17,127	29,252	74	83	175,536
Central	467,345	18	37,652	93	93	505,015
Brandon	102,941	27,742	4,663	76	97	135,346
Marquette	140,016	46,275	--	80	106	176,015
North Eastman ¹³	175,463	16	10,193	95	95	185,672
Burntwood ¹⁴	33,331	5,347	1,847	82	95	40,525
Parklands	340,589	115,908	--	75	100	455,425
Nor-Man	115,253	88	--	100	100	114,961
Churchill (DHC)	0	0	1,202	0	0	1,202
Manitoba	5,356,013	846,658	784,252	77	89	6,986,923
Manitoba (hypothetically with VON)	5,836,143	846,658	304,122	84	96	6,986,923

¹⁰ Because the MSSP service data captures more services units than are reported by some RHAs, the numbers in this column will not sum to the Manitoba total that is presented. The Manitoba total was found by subtracting the total number of units captured in the MSSP system from the total number of units reported for Manitoba.

¹¹ Direct service units delivered by CTS/SCTS, purchased attendants, Olsten, Central Health, VON and Rural District Health Centres have been included in the Manitoba Health numbers where appropriate (except for Hamiota DHC, located in Marquette, for which we had no numbers).

¹² Recent numbers from Manitoba Health indicate that the scope of block care is increasing in more recent years.

¹³ Lac du Bonnet DHC in North Eastman started reporting service data to the MSSP system midway through the 1997/98 fiscal year. Therefore the per cent captured may actually be higher in more recent years.

¹⁴ Leaf Rapids DHC in Burntwood started reporting service data to the MSSP system midway through the 1997/98 fiscal year. Therefore the per cent captured may actually be higher in more recent years.

3.2.2 Data Additions to MSSP Service Data

Given that MSSP is a payroll system and was not intended to be used for research or program monitoring purposes, it's no surprise that certain data elements that would be useful in a home care information system were not included in the MSSP data. However, either in the MSSP system or a replacement home care system, the addition of several data elements would provide useful information to the Home Care Program.

Because the MSSP system is payroll based, it routinely captures the biggest proportion of expenditures in the home care program. It might also be useful to capture at least the high cost supply items delivered—intravenous antibiotic therapy, total parenteral nutrition (TPN), special equipment (e.g. beds) etc. The system should capture and store an average cost for each of these items and record client specific information on who receives them. For service data originating from outside agencies, costing information should also include, in addition to the types of information that already exist in the MSSP service data, any visit fees or administrative assessment fees charged by that agency.

3.3 SUMMARY

- The MSSP service data are potentially a rich source of information on the intensity (days/hours/expenditures) and type of home care services provided across the province. Although there are gaps in MSSP's service information, service data on the vast majority of Manitobans receiving home care is currently being collected in a standardized, and hence comparable, format across the province.
- No other system is currently available in Manitoba that collects the extent of service data that is captured in MSSP. Any RHA which stops collecting MSSP data must be asked to commit to continued electronic reporting of the key MSSP client specific service data fields including the PHIN, and to fill in any gaps that currently exist.
- In the event that the MSSP system as a whole is replaced, comparable client specific service information, equivalent to that available through the MSSP system, should be collected throughout the province.
- The gaps identified in the service data (for block care services and data unreported by outside agencies) should be filled in on a priority basis.
- Validation efforts revealed MSSP service data is quite comprehensive. The inclusion now of VON data will have narrowed that gap considerably and, at this point, limited changes in reporting procedures would create the potential for a most useful monitoring system.

- While there may be compelling reasons for some RHAs to abandon the MSSP service data system, its current potential to Manitoba Health for monitoring how the \$149 million in home care funds are spent should not be underestimated. High priority should be given to maintaining and improving the type and set of data elements currently available through the MSSP system.

4.0 ADDITIONAL CONSIDERATIONS FOR HOME CARE DATA

The preceding chapters have provided an in-depth evaluation of MSSP's client registry and service data, and have highlighted the strengths of the system and data as well as some limitations that need to be addressed. This chapter supplements the discussions on strengths and limitations with additional home care information system issues. The first section of this chapter discusses data on client characteristics that can be obtained through client assessments, and the need for such data in a home care system (and currently lacking in MSSP). The second section offers further argument for maintenance of the MSSP system with examples of the benefits gained by linking home care data to other health care databases. The final section departs from discussion of data strengths, limitations and needs, and focuses on issues of data retention and routine data use.

4.1 CLIENT ASSESSMENT DATA

Examination of MSSP data revealed that key data elements were lacking in the system; their addition would improve both the comprehensiveness of the data and the ability to conduct subsequent analyses. Data that characterize client functioning should be incorporated into a home care information system. To enable a population comparison on home care use based on such a critical determinant as assessed need for the service, a home care information system should have at least a minimal set of electronically reported assessment data on clients at time of admission to the program, and at reassessment at regular intervals thereafter. The MSSP system, given its registry and payroll focussed purposes, does not provide information on home care clients' level of functioning or other indicators of need for care. The only available data element that would provide some indication of client function is MSSP's level of care variable in its client registry. As noted earlier, efforts to improve the completeness and accuracy with which this variable is coded would be required before it would be a useful indicator. Another limitation of the current system, also noted previously, is that it is not easy to determine when an individual on the client registry is there because the individual was assessed for services (either home care or PCH), but the only service received was the assessment. Since assessments represent a significant investment of resources, they should be recorded, (electronically, on an individual, encounter basis), but they should be identified as such.

The recognized need for comprehensive client-level assessment data has led to several initiatives to establish an automated home care assessment tool in Manitoba. "An automated home care tool addresses numerous service provision and program management issues by providing the framework

and mechanism for a standardized approach to home care assessment and care planning across multiple sites” (Manitoba Health, 2001, p.6). Manitoba Health envisioned benefits with the implementation of a standardized electronic client assessment tool for the Home Care Program, such as equitable resource allocation, performance measurement, objective assessments, standardized information, strategic planning and benchmarking capability. They recently undertook a pilot implementation project of InterRAI’s Minimum Data Set – Home Care (MDS-HC) (Morris et al., 1999). As a result of this pilot project, Manitoba Health plans to establish MDS-HC as the approved assessment tool throughout Manitoba. Currently, MDS-HC is being implemented in the WRHA for assessment on all new clients and Manitoba Health is over-seeing a transfer of on-going operational responsibility for MDS-HC from Manitoba Health to the WRHA.

4.1.1 Implications for a Home Care Data System

The assessment domains in the MDS-HC include socio-demographics, medication use, level of (in)dependence, cognitive functioning, disease/health conditions, psychosocial measures, and social support and living arrangements. Outside Winnipeg, home care client assessments continue to be in paper form and the data collected are less comprehensive than in the MDS-HC system. The areas of assessment covered in the Home Care Program’s paper form are present in the MDS-HC, but due to differences in question structure, response categories and coding, comparisons of new clients assessed and admitted/not admitted to the home care program across the WRHA and rural RHAs would be difficult to make. Implementation of the automated MDS-HC in Winnipeg is to be commended because it enables the collection of standardized, electronic, individual assessment information. However, unless at least a standardized subset of this information is collected routinely on non-Winnipeg residents, there will be no capability for monitoring the health and functional status of patients admitted to home care across the province.

Furthermore, the lack of a minimal set of client data may hinder national comparisons of home care programs and their clients. This would be a lost opportunity for the province to set examples for, as well as learn from, other provincial/territorial home care programs. For example, a national initiative is currently underway specifically with a focus on such an opportunity. The Canadian Institute for Health Information (CIHI) is overseeing a national project to develop a set of national home care indicators. The intent of these national indicators is to aid health regions in planning, managing and evaluating home care services within and across their jurisdictions through the use of comparable, standardized indicators (CIHI, 2001). Review of CIHI’s preliminary draft of national home care measures reveals that client-level data on functional status and health characteristics would be needed

in any Manitoba-based home care information system if national comparison is to be achieved.¹⁵ For example, three of the proposed national indicators would require information on clients' level of (in)dependence in the performance of specific Activities of Daily Living (ADL) and Instrumental Activities of Daily Living (IADL). A fourth indicator would require information on the distribution of clients by their primary diagnosis (CIHI, 2001). This once again underscores the need to consider the addition of such client-level data in the MSSP or replacement system.

Table 4.1 summarizes this minimal set of standardized client information that should be collected province-wide and the potential uses of the information. The emphasis is on the use of client assessment data to determine the need for service and the amount of service required, as well as on data that would be useful for province-wide program monitoring. The majority of this client-level information is available in MDS-HC but would need to be collected electronically outside of Winnipeg.

With a minimal amount of client assessment information in a province-wide home care information system, such as MSSP or similar, a broader profile of home care users will emerge. The following types of questions can be answered:

- Do home care clients with fewer resources (lower income or less education) and hence likely higher needs, receive more services than clients with more resources, all else being equal?
- Are clients being assessed mainly in the community or in hospital? Are there regional variations in assessment location?
- Are more clients classified as Postacute or Long-term Maintenance and how does this vary across RHAs and over time?
- Are there variations across RHAs in supporting clients with cognitive impairment or ADL impairment for longer periods at home?
- Do home care clients lack informal support or is home care supplementing informal support and how does this vary across RHAs?

¹⁵ However, caution must be exercised in interpreting interprovincial comparisons from national data in order to take account of differences in provincial policies.

Table 4.1: Client Assessment Information in a Home Care Information System

VARIABLE	POTENTIAL USE
ASSESSMENT INFORMATION	
• Date of assessment/reassessment*	• Crude indicator of duration of care
• Place of assessment: Hospital (with Manitoba Health hospital number) / Community (with postal code)*	• Identifies where assessment occurs Indicates access to home care
• Enrolment in home care: Yes/No	• Identifies clients only receiving assessment
CLIENT INFORMATION	
• Socio-demographic Information: Age, Sex, Marital Status, Living Arrangement*	• Characterizes users of home care
• Education*	• Indicator of clients' variation in level of education • Provides insight into relationship between education and home care use
• Receives Guaranteed Income Supplement	• Identifies those elderly who are totally dependent on the supplement to their old age pension • Provides insight into relationship between income and home care use
• Client Classification [†] – standardized categories, such as: - Postacute – full recovery within 30 days - Rehabilitation – duration of care less than 3 months, 3-6 months, etc. - Long-term maintenance (6 months or more) - Palliative care – pain control for terminal patients estimated 4-6 weeks - Terminal Care – unknown duration	• Indicator of why home care is required • Identifies the mix of home care clients
CLIENT HEALTH & FUNCTIONING	
• ADL*	• Indicator of level of disability among home care clients
• IADL*	• Indicator of level of disability among home care clients
• Self-perceived health status*	• Indicator of clients' health status and need for home care
• Mental status*	• Indicator of level of cognitive impairment among home care clients
• Disease diagnoses*	• Indicator of clients' health status and home care use
INFORMAL SUPPORT	
• Availability of informal support*	• To monitor if home care is used due to lack of informal support
• Amount of informal support*	• Can indicate the extent that informal support supplements home care
• Areas where support is given (e.g., ADL, IADL)*	• Indicator of where informal support can meet care needs instead of formal home care
• Willingness to provide support*	• To monitor if home care is used due to lack of informal support
CAREGIVER CHARACTERISTICS	
• Functional capacity*	• To monitor if home care is used due to inability to provide informal support

* Items found in MDS-HC

[†] The categories outlined serve as examples and are not based on a formal classification system. A different client classification item exists in MDS-HC but similar categories can be derived.

Furthermore, a minimal amount of client assessment information could provide great capability to effectively monitor use of home care through both client-based and population-based measures, particularly when combined with detailed service information. A sample of the types of client- and population-based measures that could be monitored include:

- Number of service days / year for clients with high ADL impairment
- Number of hours of service / year for clients without informal support (per client and per 100 residents aged 75 years and older)
- Costs of services delivered / year to clients with cognitive impairment (per client and per 100 residents)
- Per cent of new clients / year with high comorbidity (per 100 residents age 75+)
- Clients with IADL impairment actively receiving services / 100 clients registered with home care

It should be stressed that both the client-based and population-based measures can be calculated at not only the RHA-level but also using other regional divisions, such as sub areas of RHAs, Winnipeg/Non-Winnipeg, Northern Manitoba/Rural South, urban/rural, etc., to provide regional comparisons of home care use based on client need characteristics.

4.1.2 Limitations with Client Assessment Data

The importance of including client assessment data in a home care information system is evident in the measures outlined above, but a client assessment system alone, such as the MDS-HC, would not be a suitable replacement for the client registry and service data currently collected via the MSSP system, even if it was implemented province-wide. An assessment system such as MDS-HC collects data on a client's initial assessment and then depending upon program needs, reassessments throughout the home care episode until discharge. As a result, the data collected is cross-sectional in nature; it provides a snapshot of the client's functioning and service use at various intervals while receiving home care. This is powerful information for a home care program but it lacks the scope and detailed service and duration of use data currently available through the MSSP system. Only if reassessments were conducted at frequent, regular intervals, on all clients would the MDS-HC provide reasonably accurate data on the length of time an individual was receiving home care services, and an indication of services received. Also, even with regular reassessments, not all service use may be captured. The MDS-HC timeframe for assessing a client's formal service utilization (number of days and amount of time devoted to types of services) is in the seven days prior to assessment. The "prior 7-day" timeframe is intended to improve the accuracy and comparability of the information collected since all assessors would be using the same timeframe and since it limits the recall period. This timeframe also provides an indication of the services most frequently and heavily used by the client. At an aggregate level, the cross-sectional sample of service utilization data

captured with MDS-HC would still provide useful information, but as is evident, not nearly as useful as the complete and detailed service utilization data captured with the MSSP system at each home care encounter.

In Winnipeg MDS-HC is currently used for assessment of many new clients and reassessment of some continuing (existing) clients, as the region builds towards (re)assessment of clients with MDS-HC. Until the time when assessment using MDS-HC is inclusive of all clients in the Home Care Program, the usefulness of assessment data for program monitoring in Winnipeg will be limited.

4.2 LINKAGE CAPABILITIES

While the lack of client “need” information is a limitation of the MSSP system that should be addressed, that limitation does not detract from a particular strength of MSSP. In the introduction to this report, it was noted that a strength of the health care data system in Manitoba is the province-wide reporting system on the use of physicians, hospitals, personal care homes and pharmaceuticals and the ability to link these data together to monitor health care delivery to Manitobans. The ability to link home care data to these other datasets and to the population registry is critical for systematic monitoring of health care use and access to health services in Manitoba. The reporting capabilities afforded by data linkage is widely illustrated in *A Look at Home Care in Manitoba* (Roos et al., 2001). In that report, linking MSSP home care data to personal care home data, hospital data, mortality data and the province’s population registry provided a rich overview of home care use. That project demonstrated the power of combining the data pieces of the Population Health Information System (POPULIS) at MCHP. With the inclusion of hospital discharge data in the system, home care patterns was examined according to how many people discharged from hospital received home care, and how this varied across the province. With the system’s mortality data, use of home care services in the period before death were examined. Similar capabilities exist around assessing how successfully home care was used to maintain individuals in their own home and postpone admission to PCH. The following are examples of the information that was reported using this combined data capability of POPULIS:

- Per cent of patients receiving home care after hospital discharge
- Total home care days accounted for by clients discharged from hospital
- Per cent of clients admitted to a PCH
- Length of time on home care before admission to PCH
- Average days on home care between PCH panelling and admission
- Per cent of clients who died while receiving home care

- Length of time on home care before death
- Average number of home care days and hospital days before death
- Length of final hospital stay for home care clients dying in hospital

The availability of data to track use across all these sectors of the health system provides the capability to answer questions such as:

- *Do areas, which have closed hospital beds, show an increased availability of home care services to those discharged early from acute care institutions?*
- *Is increased use of home care services enabling individuals to remain in their home longer before entry to nursing home?*
- *Does the availability of home care enable individuals to spend more time at home and less time in institutions in the period before death? Does this vary from one area of the province to another?*
- *Do populations with higher health needs and fewer economic resources have access to home care proportionate to their needs?*

Accurate service data and cost information will also enhance the utility of the data for monitoring home care use across the province, for understanding where increased expenditures on home care are being utilized, and for projecting future needs for services and costs. The service intensity and subsequent cost of home care for particular groups of home care clients can be illustrated, for example the average units of service received by clients recently discharged from hospital in one part of the province versus another, or variations in cost of home care for clients discharged from hospital with different conditions. Significant differences in patterns of home care use in one part of the province compared to another may highlight home care management issues.

4.3 PROGRAM ISSUES TO BE CONSIDERED

Discussion of home care data to this point has highlighted the potential of the data but has only hinted at some of the logistics of data collection a home care program needs to consider. For effective program monitoring, data needs to be collected, retained for future reference and comparison, and routinely used.

4.3.1 Data Use and Retention

Several methods can assure that the home care data are reliable and valid. Routine use of the data, such as in monthly summary reports, is one simple method. Routine use of the data should be made and fed back to field staff and regional offices for review in order to maintain the integrity of the data. The processes of data collection and feedback will not only provide meaningful and timely information to staff but will flag any potential data collection problems that need to be remedied. As

well, to enhance reliability, fields that are compulsory must be clearly identified; the number of fields that are optional should be limited. From MCHP's experience in working with Manitoba Health data, unless fields are required and, more importantly, used, the data collected tend to be unreliable.

To maintain the ability to compare the data over time, files should be retained indefinitely. They might be archived at the end of each fiscal year or after three years of retention in the system. With such a data retention system, the impact of program changes can be monitored.

4.4 SUMMARY

- The MSSP system, given its purposes for registration and payroll, does not provide information on home care clients' level of functioning. A standardized set of client assessment information should be collected for monitoring the health and functional status of patients admitted to home care across the province. The MSSP system (or any replacement system) should have at least a minimal set of electronically reported assessment data on clients at time of admission to the program, and at reassessment at regular intervals thereafter, that includes information related to need such as health status, physical functioning, mental status, and informal support
- Client assessment systems, such as the MDS-HC, collect data that effectively complement the type of data currently collected by the MSSP client registry and payroll system. They will not, however, substitute for these existing systems. They do not substitute for registry data on when home care services start and end, and they do not systematically collect data on services received. Until MDS-HC assessments encompass all home care clients, both new and existing, some clients will remain unmonitored.
- The addition of home care data to POPULIS fills a gap in the ability to analyze the population's use of health care services and the relationship between health care expenditures and health. The ability to study population-based patterns of home care use adds an important dimension to understanding how the population uses the mix of health care services.
- Routine use of the data and feedback to field staff and regional offices is necessary in order to maintain the reliability and validity of the data. Furthermore, files should be retained indefinitely, possibly being archived at the end of each fiscal year or after three years of retention in the system, to ensure comparisons over time are possible.

5.0 CONCLUSIONS

The MSSP system is the only home care database in Manitoba that collects standardized, comparable client registration and service information across the province on the great majority of home care clients. For purposes of monitoring the Home Care Program as a whole, as well as making meaningful comparisons between regions on the performance of the Program over time, the availability of such data on all clients is crucial. Collection of province-wide data in any sector is difficult to achieve; therefore it is critical not to lose the existing strengths of the MSSP system.

However, the main functions of the MSSP system, payroll and scheduling, have been criticized by users for being inadequate in some respects to meet the Home Care Program's needs. The problems identified with these elements of the system have led to the current discussions underway in the province to replace the system. Such deliberations are facilitated by an assessment of the strengths and limitations of the system, so that the impact of its removal can be weighed and potential losses compensated. Given the strengths of the MSSP system for program monitoring and evaluation discussed in this report, Manitoba's Home Care Program would suffer a considerable loss of capabilities if MSSP was removed and another province-wide home care information system was not simultaneously implemented.

Province-wide home care data complements other province-wide health care services data that is available in Manitoba, such as data on hospital use or Personal Care Home use. The report, *A Look At Home Care In Manitoba* (Roos et al., 2001), demonstrated that the ability to link population-based home care data to these other similarly extensive databases is a powerful tool. Such data linkage allows Manitoba Health and Home Care Program managers to understand how home care is being used in relation to other health care services, where gaps and incongruities in service use may exist, and what benefits to Manitobans are being gained. Similarly, analysis of the population's use of health care services and the relationship between health care expenditures and health can be undertaken. This is a significant matter given that substantial public dollars are devoted annually to the Program and it is expected that these expenditures will continue to rise.

At the same time, the limitations in the MSSP client registry and service data should not be minimized. This report has outlined several gaps in the data that have an impact on its utility for analyses. However, this report has also emphasized that small refinements to the system in data collection and reporting procedures and a few additions could have a large impact on the usefulness

and accuracy of the data collected. Furthermore, the consolidation of the delivery of VON services under the auspices of the WRHA has the potential for narrowing gaps in MSSP service data considerably. As a result, service data (including cost information) on the vast majority of Manitobans receiving home care are currently being collected in a standardized and comparable manner.

The lack of assessment information on clients' health status and level of functioning is a gap that needs to be addressed. A minimal, standardized set of assessment information should be collected for monitoring the health and functional status of clients admitted to home care across the province. This void is starting to be filled in Winnipeg with the recent implementation of the MDS-HC for client assessments and will fill the void outside of Winnipeg if use of MDS-HC system expands into the rest of the province. Nonetheless, while assessment systems, such as the MDS-HC, will provide necessary client status data, limited service data from such a system can not substitute for the encounter-based service information that is currently gathered by the MSSP and that is essential to monitoring the Program.

In the event that the MSSP system is replaced, it is critical to maintain and keep current a central electronic database at Manitoba Health that contains a province-wide registry of home care clients with a few key standardized data elements. Encounter-based service information, equivalent to that available through MSSP (although the current gaps in the service data should be filled in), should continue to be collected throughout the province. In the event that only certain RHAs stops collecting MSSP data, they must be asked to commit to continued electronic reporting of key standardized MSSP client information and client-specific service data fields.

It needs to be re-emphasized that implementation of different systems in different regions of the province should be avoided at all costs if the information collected cannot be compared between the regions. Although clearly there may be local benefits to location-specific systems, the loss of the ability to provide province-wide reporting and monitoring of the program must be weighed against these local benefits. Regional diversity in home care data systems would be a considerable step backwards for the Home Care Program because currently there is the potential to have province-wide standardized comparable Home Care data. Provincial-level data is essential for program evaluation and planning.

Therefore, while there may be compelling reasons for some RHAs to abandon the MSSP system, its current value to Manitoba Health for monitoring Manitobans' access to the Home Care Program, regardless of where people live, needs to be emphasized. Who is using home care? How often? For which type of services? These are questions that need to be addressed. Ultimately, Manitoba Health and the public need to be aware of how home care funds are spent. This information should not and can not be lost. Once again, we strongly recommend that high priority should be given to maintaining or expanding the set of data elements currently collected and improving the completeness and comparability of the data available through the MSSP system on a province-wide basis. If the MSSP system must be replaced to meet the needs of the RHAs, we recommend that another province-wide home care system be put into place prior to any replacement so that the critically important province-wide home care data are not lost.

Appendix A: Completeness and Reliability of MSSP Data

One of the primary purposes of the MCHP report on home care, *A Look at Home Care in Manitoba* by Roos et al. (2001), was to determine the extent to which pertinent information on the use of home care services in Manitoba can be obtained from MSSP files. This appendix was included in that report, and has been updated with other relevant details.

In undertaking the evaluation, MCHP researchers reviewed portions of the MSSP data from 1995/96 to 1998/99 (the most current year of data available at that time). MCHP also reviewed components of the client and employee databases and the time-sheet database. In addition, MCHP reviewed the self-managed care and the family-managed care information. Data from the VON was also reviewed; however, data from other agencies that deliver home care (including Community Therapy Services and South Central Therapy Services) were not included.

Completeness of data:

A number of agencies in addition to the Manitoba Home Care Program deliver home care services in the province. These agencies are identified in Table A1, along with information on the extent to which clients of each agency are likely to be included in the MSSP client registry and the extent to which services that these clients receive are likely to be included in the MSSP service data. In general, almost all agencies delivering home care are required to register their clients with the MSSP client registry. Hence, the MSSP client registry data can be used to provide a reasonably complete picture of the delivery of home care across the province¹⁶. The degree to which the counts we obtain on the number of clients correspond to the counts prepared elsewhere, is reviewed in the subsequent section *Identifying Clients*. However, not all agencies report services delivered to the MSSP service data base. The degree to which this affects the completeness of the service data is reviewed in section 3.2.1 *Limitations in MSSP service data*.

¹⁶ The MSSP data do not include home care information on residents living in First Nations communities whose health care needs are the responsibility of the federal government.

Table A1: The Utilization of the MSSP Client Registry Data and MSSP Service Data by Home Care Providers in Manitoba

Agency	Explanation/Notes	In MSSP client registry data?	In MSSP service data?
Manitoba Home Care Program	<ul style="list-style-type: none"> MSSP is used as a payroll system for direct service workers employed by the Department of Health (Home Care workers became employees of the RHAs in 1997) 	<ul style="list-style-type: none"> Yes 	<ul style="list-style-type: none"> Yes, with caution—in 2000/2001, 22% was recorded as block care
Victorian Order of Nurses (VON)	<ul style="list-style-type: none"> Previously, most nursing services and a small portion of home support services in Winnipeg were contracted to an outside agency—the VON. The VON provided long-term nursing and home-help services, and co-ordinated and delivered short-term home care services for durations of up to 60 days. In 2001 these services were transferred to the WRHA 	<ul style="list-style-type: none"> Prior to 2001 – yes, with caution¹⁷ After 2001 – probably¹⁸ 	<ul style="list-style-type: none"> Prior to 2001 – No After 2001 – probably¹⁹
Therapy Services	The primary provider of therapy services in the province is Community Therapy Services. South Central Therapy Services provides therapy in one RHA. A few RHAs provide therapy through other sources (contracted with private therapists or agencies).	Yes	No
Central Health	Back-up service contract for Winnipeg	Yes	No
Self-managed care and family-managed care programs	Allow the client to take responsibility for directly managing his or her own non-professional health services.	Yes	No - MSSP data contains biweekly records of monetary amounts given to clients.
Olsten Health Services	Under contract with Manitoba Health, effective May 1997 to November 1998	Yes	Yes – recorded in a separate file
Rural District Health Centres	Designated by the province to deliver home care services in six regions in Manitoba: <ul style="list-style-type: none"> Lac du Bonnet (North Eastman) Leaf Rapids (Burntwood) Deloraine and Melita (South Westman) Churchill Hamiota (Marquette) Seven Regions Health Centre, Gladstone (Central) 	Not required to register clients with the MSSP system in the past. More recently, they have been registering their clients with the MSSP system	Rural District Health Centres are not required to use the MSSP system for recording service data, thus many do not report services.
Block Care	Combined scheduling of direct services where a number of Home Care clients are situated in close physical proximity, for example in senior housing complexes	Yes	Recorded under temporary file numbers.
Group-shared-care arrangements	The MSSP system does not include the purchased attendant services provided for the group-shared-care arrangements, such as the FOKUS projects and 1010 Sinclair	Yes	No
Home Care offices in 4 Winnipeg Hospitals	The Home Care offices in four of the Winnipeg hospitals also co-ordinate cases. Unless these clients were receiving services from Home Care staff paid through the MSSP system, they were not registered in the MSSP client registry until mid-1998.	<ul style="list-style-type: none"> Prior to mid-1998: maybe – see note. After mid-1998: yes 	<ul style="list-style-type: none"> Prior to mid-1998: maybe – see note. After mid-1998: yes

¹⁷ VON regularly transferred a file to the MSSP system to register these clients. Thus clients of VON should have been registered with the MSSP client database and hence available for analysis. The extent to which they were is examined in more detail below.

¹⁸ Because the WRHA is now responsible for services that were once delivered by VON, it is expected that clients who are now receiving these services from the WRHA will be registered in the MSSP client registry, greatly improving the potential for uniform collection.

¹⁹ Because the WRHA is now responsible for services that were once delivered by VON, it is expected that the services will now be captured in the MSSP service data—however some of these services could potentially now be delivered via block care, and recorded as such.

Identifying Clients:

Given the number of agencies other than the Manitoba Home Care Program that provide home care services, it was imperative to determine whether the MSSP data can be used to accurately assess the use of home care in the province – in general and for cross-RHA comparisons. Manitoba Health tabulates the number of persons registered with the Home Care Program at month-end. These figures are compiled from reports of numbers of Continuing Care clients sent monthly to Manitoba Health from each RHA. Our working group suggested that the RHAs are knowledgeable about the various arrangements with different delivery agencies that exist in each area. It was suggested that we could use these figures sent by the RHAs as our standard. We attempted to replicate these figures using the computerized home care registry maintained as part of the MSSP data system. To see how closely our analyses using data from the home care registry approximated what Manitoba Health reported after compiling data from various sources, we report the per cent difference between the MSSP numbers and the Manitoba Health numbers.

Table A2 shows the Manitoba Health Continuing Care numbers by RHA and month for 1998/99, the numbers from the MSSP client registry files, and the per cent difference. It was found that across Manitoba, the home care registry underestimated the number of clients by 10%. Some of this discrepancy may be due to assessments being recorded differently in some RHAs. The discrepancies varied by RHA—the number of clients in Winnipeg and Interlake were underestimated the most—by 14% and 11% respectively. In 1998/99 the client information captured for Central, Marquette, North Eastman, Parkland and Burntwood is very good—the average monthly difference for these regions ranges from -0.87% to +2.27% of the Manitoba Health Continuing Care numbers. In 1998/99 the client information was adequately captured for South Eastman, Brandon, South Westman and Nor-Man—the average monthly difference for these regions ranges from -5.99% to -6.95%. Churchill appears to be a particular problem—there is a discrepancy more than 60% (although the actual numbers are very small—13 clients in the MSSP client data versus the 8 reported).

Table A2: Number of Persons Registered with Home Care at Month's End by RHA - Comparison for 1998/99

Manitoba Health Continuing Care case counts
MSSP Client Registry data case counts
% difference

Region	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Average
South Eastman	811	806	814	801	806	767	790	800	801	786	797	806	799
	763	751	747	746	755	732	743	746	749	735	751	777	750
	-5.92	-6.82	-8.23	-6.87	-6.33	-4.56	-5.95	-6.75	-6.49	-6.49	-5.77	-3.60	-6.15
Central	1,157	1,150	1,273	1,233	1,236	1,243	1,258	1,257	1,249	1,253	1,264	1,272	1,237
	1,233	1,234	1,235	1,252	1,268	1,258	1,275	1,269	1,267	1,265	1,284	1,302	1,262
	6.57	7.30	-2.99	1.54	2.59	1.21	1.35	0.95	1.44	0.96	1.58	2.36	2.07
Brandon	621	641	651	665	678	619	593	605	601	580	594	569	618
	551	565	577	600	618	595	570	573	579	561	565	545	575
	-11.27	-11.86	-11.37	-9.77	-8.85	-3.88	-3.88	-5.29	-3.66	-3.28	-4.88	-4.22	-6.85
South Westman	664	657	605	617	624	615	630	634	638	600	611	633	627
	563	569	574	585	595	591	600	603	607	581	593	609	589
	-15.21	-13.39	-5.12	-5.19	-4.65	-3.90	-4.76	-4.89	-4.86	-3.17	-2.95	-3.79	-5.99
Winnipeg	12,092	12,249	12,352	12,302	12,455	12,665	12,787	12,812	12,776	12,903	12,972	13,176	12,628
	10,436	10,503	10,660	10,683	10,674	10,824	10,930	10,955	11,015	11,005	11,128	11,274	10,841
	-13.70	-14.25	-13.70	-13.16	-14.30	-14.54	-14.52	-14.49	-13.78	-14.71	-14.22	-14.44	-14.15
Marquette	592	604	626	624	621	664	658	685	676	673	668	676	647
	637	647	665	663	668	659	658	677	668	661	661	665	661
	7.60	7.12	6.23	6.25	7.57	-0.75	0.00	-1.17	-1.18	-1.78	-1.05	-1.63	2.27
North Eastman	582	573	580	575	556	576	560	570	587	585	588	574	576

Region	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Average
	563	565	579	582	562	577	569	564	572	565	558	569	569
	-3.26	-1.40	-0.17	1.22	1.08	0.17	1.61	-1.05	-2.56	-3.42	-5.10	-0.87	-1.15
Interlake	1,569	1,596	1,562	1,593	1,601	1,571	1,567	1,598	1,581	1,573	1,583	1,524	1577
	1,367	1,382	1,371	1,392	1,412	1,409	1,407	1,418	1,415	1,400	1,416	1,364	1,396
	-12.87	-13.41	-12.23	-12.62	-11.81	-10.31	-10.21	-11.26	-10.50	-11.00	-10.55	-10.50	-11.44
Parkland	1,107	1,129	1,134	1,137	1,159	1,162	1,172	1,173	1,168	1,178	1,183	1,176	1,157
	1,095	1,115	1,119	1,127	1,155	1,152	1,160	1,157	1,162	1,174	1,176	1,166	1,147
	-1.08	-1.24	-1.32	-0.88	-0.35	-0.86	-1.02	-1.36	-0.51	-0.34	-0.59	-0.85	-0.87
Burntwood	111	120	117	120	129	141	129	121	124	121	132	143	126
	108	117	117	125	132	131	129	133	128	124	133	139	126
	-2.70	-2.50	0.00	4.17	2.33	-7.09	0.00	9.92	3.23	2.48	0.76	-2.80	0.65
Nor-Man	302	306	313	320	321	337	317	310	326	345	346	373	326
	274	283	290	301	304	317	302	296	305	324	322	323	303
	-9.27	-7.52	-7.35	-5.94	-5.30	-5.93	-4.73	-4.52	-6.44	-6.09	-6.94	-13.40	-6.95
Churchill	6	7	6	6	6	6	9	11	12	9	9	9	8
	10	11	11	11	11	12	14	16	16	15	15	13	13
	66.67	57.14	83.33	83.33	83.33	100.00	55.56	45.45	33.33	66.67	66.67	44.44	65.5
Manitoba	19,614	19,838	20,033	19,993	20,192	20,366	20,470	20,576	20,539	20,606	20,747	20,931	20,325
	17,600	17,742	17,945	18,067	18,154	18,257	18,357	18,407	18,483	18,410	18,602	18,746	18,231
	-10.27	-10.57	-10.42	-9.63	-10.09	-10.36	-10.32	-10.54	-10.01	-10.66	-10.34	-10.44	-10.30

This analysis was repeated for each fiscal year 1995/96 to 1998/99 (Tables A3 and A4), to determine how well the client information was being captured over time and to determine the confidence with which we could detect patterns over time (1995/96 to 1998/99). The average difference across the whole province was -7.5% in 1995/96 and increased to -10.3% in 1998/99. The per cent over- or undercounted varied in each region over time. These comparisons are complicated by the change to RHA regions at the beginning of 1997/98—the only numbers reported by Manitoba Health prior to this change are for regions with their pre RHA boundaries. Using the pre RHA boundaries in 1995/96 and 1996/97, the differences were less than 10% for Central, Westman, Parkland, Thompson and Nor-Man. For Eastman, Winnipeg and Interlake the differences were less than 13% for 1995/96 and 1996/97. Using the RHA boundaries in 1997/98 and 1998/99, the differences were less than 10% for South Eastman, Central, South Westman, Marquette, North Eastman, Parkland, Burntwood and Nor-Man. For Brandon, Winnipeg and Interlake the differences were less than 15% for 1997/98 and 1998/99. With the small numbers, Churchill data are unreliable over the whole period.

Some of these differences may result from different practices across the regions in reporting continuing care cases and in how information is entered into the MSSP database for these clients. Particularly, regions may differ in how they report and record clients who are just receiving assessment services (that is, they are being assessed for Personal Care Home entry) but did not actually receive in-home direct services. Other differences may arise from delays in closing cases in the MSSP data that are no longer active (due to PCH placement or death of the client), and in the accuracy with which cases are opened and closed in the MSSP client data for cases handled by outside agencies. As part of our analyses in *A Look At Home Care in Manitoba* (Roos et al., 2001) we “cleaned up” the MSSP data files by “closing” a case at the date an individual entered a Personal Care Home or died.

Except for Interlake and Winnipeg (where the differences are in the 11-14% range) the discrepancies were 10% or less for the most recent fiscal year. Thus, we decided that the data are of reasonable accuracy to support a descriptive study of how home care services are accessed across the province.

Table A3: Reliability Over Time 1995/96 to 1996/97

Pre-RHA		
Pre-RHA	Average % difference in 1995/96	Average % difference in 1996/97
Eastman	-12.34	0.97
Central	-6.84	-7.09
Westman	-2.65	-3.75
Winnipeg	-8.17	-11.78
Interlake	-9.20	-11.21
Parkland	-1.43	-2.58
Thompson	-4.47	-4.70
Nor-Man	-9.00	-6.39
Manitoba	-7.54	-9.35

Table A4: Reliability Over Time 1997/98 to 1998/99

RHA		
RHA	Average % difference in 1997/98	Average % difference in 1998/99
South Eastman	-7.45	-6.15
Central	1.96	2.07
Brandon	-11.42	-6.85
South Westman	-3.23	-5.99
Winnipeg	-12.21	-14.15
Marquette	7.54	2.27
North Eastman	-9.57	-1.15
Interlake	-11.73	-11.44
Parkland	-1.11	-0.87
Burntwood	5.12	0.65
Nor-Man	-4.66	-6.95
Churchill	7.67	65.6
Manitoba	-9.28	-10.30

Capture of VON Clients in MSSP data:

In a separate assessment of data reliability, we compared the registration of clients in the client registry maintained by the VON with the registration of clients in the MSSP data set, focussing on the level of agreement in the data recorded independently in these two sources. Routine comparisons had not been made across these two data sets previously. Our comparisons focussed on the 1998/99 fiscal year data, although similar results were found for earlier years.

Ten per cent of the clients recorded in the VON data whom we expected to find registered in the MSSP system were not so registered. This level of missing data would be consistent with the figures reported in the reliability section of the deliverable identifying the under-reporting of Winnipeg clients in the MSSP data system. Note this can not be due to individuals receiving private home care services from VON because only data for VON Winnipeg (which supplies nursing services for Winnipeg residents under contract with Manitoba Health) were available for this comparison. The data for VON Manitoba, which offers private services, were not reviewed. Our working group speculated that the majority of these cases were short-term home care clients originating from hospital, but, due to reporting systems, were not registered in the MSSP data. Further analysis supported this—60% of the missing cases originated from hospital, and these missing clients tended to be younger than average with shorter days open than the VON clients who were captured in the MSSP system.

Twenty per cent of the individuals who were identified in the MSSP data as receiving services from VON only were not recorded in the VON data set. This lack of correspondence may have occurred for several reasons including inaccurate coding or the inability of Manitoba Health to link across the two files. This discrepancy only affects the validity of the data if the 20% identified in the MSSP data as receiving services from VON were really not receiving home care services. This seems relatively unlikely.

Finally, for those individuals found in both the VON and the MSSP data set, we found very good agreement on the data recorded in both places: over 80% of the records agreed exactly on the dates at which service began and ended, and any discrepancies which occurred tended to be small.

Because the Winnipeg Regional Health Authority (WRHA) is now responsible for services that were once delivered by VON, it is expected that clients who are now receiving these services from the WRHA will be registered in the MSSP client registry. Thus this inaccuracy in client count found in

the data should be resolved by this shift in responsibilities as long as the WRHA is required to do uniform reporting across all their clients.

Appendix B: Illustrative Examples of Service Intensity Measures

The MCHP report on home care (Roos et al., 2001) did not include analyses of the service data because of the gaps mentioned. However, because this report is focussed on the types of data which are critical for a home care information system to collect, we felt it important that we illustrate the useful information which can be obtained from a province-wide information system which contains service data. Hence, examples of such service measures are provided in this appendix. It should be noted that we have included all RHAs except Churchill²⁰ in the graphs—even those RHAs for which our review indicated that service data were not comprehensively captured in the MSSP system. RHAs for which we believe we have greater than 90% coverage are presented as black bars, and areas for which the capture of service data is less than 90% are presented as white bars. Note that for all regions these figures are considered preliminary—we have undertaken no real validity checks, and we are presenting the data for illustrative purposes only.

Figure B1²¹ illustrates the per cent of clients aged 85 years and over in the MSSP client registry who have at least one record in the MSSP service data. We are focussing on this group because our previous report established that across the province fully 36% of this age group were clients of home care. On the whole, regions that we expected to have fairly complete coverage in the MSSP service data did—for areas where we expected to capture greater than 90% of the services delivered, between 75% and 88% of their clients received at least one service in the MSSP service data. The clients who did not receive any services according to the MSSP service data likely included individuals who received assessments only, individuals who received care only through agencies that do not submit service data to the MSSP system and individuals who received services through a block care arrangement. For the regions where we expected to have fairly low coverage using the MSSP service data only between 48% and 68% of their clients received one or more service(s) in the MSSP service data, with the exception of Burntwood where the proportion was 94%.

²⁰ Churchill is excluded from all graphs because no service data are contained in the MSSP service data base for this region.

²¹ Where appropriate, the rates presented in the graphs have been directly adjusted to reduce bias in making comparisons across regions.

Figure B1: Per Cent of Clients with One or More Services, Ages 85+, 1998/99
 Black bars indicate regions with near complete service data; white bars indicate areas for which service data is incomplete

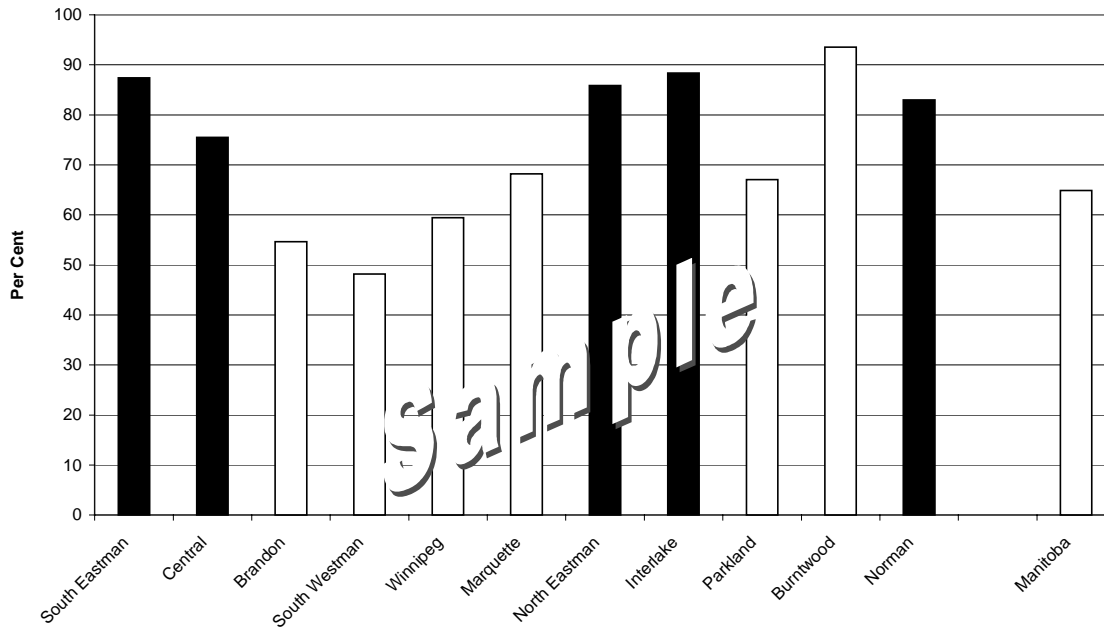


Figure B2 shows the number of service days per client aged 85 years and older in 1998/99, and figure B3 shows the number of service units per client in 1998/99. We limited both of these analyses to those clients who received at least one service. Having information on days per client and service units per client provides different perspectives on delivery of service. For example, Central RHA seems to provide somewhat more days of home care per client than South Eastman—but Central delivers significantly fewer units per client.

Figure B2: For Clients with 1+ Service, Number of Service Days per Client in 1998/99, Ages 85+

Black bars indicate regions with near complete service data; white bars indicate areas for which service data is incomplete

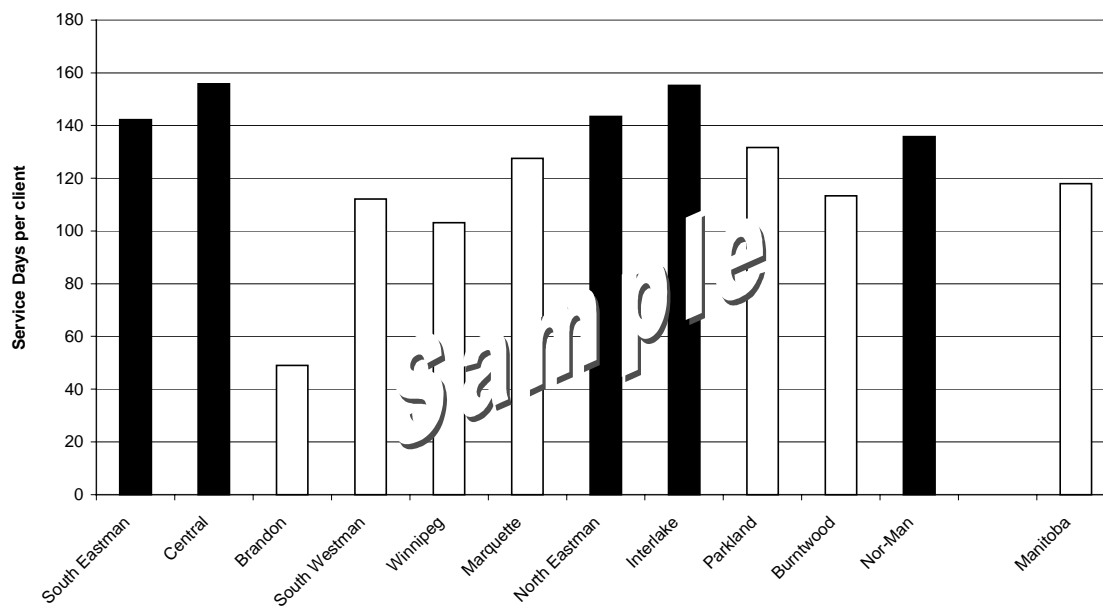


Figure B3: For Clients with 1+ Service, Number of Service Hours per Client in 1998/99, Ages 85+

Black bars indicate regions with near complete service data; white bars indicate areas for which service data is incomplete

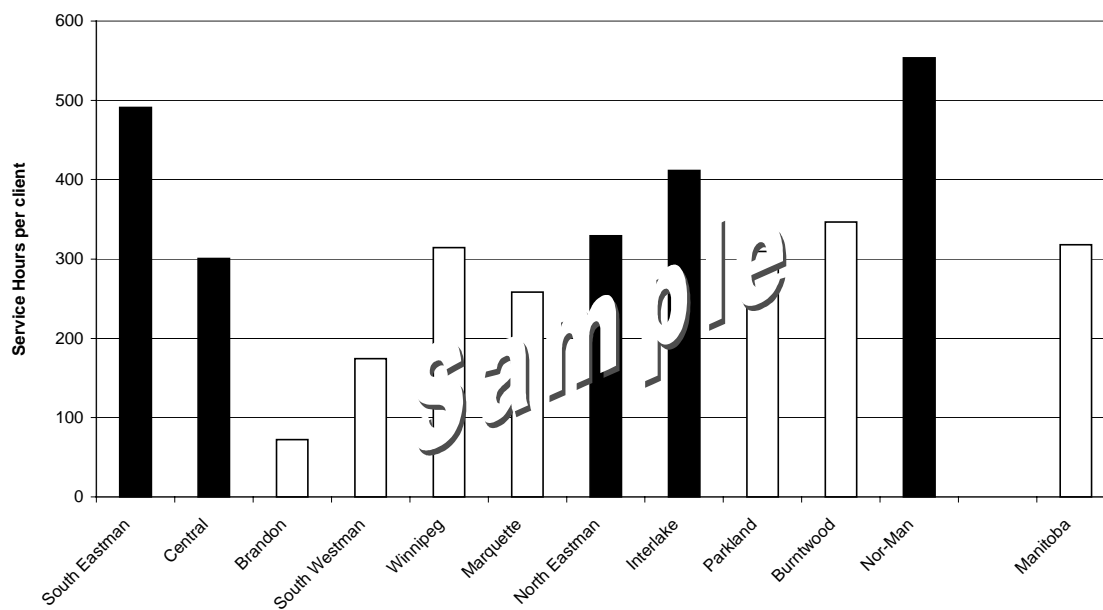


Figure B4 shows the per cent distribution of the number of service days per client for clients aged 85 years and older who received at least one day of service. This graph presents only regions for which we believe we have greater than 90% coverage. This enables one to see that the regions actually provide quite similar service levels (in terms of days per client) to the elderly clients who are registered in the Home Care Program. Figure B5 shows the per cent distribution of the number of service units per client (ages 85 and older) who received at least one day of service. From Figures B4 and B5 we can see that Central and South Eastman deliver care differently—Central supports a higher proportion of their clients for 181 to 365 days during the year than South Eastman (42% versus 33%), but South Eastman supports a higher proportion of their clients for considerable accumulated service units (22% of South Eastman clients are supported for 640 units or more during the year, versus 12% in Central).

Figure B4: For Clients Ages 85+ with 1+ service, Per Cent Distribution of Number of Service Days per Client, 1998/99

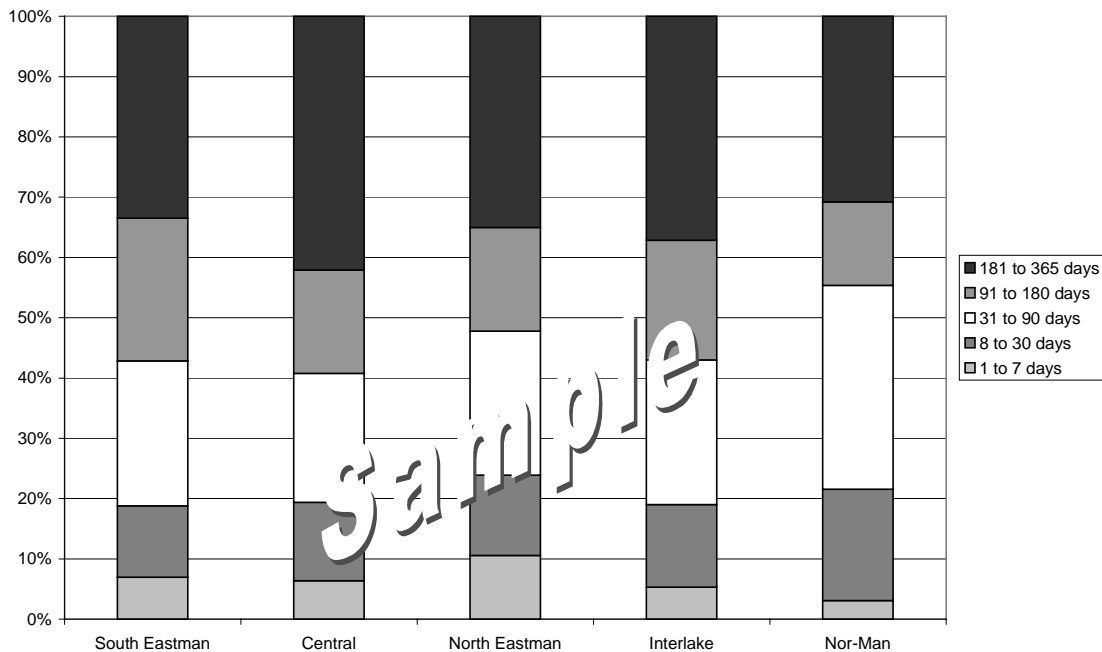
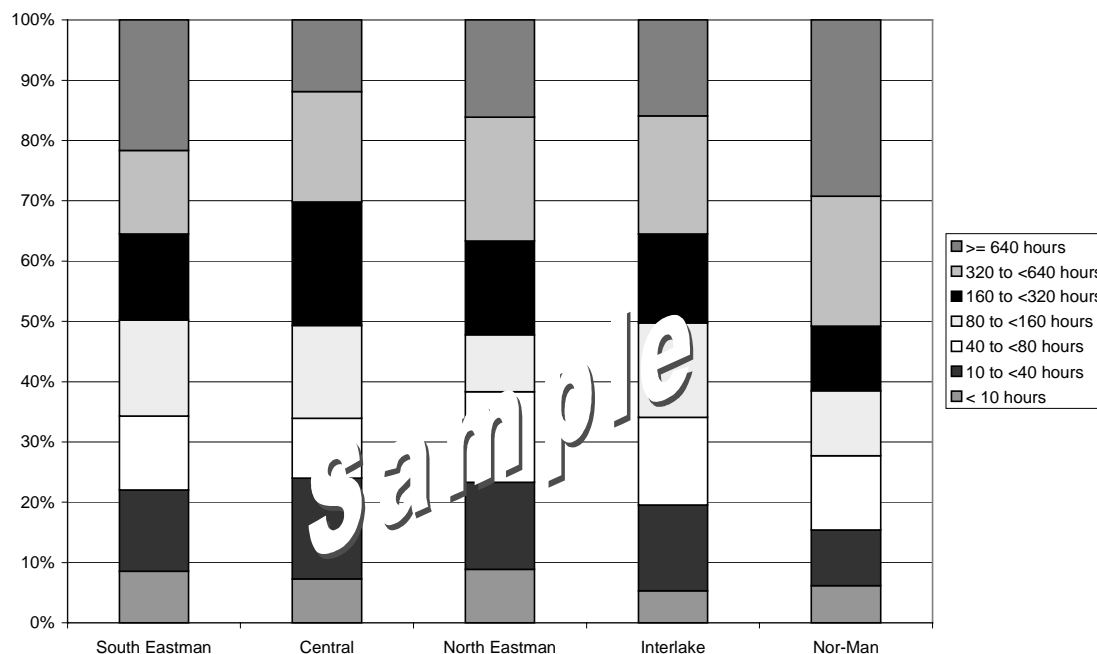


Figure B5: For Clients ages 85+ with 1+ Service, Per Cent Distribution of Number of Service Hours per Client, 1998/99



Figures B6 to B8 provide a population perspective—focusing attention on those who do not receive services, as well as those who do. Figure B6 presents the per cent of residents ages 85 and older who received one or more service in 1998/99. Figure B7 presents the number of service days per 100 residents while Figure B8 presents the number of service units per 100 residents ages 85 and older. Figure B8 raises some interesting questions about delivery of home care services to elderly residents of Central RHA compared to South Eastman RHA—that is, South Eastman’s elderly residents appear to receive more than twice as many hours of home care per capita than do Central residents. This is because Central has fewer residents receiving home care services (Figure B6) and because they receive many fewer hours per client than do South Eastman clients (Figure B3). Interestingly, there are smaller differences in days per client or per resident across the two areas (Figures B2 and B7).

Figure B6: Per Cent of Residents with 1 or More Service, Ages 85+, 1998/99
 Black bars indicate regions with near complete service data; white bars indicate areas for which service data is incomplete

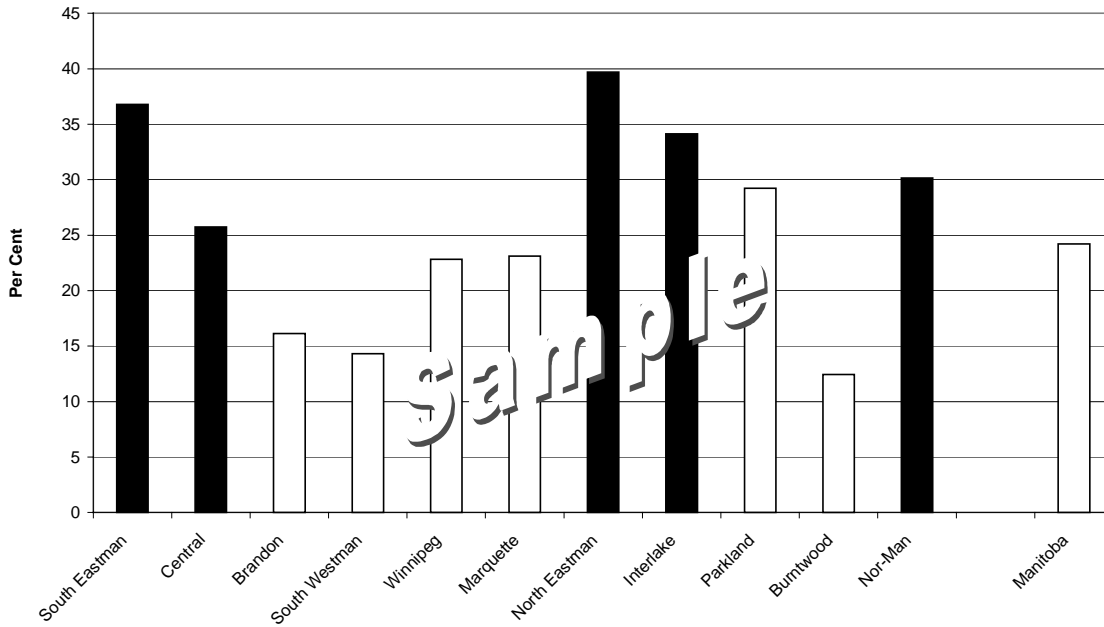


Figure B7: Number of Service Days per 100 Residents in 1998/99, Ages 85+
 Black bars indicate regions with near complete service data; white bars indicate areas for which service data is incomplete

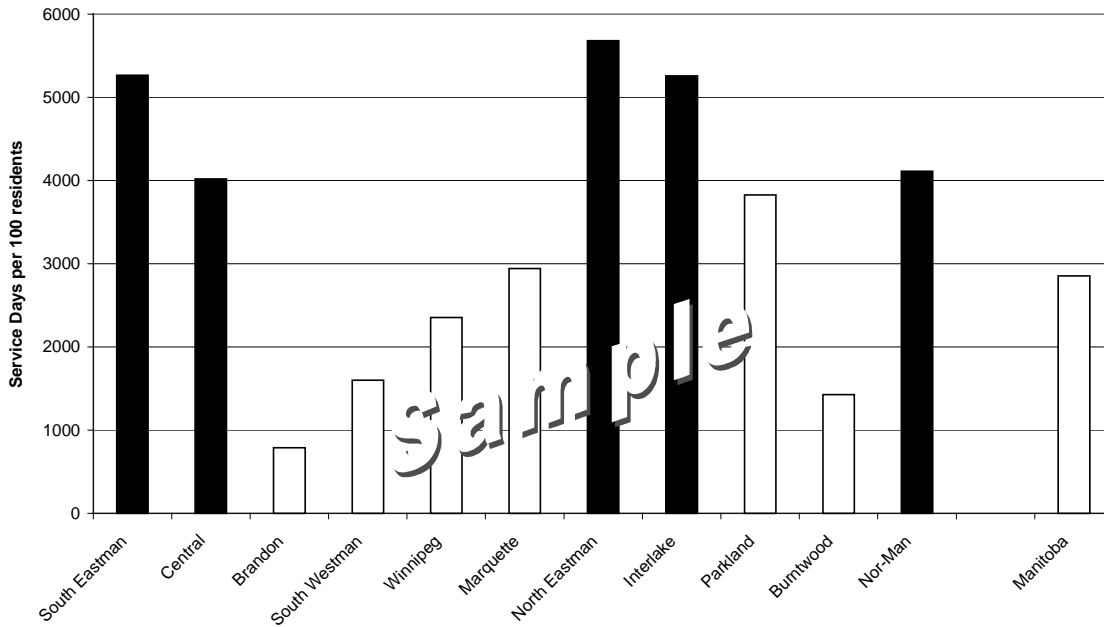
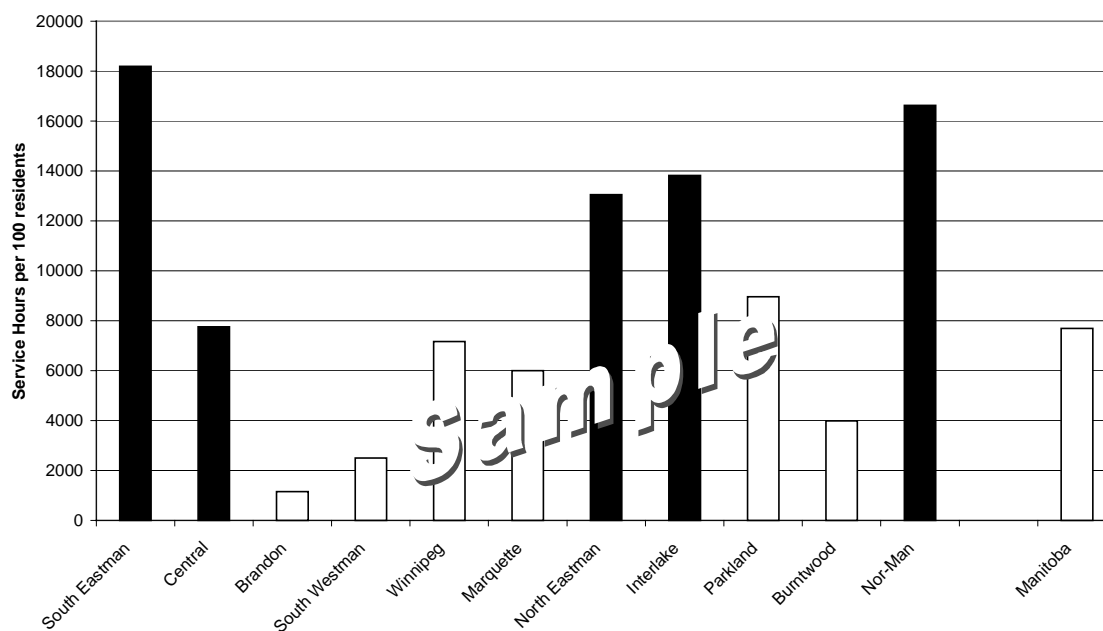


Figure B8: Number of Service Hours per 100 Residents in 1998/99, Ages 85+
 Black bars indicate regions with near complete service data; white bars indicate areas for which service data is incomplete



These figures not only provide examples of how valuable the MSSP service data can be in monitoring delivery of home care services across the province, they also emphasize the importance of having complete service data collected. Where individual data are missing even for a minority of recipients, comparisons are not possible.

Again—these figures are presented only for illustrative purposes—but the availability of these types of data (encounter-based electronic service data) provide important potential for monitoring the equity in access to provincial services across the province—and for the RHAs to learn from one another. For example, is Central’s practice which sends home care workers fairly frequently but for fewer hours equally efficient as South Eastman’s in keeping their elderly residents comfortably at home?

While examples have not been presented here, corresponding informative graphs could be prepared on the costs of services delivered (per year per client and per 100 residents, per day of service or by type of service). This is one of the great strengths of a payroll-based system—a large proportion of the Home Care Program’s expenditures is routinely captured in the MSSP system.

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