NL Health
Services

MIS Standards, Workload Measurement and
Statistical Data Collection

Reference Guide for Nutrition Services

April 2023

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Introduction

Purpose

This reference guide provides users with information regarding the Management Information Systems (MIS) Standards and their application to the discipline specific area of service in Newfoundland and Labrador Health Services (hereafter referred to as NLHS).

MIS Standards

The Standards for Management Information Systems in Canadian Health Service Organizations (MIS Standards) are published by the Canadian Institute for Health Information (CIHI). The MIS Standards are a set of national standards for collecting, processing, and reporting of financial and statistical information on the day-to-day operations of a health service organization. Originally developed for hospitals, the MIS Standards have expanded over the years to include all types and sizes of health organizations. The MIS Standards specify:

- what data to collect
- how to group and process data
- how to analyze and use the data to support management functions such as evaluation, control, budgeting, planning and quality initiatives (turning data into information)

Core components of the MIS Standards are:

- chart of accounts
- accounting principles and procedures
- workload measurement systems
- indicators
- management applications and
- glossary of terms

The primary goal of the MIS Standards is to provide standardized, basic operational management information to front line managers as well as administrators throughout the health system. Implementation of the MIS Standards enables organizations to have comparable financial information and related statistics (such as workload and patient activity) for the many clinical services they provide. This data can then be used to report the calculation of key indicators, providing a useful tool to measure and monitor performance. Some examples are:

- accountability reporting by managers for resource use
- development of budgets based on meaningful workload and activity projections
- more precise resource allocation
- more informed management decisions

The MIS Standards were adopted by the Newfoundland and Labrador Department of Health and Community Services (DHCS) in 1992. Provincial reporting requirements were developed based on the

national reporting requirements with provincial customization as required to meet local information needs.

A national MIS Technical Working Group provides CIHI with expert technical advice on the development, maintenance, and effective implementation of the MIS Standards across the continuum of health service delivery. The working group is composed of provincial and territorial MIS Coordinators, with additional members from the field added at CIHI's discretion.

Provincial MIS Committees

Historically, there were 18 provincial MIS committees (listed below). Currently, there are 2 standing committees: Data Quality and Reporting, and Health Information Services Committee. The other discipline specific committees were dissolved once their mandate was completed. When necessary, discipline specific committees can reconvene (standing or ad hoc) to address revisions to the Standards, issues, or a new mandate.

- Data Quality and Reporting *(Financial & Statistical Reporting)*
- Audiology
- Clinical Laboratory
- Electrodiagnostic, Cardiac and Vascular Laboratories
- Food Services Administration
- Health Information Services
- Medical Imaging
- Nursing
- **Nutrition Services**
- Occupational Therapy
- Pastoral/Spiritual Care
- Pharmacy
- Physiotherapy
- Psychology
- Respiratory Therapy
- Social Work
- Speech-Language Pathology and
- Therapeutic Recreation

The Provincial Data Quality and Reporting MIS Committee includes a finance representative from each zone within Newfoundland and Labrador Health Services (NLHS), Manager of Financial Analysis at the DHCS, the provincial MIS Standards Consultants, and a CIHI representative. Part of the committee's mandate is to review the provincial reporting requirements of the DHCS, issues related to data quality, Discipline specific Reference Guide updates and changes, and any inconsistencies in application of the data standard (MIS Standards).

MIS Standards and the Role of the Newfoundland and Labrador Centre for Health Information (NLCHI)

NLCHI was established to provide quality information to health professionals, the public and health system decision makers. In April 2023, NLCHI and the 4 Regional Health Authorities merged to a single Health Authority, NL Health Services (NLHS). NLCHI is now represented as the Digital Health branch within NL Health Services. Through collaboration with the health system, Digital Health supports: the development of standards, maintains key provincial health databases, prepares, and distributes health reports, and supports and conducts applied health research and evaluations. Digital Health's mandate also includes the development of a confidential and secure Electronic Health Record (EHR) for the province.

The MIS Standards are the responsibility of the Centre's Health Information Standards and Quality Division. This division is responsible for developing and promoting the use of data standards for financial, statistical, social, demographic, and clinical data collection in the health sector. It is responsible for ensuring that this data is uniform in definition, measurement, collection, and interpretation. Many of these standards are developed with, or mirror, national standards which ensures comparability and consistency of data across the health system.

Key Concepts

Code Structure and Matching Principle

The MIS Chart of Accounts general coding structure consists of several various code blocks (see Figure 1).

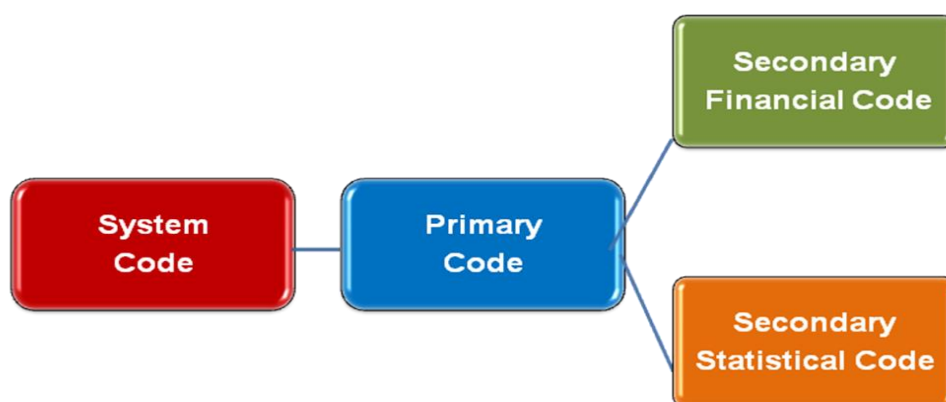

Figure 1

Using these code blocks, data can be recorded in a health service organization's financial and statistical general ledger in a structured manner. The number of blocks used depends on the account being defined.

The first code in all account numbers is the **system code** block. It is assigned by the information systems or finance department when the Chart of Accounts is established for the health service/reporting organization and represents the highest level of data aggregation. Organizations use this code block to numerically identify a facility, site, or program within zone.

The **primary code** refers to a numerical name for a functional centre or accounting centre. Functional centres in the diagnostic and therapeutic functional centre framework section are discipline specific. See section 3 for further detail.

The **secondary codes** provide for the recording of either financial or statistical information and identify specific types of information about the functional centre. See sections 4 and 5 for further detail.

The creation of primary and secondary accounts should be discussed with the individual responsible for MIS reporting within an organization to ensure that accounts correctly reflect the activity that occurs and that the secondary accounts are correctly linked with the primary account or functional centre. The person responsible for coordinating MIS activities in an organization can provide additional information on the accounts used for a service.

The **matching principle** in accounting associates both revenues and expenses to a defined time. The MIS Standards expand this matching principle to the reporting of statistics within the same period as the

associated revenues and expenses to enable the calculation of accurate cost indicators. Within the MIS framework there are three levels of data collection and reporting:

- The **functional centre direct cost reporting** level builds on the functional centre framework, linking revenues, expenses, statistics, and indicators to provide a comprehensive picture of a functional centre's resource utilization, activity, and productivity. Functional centres in the diagnostic and therapeutic functional centre framework section are discipline specific.

- The **functional centre full cost reporting** level builds upon the functional centre direct cost reporting level by including the indirect costs associated with each functional centre.

- The **service recipient reporting** level changes the focus from the functional centre to the service recipient and is often referred to as a "case costing." All financial and statistical data are linked to a specific person who receives services. This provides a comprehensive picture of how medical, nursing, therapeutic and support services are utilized in the treatment of various patient, client hospital, or groups. It can demonstrate the impact of practice patterns, programs, services and case mix groups on functional centres, service outcomes and the health service organization.

Functional centre direct cost reporting is the required level for reporting information to the DHCS. This means that all financial and statistical data are linked to defined functional centres and are reported in the functional centre in which the activity took place. While organizations may choose to collect information at the levels of the full cost or service recipient reporting, they will still be required to report to the Department of Health and Community Services at the functional centre level to ensure comparative data is available however, they will have the advantage of enhanced information for internal decision making.

Broad Occupational Groups

The MIS Standards require all staff be assigned to one (or more) of three broad occupational groups. By doing so, the accuracy of productivity analysis is improved, and the degree of overhead support associated with the service is identified.

Management and Operational Support Personnel (MOS)

Management and operational support are the personnel, including purchased consultant services, whose primary function is the management or support of the operation of the functional centre, although at times they may carry out unit-producing activities. This group includes:

- directors
- managers
- supervisors
- administrative support staff
- clerical support staff
- medical service aides, etc.

If the manager generates workload statistics, the worked hours related to this activity must be recorded as unit-producing, not management and operational support. Failure to link workload with unit-producing worked hours will skew performance indicators.

Unit-Producing Personnel (UPP)

Unit-producing personnel are those personnel whose primary function is to carry out activities that directly contribute to the fulfilment of the service mandate.

Examples include:

- registered nurses
- licensed practical nurses
- laboratory technicians
- accounts payable clerks
- pharmacists
- therapeutic professionals (e.g., recreation specialists, physiotherapists, psychologists, etc.)
- therapeutic assistants (e.g., social work assistants, occupational therapy support workers, etc.)
- PACS administrators

These personnel generate workload units. It is recognized that UPP staff may, at times, perform activities that are not unit-producing.

Medical Personnel (MP)

Medical personnel are physicians who are compensated for their professional services either on a fee-for-service or salary basis, including interns and residents.

Examples include:

- pathologists
- psychiatrists
- cardiologists
- medical interns
- medical students and
- medical residents

Note: The designation of a broad group category is based on function; job category and union category should not be considered. Job category is not appropriate because one job category in an institution can be management and operational support in one functional centre, yet the same job category can be unit-producing in another functional centre (e.g., clerical staff in most clinical departments are MOS but in admitting departments they are UPP). Union category does not apply as staff performing the same job are union in some organizations and non-union in others.

Categorization of Earned Hours

Earned hours statistics measure the use of labour in fulfilling the mandate of the service. These hours should be recorded in the broad categories of workers as outlined in the previous section. The cost of a worked hour may vary from one period to another and from one shift to another. Overtime and standby compensation expenses are attached to the actual hours that are worked (e.g., an hour of overtime is recorded as only one earned hour, but the compensation may be at time and half).

Earned Hours = Worked Hours + Benefit Hours + Purchased Service Hours

Figure 2

Worked Hours

Worked hours are those hours that are spent carrying out the mandate of the service. Staff members are physically present and available to provide service. Worked hours include:

- regular worked hours, including paid coffee breaks
- worked statutory holidays
- relief staff hours, such as vacation relief and sick relief
- overtime
- call back hours paid and banked[1]
- attendance at on-site committee meetings and in-service education[2] (non-service recipient workload)

[1] Call back hours are a component of worked hours, recorded as the actual hours worked, rather than the minimum number of hours paid. Standby hours are not included in the count of worked hours, but the associated expenses (compensation) are a component of worked salaries.

[2] Includes education sessions of less than ½ day; sessions greater than ½ day are considered benefit hours.

Costs are intended to link with activities and workload and therefore banked hours should be recorded in the payroll system during the period they are earned and not when they are taken.

Benefit Hours

Benefit hours are those hours when staff members are not present but receive pay. Benefit hours include:

- statutory holidays and vacation
- sick and bereavement leave

- workers compensation leave
- attendance at facility orientation, formal education, and training sessions (educational leave)
- union leave with pay and
- other paid leave of absence

Purchased Service Hours

Purchased service hours are the hours spent carrying out the mandate of the service by personnel hired from an external agency. They have no benefit hour component. Purchased service hours are treated as worked hours. When contracting for external services, the costs related to management and support compensation, unit-producing compensation and supply costs should be differentiated within the contract.

Notables

Education Hours – Staff time spent in education can fall into both worked and benefit categories. The MIS Standards describe education recorded as benefit hours *as formal planned events for self-development and education recorded as worked hours as informal, short duration in-service sessions.* When education occurs during worked hours, non-service recipient workload is reported.

Hours spent in education sessions of greater than ½ day; duration are benefit hours (education leave) time spent in sessions of less than ½ day are worked hours (non-service recipient workload). This will provide comparable information for performance indicators provincially.

Unpaid Worked Hours – Only paid hours can be recorded as worked hours. If staff work additional hours and record workload for that time, the comparison of worked hours to workload could demonstrate productivity greater than 100%. Submission of unpaid worked time as worked hours will have a negative effect, as performance indicators will not provide an accurate picture of the real situation. Staff working unpaid hours should record this information for internal purposes. Worked hours should be generated from the payroll system to ensure accuracy.

Volunteers – Work performed by volunteers cannot be recorded as part of the functional centres UPP workload. Sometimes this is work that would not be performed by the facility if staff had to be paid and sometimes this is necessary for the provision of services. The number of volunteer hours should be recorded and reported internally to gain an understanding of the contribution of volunteers to the organization. Details of the type of work will be helpful in determining the role of the volunteer in reducing costs or enhancing the quality of the service provided.

Categories of Service Recipient

A ***service recipient*** is the consumer of service activities of one or more functional centres of the health service organization. Service recipients include individuals (e.g., inpatients, residents, client hospital), their significant others and others as defined by the health service organization.

Workload, service activity and caseload status statistics must be recorded separately for each category of service recipient. This separation supports more detailed analysis of the data, providing an understanding of different resource needs, as well as supporting external reporting requirements.

Significant others are individuals who are acting on behalf or in the interest of, the service recipient such as parent, spouse/partner, child, legal guardian, or substitute decision-maker. Excluded from this definition are professionals such as teachers, lawyers, or other health care professionals.
The MIS Standards recognize and define eight categories of service recipients. They are detailed below:

Inpatient

An individual who has been officially accepted by a hospital for the purpose of receiving one or more health services who has been assigned a bed, bassinet or incubator and whose personal identifiable data is recorded in the registration or information system of the organization and to whom a unique identifier is assigned to record and track services. This category includes individuals receiving acute, physical rehabilitation, mental health, and addiction services in a hospital setting, and those *admitted* to emergency while awaiting a bed on a nursing inpatient unit.

Note: Also includes services provided by a contracted out third-party provider that provides inpatient services typically provided by a hospital.

This category ***excludes*** hospital clients receiving services of a specialty day/night care or specialty clinic nature on a nursing inpatient unit, as well as residents receiving services on a residential care unit, community hospice unit, mental health residential care unit, addiction services residential care unit and stillbirths.

Client Hospital

An individual who has been officially accepted by a hospital and receives one or more health services without being admitted as an inpatient whose person identifiable data is recorded in the registration or information system of NLHS and to whom a unique identifier is assigned to record and track services. Examples include individuals who receive hospital-based emergency day surgery, specialty day/night care, specialty clinic, outreach, mental health, rehabilitation and independent diagnostic and therapeutic services (provincially defined).

Client Community

An individual who has been officially accepted by NLHS to receive one or more health services (other than home care), without being admitted as a resident or inpatient and whose personal identifiable data is recorded in the registration or information system of NLHS and to whom a unique identifier is assigned to record and track services. Examples include individuals receiving community-based mental health and/or addictions counselling, public health nursing, health promotion and wellness services, etc. (provincially defined).

Client Home Care

An individual who has been officially accepted by NLHS to receive one or more home health or home support services in his/her place of residence (e.g. private residence, assisted living residence), at an alternative health delivery location (e.g. community health office) or at a location that meets the client's needs (e.g. school, public place) and whose personal identifiable data is recorded in the registration or information system of NLHS and to whom a unique identifier is assigned to record and track services. Examples include individuals receiving home health services such as the treatment of acute conditions, maintenance of chronic health conditions, rehabilitation to improve functional abilities, etc. and/or home support services such as homemaking, home maintenance, and personal care and respite services (provincially defined).

This category ***excludes*** outreach services provided by hospital or community-services-based health professionals (e.g., home dialysis services provided by hospital staff, mental health services provided by the staff of a mental health outreach program).

Referred-In

A hospital client or specimen: that has been referred for hospital services from another health service organization and whose personal identifiable data is recorded in the registration or information system of the organization and to whom a unique identifier is assigned to record and track services. Examples include individuals referred from a health service organization for an MRI exam respiratory services such as hyperbaric chamber and specimens to be tested by the clinical laboratory.

Note: This category is not used in the Newfoundland and Labrador master chart of statistical accounts.

Resident

An individual who has been officially accepted into a designated long-term care bed (LTC) for the purpose of receiving one or more health services and whose personal identifiable data is recorded in the registration or information system of the organization and to whom a unique identifier is assigned to record and track services. This category includes individuals admitted to residential facilities providing mental health or addiction services in a community setting (provincially defined).

This category ***excludes*** inpatients receiving services from hospital acute, rehabilitation, mental health and addiction services and palliative nursing units.

Facility/Organization/Citizen Partnership

A facility or organization that has been officially accepted by a health service organization to receive one or more health services and whose encounter is recorded in the registration or information system of the organization and to whom a unique identifier is assigned to record and track services or whose encounter is recorded within a uniquely-identifiable, hard-copy file or record (rather than in the organization's registration or information system) that is used to record and track services. Examples include restaurants swimming pools and day care centres to which environmental health and licensing services are provided and schools, businesses or community organizations to which consultative services are provided regarding concerns such as policy development, food safety or healthy living.

A citizen partnership that has been established to address an identified health issue and whose membership consists of citizens or citizen groups and other key stakeholders (e.g., health care providers, community agencies) that have knowledge of the concern and/or could influence change and, whose encounter may be recorded within a uniquely identifiable hard copy file or record rather than in the registration or information system of the organization. Examples include: a "farm safety coalition" that was formed to discuss ways to prevent tractor accidents amongst teenagers a "food security coalition" organized to advance the concept of a food charter to support local agriculture products and a "playground partnership" established to discuss ways to build a safe new play area that will meet the needs of the children in a low-income community.

Service Recipients not Uniquely Identified

An individual who receives one or more services from a health service organization when not currently registered as an inpatient, resident, client hospital, client community, client home care, facility/organization/citizen partnership and whose encounter is not recorded in the registration or information system of the organization and who has no unique identifier assigned to record and track services. Examples include individuals calling hotlines for counselling services, individuals attending drop-in centres and participants attending a general forum on smoking cessation that is aimed at educating the community.

Primary Accounts – Functional Centres

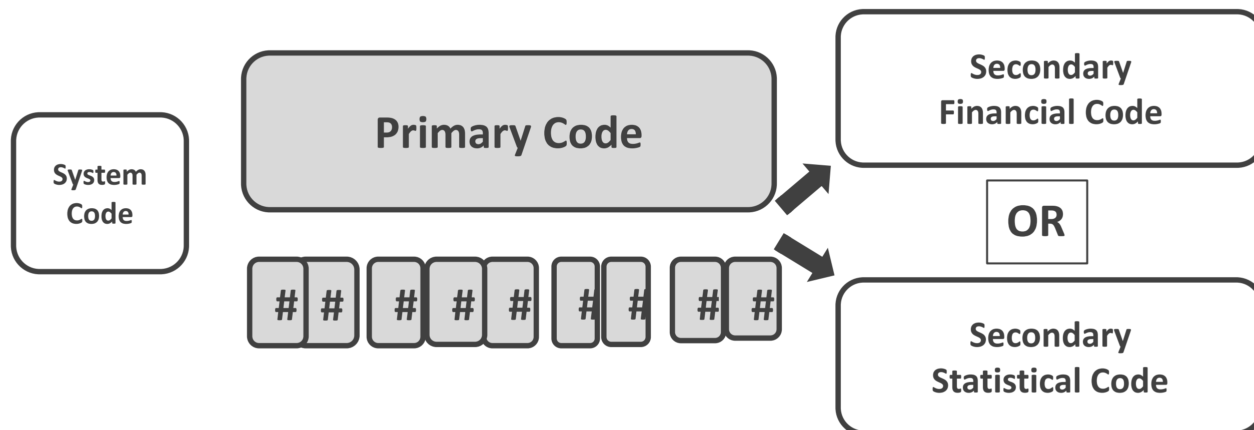

Figure 3

A key component of the MIS Standards is the functional centre framework. Functional centres are a type of primary account that forms the foundation of much of the reporting of the financial and statistical data within a health care organization. The functional centre framework is a five-level hierarchical arrangement of departments or functional centres that recognizes the diversity in size and specialization of health service organizations. It provides a method for organizing information for both internal and external reporting purposes. The hierarchical arrangement allows varying sizes of health service organizations to use the structure and permits information to be "rolled-up" or consolidated for external comparative reporting.

Each department or service that is a cost centre (has a designated budget) is assigned a primary account code. These primary account codes are typically used in conjunction with a secondary account code, to further label and define an account. This is required by a health service organization to track revenues, expenses and statistics associated with each department or service.

Primary account codes are made up of five segments with a total of nine coding positions, which are structured in a specific manner (see Figure 4 below).

Figure 4

The following details the five segments of the primary account code:

Account Type

7 The 1st digit is the account type. The account number will always start with a 7 to indicate that this account represents a functional centre.

Fund Type

71 The 2nd digit indicates the primary source of funding for this activity. The finance department will designate this digit. In most cases this will be a 1 to indicate global/operating funding.

Framework

71 4 The 3rd digit indicates where the service was provided. Diagnostic and therapeutic services are represented by 71 4 (see Figure 5).

Functional Centre (level 3)

71 4 ## The 4th & 5th digits indicate the type of service provided. For therapeutic services these are primarily profession-specific functional centres. This is referred to as level three reporting.

Functional Centre (level 4)

71 4 ## ♦♦ The 6th & 7th digits indicate further breakdown of services for some functional centres. These accounts are sub-categories of level three accounts. This is referred to as level four reporting.

Functional Centre (level 5)

71 4 ## ♦♦ ★★ The last two digits of the primary account code are used to provide additional detail and may be reserved for board use in some situations. This is referred to as level five reporting.

Functional centres are used to aggregate and integrate information concerning specific activities. The account assigned to a functional centre provides the reader of the information with insight into the activity that has generated the data reported.

For example, the primary account number **71 4 45 00 00** tells the reader that the data is related to the nutrition service of a hospital.

Example: The nutrition department of a hospital is represented by primary account **71 4 45 00 00** (as illustrated in Figure 5):

7	1	4	45	00	00
Account Type	**Fund Type**	**Framework Section**	**FC Level 3**	**FC Level 4**	**FC Level 5**
1- 6 Balance Sheet Accounts **7 Functional Centres for Revenue, Expense and Statistics** 8 Accounting Centre	**1 Operating Fund** 2 Inactive 3 Inactive 4 Board Designated 5 Capital 6 Special Purpose 7 Inactive 8 Endowment Revenue – Unrestricted 9 Endowment Revenue - Restricted	1 Administration & Support 2 Nursing Inpatient/ Resident 3 Ambulatory Care **4 Diagnostic & Therapeutic** 5 Community & Social Services 6 Inactive 7 Research 8 Education 9 Undistributed	35 Respiratory 40 Pharmacy **45 Nutrition** 50 Physiotherapy 55 Occupational Therapy 60 Speech-Language Pathology & Audiology 70 Social Work 75 Psychology 80 Pastoral Care 85 Therapeutic Recreation	Accounts specific to previous level and provide further breakdown. e.g.	Accounts specific to previous level and provide further breakdown.

Figure 5

Example 2: Nutrition services provided in community support programs are represented by primary account **71 5 92 25 00** (as illustrated in Figure 6):

7	1	5	92	25	00
Account Type	**Fund Type**	**Framework Section**	**FC Level 3**	**FC Level 4**	**FC Level 5**
1- 6 Balance Sheet Accounts **7 Functional Centres for Revenue, Expense and Statistics** 8. Accounting Centre	**1 Operating Fund** 2 Inactive 3 Inactive 4 Board Designated 5 Capital 6 Special Purpose 7 Inactive 8 Endowment Revenue – Unrestricted 9 Endowment Revenue - Restricted	1 Administration & Support 2 Nursing Inpatient/ Resident 3 Ambulatory Care 4 Diagnostic & Therapeutic **5 Community & Social Services** 6 Inactive 7 Research 8 Education 9 Undistributed	Functional Centres for Community: 91 Mental Health and Addictions Programs **92 Community Support Programs** 93 Family Support Programs 95 Health Promotion and Protection Programs	Accounts specific to previous level and provide further breakdown. e.g. 21 Nursing Services 22 Social Work Services 23 Physiotherapy Services 24 Occupational Therapy Services **25 Nutrition Services**	Accounts specific to previous level and provide further breakdown.

Figure 6:

Prior to reporting workload, all functional centre account assignments should be reviewed to ensure that workload data can be correctly linked to functional centres. In most organizations there will only be one

functional centre for each therapeutic discipline, but some larger organizations may elect to create lower-level functional centres if the activities are provided by a distinct set of staff. This should only be done when the compensation, recoveries, expenses, and activities can be clearly isolated. If this is not possible, one functional centre is appropriate, and the workload statistics can be used to identify more specific details.

Individual frameworks are available for research and non-patient education. It is important that these activities are not included in the **71 4** functional centre as this will distort the performance indicators related to the provision of patient/client hospital/resident therapeutic services.

Purchased/Referred-Out Services

If the facility does not have a specific department and purchases or refers-out all its services, a specific functional centre is still required. All costs will be linked to this functional centre and all costs will show as a purchased service. Purchased service is recorded when non-facility staff provide service to patients/residents within the facility. Referred-out service occurs when people are sent to another facility for service and the service is paid for by the sending facility. However, if there is no cost to the facility a functional centre is not created, and no financial or statistical information is recorded.

Program Management/Multifunctional Centres

In cases where staff report to another discipline, workload, service activity and caseload status statistics and resources associated with these activities should still be reported in the discipline specific functional centre. Both statistics and expenses related to an activity must be reported in the same functional centre. The portion of workload and expenses related to various programs should still be identifiable for program-based reporting.

Greater Levels of Detail

Some organizations will elect to capture an even greater level of detail than requested for external reporting submissions. More detailed functional centres should only be established when it is reasonable and material to separate staffing, revenues, expenses, and statistics. If functional centres have been created to meet internal needs but are not valid accounts (i.e., not included in the provincial account code listing), these functional centres must be rolled up and reported under the appropriate MIS account.

Research (71 7)

The research framework section is designed to capture the expenses and revenues (if any) of research services. This would include health care professionals and technicians whose mandate is research. As such, their hours and compensation are reported in this type of functional centre, not the discipline specific functional centre.

Compensation for unit-producing staff members that participate in research but are assigned to a discipline specific functional centre is reported in that functional centre. The workload related to data collection is reported as the non-service recipient activity, research and the workload related to clinical

interventions is reported as the service recipient activity (assessment, therapeutic intervention, or consultation/collaboration), according to category of service recipient.

If a health care professional is involved to a significant degree (greater than 20%) in both research and service recipient activities, the compensation for this individual should be apportioned to both appropriate functional centres to reflect the actual expenses. The workload and portion of earned hours that resulted in service recipient activity (patient/resident/client hospital care) should be accounted for in the discipline specific functional centre and the workload and hours associated with the research should be accounted for in the research functional centre.

Education (71 8)

The education framework section is designed to capture the expenses and revenue (if any) of dedicated staff educators. This would include staff members that provide employee orientation sessions, in-service classes, or formal programs for students from educational organizations. As such, their hours and compensation are reported in this functional centre not the discipline specific functional centre.

Compensation for unit-producing staff members that provide staff education but are assigned to a discipline specific functional centre is reported in that functional centre. The workload related to education is recorded as the non-service recipient activity, teaching/ in-service.

If a health care professional is involved to a significant degree (greater than 20%) in both education and service recipient activities, the compensation for this individual should be expensed to both appropriate functional centres to reflect the actual activity. The workload and portion of earned hours that resulted in service recipient activity should be accounted for in the discipline specific functional centre and the workload and hours associated with education should be accounted for in the education functional centre.

Unit-producing staff members that provide service recipient education should be assigned to the appropriate discipline specific functional centre. The workload related to educating service recipients is recorded as the service recipient activity, therapeutic intervention.

Marketed Services Ancillary Operations (71 9 20 **)

Marketed services are business enterprises. The 719 20 ** functional centre pertains to health service organization activities that are supplemental to the organization’s main services rather than activities related to service recipient care, education, research, and their support. Excludes operations which are recorded under 71 9 10 Marketed Non-Service Recipient Food Services Operations**.** Marketed service activities may be cost recovery or profit-generating activities. Any excess of cost over revenue/recovery becomes a part of the cost per standard hospital stay for the organization. Patient/resident/client hospital services are never classified as a marketed service even if a profit is generated. If the service is funded outside of DHCS funding, the activity is designated as an “other fund” clinical service functional centre.

When services are financed by third parties that are not funding bodies, this is recorded as revenue and linked to the appropriate functional centre providing the service (e.g., Worker’s Compensation Commission, insurance, self-pay).

When services are provided for the service recipients or staff of another organization and this service is material, this is classified as a marketed service by the providing organization and a purchased service for the organization receiving the service. This would apply when a contract for the service has been negotiated and the service is continuous. All compensation and supplies must be distributed to the marketed service functional centre. It is recognized that in some situations a marketed service may be at cost. No service activity, caseload status or workload statistics are reported by the organization selling the service.

Example of marketed services:

If an organization is routinely providing services every Friday to another organization, the compensation and associated hours for the staff providing this service would be charged to the marketed service functional centre and all recoveries for this service would be credited to this functional centre.

The use of a marketed service functional centre will preserve the integrity of performance indicators for the provision of care by the organization.

Secondary Financial Accounts

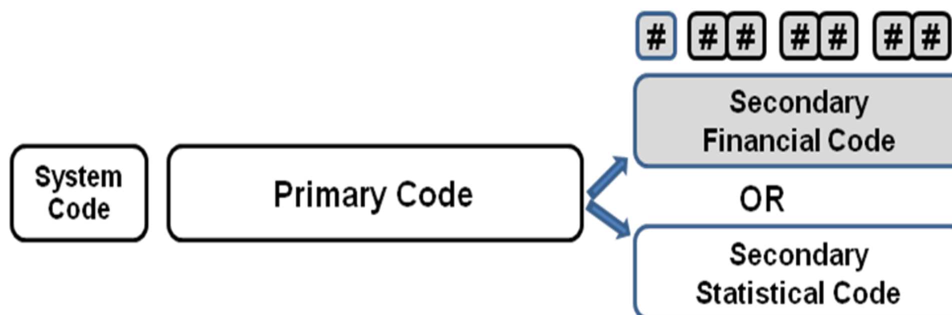

Figure 6

Secondary financial accounts are designed to provide additional information on the nature of revenues and expenses in an organization. Each secondary code is associated with an appropriate primary code. Financial accounts can then be linked to the secondary statistical accounts within the same functional centre to produce performance indicators for the functional centre. Secondary financial accounts establish the direct costs that are attributed to functional centres.

The secondary financial account code is made up of four distinct segments totalling seven coding positions. Secondary account codes are three, five or seven digits in length which are structured in a specific manner (see Figure 7).

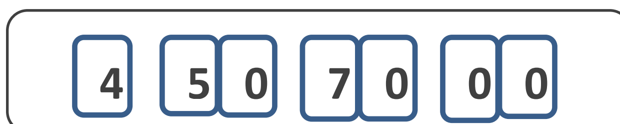

Figure 7

Broad Group

4 The first block is a single character which identifies the secondary financial broad group. Broad group 4 is supplies. (See Figure 9 for further broad groups)

Nature of Secondary Revenue or Expense

50 The second block is two characters long and defines the nature of the revenue or expense. In this example it is supplies – food.

Capture of Further Detail of Secondary Revenue or Expense

70 The third block is used to capture further detail and is specific to previous code block. In this example it is supplies – food- enteral feedings.

Further breakdown of Secondary Revenue or Expense

00 In certain cases, the Newfoundland and Labrador Chart of Accounts, uses two more digits for further breakdown (provincially defined).

Secondary financial account **4 50 70 00** is used to represent supply expenses specific to nutrition services, as illustrated in Figure 9.

4	50	70	00
Broad Group	**Nature of Revenue and Expense**	**Capture of further detail**	**Capture of further detail**
1 Revenues 2 Inactive 3 Compensation **4 Supplies** 5 Traceable Supplies & Other Expenses 6 Sundry 7 Equipment Expense 8 Contracted-Out Services 9 Buildings and Grounds Expense	Supplies for the following **50 Food** 60 Medical Surgical 64 Pharmacy 65 Drugs 70 Clinical Laboratory 75 Medical imaging 77 Electro-Diagnostic 80 Respiratory 82 Therapeutics	Accounts specific to previous level and provide further breakdown. 10 Meat, Fish, Poultry, Eggs 20 Dairy Products 30 Juices, Fruits, Vegetables 40 Bakery Products 60 Infant Formula **70 Enteral Feedings** 80 Groceries and Miscellaneous	Accounts specific to previous level and provide further breakdown.

Figure 9

The broad groups of secondary financial accounts are:

Revenue

Revenue is defined as proceeds earned by the health service organization from all sources including payment for services provided to service recipients, recoveries, contributed services, donations, grants, and investment revenue. When revenue is generated in relation to clinical services for facility patients/residents/client hospital, this revenue is recorded as a recovery in the functional centre incurring the expense. This reduces the cost of providing service to these patients.

Compensation

Compensation is defined as the sum of gross salaries plus benefit contribution expenses. Compensation costs are linked to the functional centre.

To capturing and reporting compensation expenses, the MIS Standards require all staff of a functional centre be assigned to one (or more) of three broad occupational groups then further categorized by type of earned salaries. By doing so, the accuracy of analysis is improved, and the degree of overhead support associated with the service is identified. The following is a list of broad occupational groups:

- management and operational support personnel (MOS)
- unit-producing personnel (UPP)
- medical personnel (MP)

For each broad occupational group, the types of earned salaries should be further categorized as:

- worked salaries

- benefit salaries
- purchased service salaries

Benefit contributions are an integral part of compensation expense. These costs must also be distributed to functional centres. The benefit contributions include salaries paid to casual and temporary staff in lieu of vacation, statutory holidays, and termination. No hours are attached to these payments and therefore they are not included in benefit hours.

Supplies

Supplies are consumable products used by a functional centre. Accounts exist for items ranging from paper, computer supplies, test manuals and forms, medications, and other clinical products. To make supply transaction coding more efficient, finance and materials management departments should coordinate the stores catalogue to link individual stock item codes to supply expense codes. All expense accounts should be reviewed to ensure that the items included in these accounts are appropriate and to ensure that the expenses for all functional centres are recorded accurately. Only those items used by the discipline specific departments should be charged to their functional centre.

Traceable Supplies and Other Expenses

These are consumable supplies or other expenses that:

- can be directly associated with a service such as an operative procedure or drug intervention
- can be traced to a service recipient
- vary according to the clinical needs of the service recipient
- usually do not behave linearly with workload

Sundry

Sundry costs are those that do not fit into other categories. It includes items such as long-distance telephone charges, courier charges, travel expenses, etc. Most sundry expenses and some supply expenses are intended for administrative and support functional centres and are overhead costs for the organization. Some organizations have elected to distribute these costs to functional centres. The primary purpose for distribution is better accountability for expenses. An example of an overhead supply cost is laundry. An example of an overhead sundry expense cost is postage.

Equipment Expenses

Equipment expenses are the operating expenses of equipment, including maintenance, repairs, depreciation, gain or loss on disposal, interest on equipment loans and rental or lease expenses incurred, or any other operating expense incurred in the provision of equipment for use by functional centres in the facility. Depreciation costs for all equipment as well as preventative and repair costs for all clinical equipment are to be expensed to functional centres. This will improve the comparability of costs across organizations. When comparing costs across organizations it is important to understand that there could be variations in the allocation methodology and reporting of these costs.

Contracted-Out Services

The contracted-out services expenses are those related to one of a group of services performed for the health service organization by a contracted-out third-party provider using their personnel and often their supplies, equipment and premises. The fee charged may include a cost for these items as well as a mark-up for employee benefits and administrative and support expenses.

Buildings and Grounds Expense

Those expenses that are associated with the building, its service equipment and the grounds are usually charged to an accounting centre because it is not reasonable or practical to distribute to all functional centres in the organization.

Select Secondary Financial Accounts Applicable to Nutrition

For a full listing of the Secondary Financial Accounts, accompanying definitions, and the required provincial reporting level and detail, please refer to the current version of *the provincial Reporting Requirements User Guide*, or contact the financial department within the applicable zone.

Broad Group No. 1: Revenues

1 20	Recoveries from External Sources
1 30	Contributed Services
1 40	Donations
1 50	Grants
1 60	Investment Revenue
1 70	Revenue from Other Funds
1 90	Other Revenue

Broad Group No. 3: Compensation

3 11	MOS Worked Hours
3 13	MOS Benefit Hours
3 14	MOS Benefit Contributions – Third Party
3 15	MOS Benefit Contribution Expenses - Individual
3 19	MOS Purchased Service Hours
3 51	UPP Worked Hours
3 53	UPP Benefit Hours
3 54	UPP Benefit Contributions – Third Party
3 55	UPP Benefit Contribution Expenses - Individual
3 59	UPP Purchased Service Hours
3 91	MP Worked Hours
3 93	MP Benefit Hours

3 94 MP Benefit Contributions – Third Party
3 95 MP Benefit Contribution Expenses - Individual
3 99 MP Purchased Service Hours

Broad Group No. 4: Supplies

4 10 Supplies - Printing, Stationery and Office Supplies
4 15 Supplies - Housekeeping
4 20 Supplies - Laundry
4 25 Supplies - Linen
4 28 Supplies - Linen Reusable - Interdepartmental
4 30 Supplies - Plant Operation
4 35 Supplies - Plant Maintenance
4 40 Supplies - Plant Maintenance Equipment
4 45 Supplies - Biomedical Engineering
4 50 Supplies - Food
4 55 Supplies - Dietary
4 60 Supplies - Medical and Surgical
4 80 Supplies - Respiratory Services
4 81 Supplies –Perfusion Services
4 82 Supplies – Therapeutic
4 85 Supplies – Research
4 90 Supplies - Education

Broad Group No. 5: Traceable Supplies and Other Expenses

These accounts should be used by all organizations doing Service Recipient Reporting.

5 20 Traceable Travel Expense - Service Recipient
5 50 Traceable Supplies - Food
5 60 Traceable Supplies - Medical and Surgical
5 65 Traceable Supplies - Drugs
5 66 Traceable Supplies - Medical Gases

Broad Group No. 6: Sundry

6 10 Departmental Sundry
- 6 10 10 Postage
- 6 10 15 Delivery and Courier
- 6 10 18 Communications Charges
- 6 10 20 Long Distance Charges
- 6 10 40 Tuition – Students
- 6 10 53 Scholarships (Privately Funded)

6 15 Continuing Education Fees and Materials
6 20 Travel Expense - Service Recipient
- 6 20 10 Local Travel

6 20 12 Provincial/Territorial Travel
6 20 14 Out of Province/Territory Travel
6 22 Travel Expense - Board
6 23 Travel Expense - Staff
6 23 10 Local Travel – Other than Service Recipient-Related - Staff
6 23 12 Provincial/Territorial Travel - Other than Service Recipient-Related - Staff
6 23 14 Out of Province/Territory Travel
6 23 15 Insurance Reimbursement – Staff
6 23 20 Service Recipient-Related Travel – Staff
6 23 25 Travel Expense – Education – Staff

6 26 Travel Expense - Recruitment and Relocation
6 26 10 Recruitment
6 26 20 Relocation

6 30 Bank Charges
6 40 Data Communication Charges
6 50 Professional Fees
65010 Accounting
65020 Audit
65030 Arbitration/Mediation
65040 Legal
65050 Management
65060 Information Technology Systems Development Fees
65070 Engineering Fees
65090 Other Professional Fees

6 60 Other Fees
6 60 10 Licence Fees
6 60 20 Membership Fees
6 60 30 Accreditation Fees
6 60 40 Subscription Fees
6 60 90 Other Fees - Other

6 70 Advertising
6 75 Public Relations
6 80 Insurance
6 85 Board Honorariums
6 95 Sundry Expenses - Not Elsewhere Classified
6 96 Meeting Expense (For expensing internal catering)
6 97 Interdepartmental Services

Broad Group No. 7: Equipment Expense

7 10 Equipment Maintenance – External
7 10 22 Software Maintenance – Contract
7 10 24 Equipment excluding Information Systems Maintenance - Contract

7 10 25 Information Systems Equipment Maintenance - Contract
7 10 42 Software Maintenance – Other
7 10 44 Equipment excluding Information Systems – Maintenance – Other
7 10 45 Information Systems Equipment Maintenance - Other

7 20 Equipment Maintenance - Interdepartmental
7 30 Replacement of Major Equipment Parts
7 50 Amortization on Major Equipment - Distributed
7 51 Net Gain or Loss on Disposal of Major Equipment
7 52 Amortization on Information Technology Major Equipment - Distributed
7 55 Interest on Major Equipment Loans

7 60 Rental/Lease of Major Equipment
7 65 Minor Equipment Purchases
7 70 Minor Equipment Purchases – Information Technology
7 80 Amortization - Software Licences and Fees
7 85 Software Licences and Fees
7 90 Equipment Expense - Not Elsewhere Classified

Broad Group No. 8: Referred-Out Services

8 05 Contracted From A Non-Affiliated Health Service Organization
8 15 Contracted From an Affiliated Health Service Organization
8 25 Contracted From a Privately-Owned Company

Broad Group No. 9: Buildings and Grounds Expense – Undistributed

9 10 Service Contracts
9 30 Replacement of Major Parts
9 40 Renovations
9 50 Amortization
9 60 Rent – Land or Building (Excluding Equipment)
9 70 Municipal Taxes
9 80 Building and Grounds Expense Not elsewhere classified
9 90 Site Redevelopment Savings
9 99 Supplies Budget Adjustment/Reserve

Secondary Statistical Accounts

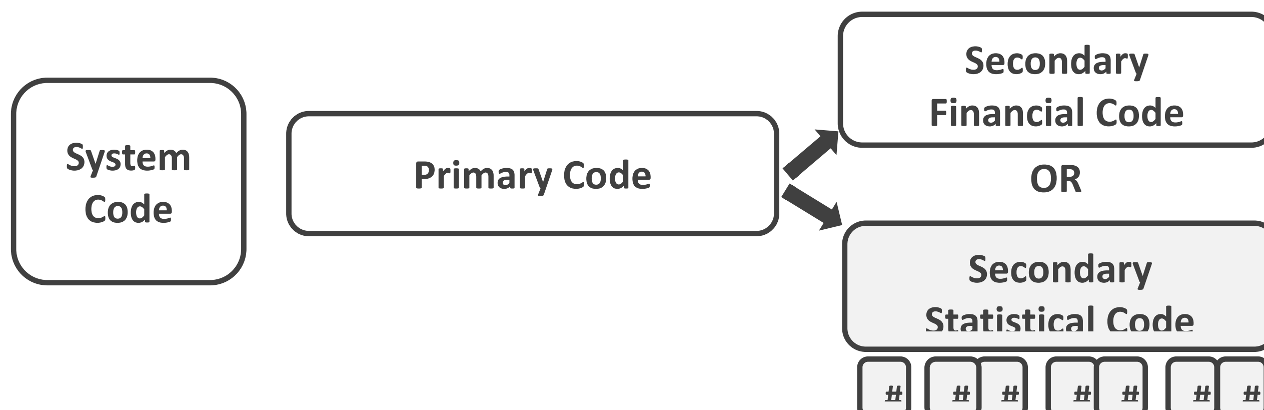

Figure 9

Secondary statistical accounts are designed to provide additional information on the nature of activities that occur within an organization. Each secondary code is associated with an appropriate primary code. Statistical accounts can then be linked to the secondary financial accounts within the same functional centre to produce performance indicators for the functional centre.

The secondary statistical account code is made up of four distinct segments totalling seven coding positions. Secondary account codes are three, five or seven digits in length. As with financial secondary accounts the first digit identifies the broad group. The remaining blocks provide additional detail with the meaning of each segment being dependent on the code used in the preceding segment.

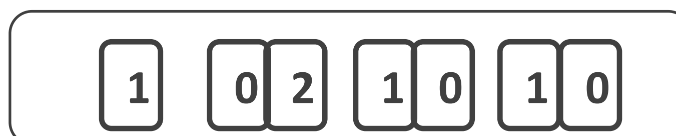

Figure 10

Secondary Statistical Accounts

1 The first block is a single character that identifies the secondary statistical broad group. In this example broad group 1, workload is used (see Figure 12 for further broad groups).

Nature of Statistic

02 The second block consists of two characters and identifies the statistic itself and is specific to the previous code block (example – workload units, inpatient admissions, etc.).

Capture of further detail of the Statistic

10 The third block is used to capture further detail and is related the nature of the statistic and is specific to the previous code block (example – category of service recipient).

Further breakdown of the Nature of Statistic

10 The fourth block is used to provide even greater detail on the nature of the statistic.

1	02	10	10
Broad Group	**Nature of Statistic**	**Capture of Further Detail**	**Additional Breakdown**
1 Workload 2 Staff Activity 3 Earned Hours 4 Service Activity and Caseload Status 7 Functional Centre Operation 8 Health Service Organization Operation and Contracted-Out Services	Workload Units -Service Recipient Activities **02 Workload Units Service Recipient Activities** 03 Drug Distribution 07 Diagnostic Therapeutic 08 Respiratory Services 13 Food Services 14 Health Records	Category of Service Recipient **10 Inpatient** 20 Client Hospital 40 Resident 50 Facility/ Organization/ Citizen Partnership 60 Service Recipient not Uniquely Identified 80 Client Community 90 Client Home Care	Activity Category **10 Assessment** 20 Therapeutic Intervention 30 Consultation/ Collaboration

Example 2: Secondary statistical account **4 74 20 10** is used to represent the service activity called attendance days - Virtual - video related to a client in a hospital setting. It is one of the required statistics for nutritional services.

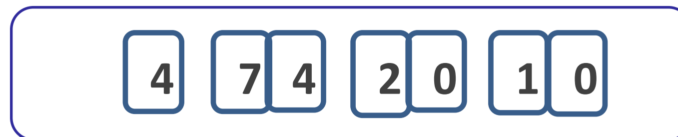

Figure 12

4	74	20	10
Broad Group	**Nature of Statistic**	**Capture of Further Detail**	**Additional Breakdown**
1 Workload 2 Staff Activity 3 Earned Hours **4 Service Activity & Caseload Status** 7 Functional Centre Operation 8 Health Service Organization Operation and Contracted-Out Services	Service Activity and Caseload Status Statistics 01 Inpatient Admissions 03 Inpatient Days 48 Visits - In-person 49 Visits – Virtual 73 Attendance Days - **74 Attendance Days-Virtual** 89 New Referrals 90 Active Carryovers	Category of Service Recipient 10 Inpatient **20 Client Hospital** 40 Resident 50 Facility/ Organization/Citizen Partnership 60 Service Recipient not Uniquely Identified 80 Client Community 90 Client Home Care	Accounts specific to previous level and provide further breakdown. **10 – Video** 20 – Telephone 30 – Email 40 – Text 50 - Other

Figure 13

In Newfoundland and Labrador, the lower-level reporting of virtual statistics is required (i.e., attendance day – virtual – video, attendance day – virtual – telephone, etc.)

The MIS Standards organizes all statistical data into six broad groups that identify the nature of the statistic.

Secondary statistical accounts can only be reported at the level defined by the DHCS in the Provincial Chart of Statistical Accounts. If lower-level accounts have been created for internal use, these must be "rolled-up" to the provincial account prior to data submission.

All statistics must be reported in the same functional centre as the activity took place. This includes earned hours, service activity and caseload status statistics. Workload, staff activity, functional center and health service organizations and contracted out services?

The broad groups of secondary statistical accounts are:

Workload

Workload statistics are those applicable to functional centres that have a workload measurement system (WMS) in the MIS Standards such as nursing, nutrition services, speech-language pathology, medical imaging, and pharmacy. This workload data is important to functional centres as it provides information for the analysis of service volumes, productivity, and costs.

Workload, service activity and caseload status statistics must be recorded separately for each category of service recipient. This separation supports more detailed analysis of the data, providing an understanding of different resource needs, as well as supporting external reporting requirements.

Staff Activity

Staff activity statistics pertain to select activities performed by staff when fulfilling the service mandate of the functional centre. In some cases, these statistics may be used as a surrogate workload measure for functional centres that do not have a workload measurement system in the MIS Standards. For example, laundry can track the number of kilograms of clean linen issued, human resources can track the number of grievances resolved and payroll can track the number of pay cheques/stubs issued.

Earned Hours

Earned hours statistics are those that categorize earned hours by broad occupational group and type of hour. This data is collected by the organizations' compensation systems (payroll).

Service Activity and Caseload Status

Service activity and caseload status statistics pertain to the service activities provided by the nursing in-patient services and ambulatory care, diagnostic and therapeutic services, and community health services functional centres. Examples of service activity statistics include visits - in-person, visits - virtual (video, telephone, email, etc.), in-house exams, and inpatient days. These statistics supplement workload information by defining the complexity of service activities provided and are used to determine costs for these activities. Caseload status statistics describe the status of service recipients of current, past, and future caseloads (i.e., admissions, discharges, transfers, and new referrals).

Workload, service activity and caseload status statistics must be recorded separately for each category of service recipient. For example, visits in-person- inpatient, attendance days in-person - client hospital. This separation supports more detailed analysis of the data, providing an understanding of different resource needs, as well as supporting external reporting requirements.

Functional Centre Operation

Functional centre operation statistics are specific to the operation of a functional centre. They include those that describe its characteristics (e.g., physical size or capacity), catchment population and personnel complement.

Health Service Organization Operation and Contracted-Out Services

Health service organization operations and contracted-out services statistics pertain to the operation of the health service organization. They include the number of cardiac arrests, medication errors, different types of revenue days, clients receiving home health/home support services and changes in employee status. They also include data related to the physical facility, such as energy consumption, heating days and cooling days and to those services that are provided by a contracted-out third-party provider.

Workload Measurement System

Workload Measurement System

A workload measurement system (WMS) is defined as a tool for measuring the volume of services provided in terms of a standardized unit of productive personnel time and serves as a:

- department management tool to provide systematic quantification of workload to assist in staffing, planning, budgeting, and performance monitoring
- standardized method for recording workload that will yield uniform data for internal and external reporting, permitting historical trending and selective national and peer group comparisons

The Generic Workload Measurement and Reporting Framework provides a model for data collection and reporting for many clinical disciplines while enabling users to customize the level of detail for their discipline or service.

Workload is collected for all activities that are undertaken on behalf of a service recipient. A service recipient is defined as the consumer of primary service activities of one or more functional centres of the health service organization. Service recipients include individuals (e.g., inpatient, residents, client hospital) and their significant others. Significant others are individuals who are acting on behalf or in the interest of the service recipient, such as parent, spouse/partner, child, legal guardian, or substitute decision-maker.

Note: There are other individuals who act on behalf of or in the interest of service recipients but are not considered to be a "significant other." Examples include ministers, teachers, lawyers, or other health care professionals. The time spent with these individuals is recorded as the service recipient workload, consultation/ collaboration. No service activity statistic is recorded.

Recording Workload

Workload is recorded by unit producing personnel (UPP). UPP perform activities that directly contribute to the fulfillment of the service mandate of the functional centre. Management and operational support personnel do not record workload.

The allocation of individual staff members to broad occupational groups should be reviewed to determine the appropriate identification of unit-producing staff to ensure that worked hours and workload are matched. Management staff routinely participating in unit-producing activities should have their compensation divided between management and operational support and unit-producing personnel.

Managers who perform unit-producing activities should collect workload for this activity if it consumes more than 20% of their time. In some situations, it may even be advisable to collect workload for individuals who spend smaller percentages of their time providing clinical service. This would depend on the size of the service and the impact on productivity indicators.

In today's environment, traditional management duties are often delegated to UPP staff, although this may not be greater than 20% for any individual staff member. These staff members are designated as UPP with UPP worked hours and non-service recipient activity workload is used to record time for management work. Clinical leaders are not unit producers if their primary role is management. When comparing performance indicators across organizations, knowledge of the service delivery model is essential. Although these models may reduce overhead costs in traditional administrative functional centres and reduce reported management hours in diagnostic and therapeutic functional centres, there may be an offsetting increase in the cost per workload unit as UPP non-service recipient activity workload may increase.

If a UPP staff member is responsible for management activities on an occasional basis, this time is recorded as non-service recipient activity (functional centre activities) within UPP worked hours. If an individual is responsible for management activity for greater than 20% of their time, the worked hours of these staff should be divided between MOS and UPP categories. No workload is recorded for the management portion of their time.

GENERIC WORKLOAD MEASUREMENT AND REPORTING FRAMEWORK
Conceptual Model for Nutrition Services

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Workload Categories	SERVICE RECIPIENT ACTIVITIES			NON-SERVICE RECIPIENT ACTIVITIES			
Activity Categories	**Assessment**	**Therapeutic Intervention**	**Consultation/ Collaboration**	**Functional Centre Activities**	**Organizational/Professional Activities**	**Teaching/ In-Service**	**Research**
Component Activities	Nutritional Screening General Nutritional Assessment Comprehensive Nutritional Assessment Formulating Care Plan Clinical Documentation	Customization of Menu Menu Review/ Verification Diet Counselling Service Recipient Education Discharge Planning Advocacy - Service Recipient-Specific Monitoring and Adjustment of Care Plan Manual Techniques Clinical Documentation	Professional Consultation Case Conferences Team Meetings Service Rounds Clinical Documentation	Functional Centre Management Employee Meetings Caseload Management Maintenance Quality Management Travel for Functional Centre Activities Travel to and from the place where service recipient activities are provided*	Board/ Committee Functions Public Relations Professional Activities Program Management Advocacy – Professional Travel	Students Professionals Academic In-Service Education Travel	Project 1 Project 2 Travel

Figure 15

**Note: Organizations that are involved in a lot of travel "to and from the place where the service recipient activities are provided" may want to report this travel separately.*

Service Recipient Activities

All work on behalf of service recipients is recorded, even if outside regular working hours (e.g., during overtime hours) but not unpaid worked hours. This is necessary to have a full understanding of service needs and potential costs. Service recipient workload activities are divided into three main components: (See below)

Assessment

Assessment refers to a series of activities/interventions conducted for the purposes of:

- evaluating the need for services
- assessing an individual's physical, psycho-social, emotional, and cognitive health status
- identifying service recipient goals and expected outcomes
- identifying a diagnosis and consequences of health conditions
- determining the extent of services required

Assessment in this context is a formal, comprehensive process that may include chart review, screening, observations, interviews/verbal reporting, the administration of specific assessment tools and standardized tests and measures, analysis of assessment findings, development of the care plan, formal re-evaluations, and related documentation (regardless if the documentation was completed at the time of the assessment or at a later time).

Assessment excludes the ongoing monitoring activities and evaluation associated with a specific therapeutic intervention.

Examples of Assessment activities:

- reviewing charts
- evaluating need for service
- interviewing service recipient and/or family member
- analyzing assessment findings
- identifying goals and expected outcomes
- development of the care/therapeutic plan documentation related to assessments
- formal re-evaluation/updating of goals and outcomes

Information may be obtained from a variety of sources such as the patient/client hospital/ resident, family, employer, teacher, written documentation from the health record and other sources.

Therapeutic Intervention

Therapeutic intervention refers to all activities carried out with or on behalf of a service recipient and/or significant other(s) that are aimed at health promotion and disease prevention, improving/maintaining health status or minimizing the impact of deterioration on function and the quality of life. Therapeutic interventions are often individually designed and supervised by the service provider for a specific person, organization, or group.

Examples of therapeutic intervention activities:

- performance/provision of treatment interventions/specific; techniques/procedures.
- preparation for treatment (individual or group).
- provision of nutrition education.
- ongoing monitoring of the person's response to treatment (progress notes).
- clinical documentation related to the interventions performed; and
- development of presentations for client/community population

**Transporting of service recipients is considered a service recipient activity, under activity category therapeutic intervention, when it requires the skills of your discipline and a therapeutic interaction occurs.*

Therapeutic intervention includes individual, family, couples, group sessions, preparation for therapy, administering the therapy and clinical documentation.

Preparation for and participation in Individual Support Services Plan (ISSP) meetings is considered a therapeutic intervention activity as well. Such meetings are intended to be held with the client/or significant other present to discuss progress to date, share information among care providers, as well as the family and revise the care plan as required.

Consultation/Collaboration

Consultation/collaboration refers to contact with service providers from within the organization, other organizations, the community, or other agencies for discussion regarding specific service recipients to obtain, provide or exchange information relative to the person's care. The purpose of the consultation may be focused on the needs of a service recipient/family or on improving the effectiveness of a system/ environment. Discussions may be formal or informal. It includes any regularly scheduled or attended meetings of professionals to coordinate team efforts for activities provided to service recipients.

Examples of consultation/collaboration activities:

- interdisciplinary/multidisciplinary conferences (when service is not present)
- informal meetings with other staff that are service recipient specific
- team meetings
- completion of referrals
- clinical documentation related to these activities is also included

Note: Clinical documentation includes those activities related to the service recipient records, including documentation of assessment findings, service planning, intervention/treatment plans, discharge plans, specific interventions provided and preparation or review of reports, written opinions, etc. Time spent on documentation should be recorded under the appropriate category of assessment, therapeutic intervention, or consultation/collaboration, depending on the nature of the documentation.

Non-Service Recipient Activities

Non-service recipient activities are integral to the functional centre's operations, but they do not involve the delivery of services to service recipients and/or their significant others. Non-service recipient workload is divided into four main components (see below) and has the following characteristics: it is not directly related to service recipient care but supports the activity of the department/program, the organization, or the community

- it includes activities related to education or research
- it is not normally census driven

Functional Centre Activities

Functional centre activities are activities required for the operation/maintenance of the functional centre and for the benefit of staff. This category includes but is not limited to:

- **Functional Centre Management**: Includes but is not limited to:
  - housekeeping/clerical activities
  - organizing files
  - orienting staff
  - recording and calculating workload and other statistical data
  - preparing non-clinical documentation
  - compiling data for reports and management purposes
  - management activities related to discipline specific activity
  - development of discipline specific service programs
- **Employee Meetings**: Includes, but is not limited to, formal and informal meetings of functional centre staff for the purpose of disseminating and receiving information pertaining to the operation of the functional centre and the organization.
- **Caseload Management**: Includes, but is not limited to, prioritization and assignment of service recipients within a caseload, receiving of referrals, etc.
- **Maintenance**: Includes, but is not limited to, activities such as maintaining a safe, tidy environment, maintenance of equipment and inventory control.
- **Quality Management**: Includes, but is not limited to, time spent attending quality management meetings, performing, and documenting activities that improve the quality of services delivered in keeping with organizational policies and industry standards.
- **Travel**: Includes, but is not limited to, internal and external travel associated with the activities listed above, as well as travel associated with the provision of services to service recipients within the organization or in their home. Also includes portering* of service recipients when performed by staff.

**Portering of service recipients is considered a non-service recipient activity, under activity category functional centre activities when it does not require the skills of your discipline.*

Organizational/Professional Activities

Organizational/professional activities are performed for the general functioning and direct benefit of the organization, community, or profession. Such activities may include:

- **Board/Committee Functions:** Activities performed during worked hours relating to the preparation, attendance, and follow-up of health service organization board/committee functions (e.g., Accreditation Committee meetings, Occupational Health and Safety Committee work).

- **Program Management:** Management activities related to multidisciplinary program(s) and program management activities related to the organization as a whole.

- **Public Relations:** Activities directly associated with the public relations function of the health service organization. Includes, but is not limited to, planning, meetings, and participation in the event (e.g., media events, information programs, preparing articles for publication, etc.).

- **Professional Activities:** Services provided to the professional, scientific, and local communities, agencies, and service groups during worked hours (e.g., participation in professional association committees).

- **Advocacy-Professional:** Activities related to advocacy on behalf of your profession.

- **Travel:** Internal and external travel associated with the above organizational/ professional activities.

Teaching/In-Service

Teaching/in-service includes activities devoted to the dissemination of knowledge by functional centre staff, through lectures, presentations, observations, or direct participation, to individuals other than service recipients. It includes, but is not limited to, clinical placements of students, information sessions for other staff, formal lectures to university/college students. This also includes in-service education received by staff. Some examples include:

- **Students**: Activities associated with the preparation, orientation, instruction, supervision and/or evaluation of students prior to, during or immediately following their clinical placements. Excluded are service recipient related activities performed during teaching.

- **Professionals:** Activities associated with the preparation, orientation, presentation and/or instruction of other professional staff.

- **Academic:** Activities involved in the preparation and presentation of course/lecture material to students and evaluation of students as part of their academic curriculum.

- **In-Service Education:** Activities include, but are not limited to, receiving usually brief, in-house educational information sessions presented by other staff of the organization, orientation to new procedures or equipment, grand rounds and reading of professional journals, books, and on-line articles.

- **Travel:** Internal and external travel associated with the above teaching/in-service activities.

Note: Professional development, which is tracked by the payroll system as a benefit hour (usually as education leave), is excluded from this in-service education definition. Professional development activities are longer, more formal, discipline-specific and are usually greater than ½ day in duration. Professional association annual conferences, courses, symposiums, seminars, and workshops are examples of typical professional development activities. It also includes related travel.

Research

Research is defined as formally designed and approved clinical investigations directed towards advancing knowledge in the field of health and the delivery of health services, using recognized methodologies and procedures. This category includes activities performed during worked hours such as reviewing previous research, writing research proposals, compiling, and analyzing data, report writing, and travel related to these activities.

It excludes the provision of service recipient activities, which is provided as a part of the research program. These are recorded as service recipient workload units under the appropriate category.

Note: Informal research is recorded as non-service recipient, teaching/in-service workload.

Recording Methodology

The purpose of a workload measurement system is to track the hands-on time, in minutes, that unit-producing personnel spend performing the activities/tasks that fulfill the mandate of the functional centre. The time being tracked should be reflective of all service recipient and non-service recipient activities performed by the unit-producing personnel of the specific functional centre and be collected in a consistent manner. If the time is not reflective of the work, performance indicators will not be accurate and comparative reporting will be compromised.

The following describes the three different time recording methodologies: actual, average, and standard time recording. The method employed will vary from functional centre to functional centre, from organization to organization, and from one type of workload being collected to another. However, a standard time may work well for recording time associated with a specific service recipient workload activity that is performed frequently and for which no average unit value has been published. Standard time may also be used in those cases when the published average unit value does not reflect the time required to perform the activity (i.e., the published average unit value is either too high or too low). On the other hand, actual time recording may be the best methodology to record non-service recipient activities.

One workload unit is equal to one minute of UPP time spent performing service recipient and non-service recipient activities of a functional centre.

One Workload Unit = One Minute

Figure 15

The Generic Workload Measurement and Reporting Framework has been designed to support collection of workload using either an actual, average, or standard time recording system.

Actual Time Recording

The actual time spent providing service recipient and non-service recipient activities are recorded retrospectively (after the fact). This can be accomplished by recording the time associated with an activity completed.

The most accurate way to record the exact time spent providing service recipient and non-service recipient activities is using a watch. Each UPP would do this retrospectively throughout each calendar day. This method may be appropriate for recording times for activities that are not performed often or those in which the time varies from occasion to occasion. It may not be advantageous however to record workload data in this way for all activities. It would be an onerous task for the staff to do on a day-to-day, hour-by-hour basis and may take valuable time away from fulfilling the mandate of the functional centre.

The use of time blocks may be one way to ease the workload data collection burden. Time blocks should be no more than 10 minutes to minimize variances due to rounding. Depending on the length of time it takes to perform most procedures, time blocks of five minutes or less may be more appropriate to use. Although some error may be introduced, this is generally insignificant since the variances due to overestimating and underestimating the actual time spent tends to be offset when summed. Time should be captured as precisely as possible to ensure accurate data. All blocks should be converted to minutes at the end of the reporting period (see Figure 16)

The following steps are integral to this methodology:

Step 1: Prepare a time block schedule as follows:

Minutes Spent Performing Workload Activity	Time Blocks
1-2	0
3-7	5
8-12	10
13-17	15
18-22	20
23-27	25
etc.	

Figure 16

Step 2: Develop a time block recording system whereby all unit-producing personnel would refer to their watch when they have completed an activity. The appropriate number of time blocks would be recorded to reflect this. For example, if Mary Smith attended a functional centre meeting for 50 minutes, she would record five-time blocks under the non-service recipient functional centre activity category.

Step 3: At the end of the reporting period, all time blocks are converted to minutes by multiplying the sum of the time blocks in a workload activity category by ten to determine the workload units. For example, if 10 activities with a time block of 6 were collected and 20 activities with a time block of 5, then the total workload in minutes is (10 activities x 6-time blocks x 10 minutes = 600) + (20 activities x 5-time blocks x 10 minutes = 1000) = 1600 minutes or 1600 workload units.

Average Time Recording

The average time-recording methodology uses specific unit values that have been assigned to activities, based on time studies undertaken at a national level across a sample of Canadian health care organizations of varying size and type. The average times applicable are included in the Schedule of Unit Values in MIS Standards and found as a reference document on the Centre's website. The published unit values represent the average number of minutes of unit-producing personnel hands-on time that it takes to complete a defined activity once. At the end of the reporting period, the unit values are multiplied by the number of times this activity was performed to arrive at the 'total workload units per activity'. The sum of all activity totals yields the total number of minutes of unit-producing personnel time spent in the performance of service recipient activities where the average time methodology is used.

Average time values developed through time studies should be considered as "points of reference" rather than absolute measures of the time required to perform an activity. The responsibility for the relevancy and accuracy of the timings ultimately rests with the organization that is collecting WMS data.

Though the list of activities and the published unit values are reviewed regularly, there may be situations whereby the published average time may not be reflective of the work performed by the unit-producing personnel. In these circumstances, organizations are encouraged to conduct a time study and submit the results to the Provincial MIS Consultant for review. The MIS Consultant will forward any provincial changes to CIHI for consideration and possible inclusion in the schedule of unit values.

Standard Time Recording

Standard times are facility specific time values and therefore reflect the style of practice at the facility and the environment in which the work is done. Each standard time should represent a desirable and achievable goal for the personnel and not merely describe the actual current levels or the ideal world. Standards are especially useful when there are high volumes of activities with minimal time variations such as procedures and routine clinic visits which consistently take a predictable time to complete.

The functional centre can establish standard time values for each activity. Staff can then select those activities performed and a time value will automatically be attached. Each standard time represents the functional centre's average time to perform the activity for the average service recipient, with the average care provider in normal circumstances. When the range of time for a specific activity is large specific times can be developed for unique service recipients or environments.

To calculate workload, multiply the number of interventions times the value assigned to that intervention then add the total time values for all interventions to determine total service recipient workload.

Conducting a Time Study

One of the ways to develop average times nationally, or standard times locally, is to conduct a time study within a functional centre. The goal is to determine the average time it takes the average service provider to perform an activity for the average service recipient under average circumstances.

Time studies should be conducted when activities that are being performed in the functional centre for which one would like to assign a standard unit value. A schedule of unit values can be developed to document standardized workload units reflecting specified activities. A standardized timing protocol has been developed to promote flexibility and adaptability of unit values to a variety of settings and accurately reflect resource requirements. The time study protocol is also intended to provide a consistent approach to performing time studies.

Whenever a time study is performed for new activities, or when published values are significantly different, departments are encouraged to submit the results of the time studies to MIS for evaluation and discussion. The MIS Consultant will forward any provincial changes to CIHI for review and possible inclusion in the maintenance of the MIS Standards.

In the workload measurement system, service recipient activities are typically assigned a unit value. Non-service recipient activities, on the other hand, are usually recorded using actual time methodology. The unit value for an activity is equivalent to the number of minutes of unit-producing personnel time required to complete the activity once. Therefore, to determine the unit value for an activity, time studies must be conducted in a routine setting to measure the amount of time required to perform all tasks that are part of that activity. It is preferable to time different personnel, at different times to obtain a representative average.

Note: Activities, which are typically performed by clerical or physicians, are excluded from time studies. ***Examples include appointment booking and service recipient registration and order entry.*** *Waiting time and non-service recipient activities such as teaching, in-service education, administrative duties (e.g., scheduling, purchasing), research and development, etc. are also not included in time studies.*

Fields of Observation

When performing time studies, the following fields of observation are typically measured where applicable:

- initial handling/set-up
- service recipient preparation/instructions
- diagnostic/therapeutic activities
- service recipient assistance
- clean up and
- clinical documentation.

The accuracy of the unit value for an activity will depend on identifying and measuring all the elements that occur as part of the activity. Further, the assignment of the unit value must reflect the average time it takes the average service provider to perform the activity for the average service recipient under average circumstances.

Steps in Conducting a Time Study

A single individual (surveyor) who is knowledgeable about the activity would conduct the time study as follows:

1. Observe the activity to be studied. Identify and note each step to be timed including initial handling/set-up, service recipient preparation/instructions, diagnostic/therapeutic activities, service recipient assistance, clean up and clinical documentation time prior to performing the actual timings
2. Prepare the necessary forms to record the times for each activity.
3. Measure the time spent by unit-producing personnel to perform the activity using a stopwatch or other suitable timer
4. Time different personnel performing all tasks within the activity on different days of the week and at different times. Include productive time only—exclude waiting time or other unproductive time
5. Time all steps as many times as required (the number of timings will depend on the time variability of each step). If the times vary markedly, perform additional timings. If an activity is rarely performed, it is acceptable to complete and document a timing only once
6. Group activities consistently when conducting timings where activities are being grouped
7. Average the time values by dividing the total time by the number of timings to determine the time to perform that activity once
8. Record the average value in all systems that rely on this information to assign the workload units for an activity
9. File all documentation related to the time study for future reference
10. Re-conduct a time study on a regular basis to maintain the validity of the time value. These should be done when there is a consensus among the staff that the time does not reflect current practice, when the functional centre begins providing service to different types of individuals/organizations, when new workload data collection processes are implemented, or when the workload measurement systems in the MIS Standards are revised.
11. Submit the completed time study to the Provincial MIS Consultant who will forward to CIHI for activities not currently in the schedule of unit values or activities where time requires revision. The time study will be considered for inclusion in the next revision of the discipline specific WMS.

Activities Included in Time Study Where Applicable
Initial Handling/Set Up

Includes reviewing the requisitions for completeness and appropriateness and entering information/demographic data into a computer system.

May include the following activities:

- enter order and information/demographic data into a computer system
- set-up equipment prior to activity
- prepare exam/interview room
- prepare equipment and materials for the service recipient
- prepare room for aseptic techniques.

Service Recipient Preparation/Instructions

Includes activities associated with assessing the service recipient's status (e.g., vital signs, history, etc.) prior to the activity, educating the service recipient (e.g., breast self-exam, post-exam care such as diet, activity levels, signs/symptoms to watch for), consulting and reviewing the chart, explaining the activity, ensuring the consent for treatment is complete and preparing and positioning the service recipient.

Activities

- assess the service recipient’s status
- educate service recipient
- consult and review the chart
- explain procedure
- ensure the consent for treatment is complete
- prepare and position the service recipient.

Diagnostic/Therapeutic Activities

Includes the actual activity itself, as well as, monitoring or taking the service recipient's vital signs during and following the procedure and conducting activities related to the care of the service recipient. Includes assisting a physician or other health care professional in the performance of a procedure.

Activities:

- perform assessment (pre and post monitoring)
- perform service recipient care activities
- perform MRSA/VRE/latex activities
- counselling
- discharge planning
- advocacy service recipient specific
- clinical documentation

Service Recipient Assistance

Includes assisting a service recipient with mobility, positioning, and transferring. Includes assisting other health care providers with any preparation related to service recipient assistance. Excludes portering activities unless specific skills are required during the transfer (critical care patient).

Cleanup

Includes clean-up of the work area, decontamination procedures and disassembly of equipment where necessary.

Activities:

- clean-up work area
- perform decontamination procedures
- disassemble equipment.

Clinical Documentation

Includes documentation of service recipient and activity-related information.

Validity and Reliability

The validity of a workload measurement system is defined as its ability to measure what it is supposed to measure. Workload measurement systems should be reviewed annually to ensure that:

- the system reflects the activities of the service
- the times reflect current reality when a standard or average time methodology is used and
- data collection is consistent by routine reliability audits

The reliability of an instrument is the degree of consistency with which it measures the attribute it is supposed to be measuring consistently. Inter-rater reliability refers to the extent to which data is reproducible by various staff members. It is important that different staff using the same measurement tool, measuring the same individual, at the same time, will derive a consistent result. A reliable system provides consistent data.

Factors that may influence the reliability of workload information include:

- characteristics of the tool or system (Is it user friendly or difficult to use?)
- terminology and definitions used
- time required to enter information
- person entering data (best if the person providing the care enters data)
- time of completion (close to time of intervention)
- motivation of the person recording (reduced if information not shared, not relevant, not valued, not used)
- staffing levels (often left undone if understaffed)

Factors to consider when selecting a workload measurement system reliability process:

- when reliability data does not meet standards, the number of checks should be increased until the problem is identified, strategies for improvement implemented and reliability scores have improved
- audits should be random
- when more than one category of service recipient is treated in one functional centre, audits should be completed on each category
- efforts should be made to review the workload recorded by several people

The MIS Standards recommend at least an 85% inter-rater reliability rate. Inter-rater results that fall below the target indicate a need for re-education, redesign of the tool/system or the instructions on how to enter data. The frequency and number of checks should be related to the use of the data and the importance of the resulting decisions.

Workload data must be considered valid and reliable before it can be used for decision- making or for external comparisons. In some provinces, workload is used in the current funding formula as the base for cost allocation between funding groups. Service recipient workload is used inpatient/resident/client hospital specific costing which is consequently used in the development of weights for case mix groupings.

Service Activity Statistics

Service activity statistics are captured in functional centres providing service recipient care. Together with caseload status statistics they identify the volume of activities that are provided to or on behalf of specific service recipients.

Service activity statistics, as with workload and caseload statistics, must be recorded separately for each category of service recipient. This separation supports more detailed analysis of the data, providing an understanding of different resource needs, as well as supporting external reporting requirements.

Service activity statistics supplement workload statistics in providing valuable information concerning the resources required for specific activities. They are intended to be used with matching workload statistics to measure functional centre productivity and the resource consumption of specific activities. These statistics are used with financial statistics to cost service recipient activity. The same categories of service recipients applied to workload statistics should be used with service activity and caseload statistics to identify the resource consumption of specific service recipient types (e.g., inpatient, resident and client hospital).

Service Activity Statistics

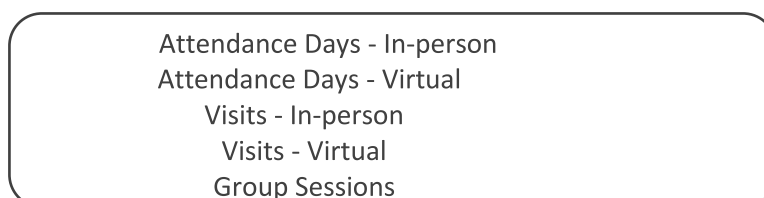

Figure 17

Definitions

Attendance Day-In-Person refers to the calendar days during which service recipient activities are provided to service recipients in-person, on an individual or group basis. In-person service recipient activities are provided with service provider(s) and service recipient(s) in the same physical location. It is intended to represent a meaningful interaction that involves the provision of services and not simply a social interaction. Service is provided for longer than five minutes and is documented according to the health service organization policy.

Only one attendance day – In-person is recorded for each person, each day, for each functional centre even if several different staff interact with the person or if the person visits the department several times during the day. If several providers in one functional centre report contact with the same service recipient during a 24-hr period, the total workload associated with these contacts is recorded and linked to one attendance day – In-person for the functional centre.

An attendance day – In-person is intended to reflect a therapeutic interaction and a minimum of 5 minutes of service (not necessarily staff time) is required. If the person is involved in a group activity, the workload units of the service provider assigned for the individual patient may not be greater than 5

minutes, on a per person basis. However, the service received by the person is greater than 5 minutes therefore an attendance day is counted.

An attendance day – In-person requires in-person contact with the service recipient or significant other. If the service recipient and significant other(s) are seen together, only one attendance day – In-person is recorded. The workload will reflect the additional time that may be required to communicate with more than one person. If the significant other is seen without the service recipient, an attendance day is recorded under the service recipient registration number/name.

Attendance Days – Virtual refers to the calendar days during which service recipient activities are provided to service recipients by means other than in-person, on an individual or group basis. Virtual service recipient activities are provided using communications or information technology, with service provider(s) and service recipient(s) in different physical locations. Examples may include attendance days via video, telephone, email, or other forms of electronic communication, either on an individual or group basis. These services are documented according to the health service organization's policy and are provided for more than 5 minutes.

Note: If services are provided in-person and virtual on the same calendar day, only an attendance day – in person is recorded for that day, regardless of which occurred first.

In Newfoundland and Labrador, the lower-level reporting of virtual attendance days is required (i.e., attendance day – virtual – video, attendance day – virtual – telephone, etc.)

Visits – In-person are defined as the occasions during which service recipient activities are provided to service recipients' in-person, on an individual or group basis. In-person service recipient activities are provided with service provider(s) and service recipient(s) in the same physical location. These services are documented according to the organization's policy and are provided for longer than five minutes. If a person is seen more than once in a 24-hour period, more than one visit – in-person is recorded for that day. If a person is seen by two staff members at the same time, only one visit is recorded, both staff members record workload.

Visits – Virtual are defined as the occasions during which service recipient activities are provided to service recipients by means other than in-person, on an individual or group basis. Virtual service recipient activities are provided using communications or information technology, with service provider(s) and service recipient(s) in different physical locations. Examples may include visits via video, telephone, email, or other forms of electronic communication, either on an individual or a group basis. These services are documented according to the health service organization's policy and are provided for more than 5 minutes. If a person is contacted more than once in a 24-hour period, more than one visit – virtual is recorded for that day.

In Newfoundland and Labrador, the lower-level reporting of virtual visits is required (i.e., visits – virtual – video, visits – virtual – telephone, etc.)

Discussion of a service recipient with another professional over the phone is recorded as service recipient workload (consultation/collaboration) but no activity statistic is recorded. When answering telephone requests from the public for information about the service, the time is recorded as non-service recipient: organizational/professional activities, but no activity statistic is recorded.

In some cases, such as suicide or crisis hot lines, caller names may not be provided. Workload and related statistics can be recorded under the service recipient category of service recipients not uniquely identified. Departments providing services via telephone must implement appropriate documentation policies to safeguard the organization and the professional and to provide information for future interactions with the person.

Group sessions are defined as the formal service activities that are material in length and are planned and delivered by one or more service providers to two or more service recipients at the same time.

Caseload Status Statistics

Caseload status statistics are captured in functional centres providing service recipient care. Together with service activity statistics they identify the volume of activities that are provided to specific service recipients.

Caseload status statistics supplement workload statistics in providing valuable information concerning the resources required for specific activities they are intended to be used with matching workload statistics to measure functional centre productivity and the resource consumption of specific activities. These statistics are used with financial statistics to cost service recipient activity.

Caseload status statistics, as with workload and service activity, must be recorded separately for each category of service recipient (e.g., inpatient, resident, client hospital). This separation supports more detailed analysis of the data, providing an understanding of different resource needs, identifies the resource consumption of specific service recipient types, as well as supporting external reporting requirements.

For a functional centre manager to ascertain the number of service recipients who received services during a period, the statistics 'new referral' and 'active carryover' is collected. The sum of these two statistics provides the number of 'active service recipients. A method to collect this data should be established when a system is put into place to collect the workload and service activity statistics (see Figure 18).

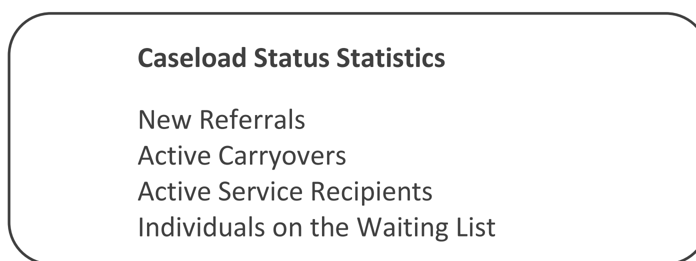

Figure 18

New referrals are defined as the number of service recipients, registered with the functional centre, who received services in the current month and who had not received services from the functional centre in a prior month. Only one new referral should be counted by the functional centre for the time interval during which the service recipient's file remains open and the individual receives services. A file is closed when services are terminated, or a period specified by the functional centre has elapsed since the service recipient received services.

Note: If the status of a service recipient changes (i.e., changes from inpatient to client), a new referral is recorded by the functional centre for that individual.

Active carryovers are defined as the number of registered service recipients who were new referrals in a prior month and who have received services from the functional centre during the current month.

An **active service recipient** is an individual who is either a new referral or an active carryover during the current month. The total number of active service recipients during a given period is equal to the sum of new referrals plus the number of active carryovers for that period and reflects the total number of individuals who received services during the month (active caseload). An annual count cannot be derived by adding all new referrals and active carryovers for the year as active carryovers are not cumulative. To accurately count the number of active service recipients on an annual basis, functional centres must use a master registry or similar process to track this information.

Active Service Recipients = New Referrals + Active Carryovers (for a given month)

Figure 19

Note: A new referral or active carryover is counted when there is in-person or virtual contact with the service recipient or significant other, as well as, when work is completed on behalf of a service recipient.

Individuals on the waiting list represent the number of individuals at a specific point in time who have been accepted to receive services but who have not yet received services.

Special Recording Situations

Clinics and Rounds:

The total period spent by the staff person is recorded even if not all service recipients discussed are on the therapist/provider's caseload. No service activity and caseload status statistics are recorded unless the service recipients participate in the rounds. If service recipient-specific recording is required, the total time is divided evenly amongst all service recipients under the care of the therapist/provider.

Note: Time spent discussing a person's care with family members is recorded as either assessment or therapeutic intervention depending on the nature of the conversation. This also applies to team meetings in which the service recipient and/or significant other is in attendance.

In clinical practice there are often several activities occurring at once. When selecting a workload category, select the activity that best describes the major focus of the activity. For example, if a one-hour session with a client consists of 50 minutes of assessment and 10 minutes of therapeutic intervention, record all 60 minutes as assessment workload. If time with a client is more evenly divided between activities, then the time can be divided as well (e.g., 30 minutes in each category).

Multiple Staff Members Providing Care

If two staff members from the same functional centre participate in service recipient activities at the same time, both report workload however, only one set of service activity and caseload status statistics is recorded. For example, a therapist and support worker from the same functional centre are both involved in an assessment, only one attendance day and one new referral/active carryover statistic is recorded.

Group Activities

If one staff person provides care to a group of 10 service recipients for a one-hour period, the workload time of the staff person is recorded as 60 minutes and 10 attendance days are recorded. If collecting workload on a service recipient-specific basis everyone receives 6 minutes of service recipient workload.

Students

When calculating service recipient costs and resource requirements it is important to include all resource requirements. Therefore, all service recipient workload is recorded even if provided by unpaid students instead of staff. The contribution of students to service recipient workload will vary depending on their stage in the learning process. Identification of resource use is one of the goals of the MIS Standards. The MIS Standards suggest service recipient workload, service activity and caseload status statistics generated by students, who are functioning independently, be recorded. The Provincial MIS Committees recommend that senior level students, as identified by each committee for their own discipline, record service recipient and non-service recipient workload, in addition to their worked hours, service activity and caseload status statistics.

Organizations are advised to measure the contribution/cost of students by separately identifying service recipient and non-service recipient workload of students and non-service recipient student time of employees on their workload tool to be tracked internally. If documentation of student supervision time is required for professional organizations this should be captured through other mechanisms.

Volunteers

Volunteers are not paid employees of the organization, are not considered unit-producers, and do not collect and report workload or service activity/caseload status statistics.

Services Provided in Absence of Service Recipient

A person can be counted as part of your caseload in each month if services are provided in the absence of the service recipient (e.g., arranging for equipment and documenting in a client's chart). Although, there is no attendance day the time spent can be recorded as service recipient workload and a new referral or active carryover will be collected when appropriate. This means that if there is no attendance day for the period (month) there can still be a caseload statistic.

Travel Time for Service Recipient Activities

Travel time to get to a client is often necessary to provide service recipient care however, the amount of time that is consumed traveling to a client is not related to the needs of the person but rather to the characteristics of the organization, such as number of sites, physical layout, organizational structure, staff assignments and the geographic area to be covered. Therefore, it is concluded that it is not appropriate to record travel time as service recipient workload.

Workload tools can be used to track staff travel time specifically (either continuously or by sampling) to provide insight into the impact on workload and assist in better decision-making. This is particularly useful in zones with multiple service sites.

Waiting Time

Waiting time refers to time waiting for clients, other health care professionals or physicians. This is non-productive time and should not be recorded as workload. Although wait time consumes resources there is no output. Some clinicians have included this time as workload as it is perceived to be uncontrollable, but this is not appropriate instead, strategies should be considered to reduce this non-productive time.

If waiting time appears to be excessive it is recommended that staff record wait time (by sampling preferably) to provide a measure of time wasted. This time should be reported on internal management reports but must not be included in external workload reporting. This can be a valuable piece of information that can facilitate the identification of strategies to reduce wait time. Sometimes, just the measurement and communication of the magnitude and cost of this time will have beneficial effects. In other situations, policy changes may be needed.

Time spent waiting for clients, other health care professionals or physicians is non-productive time and should not be recorded as workload, unless another activity is undertaken to fill that time, e.g., charting.

Educational Activities of Unit-Producing Staff

The dissemination of knowledge by functional centre unit-producing staff through lectures, presentations, observations, or direct participation to individuals other than registered service recipients is included in the non-service recipient workload (under teaching/in-service). Unit-producing time in this activity should not be charged to the education framework unless the time spent by an individual in this activity is greater than 20% of that individual's time. In that case, the individual is considered multi-functional and earned hours are divided between the two functional centres.

Research Activities of Unit-Producing Staff

All activities performed by functional centre unit-producing staff who are involved in formally designed, systematic approved clinical investigations directed to advancing knowledge in the field of health care using recognized methodologies and procedures, are recorded as non-service recipient workload. This includes reviewing and writing proposals, completing and analyzing data and writing reports. Unit-producing time in this activity should not be charged to the research framework unless the time spent by an individual in this activity is greater than 20% of that individual's time. In that case the individual is considered multi-functional and earned hours are divided between the two functional centres.

Reporting Options for Service Recipient Workload

Service recipient activity workload can be recorded on a service recipient-specific basis or provider specific basis. Service recipient-specific recording requires the provider to record the amount of time spent in service recipient activities (assessment, therapeutic intervention, or consultation/collaboration) for each person during the reporting period. This can be more time consuming than provider-specific recording depending on the type of recording methodology and technology involved and is required for case costing. Provider-specific recording requires the provider to record their total time for the period spent in service recipient activities. In this case, one cannot identify the amount of time devoted to a specific individual. Regardless of the level of recording detail chosen, the total workload statistics will be the same.

Additional Points Related to Non-Service Recipient Workload

Non-service recipient workload is usually only recorded during worked hours. In addition, non-service recipient activities can only be recorded if required by the organization. If staff members are required to attend a meeting, either facility or community, outside work hours or the staff member is expected to spend a percentage of time in research or education and this expectation is defined in the job description, then non-service recipient workload can be recorded. Many non-service recipient activities may not be required by the organization and therefore workload cannot be recorded for this time. Examples include attendance at professional meetings, participation in academic and research activities, participation in community activities, etc.

Non-service recipient workload is important as it demonstrates the extent of activities that are not related to specific patient/resident/client hospital volumes but are still an integral part of the professional's contribution to the health system. These activities can be for the benefit of the community, staff, students, or the organization. If there are specific activities that should be highlighted

internal reports should be created to provide further insight into the activities that consume clinician's time. This may include:

- staff travel related to the provision of patient care
- activities which are not under the control of the manager such as:
  - legislated activities - Occupational Health and Safety Committee involvement
  - facility required activities - reengineering, restructuring, accreditation
- activities that support the organization's employees such as:
  - critical incident stress debriefing
  - counselling
  - spiritual care
- activities that support the community such as:
  - development of infrastructures that will support service recipients after discharge
  - participation in community agency boards
  - educational sessions for service agencies

Technology Requirements

Information systems provide essential infrastructure for the workload measurement process. The nature of workload data is such that technology can greatly assist in its collection and analysis. Information systems are tools that support the use of workload information by providing ready access to data and presenting this information in statistical reports. Patient/resident/client hospital management systems have themselves evolved to the point where workload measurement can occur as a by-product of documentation. There are many different technology options that can optimize this "point of care" documentation including handheld, pen based and barcode devices. The MIS Standards do not specify a software package or technology option to be employed in workload measurement.

Currently in Newfoundland and Labrador there are several means by which organizations collect, analyze and report workload data. These include: a completely manual process manual, collection with data entered or scanned into a central computer system workload collected as a by-product of documentation in an automated system and hand-held entry devices which download into a computer system.

A variety of computerized options are currently used to collect and/or report workload data including direct entry into Meditech systems, use of customized software and use of spreadsheet programs such as Excel. Clinicians working in Health and Community Services will use the Client and Referral Management System (CRMS) to collect and report workload data.

Statistical Data Collection In Community Health

Provincial working groups for most program areas in the community sector have developed a document outlining the required statistical data that should be collected and reported in Client and Referral Management System (CRMS) for that program. Unfortunately, system enhancements are needed to realize this goal. The final report for the appropriate working group should be referred to for all information related to workload, service activity and caseload status statistics data collection and reporting. The following documents are available from:

- Final Report of the CRMS Documentation Standards and Statistical Reporting Working Group for Addictions Programs (2003) and Addendum (2004)

- Final Report of the CRMS Documentation Standards and Statistical Reporting Working Group for Mental Health Programs (2004)

- Final Report of the CRMS Documentation Standards and Statistical Reporting Working Group for Community Supports Programs (2006)

- Final Report of the CRMS Documentation Standards and Statistical Reporting Working Group for Health Promotion and Protection Programs (2007)

- Proposed Revisions to the Recommendations of the CRMS Working Group for Community Support Programs to Support Reporting for Personal Care Home Monitoring (2008)

Statistical Data Collection Recording Examples

Answers for group activities are given based on therapist-specific data collection. If data is collected by service recipient-specific basis then total time is divided between each service recipient attending the activity (see page 40, group activities).

Abbreviations Used in the Examples

- *SRA = Service Recipient Activity*
- *NSRA = Non-Service Recipient Activity*
- *min = minutes*

Example 1:

Mrs. Jones is referred to you for an assessment of her caloric intake. This is the first time she has been referred to you. You spend 45 minutes with Mrs. Jones in the morning determining her daily food intake. After she leaves your office, you spend 30 minutes analyzing and documenting your findings and developing a diet plan. That afternoon you visit Mrs. Jones for 45 minutes on the ward and instruct her in the plan you wish her to start.

How would you record your time spent with, and on behalf of Mrs. Jones and the related Caseload and Activity Statistics?

Workload	SRA: Assessment = 75 min. Therapeutic Intervention = 45 min.
Service Activity	Inpatient New Referral = 1 Attendance Day - In-person = 1 Inpatient-Visit - In-person = 2 (optional)
Caseload	N/A
Category of Service Recipient	Inpatient

Example 2:

You spend 1½ hours evaluating a student clinical dietician and discussing ongoing performance objectives. How would you record your time?

Workload	NSRA – Teaching/In-Service = 90 min. (Related to the Component Activity ‘Students’)

Example 3:

Ms. Smith was admitted yesterday to your facility for a full team assessment. You receive a referral for a nutritional assessment and follow-up. On January 5 you meet with Ms. Smith to determine her nutritional needs, food preferences, etc. This visit takes one hour. That afternoon you spend 30 minutes documenting your findings on the medical record. Later that day, you attend a case conference on Ms. Smith, for which she is not in attendance, and it lasts 30 minutes. After the conference, you make an additional notation in the medical record which takes 15 minutes. The next morning you meet with her in her room for 10 minutes to check on her daily weight and answer her questions regarding the diet plan, and make a notation in the chart, which takes 5 minutes. How would you record your time spent with, or on behalf of Ms. Smith and the related Caseload and Activity Statistics for January 5 and 6?

	January 5th	**January 6th**
Workload	SRA: Assessment = 90 min. Consultation/Collaboration = 45 min.	SRA: Therapeutic Intervention = 15 min.
Service Activity	Attendance Day - In-person = 1 Visit - In-person = 1 (optional)	Attendance Day - In-person = 1 Visit - In-person = 1 (optional)
Caseload	New Referral = 1	N/A
Category of Service Recipient	Client - Inpatient	

Example 4:

You spend 20 minutes with the parents of a child admitted with diabetes, completing an assessment. Then you spend an additional 45 minutes educating them in the appropriate diet management for their child. After, you spend 15 minutes documenting a discharge note about the child. At the end of the month, the child returns for an outpatient appointment, accompanied by her mother. This visit lasts 45 minutes and you spend 15 minutes completing a nutritional assessment, 30 minutes on further diet counselling, and 15 minutes documenting her progress. She returns one month later for further monitoring and counselling, a 30-minute visit, after which you take 10 minutes to document your findings.

How would you record your time with, or on behalf of the child, and the related Caseload and Activity Statistics? (Record each day separately.)

	Day 1	Day 2	Day 3
Workload	SRA: Assessment = 20 min. Therapeutic Intervention = 60 min.	SRA: Assessment = 20 min. Therapeutic Intervention = 45 min	SRA: Therapeutic Intervention = 45 min.
Service Activity	Attendance Day - In-person = 1 Visit - In-person = 1 (optional)	Attendance Day - In-person = 1 Visit - In-person = 1 (optional)	Attendance Day - In-person = 1 Visit - In-person = 1 (optional)
Caseload	New Referral = 1	New Referral = 1	N/A
Category of Service Recipient	Client - Inpatient		

Example 5:

You attend a Clinical Nutrition Advisory Council meeting for your zone. It takes you one hour to travel both to and from this two-hour meeting.

How would you record your time?

Workload	NSRA: Functional Centre Activity - Travel = 120 min. Functional Centre Activity - Staff Meeting= 120 min.

Example 6:

You attend ward rounds with other health professionals to discuss the 6 clients from that service you are following. Other clients are also discussed. These rounds take 60 minutes to complete; including time spent updating the care plans of the clients.

How would you record your time?

Workload	SRA: Consultation/Collaboration = 60 min. (If patient-specific recording was required, you would assign 10 minutes each to the six clients you are following).

Example 7:

You complete a video call with a client you saw last month and spend twenty minutes discussing the client's diet and recent evaluation at the Diabetic Clinic. You make a notation in the person's chart regarding the conversation, which takes five minutes.

How would you record your time with, or on behalf of the client, and the related Caseload and Activity Statistics?

Workload	SRA: Therapeutic Intervention = 25 min.
Service Activity	Attendance Day – Virtual – video = 1 Visit – Non - Virtual – video = 1 (optional)
Caseload	Active Carryover = 1
Category of Service Recipient	Client Hospital

Example 8:

You spend 20 minutes reading your general e-mail and send messages in response.

Workload	NSRA: Functional Centre Activities – Functional Centre Management = 20 min.

Example 9:

You spend 30 minutes doing a chart review of a client already receiving intervention this month.

Workload	SRA: Therapeutic Intervention = 30 min.
Service Activity	No Attendance Day is generated because the person was not actually seen in-person or received services virtually.
Caseload	N/A)
Category of Service Recipient	Client Hospital

Example 10:

You review charts of all patients admitted determining who is appropriate to be seen, which takes you 30 minutes.

Workload	SRA: Assessment = 30 min.
Service Activity	No Attendance Day is generated because the person was not actually seen in-person or received services virtually.
Caseload	No caseload statistics are generated unless a patient is deemed to require the nutrition service)
Category of Service Recipient	Inpatient

Example 11:

You spend 10 minutes making appointments.

Workload	NSRA: Functional Centre Activities – Functional Centre Management = 10 min.

Example 12:

You have a 15-minute telephone conversation with a client who is on the waiting list, who has called to see where she is on the list and discuss the nature of her problem and short-term coping strategies.

Workload	SRNUI: Intervention = 15 minutes (Plus, any additional time related to documentation)
Service Activity	Attendance Day – Virtual - Telephone = 1 Visits – Virtual - Telephone =1 (optional)
Caseload	N/A
Category of Service Recipient	Service Recipient Not Uniquely Identified

*Note: People on waiting lists are not yet registered individuals; therefore, they are “SRNUI”.

Turning Data Into Information

Information Pathways

Financial Information is maintained in the Meditech systems as well as the Client Pay Module of the Client and Referral Management System (CRMS).

Statistical information in Newfoundland and Labrador is collected by frontline staff in several ways:

- electronically (by spread sheet or computer program)
- as a by-product of charting (collected in the background in your computer system)
- manually

Regardless of the method of data collection, the information must be entered into the statistical general ledger of the zonal Meditech system for use and external reporting.

Financial and statistical information is submitted electronically by NLHS to the Provincial MIS Database at the Department of Health and Community Services. The information is used for budget monitoring, service planning, resource allocation, etc.

The Department of Health and Community Services submits the data electronically to the Canadian MIS Database at CIHI. This information is used to determine Canada's health expenditures, meet international reporting requirements, calculate national economic indicators such as the gross domestic product and conduct health and health system evaluation and analyses. Figure 20 below illustrates the flow of financial and statistical information from the points of data collection within NLHS to CIHI.

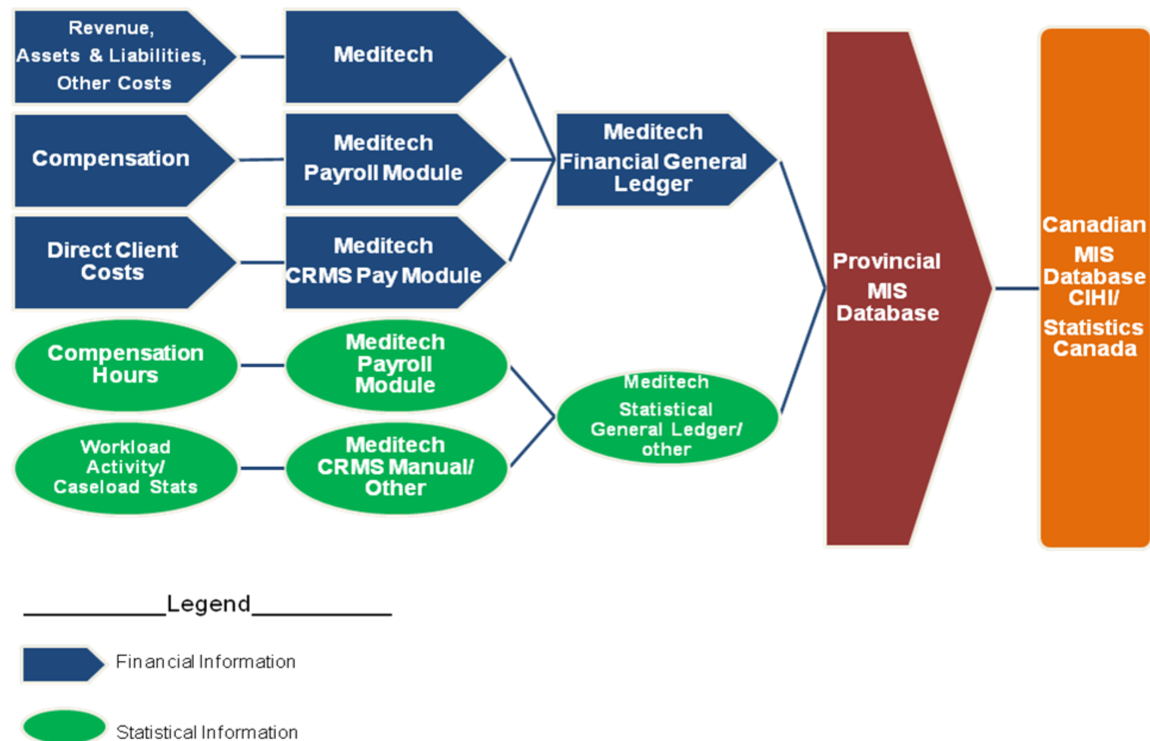

Figure 20

Performance Indicators

Data are statistics that, on their own, may not have a great deal of value or meaning. To be useful and relevant, good quality data must be turned into meaningful information, which is accurate, timely, comprehensive, useable, and relevant. When workload data is linked to financial or other statistical data to create performance indicators, the data can then be used for decision-making.

Indicators are ratios or percentages calculated from financial and/or other statistics that quantify a relationship between the data elements. Indicators measure performance and provide information that can be used to facilitate decisions or compare performance, such as, cost per workload unit (see Figure 21). They turn data into useful information.

The MIS Standards contain numerous indicators within the five categories of financial, staffing, productivity, utilization, and workload. They can be used to analyze and interpret workload data, service activity and caseload status statistics and can assist staff and managers in analyzing and evaluating their services. Indicators are valuable decision-support tools for service planning, impact analysis and effective management.

Implementation of a workload measurement system and reporting of workload and other statistical data is not the goal however the primary value in workload measurement is the use of the information to make better management decisions. This is essential to gain value from the time, effort and dollars consumed in the workload collection process. Appropriate use of the information and feedback to staff will enhance understanding and support for accurate information, resulting in better data quality.

Selected examples of some key indicators, their calculations and interpretation have been included in this section:

- cost per workload unit
- cost per workload unit by service recipient type
- workload units per activity
- UPP worked productivity
- UPP total productivity

Cost per Workload Unit

This indicator describes the cost to provide one minute of service or one workload unit.

$$\text{Cost per Workload Unit} = \frac{\text{Defined Cost}}{\text{Workload Units}}$$

Figure 21

The costs in this formula can be defined as:

- **full cost** which includes both direct and indirect functional centre costs
- **direct cost** which includes only direct functional centre costs
- **a specific component** of direct cost such as unit-producing compensation, supplies or sundry

Workload can be defined as:

- **total** (service recipient and non-service recipient)
- **service recipient**
- **non-service recipient**

The cost and workload values selected for measurement will be dependent on the intended use of the data. The components of this indicator must be known when comparing costs across organizations. One of the most used financial indicators is direct cost per service recipient workload unit. Total cost per service recipient workload unit is used to support case costing analysis. Managers will find that compensation cost per workload unit is valuable to support human resource decisions as well.

Factors that may affect this indicator include:

- staff mix
- workload measurement system in use
- overtime
- use of on-call staff
- sick time
- education and orientation costs

- benefit compensation packages
- compensation levels

Cost per workload unit can be used, in conjunction with workload units per activity, to determine costs of new programs and services and to determine the financial resources to be added, transferred or removed from a functional centre due to changes in population served, program or service (i.e., impact analysis).

Cost per Workload Unit by Service Recipient Type

Workload units by service recipient type is used in calculating the costs of specific patient/resident/client hospital type services for funding purposes and for calculating the impact of changes in service recipient characteristics.

$$\text{Cost per Workload Unit by Service Recipient Type} = \frac{\text{Total Cost for Functional Centre}}{\text{Total Service Recipient Workload Units}} \times \text{Workload Units per Type}$$

Figure 22

Functional centres need to consider the impact of patient/resident/client hospital type changes on their department. This can be done by measuring the rate of referrals for specific types of service recipients, calculating the number of attendance days generated by the average referral for this type and identifying the average workload for this type of attendance day.

Workload Units per Activity

This indicator describes how workload is related to a specific activity, such as an attendance day, admission, or visit.

$$\text{Workload Units per Activity} = \frac{\text{Workload Units for the Defined Activity}}{\text{Volume of Activity}}$$

Figure 23

The workload units used could be:

- **total** (service recipient and non-service recipient)
- **service recipient**
- **non-service recipient**

The workload unit(s) used will depend on the intended use of the data. When calculating staffing for changes in-patient/resident/client hospital volumes, only the service recipient workload should be considered as non-service recipient workload is not volume dependent and will remain despite changed

service volumes. This would also apply when considering changes in service recipient type (i.e., chronic rather than acute, or inpatient rather than client hospital).

Factors that can affect this indicator include:

- availability of support staff on the unit
- availability of other health professionals
- physician ordering practices
- care delivery models
- nursing care models
- organizational policies
- facility layout
- patient/resident/client hospital acuity and demographics

Productivity

Productivity is the relationship between inputs and outputs. In this context inputs are worked hours and outputs are workload units. The goals or targets set for productivity indicators depend on the circumstances and the strategic goals of the organization.

The options for increasing productivity include:

- maintaining the worked hours but increasing the workload units
- decreasing the worked hours but maintaining the workload units
- decreasing both the worked hours and workload units but decreasing the worked hours more than the workload units
- increasing both the worked hours and workload units but increasing the workload units more than the worked hours
- decreasing the worked hours and increasing the workload units

The MIS framework does not include coffee breaks in workload measurement. Coffee breaks alone can account for 7-8% of worked hours in addition, at least 5% is usually lost to personal or delay time. Therefore, the maximum productivity which can be expected is approximately 87%. Realistically, 80-85% total productivity is a reasonable level of accountability of how worked hours were spent. If productivity is higher than this, it could be related to:

- staff working through coffee and/or lunch
- presence of students
- staff working unpaid hours to provide service recipient care
- inaccurate reporting of either worked hours or workload

Two of the most calculated productivity indicators are:

- unit-producing personnel worked productivity (%)

- unit-producing personnel total productivity (%)

UPP Worked Productivity (%)

Productivity is expressed as a percentage and therefore will be multiplied by 100. This indicator calculates the percentage of all unit-producing personnel worked and purchased hours spent in the provision of service.

$$\text{UPP Worked Productivity \%} = \frac{(\text{Service Recipient Workload Units}) \div 60}{\text{UPP Worked + Purchased Hours}} \times 100$$

Figure 24

UPP Total Productivity (%)

This indicator calculates the percentage of all unit-producing personnel worked and purchased hours spent in the provision of service recipient and non-service recipient activities.

$$\text{UPP Total Productivity \%} = \left[\frac{(\text{Service Recipient + Non-Service Recipient Workload Units}) \div 60}{(\text{UPP + Purchased Hours})}\right] \times 100$$

Figure 25

Performance Indicators Related to Resource Consumption

The following performance indicators are considered the most useful for organizational comparisons and to also provide a comprehensive picture of a department/program. Individual organizations may elect to produce other indicators that are relevant to its needs.

The formulas for these indicators are included in the MIS Standards:

- unit-producing worked productivity (%)
- unit-producing total productivity (%)
- percentage of distribution of workload, by category of service recipient
- percentage of distribution of workload, by workload categories
- direct cost per workload unit
- workload units per in-house exam
- service recipient workload units per UPP full-time equivalent
- number of full-time equivalents per occupational group/class

To effectively allocate and use resources policy makers, health administrators and professionals must understand resource consumption and costs of caring for groups of service recipients with varying needs, in different settings. Workload measurement data, in conjunction with other information, can provide valuable information to support decisions. At the department level these decisions include:

- identification of staff hours required to meet workload requirements
- construction of a staffing schedule that reduces resource requirements
- equitable staffing assignments
- appropriate skill mix
- optimal education level for the type of services provided
- best process for care delivery

How can Workload Information be used for Costing?

The allocation of functional centre costs is based on workload data that is the most accurate statistic to use. Workload values affect not only the allocation of functional centre direct costs to types of service recipients but also the distribution of indirect costs (administrative and support costs). This occurs because indirect costs are distributed to types of service recipients based on the direct costs.

How can Organizations Apply Performance Indicators?

Reports generated using the financial and statistical data collected provide functional centre managers, senior health care executives and the board of trustees with information critical for decision-making. A view of specific information across all the organizations in a zone (e.g., drugs, unit-producing compensation) can be important for a senior manager. The examples listed below will demonstrate some of the different ways financial and statistical data can be aggregated across health service delivery settings (e.g., acute care hospital, community health care centre, home care):

- budgeting/impact analysis
- staffing/scheduling
- human resource decisions
- cost minimization
- quality initiatives

Budgeting/Impact Analysis

Workload information can be used to determine zero based or flexible budgets for existing services or for planning the budget of a new or altered service.

1. Predicted Volume X Service Recipient Workload per Activity = Predicted Service Recipient Workload

2. Predicted Service Recipient Workload X Cost per Service Recipient Workload Unit = Predicted Total Cost

3. Benefit Hours + Salaries + Benefit Contribution Dollars must then be added to develop the total budget.

Figure 26

Increase/Decrease/Transfer of Service Recipients or Dollars within an Organization/ Between Organizations.

Workload information can prove helpful when trying to determine the staffing impact of increasing or decreasing a particular activity or when trying to determine the appropriate transfer of funds/staff that are linked to the activity.

Example: change of an acute inpatient service to a rehab service

To determine impact on staffing:

1. Number of Rehab Referrals X Service Recipient Workload Units per New Referral = Expected Rehab Service Recipient Workload Units
2. $\frac{\text{Expected Rehab Service Recipient Workload}}{\text{Service Recipient Workload Units per FTE}}$ = # of FTEs required
3. To determine budget impact:

   Service Recipient Workload X Cost per Service Recipient Workload Unit = Total Cost Estimated
4. Then a comparison needs to be made between the costs of acute vs. rehab services to determine the impact of the change on staffing needs.

Figure 27

Staffing/Scheduling

Workload can be used to justify current staffing and identify staff increases or reductions based on workload requirements. Patient census alone cannot identify needs since not all service recipients are equal and do not require the same health services.

An increase in productivity can reduce costs by eliminating non-productive time. This can be achieved through a better matching of workload requirements and actual staffing and by monitoring trends of resource needs by day of week and time of year. Staffing schedules can sometimes be altered to provide a better match.

Non-productive time can only be identified if service recipient and non-service recipient workload is accurately defined and measured. A system that presumes that all time not related to service recipient activities is automatically non-service recipient time or a system that assumes non-service recipient activity is directly related to service recipient time will not provide the required information. Non-service recipient activities need to be specifically defined with associated time values.

Workload information can also be used to determine staff assignments. Rather than determining staff assignments based on the number of service recipients, the assignments can be determined based on the workload generated by each service recipient. This can lead to more equitable assignments, higher staff morale and better care. This will lead to more accurate workload collection. Staff travel time also needs to be considered when assigning caseloads to reduce non-service recipient workload. Included in this decision process one must also consider the knowledge and skill required to provide care for specific types of patients/residents/client hospital.

Human Resource Decisions

A workload measurement system, that identifies types of specific activities, can also be useful for skill mix decisions. The tasks that are frequently selected can be reviewed to determine the level of expertise that is required to complete the tasks and this information can be helpful in determining the appropriate ratio of staffing. **Caution should be exercised when using this process as the level of expertise required to provide service recipient care is not only the sum of specific tasks**. It should also consider the analysis required to determine appropriate strategies to respond to the data generated by these tasks. The workload resources required could be the same in two units but the level of expertise necessary to provide care may be different depending on the complexity of care.

To improve productivity, if the appropriate matching of workload and actual hours cannot be achieved within the current staffing complement, the manager may need to alter the full-time/part-time ratio to allow the flexibility required to provide the desired match.

Given current fiscal restraints and recruitment/retention issues in many health disciplines, there is a growing interest in capturing more human resource related data through the MIS Standards.

Cost Minimization

A workload measurement system, which examines specific activities, can be used to identify non-value-added activities or to identify improved processes or timing for providing specific tasks. If activities are not vital to clinical outcomes or client satisfaction, they may be considered for elimination. The

identification of these activities usually occurs during the implementation and validation/revalidation of standard time tools.

Activities can be linked to care plans or critical pathways to assist in quantifying and selecting alternate modes of care. Physician-driven activities can also be quantified, and this can provide valuable information when discussing critical paths with the medical staff.

A workload measurement system can identify specific tasks performed by staff that could be performed by other staff, thus reducing costs. This could involve the work of other health care professionals or support staff. However, when these tasks do not consume significant time, it may be more cost effective for staff to continue to perform the tasks.

Example: If there are sufficient clerical or portering activities, it may warrant the transfer of these tasks to non-professional staff.

Quality Initiatives

Workload data can identify processes that could be improved. These processes may be controlled by the functional centre manager or by another department. If tasks are transferred to another department the workload measurement systems will identify the staffing and cost implications for both departments.

Performance Indicators For Nutrition Services

Financial Indicators

Direct Cost per Service Recipient Workload Unit

Direct cost per service recipient workload unit is the average direct cost per service recipient workload unit. It is calculated by dividing the functional centre's direct operating expenses by the total service recipient workload units generated by the functional centre in each period.

$$\frac{\text{Direct Operating Expense}}{\text{Total Service Recipient Workload Units}}$$

Figure 28

UPP Compensation Expense to Total Compensation Expense (%)

UPP compensation expense to total compensation expense is the proportion of the total compensation expense of a functional centre which is attributable to the unit-producing personnel. It is calculated by dividing the total compensation expense for the UPP by the total compensation of all personal for that functional centre in each period.

$$\frac{\text{UPP Compensation Expense}}{\text{Total Compensation Expense of All Personnel}} \times 100$$

Figure 30

Total Compensation Expense to Direct Operating Expense (%)

Total compensation to the direct operating expense is the proportion of the direct operating expense of a functional centre attributable to the total compensation expense. It is calculated by dividing the total compensation expense for all personnel by the direct operating expense for that functional centre in each period.

$$\frac{\text{Total Compensation Expense for All Personnel}}{\text{Direct Operating Expense}} \times 100$$

Figure 29

Total Supplies Expense to Direct Operating Expense (%)

Supplies expense to the direct operating expense is the proportion of the direct operating expense of a functional centre attributable to the supply's expenses. It is calculated by dividing the supplies expense by the direct operating expense for that functional centre in each period.

$$\frac{\text{Total Supplies Expense}}{\text{Direct Operating Expense}} \times 100$$

Figure 30

Total Sundry Expense to Direct Operating Expense (%)

Sundry expense to the direct operating expense is the proportion of the direct operating expense of a functional centre attributable to the sundry expense. It is calculated by dividing the sundry expense by the direct operating expense for that functional centre in each period.

$$\frac{\text{Total Sundry Expense}}{\text{Direct Operating Expense}} \times 100$$

Figure 31

Equipment Expense to Direct Operating Expense (%)

Equipment expense to direct operating expense is the proportion of the direct operating expense of a functional centre that is attributable to the equipment expense. It is calculated by dividing the equipment expense by the direct operating expense for that functional centre in each period and multiplying by 100.

$$\frac{\text{Equipment Expense}}{\text{Direct Operating Expense}} \times 100$$

Figure 32

In organizations where expenses are identified for each service program area, calculations can be made in a similar manner to compare the costs of various programs to the total direct operating expenses. It is also possible to determine the proportion of costs attributable to administration vs. program services.

Staffing Indicators

Number of Full-Time Equivalents (FTE) by Broad Occupational Group

Number of FTE by broad occupational group is the average number of full-time equivalents for each broad occupational group (MOS or UPP). It is calculated by dividing the earned hours for all employees

(full-time and part-time) in a specific broad occupational group by the normal earned hours for a full-time equivalent in that specific group in each period.

$$\frac{\text{Total Earned Hours for all Staff in a Broad Occupational Group}}{\text{Normal Earned Hours for one FTE in a Broad Occupational Group}}$$

Figure 33

The number of UPP FTEs can be further analyzed by occupational class by modifying this formula.

Worked Hours to Earned Hours (%)

Worked hours to earned hours is the proportion of earned hours that is attributable to the worked hour's component. It is calculated by dividing the total worked hours by the total earned hours in each period. This indicator may be calculated for a given functional centre, broad occupational group or occupational class.

$$\frac{\text{Worked Hours}}{\text{Earned Hours}} \times 100$$

Figure 34

A similar calculation can be used to analyze the types of worked hours (e.g., determine the proportion of Worked Hours that were regular hours vs. overtime hours).

Benefit Hours to Earned Hours (%)

Benefit hours to earned hours is the proportion of earned hours that is attributable to the benefit hour's component. Benefit hours are periods of paid absence such as sick leave, vacation, education leave, etc. It is calculated by dividing the total benefit hours by the total earned hours in each period. This indicator may be calculated for a given functional centre, broad occupational group or occupational class.

$$\frac{\text{Benefit Hours}}{\text{Earned Hours}} \times 100$$

Figure 35

A similar calculation can be used to analyze the types of benefit hours (e.g., determine the proportion of benefit hours that were related to sick leave, education leave).

Productivity Indicators

Worked and total productivity are commonly used indicators the ratios of worked and total productivity show the amount of staff time spent in service recipient activities versus the total time spent carrying

out the mandate of the service. While worked productivity is an important indicator on its own it should not be used exclusively as it does not consider time spent in non-service recipient activity which can be significant in some functional centres. Both indicators can vary depending on the type and location of the service, as well as the support available to UPP staff and should be reviewed keeping these factors in mind.

Worked Productivity (%)

Worked productivity (%) is the percentage of all unit-producing personnel worked hours spent in the delivery of services to or on behalf of specific service recipients. It is calculated by dividing the service recipient workload units (converted to hours) by the worked hours plus purchased hours of the unit-producing personnel in each period and multiplying by 100. This has traditionally been the most widely used productivity indicator.

$$\frac{\text{Service Recipient Workload Units} \div 60}{\text{Unit-Producing Personnel Worked + Purchased Hours}} \times 100$$

Figure 36

Total Productivity (%)

Total productivity is the percentage of all unit-producing personnel worked spent in the provision of service recipient activities and non-service recipient activities. It is calculated by dividing the service recipient and non-service recipient workload units (converted to hours) by the worked hours plus purchased hours of the unit-producing personnel in each period and multiplying by 100.

$$\frac{\text{Service Recipient + Non-Service Recipient Workload Units} \div 60}{\text{Unit-Producing Personnel Worked + Purchased Hours}} \times 100$$

Figure 37

Service Recipient Workload Units per Full-Time Equivalent (FTE)

Service recipient workload units per FTE is the average number of service recipient workload units generated by each unit-producing personnel full-time equivalent. It is calculated by dividing the service recipient workload units by the number of unit-producing personnel full-time equivalents (see previous staffing indicator for the calculation of the number of unit-producing personnel FTEs). This indicator is commonly used to establish realistic caseload guidelines, monitor staff productivity and workload, and determine the impact of changes in service demands.

$$\frac{\text{Service Recipient Workload Units}}{\text{Number of Unit-Producing Personnel FTEs}}$$

Figure 38

Attendance Days per Unit-Producing Personnel Full-Time Equivalent (FTE)

Attendance days per unit-producing personnel FTE is the average number of attendance days recorded by each unit-producing personnel (UPP) full-time equivalent. It is calculated by dividing the number of attendance days (in-person and virtual) recorded by all UPP full-time equivalents by the number of UPP full-time equivalents on staff.

Total Attendance Days (in-person and virtual)
Number of Unit-Producing Personnel FTEs

Figure 34

Utilization Indicators

Service Recipient New Referral Rate (%)

Service recipient new referral rate (%) is the percentage of the total health service organization service recipient admissions referred to a functional centre is calculated by dividing the number of service recipient new referrals by the number of service recipient admissions (to a bed) in a facility, program, etc., in each period, and multiplying by 100. This indicator can be used to determine referral rates in residential settings, inpatient facilities, and long-term care facilities.

Service Recipient New Referrals X 100
Total Health Service Organization
Service Recipient Admissions

Figure 41

This can also be calculated by site and by programs by modifying the formula accordingly.

Distribution of New Referrals by Category of Service Recipients (%)

Distribution of new referrals by category of service recipient is the percentage of new referrals to a functional centre that is attributable to each of the various categories of service recipients (e.g., inpatient, resident, client hospital). It is calculated by dividing the number of new referrals from each category by the total number of new referrals to that functional centre in each period and multiplying by 100.

New Referrals of Specified Category X 100
Total New Referrals

Figure 39

Service Recipient Workload Units per Attendance Day

Service recipient workload units per attendance day is the average length of unit-producing personnel time devoted to a service recipient attendance day. It is calculated by dividing the service recipient workload units by the number of attendance days in each period. This indicator may be further broken down by category of service recipient (e.g., inpatient, resident, client hospital). In those cases, the numerator and denominator should only include the service recipient workload units and the number of attendance days associated with the specified category of service recipient. This indicator and the following variations can also be calculated for the attendance days of a particular service or patient/client hospital/resident population, provided the workload units can be identified for that service or specified population.

Service Recipient Workload Units
Total Service Recipient Attendance Days
(in-person and virtual)

Figure 40

Attendance Days per New Referral

Attendance day per new referral is the average number of attendance days for each new referral to a functional centre. It is calculated by dividing the number of attendance days by the number of new referrals in each period. This indicator may be further broken down by category of service recipient (e.g., inpatient, resident, client hospital). In those cases, the numerator and denominator should only include the number of attendance days and the number of new referrals associated with the specified category of service recipient. *Note: This indicator is most appropriate when calculated on an annual basis.*

Attendance Days – in-person and virtual
Total New Referrals

Figure 41

Workload Indicators

Distribution of Service Recipient Workload Units by Category of Service Recipient (%)

Distribution of service recipient workload units by category of service recipient is the percentage of unit-producing personnel time that is attributable to the various categories of service recipients. It is calculated by dividing the number of service recipient workload units for a specified category of service

recipient (e.g., inpatient, resident, client hospital) by the total number of service recipient workload units for a given period and multiplying by 100.

$$\frac{\text{Service Recipient Workload Units (Specified by Category of Service Recipient)}}{\text{Service Recipient Workload Units for all Categories of Service Recipients}} \times 100$$

Figure 42

Distribution of Workload Units by Workload Category (%)

Distribution of workload unit by workload category is the percentage of unit-producing personnel time spent in the two workload categories (service recipient and non-service recipient activities). It is calculated by dividing the number of workload units of one of the specified categories by the total number of workload units (service recipient and non-service recipient activities) for a given period and multiplying by 100.

$$\frac{\text{Specified Category (e.g., Service Recipient Activities) Workload Units}}{\text{Service Recipient and Non-Service Recipient Workload Units}} \times 100$$

Figure 43

Interpreting Workload Indicators Results

Why would your workload measurement values change when the type(s) of service recipients and volume remain the same? Some possible reasons that could affect service recipient and non-service recipient values include:

- service recipient activities:
  - physician ordering practices may have changed
  - advances in technology
  - staff may be over or under recording due to their perceived uses of the system
  - there may be new staff who do not understand how to use the system
  - clinical practices may have changed
- non-service recipient activities:
  - new organizational expectations for unit-producing staff involvement in committees
  - development of a new service/program
  - introduction of a new facility computer system requiring in-service education
  - change in student volumes
  - availability of support staff
  - participation in a new research project
  - new expectation for community or staff support

Why would your workload data differ from that of another organization when the type(s) of service recipients and volume are the same? Possible reasons include:

- differences in physician ordering practices
- staff may be doing work in one hospital that is performed by other health care providers in another setting
- differences in technological support
- differences in the physical environment (e.g. distance between service recipients, availability of elevators)
- differences in support systems such as proximity of equipment or supplies
- differences in service recipient needs despite having the same diagnosis (e.g. socio-economic needs, distance to the facility)
- differences in provider mix (e.g. professional to assistant ratio and levels of support staff)
- differences in clinical practice

The data collected through the WMS and the associated activity statistics should be compiled and reported monthly to the administrator of the discipline specific service. Individual site reports are of value to site managers, as well as to the director of each service. In combination with a monthly financial report, managers can calculate key performance indicators with which they can monitor and measure performance. Ideally, such indicators can be automatically generated from the Meditech system using an NPR report. Directors of are encouraged to work closely with information systems staff and finance department staff to develop automatic reporting for all stakeholders containing information at an appropriate level of detail for the user and in a timely fashion.

Many managers use MIS performance indicators as components of balanced scorecards, or other quality reporting required by their zone. Such data is vital for benchmarking activities, a valuable process for discovering best practices among peer organizations.

The basic operational management information provided by the MIS data is the foundation for day-to-day management functions as well as strategic decision making and impact analysis.

Sample Performance Indicator Report

Sample Performance Indicator Report					
	Fiscal Year				
	Fiscal Period				
	Facility A	Facility B	Facility C	Facility D	Facility E
	Functional Centre	Functional Centre	Functional Centre	Functional Centre	Functional Centre
Performance Indicators					
Financial					
Direct Cost per Service Recipient Workload Unit	$1.69	$1.42	$1.17	$1.32	$1.60
Total Compensation to Total Expenditures	99.1%	97.5%	98.2%	96.7%	97.6%
Staffing					
UPP Worked to Earned Hours	52.6%	81.0%	80.5%	82.5%	83.7%
UPP Benefit to Earned Hours	17.4%	19.0%	19.5%	17.5%	16.3%
Productivity					
UPP Worked Productivity (%)	48.0%	54.3%	61.7%	61.1%	54.6%
Total UPP Productivity (%)	67.4%	78.3%	81.6%	88.5%	78.0%
Utilization					
SR Workload Units per Attendance Day					
Inpatient	50.53	70.72	50.35	55.32	59.28
Client Hospital	54.26	73.95	45.00	55.85	93.38
Client Home Care	21.14	20.49	0.00	0.00	65.23
Client Community	30.20	0.00	41.55	0.00	33.00
Resident	45.31	48.64	18.66	60.62	0.00
Facility/Organization/Citizen Partnership	0.00	100.71	0.00	30.00	0.00
SR not Uniquely Identified	15.15	34.11	28.88	33.29	78.15
Workload					
% Distribution of Service Recipient Workload Units					
Inpatient	46.8%	44.1%	46.8%	38.6%	20.9%
Client Hospital	39.0%	44.0%	34.5%	42.4%	76.9%
Client Home Care	1.0%	2.3%	0.0%	0.0%	0.5%
Client Community	1.5%	0.0%	3.4%	0.0%	0.3%
Resident	11.3%	8.2%	15.2%	14.3%	0.0%
Facility/Organization/Citizen Partnership	0.0%	0.4%	0.0%	0.0%	0.0%
SR not Uniquely Identified	0.4%	1.0%	0.1%	4.7%	1.4%
% Distribution of Workload Units					
% Service Recipient Workload Units	71.3%	69.4%	75.6%	69.1%	70.0%
% Non-Service Recipient Workload Units	28.7%	30.6%	24.4%	30.9%	30.0%

Figure 44

Data does not represent any one facility or zone.

Important Points About Data Collection

Secondary statistical information, such as, workload, service activity and caseload status statistics, is collected by unit-producing personnel (UPP) only.

Care should be taken to ensure that only the worked hours of staff (UPP) are matched to the workload that is generated, as these two pieces of data will be used to produce productivity information. Failure to accurately match these data elements will skew productivity indicators.

When management staff members provide direct care (unit-producing) for a portion of their time, their workload and earned hours for that time should be included in the functional centre totals.

Workload measurement collection expectations and targets should be incorporated into:

- staff orientation programs
- job descriptions for all staff
- performance evaluations and reviews
- the strategic goals of the organization

Maintenance of workload measurement systems requires:

- involvement of all staff
- formal annual review by staff or whenever there are changes in service recipient types or care processes
- on-going in-service education
- regular reliability testing

Manager responsibilities:

- provide leadership for implementation
- ensure adequate reference material is available
- understand all components of the system
- regularly monitor the results to ensure data quality
- investigate sources of inconsistent data
- use the information to support decision-making
- provide feedback to all staff recording workload (e.g., individual reports, discussion of analysis)

Staff responsibilities:

- record data accurately to quantify services provided
- record data in a timely manner
- accurately measure the resource requirements of their patients
- understand the workload measurement system, both recording and interpretation of results
- share knowledge with new staff, such as accurate use of reference material

Resources

National Resource Materials

The Standards for Management Information Systems in Canadian Health Services Organizations (MIS Standards) are published on CIHI's website. Upon release, a copy is sent to the Department of Health and Community Services, and the Chief Financial Officers of each zone within Newfoundland and Labrador Health Services. Further details regarding all topics enclosed in this reference guide are contained in the MIS Standards. If you require access to the national MIS Standards, please contact the appropriate financial department.

Provincial Resource Materials

Resource documents and information available from the provincial MIS consultants include:

- Provincial Reporting Requirements User Guide
- discipline specific reference guides
- discipline specific indicator reports (through information request)

Education

CIHI provides a series of education sessions including eLearning and WebEx sessions on an on-going basis and in-person sessions a minimum of once per year. The topics for these sessions vary and a current schedule may be obtained either through CIHI's website or by contacting the provincial MIS consultants. Educational workshops are also available and can be customized for specific needs and offered on a site specific or zonal basis.

MIS Consultants
Newfoundland and Labrador Health Services – Digital Health
70 O'Leary Avenue
St. John's, NL A1B 2C7
Telephone: (709) 752-6000
Website: www.nlchi.nl.ca