Data Quality Documentation, Home Care Reporting System, 2010–2011

Standards and Data Submission

Canadian Institute for Health Information
Institut canadien d'information sur la santé

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Better data. Better decisions.
Healthier Canadians.

Our Mandate

To lead the development and maintenance of comprehensive and integrated health information that enables sound policy and effective health system management that improve health and health care.

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Respect, Integrity, Collaboration, Excellence, Innovation

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Summary

The Home Care Reporting System (HCRS) is a longitudinal database at the Canadian Institute for Health Information (CIHI) that captures clinical, demographic and administrative information on clients who receive publicly funded home care services. The RAI-HC©, an internationally validated clinical assessment instrument, forms the clinical data standard for HCRS.

In 2010–2011, data was received from five provinces and territories. Yukon started submitting HCRS data in 2006 and British Columbia in 2009. The remaining three jurisdictions submitted their home care data without going through the HCRS production system: the Winnipeg Regional Health Authority (WRHA) submitted once in 2007, Nova Scotia submitted in 2008 and 2011, and Ontario sends data quarterly.

The RAI-HC has undergone significant international reliability and validity testing that confirms it has both high reliability and high validity. Analysis of HCRS data also shows that the data is generally of high quality and exhibits expected patterns of consistency, both within and across assessment records. In addition, the HCRS production system requires that organizations submit data that meets CIHI's specifications, which ensures that each record is complete and contains only valid values.

Users of HCRS data need to be aware of several key issues:

- While HCRS coverage has expanded since its inception in 2006–2007, and will increase in the future as jurisdictions continue to implement the RAI-HC assessment and submit their data to CIHI, HCRS data may not be representative of Canadian home care services.
- As participation in HCRS has expanded over time, the population of reference for each year is different. Any changes in trends identified need to be interpreted carefully, as they may reflect changes in the underlying population rather than actual changes in the characteristics and resource utilization of the clients being served.
- The structure of HCRS longitudinal data is complex; users need to familiarize themselves with each jurisdiction's requirements for assessment frequency when comparing across provinces and territories.
- Not all clients have assessment data available; some client groups are not considered long-term home care clients and are therefore not candidates for RAI-HC assessments.
- The WRHA, Nova Scotia and Ontario HCRS data did not go through the production system; therefore, not all HCRS data elements are available for use for these jurisdictions.

1 Introduction

This report provides data quality and general reference information on data submitted to the Home Care Reporting System (HCRS) to help people understand and use HCRS data. It provides information on the structure of HCRS data, how the information is collected and processed, and the strengths and any major limitations of the data. Data limitations are detected and investigated through data processing and through data quality and analytical activities within the Canadian Institute for Health Information (CIHI).

The focus of this report is data submitted to HCRS for 2010–2011 at the time of the annual data release.

CIHI's Data Quality Framework, implemented in 2000–2001 and revised in 2009, provides a common strategy for assessing data quality across CIHI's databases and registries. It is built upon five dimensions of quality:

- Accuracy;
- Comparability;
- Timeliness;
- Usability; and
- Relevance.

The strengths and limitations of the HCRS data discussed in this report focus on aspects of accuracy (specifically, coverage, non-response and measurement error) and comparability.

For further information on CIHI's Data Quality Framework, please refer to CIHI's website (www.cihi.ca).

2 An Overview of the Home Care Reporting System

CIHI launched HCRS in 2006–2007 as a pan-Canadian reporting system to support standardized reporting in publicly funded home care programs. HCRS contains longitudinal demographic, clinical, functional and resource utilization information on individuals who receive home care services in Canada. HCRS has incorporated, with permission from interRAI, definitions of certain key demographic and administrative data elements from the RAI-HC for all home care clients, regardless of whether they receive a RAI-HC assessment.

HCRS has the flexibility to capture and report any or all of its data, allowing for a basic level of comparative reporting across RAI and non-RAI jurisdictions.

2.1 The RAI-HC Assessment System

The RAI-HC (Resident Assessment Instrument–Home Care) forms the clinical data standard for HCRS. It is a validated clinical assessment developed by interRAI, an international research network, and was modified with permission by CIHI for Canadian use.

The RAI-HC is a comprehensive assessment that is used to identify the preferences, needs and strengths of persons receiving long-term home care services; it also provides a snapshot of the services they receive. It includes measures of cognition, communication, vision, mood and behaviour, psycho-social well-being, physical functioning, continence, disease diagnoses, nutritional status, skin condition, medications, and special treatments and procedures. A full list of data elements collected in the RAI-HC is provided in the appendix. The RAI-HC assessment is completed upon admission to long-term home care and at regular reassessment intervals (usually six months to one year), or when the client experiences a significant change in clinical status.

The information, gathered electronically at the point of care, provides real-time decision support for front-line care planning and monitoring. The data from individual clients can be aggregated and used by clinical quality champions, managers and policy-makers for planning, quality improvement and accountability.

The RAI-HC has been designed to be compatible with the suite of interRAI assessment and problem-identification tools. Such compatibility advances continuity of care through an integrated assessment system across multiple health care settings and promotes a person-centred evaluation rather than fragmented site-specific assessments.

2.2 HCRS Record Types

There are 14 different types of records that can be submitted to HCRS; they are distinguished by the data element Y2 Record Type, which is submitted on every record.

The 10 client record types are used for the submission of client-specific data. The remaining four “non-client” record types are required for the appropriate processing of client-specific records.

2.2.1 Client Records

Client records are designed to capture comprehensive client-specific information on individuals who have been accepted by source organizations to receive home care services.

HCRS is an event-driven reporting system: the information submitted in the different records reflects the different events that occur throughout a client’s home care service episode.

Table 1: HCRS Client Record Types

Record Name (Abbreviation)	Summary of Data Collected
Admission (AD)	Personal identifiers and demographic and administrative information collected through referral, intake and acceptance processes. May include data collected from initial RAI-HC assessment or the first service visit.
Update Client Profile (UC)	A change in the client's demographic or administrative information that was recorded in the Admission Record. The data element that has changed, the date of change and the new value are collected.
RAI-HC Assessment (RH)	Data captured during the RAI-HC assessment, excluding demographic information already submitted on the Admission Record and Medication Record (Section Q5).
Medication (MD)	Data captured in Section Q5 of the RAI-HC assessment.
Service Start (SS)	The start of an individual "stream" of home care service. Type of service, discipline of service provider and date service started are recorded.
Service Details (SD)	The amount and delivery settings of services received during the reporting period.
Service End (SE)	Information about the end of an individual stream of home care service. Date stream of service finished.
ER Visits (ER)	Record any emergency room (ER) visits a home care client may have had during the reporting period.
Organization Client Transfer (OT)	Used when source organizations go through restructuring (such as major boundary changes) that result in changes to the organization's and client's unique identifiers. If an individual continues to receive home care services through an organization's restructuring, this record type can be used to link an individual's unique identifiers (and therefore their records) before and after the restructuring.
Discharge (DC)	Captures information when an individual is discharged, marking the end of the client's home care service episode.

2.3 Data Collection

The RAI-HC is implemented in jurisdictions primarily as a comprehensive assessment for front-line clinicians to help plan and monitor client care. The data submitted to HCRS is therefore a by-product of the ongoing processes of care.

The assessment is captured electronically, and the vendor software that the organization uses can provide real-time feedback to staff to support care planning.

The *RAI-HC User's Manual* provides data element definitions and data collection standards. The *Home Care Reporting System Data Submission Specifications Manual* provides information on how the data is to be submitted to HCRS and includes data element specifications, valid code values, record layouts, data validation rules and error message descriptions. Both are made available to clients prior to the beginning of each fiscal year. Organizations participating in HCRS can access CIHI's products and services related to data quality and processing, client education and support, data access, and national health information standards, as well as selected publications and reports. When clients submit data files to HCRS, submission reports are made available to them immediately after the records are processed. All organizations that submit data to HCRS must use software that meets CIHI's specifications. Organizations use software developed by CIHI-licensed software vendors to collect and submit HCRS information. These vendors incorporate CIHI's submission specifications into their proprietary software systems. Data files are submitted to CIHI electronically through a secure, web-based application.

2.3.1 Completeness of Data Submissions

CIHI checks each record on submission to ensure that the record is complete and that the values are valid. ***Only* records that meet the specified level of completeness, accuracy and consistency will be accepted.** Any records that do not meet these specifications will be rejected, and data providers will be given a report detailing the reasons for the rejection.

Correcting and resubmitting records that were previously rejected are the responsibility of the organizations collecting and submitting the data.

2.3.2 Non-Production Data

In addition to organizations that submit data in compliance with CIHI's submission specifications, some jurisdictions have been allowed to temporarily send CIHI data files that would not be accepted through the normal submission channels. This data may then be loaded into CIHI's online eReporting system and its analytical files made available for data requests. Thus these jurisdictions will have their data in the products produced by HCRS, even though their data isn't in the database itself (the production system). Data loaded this way is alternatively referred to as non-production data. It is expected that all jurisdictions providing non-production data will make the transition to normal data submissions in the future, and CIHI works closely with these jurisdictions to facilitate this process. Since non-production data cannot be submitted through the edits and validations, not all questions about its quality can be answered. Therefore, data for some of these jurisdictions will be missing in some tables in this report. Currently, CIHI has non-production home care data from Ontario, Nova Scotia and the Winnipeg Regional Health Authority (WRHA). WRHA submitted once in 2007, Nova Scotia submitted in 2008 and 2011, and Ontario sends data quarterly.

2.3.3 Data Submission Timeline

Quarterly data submission deadlines are published annually, prior to the beginning of the data submission year. Data providers have 60 days after the end of a quarter to submit their data for that quarter; after 60 days, a data cut of the submitted data is used to create HCRS eReports and analytical data files. Non-production data is subsequently loaded. While late data is accepted into HCRS after the data submission deadline, it is not incorporated into the eReports for that quarter.

2.4 Data Quality Control

CIHI takes measures to ensure quality control during data capture, including the following:

- Data suppliers are encouraged to use electronic data capture to complete assessments, and they are required to use licensed vendors that implement edits and audits at the time of data capture, which lets corrections and verifications occur at the time of data entry.
- All vendors are required to pass CIHI's testing requirements on an annual basis, to ensure compliance with the most recent CIHI specifications.
- CIHI checks each record on submission to ensure completeness and valid values. Any records that don't meet these specifications are rejected or accepted with a warning message, and data providers are given a report detailing the reasons for the rejection/warning.
- CIHI responds to coding questions, including consultation with and approval by interRAI researchers for relevant questions, to ensure that standard, consistent responses are made available to data providers.

2.4.1 Vendor Support and Software Testing

CIHI maintains data capture quality control measures through the Vendor Relations and Production Systems sections of its Information Technology department. These areas offer vendor support, coordinate the annual release of system specifications to vendors and assist with vendor system testing. For such testing, files are processed in a test environment to ensure that the format and content of the files meet HCRS submission requirements for the fiscal year.

2.4.2 HCRS System Edits and Correction Processes

Data suppliers are encouraged to use electronic tools to complete assessments, and they must use CIHI-licensed vendors that implement edits and audits at the time of data collection, which lets corrections and verifications occur at the time of data entry.

The edits built into the HCRS database are logical and consistent, and they are verified by both the HCRS team and the IT team prior to implementation. Several consistency edits exist within and between data elements and also between records to ensure the longitudinal integrity of the client's information. For example, the Discharge Date submitted on the Discharge Record must be on or after the Admission Date submitted on the Admission Record.

Operational reports are generated in a timely manner (normally within 48 hours) when each submission file is processed in the database. These operational reports provide data suppliers with details regarding the number of records submitted, the number of records rejected and the reason for each rejected record. Education sessions and direct client support are provided to assist with interpreting operational reports and correcting rejected records.

An email notification confirming receipt and processing of the file is sent to organizations' database contacts (as specified in the Contact Information Records). Both submission and source organizations will be able to view their operational reports online. When submission files contain data for more than one source organization, individual operational reports will be produced for each source organization. The submission organization will be able to view reports for all data it has submitted; the individual source organizations will have access to operational reports for their own organizations only.

2.4.3 Education Program

Through a comprehensive program of education, instructional sessions are provided to clients on using the RAI-HC assessment, submitting data, managing submission errors and corrections, and using eReports. These sessions are one mechanism to ensure standardized data collection coding practices and adherence to CIHI's data submission and collection requirements.

2.4.4 Client Support

The HCRS program area provides support for data collectors and submitters. The team answers questions related to the RAI-HC assessment and HCRS products (including the eReports), assists in the development and delivery of education programs, provides data submission expertise and builds relationships with provincial/territorial contacts, health organizations and data users.

2.5 HCRS Outputs

The RAI-HC has embedded decision-support algorithms that summarize information from the assessment and can be used to support both clinical and organizational decision-making. These include clinical scales, which summarize key clinical domains (such as cognitive performance, physical functioning, depression symptoms and pain), quality indicators, case-mix methodology (Resource Utilization Group version III, or RUG-III) and triggers for care planning protocols.

In 2008, CIHI released coding standards for completing the RAI-HC in hospital settings. The output algorithms were modified to take into account these coding standards. This included adding algorithms for two flags that are used in the derivation of the individual outputs to identify assessments carried out in hospital settings. Each output has a section that documents whether it can be calculated in hospital settings.

HCRS provides participating organizations with **eReports**, which have profiles of their populations, services and outcomes, including quality indicators. These reports are used by clinical quality champions, managers and policy-makers for planning, quality improvement and accountability. Standard tables of aggregate data are available to the public through HCRS Quick Stats.

3 Coverage and Response

Coverage and response are aspects of the accuracy dimension of CIHI's Data Quality Framework that relate to whether the appropriate data is available in the database.

Coverage refers to whether the population for which data should be submitted is known and accurate, while response refers to whether complete data was actually submitted for that population. Within HCRS, coverage is primarily measured at the health region level—whether the list of health regions that should be submitting (usually referred to as the frame) is known and accurate.

Response is measured at several levels:

- Regions: Was data received from all health regions on the frame?
- Records: Were all expected records received?
- Items: Was all expected data within individual items/data elements on a record received?

3.1 HCRS Population of Interest and Population of Reference

The HCRS **population of interest**—the group of units for which information is wanted—is defined as all people receiving publicly funded home care services in Canada. Publicly funded home care programs across Canada deliver a diverse set of services to meet a wide variety of client needs.

The definition of home care used for HCRS encompasses the breadth of services offered by public programs and reflects the variety of settings where these services are delivered. These services may be provided by a number of different agencies or individuals.

Individuals who receive home care have a broad range of needs, from short-term needs for a single service in response to a specific event (for example, nursing care following a stay in an acute care hospital) to long-term needs for support from a range of health providers to remain living in a community setting.

How jurisdictions meet these needs varies considerably. The services provided vary with respect to types of services provided; range and type of service providers available; settings where services are provided; organizational size, structure and governance; and eligibility, coverage and copayment requirements and service maximums.

The service delivery models employed also vary and include in-house personnel, contracted service providers and/or self-managed care (where clients receive funding and are responsible for acquiring their services).

The HCRS **population of reference** is defined as all individuals receiving long-term home care through publicly funded home care programs that were expected to submit data to HCRS during the reference period (April 1, 2010, to March 31, 2011). The population of reference is explicitly stated in all HCRS releases.

As many jurisdictions are part-way through implementing HCRS, organizations in these jurisdictions are considered to be part of the population of reference once they have completed testing and submitted their first data to CIHI.

In 2010–2011, the population of reference from a health region (frame unit) perspective included

- 14 Ontario community care access centres;
- 9 Nova Scotia health regions;
- 1 Yukon organization;
- 1 Manitoba organization (WRHA); and
- 5 British Columbia regional health authorities.

Continuous efforts are being made to include more organizations and jurisdictions in HCRS; however, no new programs began submitting in 2010–2011.

CIHI is supporting implementation of the RAI-HC in several jurisdictions across Canada:

- Newfoundland and Labrador is implementing the RAI-HC provincially. Data collection began in 2010–2011. Data submission to CIHI is planned for 2014–2015.
- Prince Edward Island is planning to submit administrative and service data to HCRS by 2014–2015.
- Saskatchewan has implemented the RAI-HC in 10 regions and is planning to submit to HCRS by 2013–2014.
- Alberta has implemented the RAI-HC provincially and has built a provincial data repository. Data submissions to CIHI are planned for 2013–2014.

Some jurisdictions do not use the RAI-HC (such as Quebec and New Brunswick). In the future, it is hoped that HCRS will receive submissions of administrative data from these jurisdictions.

Table 2 summarizes participation in HCRS since 2006–2007. As participation has expanded over time, the population of reference for each year is different. Due to this changing coverage and increases in data volumes, any changes in trends need to be interpreted carefully, as they may reflect changes in the underlying population rather than actual changes in client characteristics and resource utilization.

Table 2: HCRS Participation (Number of Health Regions Submitting Data), by Province/Territory, 2006–2007 to 2010–2011

P/T	Total Number of Health Regions	Year				
		2006–2007	2007–2008	2008–2009	2009–2010	2010–2011
N.S.*	9	9	9	9	9	9
Ont.	14	14	14	14	14	14
Man.†	11	1	1	0	0	0
B.C.	5	5	5	5	5	5
Y.T.	1	1	1	1	1	1
All	**40**	**30**	**30**	**29**	**29**	**29**

Notes

* CIHI did not receive district health authorities' identifiers, but the Nova Scotia Department of Health and Wellness has confirmed that all health regions have some data present.

† Winnipeg Regional Health Authority submitted its own records. Other health regions were not involved.

Source

Home Care Reporting System, 2006–2007 to 2010–2011, Canadian Institute for Health Information.

It should be noted that when organizations begin data submission, they submit some historical data related to fiscal years prior to the one in which they begin to submit to CIHI. This information includes Admission Records for clients who were on the home care program at the time of HCRS/RAI-HC implementation and Assessment Records completed between implementation and the beginning of successful submissions to CIHI.

As the HCRS frame does not currently contain all health regions in all provinces and territories that make up the HCRS population of interest, users should be cautious when interpreting results from HCRS, as the population covered by HCRS may not be representative of all provinces. Reasons for this include the following:

- The admission criteria for home care and the services provided vary across the country. Jurisdictions tailor their admission criteria and service provision for home care toward the local needs of their populations, depending on the availability of other services, such as residential care or nursing homes and assisted-living/supportive housing.
- Within jurisdictions, submission to HCRS can depend on the scope of mandate for the RAI-HC. Some jurisdictions submit data only if clients are mandated to have a RAI-HC (that is, they are long-term clients), while others submit service data for all clients in the province (which can include clients receiving acute, rehabilitation or palliative services).
- RAI-HC assessments are also completed in hospital settings, where some data elements, such as environmental assessment or clients' adherence with medications, are excluded.

3.2 HCRS Regional-Level Non-Response

The HCRS team works with jurisdictions (ministries of health and regional health authorities) to determine if they will be submitting to HCRS; reorganizations of health regions are also monitored, which enables the HCRS team to keep the HCRS frame up to date.

HCRS data submissions are monitored routinely, and CIHI staff follows up with data providers, regional health authorities or ministries of health when there are gaps in submissions or if there is a significant change in the total volume of records received.

3.3 Record-Level Coverage and Non-Response

This section describes the volumes and types of records submitted to HCRS and any issues with missing records (record-level non-response).

It should be noted that completely missing episodes—that is, when no Admission Record for a client is submitted—are impossible to measure reliably without an external source of data with which to compare HCRS data. However, volumes of Admission Records are monitored to detect any potential non-response at this level. Monitoring volumes will become a more reliable method once all implementations are complete but will not account for policy changes that could impact overall home care volumes.

3.3.1 Increase in Record Volumes

With new regions submitting to HCRS, the database has experienced growth. Tables 3 to 6 provide summaries of the growth in the numbers of client episodes (admission and discharge data), RAI-HC Assessment Records, home care services records and Medication Records submitted to HCRS since 2006–2007. As noted in tables 4 and 6, data from Nova Scotia for 2010–2011 was not complete.

Table 3: Number of Admission or Discharge Records, by Province/Territory, 2006–2007 to 2010–2011

P/T	Year of Admission									
	2006–2007		2007–2008		2008–2009		2009–2010		2010–2011	
Record Type	**AD**	**DC**	**AD**	**DC**	**AD**	**DC**	**AD**	**DC**	**AD**	**DC**
N.S.*	—	—	—	—	—	—	—	—	—	—
Ont.†	218,865	—	533,050	342,434	528,481	378,125	476,998	355,479	522,483	386,100
Man.*	—	—	—	—	—	—	—	—	—	—
B.C.	6,016	—	28,780	1,200	40,504	12,347	34,474	12,891	35,141	17,125
Y.T.	256	99	315	235	340	307	362	314	527	346
All	**225,137**	**99**	**562,145**	**343,869**	**569,325**	**390,779**	**511,834**	**368,684**	**558,151**	**403,571**

Notes

* Nova Scotia and Manitoba did not submit Admission Records to CIHI.

† Ontario: Based on the Episode Table created by HCRS (which links Admission and Discharge Records); year of admission is determined by data element X6 or CC1.

AD: Admission Record.

DC: Discharge Record.

Source

Home Care Reporting System, 2006–2007 to 2010–2011, Canadian Institute for Health Information.

Table 4: Number of RAI-HC Assessment Records Submitted, by Province/Territory, 2006–2007 to 2010–2011

	Year of Assessment				
P/T	2006–2007	2007–2008	2008–2009	2009–2010	2010–2011
N.S.*	14,997	14,875	15,016	16,018	472
Ont.	1,712	221,455	228,985	226,963	233,875
Man.†	13,687	6,764	—	—	—
B.C.	—	759	18,663	18,485	20,956
Y.T.	69	85	127	185	220
All	**30,465**	**243,938**	**262,791**	**261,651**	**255,523**

Notes

* Nova Scotia did not provide all full-year Assessment Records in 2010–2011.

† Manitoba submitted non-production data only once in 2009.

Source

Home Care Reporting System, 2006–2007 to 2010–2011, Canadian Institute for Health Information.

Table 5: Number of Service Records Submitted by British Columbia, 2006–2007 to 2010–2011

	Year of Service Start				
P/T	2006–2007	2007–2008	2008–2009	2009–2010	2010–2011
B.C.	7,874	38,163	73,361	73,929	73,262

Note

Dates determined based on data element X10 Service Start Date.

Source

Home Care Reporting System, 2006–2007 to 2010–2011, Canadian Institute for Health Information.

Table 6: Number of Medication Records Submitted, by Province/Territory, 2006–2007 to 2010–2011

	Year of Assessment				
P/T	2006–2007	2007–2008	2008–2009	2009–2010	2010–2011
N.S.	97,249	96,475	95,951	104,379	3,029
Ont.	14,016	1,975,737	2,076,794	2,086,496	2,194,638
Man.	—	—	—	—	—
B.C.	—	6,644	107,375	106,712	108,794
Y.T.	461	647	1,064	1,612	1,861
All	**111,726**	**2,079,503**	**2,281,184**	**2,299,199**	**2,308,322**

Notes

Dates determined based on data element A1 Assessment Reference Date.

Manitoba did not submit Medication Records to CIHI.

Source

Home Care Reporting System, 2006–2007 to 2010–2011, Canadian Institute for Health Information.

3.3.2 Assessed Clients

The HCRS standard expects that a RAI-HC assessment will be carried out on clients assigned to the long-term supportive care and maintenance client groups (separated out in Table 8). If a client's goals of care change significantly (for example, if his or her health status deteriorates significantly), the client may need to be reassigned to a different client group following a reassessment of his or her needs. This can occur at any time during a client's home care service episode. Table 7 shows the proportion of all home care clients who were admitted and then assessed in 2010.

Table 7: Proportion of Clients With Assessments That Were Completed in 2010–2011, by Province/Territory

P/T	Number of Clients Admitted in 2010–2011	Number of Clients Assessed in 2010–2011 After Admission	Percentage of Clients Assessed in 2010–2011 After Admission
N.S.	—	—	—
Ont.	198,417	42,521	21.43%
Man.	—	—	—
B.C.	30,376	13,006	42.82%
Y.T.	407	135	33.17%
All	**229,200**	**55,662**	**24.29%**

Source
Home Care Reporting System, 2010–2011, Canadian Institute for Health Information.

3.3.3 Potential Duplicate Records

There are many edits within HCRS to prevent the submission of duplicate records. However, duplicates may still occur if the source organizations change some of the information that is used to determine the uniqueness of the records (for example, client identifiers or dates).

The initial record for a client received by HCRS is an Admission Record, which contains demographic information and unique identifiers such as Health Card Number (HCN), Date of Birth, Sex and Admission Date. Each Admission Record is assigned a source organization client identifier by the organization's software. All subsequent records for that client are linked by this client identifier.

There could be situations where a mistake is made with the unique identifiers that results in duplicate records being submitted for clients. In such a situation, it would not be possible to definitively identify the duplicate record as such.

Due to the edit checks performed on submissions to HCRS, no recognizable duplicate assessments or admissions are accepted by the HCRS production system (two records for the same client on the same day). Therefore, there will be no such duplicate records for British Columbia or Yukon. However, duplicates of this type can occur for jurisdictions that submit non-production data: duplicate Assessment Records occur for Manitoba, Nova Scotia and Ontario data, with less than 0.25% of assessments occurring on the same day for the same person as another assessment. For Admission Records, only Ontario has duplicates, with approximately 6% of admissions occurring for the same person on the same day as another admission in the 2010–2011 data.

3.3.4 Record-Level Non-Response

HCRS is a longitudinal reporting system, and long-term home care clients in certain client groups are expected to be assessed at least once each year until they are discharged. If the submission of assessments stops without the submission of a Discharge Record, this indicates that there is at least one expected record missing for that client. There may be several reasons why the expected Assessment or Discharge Record is not in the HCRS database: it was never completed, it was completed but not submitted to CIHI or it was rejected and never resubmitted.

Table 8 presents the proportion of clients that were not assessed after admission. The clients are separated by client groups, because only those in two client groups would be expected to have an assessment completed and submitted: group 4 (long-term supportive care clients) and group 5 (maintenance clients). Data users should be aware of limitations in interpreting and applying data findings broadly in cases where assessment data is expected and the level of record-level non-response is high.

Clients without assessments are excluded from certain analyses, as clinical data elements collected only on the assessment are not available.

Table 8: Proportion of Clients Who Were Never Assessed After Admission, by Admission Client Group and Province/Territory, 2006–2007 to 2010–2011

Year of Assessment		2006–2007			2007–2008			2008–2009			2009–2010			2010–2011		
Client Group	**P/T**	**D**	**N**	**%**	**D**	**N**	**%**	**D**	**N**	**%**	**D**	**N**	**%**	**D**	**N**	**%**
1 Acute Home Care Client	**N.S.**															
	Ont.	25,418			107,627	87,295	81.11%	96,599	83,123	86.05%	92,605	83,762	90.45%	84,171	79,673	94.66%
	Man.															
	B.C.	109			8,190	7,963	97.23%	12,207	11,931	97.74%	8,266	8,028	97.12%	8,731	8,560	98.04%
	Y.T.	126			169	138	81.66%	191	158	82.72%	148	136	91.89%	179	175	97.77%
2 End-of-Life Client	**N.S.**															
	Ont.	2,575			6,455	5,440	84.28%	5,561	4,767	85.72%	5,055	4,496	88.94%	4,619	4,171	90.30%
	Man.															
	B.C.	36			2,102	2,047	97.38%	2,413	2,318	96.06%	1,994	1,905	95.54%	1,924	1,876	97.51%
	Y.T.	24			21	19	90.48%	19	18	94.74%	31	27	87.10%	22	20	90.91%
3 Rehabilitation Client	**N.S.**															
	Ont.	18,382			48,070	31,730	66.01%	42,215	29,551	70.00%	36,382	27,100	74.49%	32,529	26,723	82.15%
	Man.															
	B.C.	88			2,125	1,915	90.12%	2,818	2,546	90.35%	2,165	1,903	87.90%	2,397	2,223	92.74%
	Y.T.	25			40	33	82.50%	25	23	92.00%	27	27	100.00%	146	140	95.89%
4 Long-Term Supportive Care Client	**N.S.**															
	Ont.	23,318			28,059	6,052	21.57%	20,478	4,558	22.26%	15,764	3,831	24.30%	12,226	3,538	28.94%
	Man.															
	B.C.	1,555			4,334	2,629	60.66%	4,856	2,042	42.05%	4,101	1,601	39.04%	3,711	1,553	41.85%
	Y.T.	3			1	0	0.00%	5	0	0.00%	10	1	10.00%	5	0	0.00%
5 Maintenance Client	**N.S.**															
	Ont.	22,393			33,967	10,814	31.84%	31,392	10,668	33.98%	27,762	10,563	38.05%	26,489	12,489	47.15%
	Man.															
	B.C.	3,664			9,802	6,558	66.90%	15,124	10,064	66.54%	13,776	9,326	67.70%	13,361	9,769	73.12%
	Y.T.	64			48	14	29.17%	45	11	24.44%	50	5	10.00%	50	12	24.00%

Table 8: Proportion of Clients Who Were Never Assessed After Admission, by Admission Client Group and Province/Territory, 2006–2007 to 2010–2011 (cont'd)

Year of Assessment		2006–2007			2007–2008			2008–2009			2009–2010			2010–2011		
Client Group	**P/T**	**D**	**N**	**%**	**D**	**N**	**%**	**D**	**N**	**%**	**D**	**N**	**%**	**D**	**N**	**%**
8 Not Applicable	**N.S.**															
	Ont.	1,497			1,730	252	14.57%	1,554	253	16.28%	1,551	261	16.83%	1,358	355	26.14%
	Man.															
	B.C.															
	Y.T.															
9 Client Group Not Provided	**N.S.**															
	Ont.	1,192			8,859	6,605	74.56%	5,237	4,489	85.72%	542	152	28.04%	680	345	50.74%
	Man.															
	B.C.	424			1,215	1,076	88.56%	588	505	85.88%	495	463	93.54%	252	220	87.30%
	Y.T.										1	0	0.00%	5	0	0.00%

Notes

D: Number of clients admitted in this fiscal year.

N: Number of unassessed clients each year.

%: Percentage of unassessed clients.

Clients groups 4 and 5 are expected to be assessed.

Source

Home Care Reporting System, 2006–2007 to 2010–2011, Canadian Institute for Health Information.

3.4 Item Non-Response

Item non-response (or partial non-response, as it is sometimes known) occurs when a record is received with some missing or invalid data. The item response rate for HCRS depends largely on whether the data element is mandatory or optional.

The vast majority of data elements in HCRS are mandatory and therefore require a valid response for the system to accept the record; this includes all the elements that are used to derive the key outputs (outcome scales, quality indicators and the RUG case-mix methodology) used for analysis. Details of the data elements submitted on each record to HCRS are provided in the appendix.

Some data elements are allowed to be left blank, as they are not applicable in certain situations; these are also excluded from any item non-response rates. Examples include assessment items that are not collected when an assessment is completed while the client is in hospital. For instance, data elements on an environmental assessment of the client's home can be left blank.

There are other non-mandatory elements; the optional elements include those in Section J2: ICD-10-CA Diagnoses. Medication DIN is also optional, but this data is submitted as a separate record. If a health region is not collecting this section, it simply does not submit any Medication Records.

The *Home Care Reporting System Data Submission Specifications Manual* provides details of all the specific codes to be used to identify *unknown* and *not applicable* values.

Tables 9 and 10 provide item non-response rates for admission and assessment-level data for elements that can have item non-response (the rest of the data elements are mandatory and do not have *unknown* options; they therefore have an item non-response rate of 0%). For Table 9, despite Nova Scotia and Manitoba not having Admission Records, some values could be determined from their assessments. Yukon's and British Columbia's rows in Table 10 are blank, as there was no item non-response for assessment variables. The other three provinces have different data elements listed in Table 10 because they submitted non-production data.

Table 9: Item Non-Response Rates for Admission Data Elements, 2010–2011

P/T		N.S. (2009–2010) Based on RAI-HC Assessment Records		Ont.		Man. (2007–2008) Based on RAI-HC Assessment Records		B.C.		Y.T.	
Number of Admission Records		16,018		377,978		6,764		13,711		525	
Data Element	**Submission Status**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**	**N**	**%**
BB5a Primary Language	**C**	749	4.68%	276,537	73.23%	629	9.30%	4,245	30.96%	0	0.00%
AA4 Postal Code of Residence	**M**	589	3.68%	1,805	0.48%	6,764	100.00%	0	0.00%	0	0.00%
BB1 Sex	**O**	532	3.32%	16	0.00%	0	0.00%	6	0.04%	12	2.29%
AA3b P/T Issuing Health Card Number	**M**	532	3.32%	0	0.00%	0	0.00%	0	0.00%	0	0.00%

Notes

M: Mandatory.

O: Optional.

C: Mandatory status determined by respective provincial profile.

Nova Scotia and Manitoba did not submit Admission Records but provided these data elements on RAI-HC Assessment Records. Hence, the rates are determined based on Assessment Records from their most recent assessment fiscal year.

Source

Home Care Reporting System, 2010–2011, Canadian Institute for Health Information.

Table 10: Item Non-Response Rates for Assessment Data Elements, Most Recent Assessment Fiscal Year

Year of Assessment		2007–2008			2009–2010			2010–2011		
P/T	**Data Element**	**D**	**N**	**%**	**D**	**N**	**%**	**D**	**N**	**%**
N.S.	**AA4 Postal Code of Residence**				16,018	589	3.68%			
	BB1 Sex				16,018	532	3.32%			
	BB5a Primary Language				16,018	749	4.68%			
Ont.	**BB3 Aboriginal Identity**							233,875	22,500	9.62%
	BB6 Education							233,875	22,500	9.62%
	CC8 Residential History							233,875	151,752	64.89%
	CC2 Reason for Referral							233,875	139,777	59.77%
	CC3a Goals of Care—Skilled Nursing Treatments							233,875	139,778	59.77%
	CC3b Goals of Care—Monitoring							233,875	139,778	59.77%

Table 10: Item Non-Response Rates for Assessment Data Elements, Most Recent Assessment Fiscal Year (cont'd)

Year of Assessment		2007–2008			2009–2010			2010–2011		
P/T	Data Element	D	N	%	D	N	%	D	N	%
Ont.	CC3c Goals of Care—Rehabilitation							233,875	139,779	59.77%
	CC3d Goals of Care—Client/Family Education							233,875	139,778	59.77%
	CC3e Goals of Care—Family Respite							233,875	139,779	59.77%
	CC3f Goals of Care—Palliative Care							233,875	139,779	59.77%
	CC4 Time Since Last Hospital Stay							233,875	139,779	59.77%
	CC5 Where Lived at Time of Referral							233,875	139,778	59.77%
	CC6 Who Lived With at Time of Referral							233,875	139,778	59.77%
Man.	AA3a Health Card Number	6,764	6,764	100.00%						
	AA3b P/T Issuing Health Card Number	6,764	6,764	100.00%						
	AA4 Postal Code of Residence	6,764	6,764	100.00%						
	BB5a Primary Language	6,764	629	9.30%						
B.C.										
Y.T.										

Notes

D: Number of RAI-HC Assessment Records submitted to CIHI in the reporting fiscal year.

N: Number of RAI-HC Assessment Records received without a response for the selected data element.

%: Percentage of RAI-HC Assessment Records without a response for the selected data element.

Nova Scotia and Ontario submitted administrative data elements (sections AA, BB and CC) on their RAI-HC records; thus the non-response rates are shown here instead of in Table 9.

Source

Home Care Reporting System, 2007–2008 to 2010–2011, Canadian Institute for Health Information.

4 Measurement Error, Bias and Consistency

This section describes how well the data is reported to CIHI and whether it reflects the reality it was designed to measure.

Measurement error relates to errors caused when a data element is coded or answered incorrectly. Bias assesses to what degree the difference between the reported values and the values that should have been reported occurs in a systematic way. Consistency assesses the amount of variation that would occur if repeated measurements were done.

4.1 Reliability and Validity of RAI-HC Assessment and Outputs

The RAI-HC has undergone significant reliability and validity testing in several countries,[1–4] which confirmed that the RAI-HC has both high reliability and high validity.

4.2 Consistency of Demographic Variables

Records within an episode of care are linked by the Unique Source Organization Client Identifier (data element X1b), which is assigned with each submitted Admission Record. As an individual client may have multiple episodes of care with different organizations, other variables need to be used to link records from different episodes. HCRS collects numeric identifiers (HCNs) and demographic information, such as Sex and Date of Birth, on the Admission Record to uniquely identify records belonging to the same individual.

HCNs are assigned to individuals by provincial ministries of health and territorial governments. CIHI receives a complete HCN on HCRS records and applies a standard algorithm to scramble this number, even if it was already encrypted by the submitter (Nova Scotia and Manitoba encrypt their HCNs before submission to CIHI). Because the numbers are unique only within each province and territory, HCRS captures a variable representing the province or territory that issued the HCN. A provincial/territorial HCN is not submitted to HCRS for small proportion of clients, either because they do not have one or because it was unavailable at the time of data collection (see Section 3.4: Item Non-Response).

The Unique Source Organization Client Identifier is an administrative number other than the client's HCN. It may be automatically generated by an organization's IT system and will identify individual clients even if they do not have a valid HCN. It therefore facilitates person-based analysis (such as assessing access rates).

CIHI creates a client ID, which is a meaningless but unique number so that individuals can be identified within HCRS while they remain anonymous. This variable is based on the combination of the client's birthdate, gender, unique source organization identifier, encrypted HCN and the province/territory responsible for issuing the HCN.

The HCRS analytical data files have a series of data quality flags that identify records that have issues with their demographic variables:

- Clients without an HCN;
- Inconsistent Date of Birth across admissions (within a particular health region or across health regions);
- Inconsistent Sex across admissions (within a particular health region or across health regions);
- Age outside the expected range (younger than 16 or older than 115); and
- Inconsistent format of the HCN regarding the specifications of the province/territory issuing the health card.

Less than 0.1% of records from each province triggered the above data quality flags.

4.3 Consistency of Clinical Variables

Data quality audits—checks on the clinical consistency of the data within each Assessment Record—are performed on the submitted data and reflect unusual combinations of data elements that may be errors that require correction. However, they may also accurately reflect the client's clinical status. These potential errors are summarized on the operational reports. Home care organizations then have an opportunity to correct and resubmit these records if necessary. Table 11 shows the rates at which the clinical data quality audits were triggered in the assessment data, by year. Some jurisdictions (Nova Scotia, Ontario and Manitoba) are shown even though their data was not submitted through these validation checks; their results were calculated separately for this report. It is important to note, therefore, that data providers in these three provinces did not receive operational reports with these potential errors listed and did not have the opportunity to correct the data if it is erroneous.

Table 11: Trigger Rates for Clinical Data Quality Audits, by Province/Territory, Year of Assessment, 2006–2007 to 2010–2011

Year of Assessment		2006–2007			2007–2008			2008–2009			2009–2010			2010–2011		
Edit Rules	**P/T**	**D**	**N**	**%**	**D**	**N**	**%**	**D**	**N**	**%**	**D**	**N**	**%**	**D**	**N**	**%**
Rule 0235: IF P1dB (Meals—Hours) = 0 AND P1dC (Meals—Minutes) = 0, THEN P1dA (Meals—Days) must = 0	**N.S.**	14,997	185	1.23%	14,875	169	1.14%	15,016	145	0.97%	16,018	211	1.32%	472	5	1.06%
	Ont.	1,712	1	0.06%	221,455	252	0.11%	228,985	34	0.01%	226,963	5	0.00%	233,875	2	0.00%
	Man.	13,687	333	2.43%	6,764	194	2.87%	—	—	—	—	—	—	—	—	—
	B.C.	—	—	—	759	0	0.00%	18,663	0	0.00%	18,485	1	0.01%	20,956	0	0.00%
	Y.T.	69	0	0.00%	85	0	0.00%	127	0	0.00%	185	1	0.54%	220	1	0.45%
Rule 0272: IF P1gA >0, THEN P2o (Occupational Therapy) must = 1 or 2	**N.S.**	14,997	75	0.50%	14,875	91	0.61%	15,016	121	0.81%	16,018	156	0.97%	472	3	0.64%
	Ont.	1,712	103	6.02%	221,455	14,547	6.57%	228,985	15,678	6.85%	226,963	16,220	7.15%	226,963	16,220	7.15%
	Man.	6,764	87	1.29%	—	—	—	—	—	—	—	—	—	—	—	—
	B.C.	—	—	—	759	39	5.14%	18,663	1,368	7.33%	18,485	1,413	7.64%	20,956	1,623	7.74%
	Y.T.	69	2	2.90%	85	5	5.88%	127	7	5.51%	185	12	6.49%	220	16	7.27%
Rule 0228: IF P2o (Occupational Therapy) = 1 or 2, THEN P1gA must be >0	**N.S.**	14,997	372	2.48%	14,875	383	2.57%	15,016	355	2.36%	16,018	435	2.72%	472	6	1.27%
	Ont.	1,712	91	5.32%	221,455	12,768	5.77%	228,985	9,061	3.96%	226,963	7,963	3.51%	233,875	7,307	3.12%
	Man.	13,687	93	0.68%	6,764	35	0.52%	—	—	—	—	—	—	—	—	—
	B.C.	—	—	—	759	8	1.05%	18,663	64	0.34%	18,485	55	0.30%	20,956	85	0.41%
	Y.T.	69	0	0.00%	85	0	0.00%	127	0	0.00%	185	3	1.62%	220	3	1.36%
Rule 0403: IF [P2q (Day Centre) = 0 or 3 AND P2r (Day Hospital) = 0 or 3] AND X70 (Location of Assessment) = 1, THEN P1iA (Day Care or Day Hospital—Days) must = 0	**N.S.**	14,997	0	0.00%	14,875	0	0.00%	15,016	0	0.00%	16,018	0	0.00%	472	0	0.00%
	Ont.	1,712	42	2.45%	221,455	5,436	2.45%	228,985	5,255	2.29%	226,963	5,251	2.31%	233,875	5,979	2.56%
	Man.	13,687	0	0.00%	6,764	0	0.00%	—	—	—	—	—	—	—	—	—
	B.C.	—	—	—	759	39	5.14%	18,663	993	5.32%	18,485	990	5.36%	20,956	1,134	5.41%
	Y.T.	69	0	0.00%	85	0	0.00%	127	0	0.00%	185	3	1.62%	220	3	1.36%
Rule 0226: IF P2p (Physical Therapy) = 1 or 2, THEN P1fA must be >0	**N.S.**	14,997	842	5.61%	14,875	934	6.28%	15,016	793	5.28%	16,018	863	5.39%	472	32	6.78%
	Ont.	1,712	126	7.36%	221,455	18,288	8.26%	228,985	14,248	6.22%	226,963	12,342	5.44%	233,875	11,140	4.76%
	Man.	13,687	266	1.94%	6,764	144	2.13%	—	—	—	—	—	—	—	—	—
	B.C.	—	—	—	759	16	2.11%	18,663	140	0.75%	18,485	106	0.57%	20,956	113	0.54%
	Y.T.	69	0	0.00%	85	1	1.18%	127	0	0.00%	185	2	1.08%	220	2	0.91%

Table 11: Trigger Rates for Clinical Data Quality Audits, by Province/Territory, Year of Assessment, 2006–2007 to 2010–2011 (cont'd)

Year of Assessment		2006–2007			2007–2008			2008–2009			2009–2010			2010–2011		
Edit Rules	**P/T**	**D**	**N**	**%**	**D**	**N**	**%**	**D**	**N**	**%**	**D**	**N**	**%**	**D**	**N**	**%**
Rule 0274: IF P1fA >0, THEN P2p (Physical Therapy) must = 1 or 2	**N.S.**	14,997	84	0.56%	14,875	77	0.52%	15,016	92	0.61%	16,018	102	0.64%	472	4	0.85%
	Ont.	1,712	22	1.29%	221,455	2,670	1.21%	228,985	3,097	1.35%	226,963	3,011	1.33%	233,875	3,224	1.38%
	Man.	13,687	125	0.91%	6,764	60	0.89%	—	—	—	—	—	—	—	—	—
	B.C.	—	—	—	759	5	0.66%	18,663	268	1.44%	18,485	212	1.15%	20,956	232	1.11%
	Y.T.	69	1	1.45%	85	0	0.00%	127	0	0.00%	185	2	1.08%	220	2	0.91%
Rule 0233: IF P1bB (Visiting Nurses—Hours) = 0 AND P1bC (Visiting Nurses—Minutes) = 0, THEN P1bA (Visiting Nurses—Days) must = 0	**N.S.**	14,997	1,183	7.89%	14,875	1,193	8.02%	15,016	1,222	8.14%	16,018	1,256	7.84%	472	44	9.32%
	Ont.	1,712	6	0.35%	221,455	716	0.32%	228,985	46	0.02%	226,963	5	0.00%	233,875	0	0.00%
	Man.	13,687	225	1.64%	6,764	118	1.74%	—	—	—	—	—	—	—	—	—
	B.C.	—	—	—	759	0	0.00%	18,663	0	0.00%	18,485	0	0.00%	20,956	0	0.00%
	Y.T.	69	0	0.00%	85	0	0.00%	127	0	0.00%	185	0	0.00%	220	0	0.00%
Rule 0288: IF H1dA (Managing Medications—Self-Performance) = 0, 1, 2 or 3, THEN Q1 (Number of Medications) must >0	**N.S.**	14,997	398	2.65%	14,875	394	2.65%	15,016	388	2.58%	16,018	417	2.60%	472	16	3.39%
	Ont.	1,712	0	0.00%	221,455	2	0.00%	228,985	0	0.00%	226,963	0	0.00%	233,875	0	0.00%
	Man.	13,687	363	2.65%	6,764	169	2.50%	—	—	—	—	—	—	—	—	—
	B.C.	—	—	—	759	0	0.00%	18,663	23	0.12%	18,485	19	0.10%	20,956	24	0.11%
	Y.T.	69	0	0.00%	85	1	1.18%	127	1	0.79%	185	0	0.00%	220	1	0.45%
Rule 0399: IF G1eA (Lives With Client—Primary) = 2, THEN O2b (Client/Caregiver Feels Client Be Better Off in Another Living Arrangement) must not = 2 or 3	**N.S.**	14,997	138	0.92%	14,875	104	0.70%	15,016	123	0.82%	16,018	114	0.71%	472	1	0.21%
	Ont.	1,712	6	0.35%	221,455	504	0.23%	228,985	548	0.24%	226,963	604	0.27%	233,875	749	0.32%
	Man.	13,687	21	0.15%	6,764	16	0.24%	—	—	—	—	—	—	—	—	—
	B.C.	—	—	—	759	0	0.00%	18,663	128	0.69%	18,485	176	0.95%	20,956	147	0.70%
	Y.T.	69	0	0.00%	85	0	0.00%	127	1	0.79%	185	2	1.08%	220	5	2.27%

Notes

D: Number of RAI-HC Assessment Records submitted to CIHI in the reporting fiscal year.

N: Number of RAI-HC Assessment Records that triggered the selected edit rule.

%: Percentage of RAI-HC Assessment Records that triggered the selected edit rule.

Source

Home Care Reporting System, 2006–2007 to 2010–2011, Canadian Institute for Health Information.

4.4 Longitudinal Consistency

As HCRS is longitudinal, certain checks are performed to assess the consistency of the clinical information submitted across multiple Assessment Records. These checks examine key disease diagnoses that are not expected to change over time. Subsequent assessments are compared; as expected, they show very high consistency across assessments (inconsistency rates of 1% or less).

Table 12: Rates of Longitudinal Inconsistency, by Province/Territory, 2010–2011

	N.S.		Ont.		Man.*		B.C.		Y.T.		All	
	N	%	N	%	N	%	N	%	N	%	N	%
Number of Assessments*	1,169	100.00%	513,024	100.00%	11,330	100.00%	31,617	100.00%	355	100.00%	**557,495**	**100.00%**
J1j Hemiplegia/ Hemiparesis	1	0.09%	732	0.14%	6	0.05%	47	0.15%	1	0.28%	**787**	**0.14%**
J1k Multiple Sclerosis	0	0.00%	398	0.08%	3	0.03%	12	0.04%	1	0.28%	**414**	**0.07%**
J1y Diabetes	11	0.94%	4,072	0.79%	22	0.19%	152	0.48%	3	0.85%	**4,260**	**0.76%**
J1z Emphysema/ COPD	12	1.03%	3,113	0.61%	29	0.26%	100	0.32%	2	0.56%	**3,256**	**0.58%**
J1aa Renal Failure	5	0.43%	1,499	0.29%	14	0.12%	64	0.20%	0	0.00%	**1,582**	**0.28%**

Notes

* All assessments submitted by Manitoba were used for this comparison. For other jurisdictions, assessments completed in 2010–2011 were selected and then compared with earlier assessments from the same client.

COPD: chronic obstructive pulmonary disease.

Source

Home Care Reporting System, 2010–2011, Canadian Institute for Health Information.

5 Comparability

Comparability refers to the extent to which databases are consistent over time and use standard conventions (such as data elements or reporting periods) that make them similar to other databases.

5.1 Conventions

5.1.1 Health Regions

Data submitted to HCRS is grouped either by jurisdiction (Yukon and Nova Scotia) or by health region (B.C., Manitoba and Ontario). CIHI uses the province's own health region definitions and boundaries. Health region boundaries can change over time if provincial/territorial jurisdictions change the boundaries or the organizational structures of their health regions.

5.1.2 Person

As mentioned in Section 4.2, HCRS collects the data elements HCN, Province/Territory Issuing HCN, Sex and Date of Birth to uniquely identify records belonging to the same person.

The client's HCN and full birthdate are not normally made available to third-party users. Access to these and other restricted data elements requires prior approval by CIHI's Privacy, Confidentiality and Security Committee, in line with CIHI's Privacy Policy.[5] For third-party data releases, CIHI creates a client ID, which is a meaningless but unique number specific to that release so that unique individuals can be identified within HCRS while they remain anonymous. This variable is based on the combination of the encrypted HCN and the province/territory responsible for issuing the HCN, and clients' date of birth. Instead of the full birthdate, the age of the client (in years) at admission, assessment and/or discharge is provided.

The HCRS database also contains data quality flags (listed in Section 4.2) that check the consistency of birthdate and sex of all the admissions for a particular client ID and also whether the client ID is based on the HCN, so that users can include or exclude these records depending on their needs.

5.1.3 Time

HCRS data is reported by fiscal quarter (April 1 to June 30, July 1 to September 30, October 1 to December 31 and January 1 to March 31) and fiscal year (April 1 to March 31) based on the date on the record. Full admission, assessment and discharge dates are captured, enabling data users to group data within and across fiscal years, depending on the needs of the study.

5.1.4 Geography

Postal Code is a common variable in almost all CIHI databases. HCRS captures the postal code of the client's residence. The six-digit postal codes are mapped to standard geographical classifications and regional health authority boundaries (based on data provided in Statistics Canada's Postal Code Conversion File). The forward sortation area—the first three digits of a postal code—is typically the lowest level of aggregation available to external users under CIHI's Privacy Policy.[5] The release of information for small geographical areas may also be restricted to ensure confidentiality. Special requests must be approved by CIHI's Privacy and Legal Services Secretariat. Note that for rural areas that use post office box numbers, postal code data does not necessarily provide an accurate picture of the client's residence. This is because postal codes of this type tend to cover larger geographical areas than urban codes.

6 Conclusion

HCRS is a longitudinal database that captures clinical, demographic and administrative information on clients receiving publicly funded home care services. The RAI-HC, an internationally validated clinical assessment instrument, forms the clinical data standard for HCRS.

While HCRS coverage has expanded since submissions began in 2006, and will increase in the future as jurisdictions continue to implement the RAI-HC assessment and submit their data to CIHI, HCRS data may not be representative of all home care services in Canada. In addition, as participation in HCRS has expanded over time, the population of reference for each year is different. Any changes in trends identified need to be interpreted carefully, as they may reflect changes in the underlying population rather than actual changes in client characteristics and resource utilization.

The RAI-HC has undergone significant international reliability and validity testing, which confirms that the RAI-HC has both high reliability and high validity. Analysis of the HCRS data also shows that the data is generally of high quality and exhibits expected patterns of consistency both within and across assessment records. Some data quality issues have been identified in this report covering different aspects of data quality, including non-response, measurement error, and consistency and historical comparability.

The structure of HCRS longitudinal data is complex; users need to familiarize themselves with what data is expected when and which data elements are available on which records (for example, when full and quarterly assessments are expected to be submitted and what data elements are available on which records).

Appendix: RAI-HC Assessment Data Elements

Element		Mandatory Status	Valid Values	Data Type
ID	Name			
Y1	Unique Record ID	Always mandatory		Alphanumeric
Y2	Record Type	Always mandatory	RH	String
Y3	Submission Type	Always mandatory	N, C, D	Alphanumeric
Z1a	Source Organization Identifier	Always mandatory	First character must be 0–9, N, Y, V	Alphanumeric
Z1c	Organization Effective Date	Optional	YYYYMMDD, valid date	Date
10x	Data Collection Vendor Code	Always mandatory	Assigned by CIHI to each vendor	Alphanumeric
Y13	Reporting Period	Mandatory for new or correction records	1–13	Numeric
X1a	Unique Provincial Client Identifier	Mandatory status determined by respective Provincial Profile		Alphanumeric
X1b	Unique Source Organization Client Identifier	Mandatory for new or correction records		Alphanumeric
AA2	Case Record Number	Mandatory for new or correction records		Alphanumeric
BB3	Aboriginal Identity	Mandatory under other conditions	0, 1	Numeric
BB5b	Interpreter Needed	Mandatory for new or correction records	0, 1	Numeric
BB6	Education	Mandatory under other conditions	1, 2, 3, 4, 5, 6, 7, 8, 9	Numeric
BB7a	Legal Guardian/ Substitute Decision-Maker	Mandatory for new or correction records	0, 1, 9	Numeric
BB7b	Advanced Medical Directives	Mandatory for new or correction records	0, 1, 9	Numeric
BB8a	Payment—Provincial/Territorial Government Plan	Optional	0, 1	Numeric

Element		Mandatory Status	Valid Values	Data Type
ID	Name			
BB8b	Payment—Other Province/Territory	Optional	0, 1	Numeric
BB8c	Payment—Federal Government—Veterans Affairs Canada	Optional	0, 1	Numeric
BB8d	Payment—Federal Government—First Nations and Inuit Health Branch	Optional	0, 1	Numeric
BB8f	Payment—Worker's Compensation Board	Optional	0, 1	Numeric
BB8g	Payment—Canadian Resident—Private Insurance	Optional	0, 1	Numeric
BB8h	Payment—Canadian Resident—Public Trustee	Optional	0, 1	Numeric
BB8i	Payment—Canadian Resident—Self Pay	Optional	0, 1	Numeric
BB8j	Payment—Other Country Resident—Self Pay	Optional	0, 1	Numeric
BB8k	Payment—Unknown/ Unavailable	Optional	0, 1	Numeric
CC1	Date Case Opened/Reopened	Mandatory for new or correction records	YYYYMMDD, valid date	Date
CC2	Reason for Referral	Mandatory under other conditions	1, 2, 3, 4, 5, 6	Numeric
CC3a	Goals—Nursing Treatments	Mandatory under other conditions	0, 1	Numeric
CC3b	Goals—Monitoring	Mandatory under other conditions	0, 1	Numeric
CC3c	Goals—Rehabilitation	Mandatory under other conditions	0, 1	Numeric
CC3d	Goals—Client/Family Education	Mandatory under other conditions	0, 1	Numeric
CC3e	Goals—Family Respite	Mandatory under other conditions	0, 1	Numeric
CC3f	Goals—Palliative Care	Mandatory under other conditions	0, 1	Numeric

Element		Mandatory Status	Valid Values	Data Type
ID	Name			
CC4	Time Since Last Hospital Stay	Mandatory under other conditions	0, 1, 2, 3, 4, 5	Numeric
CC5	Where Lived at Time of Referral	Mandatory under other conditions	1, 2, 3, 4, 5	Numeric
CC6	Who Lived With at Time of Referral	Mandatory under other conditions	1, 2, 3, 4, 5, 6	Numeric
CC7	Prior Residential Care Facility	Mandatory under other conditions	0, 1	Numeric
CC8	Residential History	Mandatory under other conditions	0, 1	Numeric
A1	Assessment Reference Date	Mandatory for new or correction records	YYYYMMDD, valid date	Date
A2	Reason for Assessment	Mandatory for new or correction records	1, 2, 3, 4, 5, 6, 7, 8	Numeric
X70	Location of Assessment	Mandatory for new or correction records	1, 2, 3, 4	Numeric
X71	Facility Admission Date	Mandatory under other conditions	YYYYMMDD, valid date	Date
B1a	Short-Term Memory	Mandatory for new or correction records	0, 1	Numeric
B1b	Procedural Memory	Mandatory for new or correction records	0, 1	Numeric
B2a	Cognitive Skills—Decision-Making	Mandatory for new or correction records	0, 1, 2, 3, 4	Numeric
B2b	Cognitive Skills—Worsening Decision-Making	Mandatory for new or correction records	0, 1	Numeric
B3a	Delirium 7 Days	Mandatory for new or correction records	0, 1	Numeric
B3b	Delirium 90 Days	Mandatory for new or correction records	0, 1	Numeric
C1	Hearing	Mandatory for new or correction records	0, 1, 2, 3	Numeric

Element		Mandatory Status	Valid Values	Data Type
ID	Name			
C2	Making Self Understood	Mandatory for new or correction records	0, 1, 2, 3, 4	Numeric
C3	Ability to Understand Others	Mandatory for new or correction records	0, 1, 2, 3, 4	Numeric
C4	Communication Decline	Mandatory for new or correction records	0, 1	Numeric
D1	Vision	Mandatory for new or correction records	0, 1, 2, 3, 4	Numeric
D2	Visual Limitations	Mandatory for new or correction records	0, 1	Numeric
D3	Visual Decline	Mandatory for new or correction records	0, 1	Numeric
E1a	Indicators of Depression—Sad Mood	Mandatory for new or correction records	0, 1, 2	Numeric
E1b	Indicators of Depression—Anger	Mandatory for new or correction records	0, 1, 2	Numeric
E1c	Indicators of Anxiety—Unrealistic Fears	Mandatory for new or correction records	0, 1, 2	Numeric
E1d	Indicators of Anxiety—Repetitive Health Complaints	Mandatory for new or correction records	0, 1, 2	Numeric
E1e	Indicators of Anxiety—Repetitive Anxious Complaints	Mandatory for new or correction records	0, 1, 2	Numeric
E1f	Indicators of Sad Mood—Sad, Pained Facial Expressions	Mandatory for new or correction records	0, 1, 2	Numeric
E1g	Indicators of Sad Mood—Recurrent Crying, Tearfulness	Mandatory for new or correction records	0, 1, 2	Numeric
E1h	Withdrawal From Activities of Interest	Mandatory for new or correction records	0, 1, 2	Numeric

Element		Mandatory Status	Valid Values	Data Type
ID	Name			
E1i	Reduced Social Interaction	Mandatory for new or correction records	0, 1, 2	Numeric
E2	Mood Decline	Mandatory for new or correction records	0, 1	Numeric
E3a	Wandering	Mandatory for new or correction records	0, 1, 2	Numeric
E3b	Verbally Abusive	Mandatory for new or correction records	0, 1, 2	Numeric
E3c	Physically Abusive	Mandatory for new or correction records	0, 1, 2	Numeric
E3d	Socially Inappropriate/ Disruptive	Mandatory for new or correction records	0, 1, 2	Numeric
E3e	Resists Care	Mandatory for new or correction records	0, 1, 2	Numeric
E4	Changes in Behaviour Symptoms	Mandatory for new or correction records	0, 1	Numeric
F1a	At Ease Interacting With Others	Mandatory for new or correction records	0, 1	Numeric
F1b	Openly Expresses Conflict or Anger With Family/Friends	Mandatory for new or correction records	0, 1	Numeric
F2	Change in Social Activities	Mandatory under other conditions	0, 1, 2	Numeric
F3a	Length of Time Client Is Alone During Day	Mandatory under other conditions	0, 1, 2, 3	Numeric
F3b	Client Feels Lonely	Mandatory under other conditions	0, 1	Numeric
G1eA	Lives With Client—Primary	Mandatory for new or correction records	0, 1, 2	Numeric
G1fA	Relationship to Client—Primary	Mandatory under other conditions	0, 1, 2, 3	Numeric

Element		Mandatory Status	Valid Values	Data Type
ID	Name			
G1gA	Advice or Emotional Support—Primary	Mandatory under other conditions	0, 1	Numeric
G1hA	IADL Care—Primary	Mandatory under other conditions	0, 1	Numeric
G1iA	ADL Care—Primary	Mandatory under other conditions	0, 1	Numeric
G1jA	Increase in Emotional Support—Primary	Mandatory under other conditions	0, 1, 2	Numeric
G1kA	Increase in IADL Care—Primary	Mandatory under other conditions	0, 1, 2	Numeric
G1lA	Increase in ADL Care—Primary	Mandatory under other conditions	0, 1, 2	Numeric
G1eB	Lives With Client—Secondary	Mandatory for new or correction records	0, 1, 2	Numeric
G1fB	Relationship to Client—Secondary	Mandatory under other conditions	0, 1, 2, 3	Numeric
G1gB	Advice or Emotional Support—Secondary	Mandatory under other conditions	0, 1	Numeric
G1hB	IADL Care—Secondary	Mandatory under other conditions	0, 1	Numeric
G1iB	ADL Care—Secondary	Mandatory under other conditions	0, 1	Numeric
G1jB	Increase in Emotional Support—Secondary	Mandatory under other conditions	0, 1, 2	Numeric
G1kB	Increase in IADL Care—Secondary	Mandatory under other conditions	0, 1, 2	Numeric
G1lB	Increase in ADL Care—Secondary	Mandatory under other conditions	0, 1, 2	Numeric
G2a	Any Caregiver Unable to Continue	Mandatory for new or correction records	0, 1	Numeric
G2b	Primary Caregiver Not Satisfied With Support From Family/Friends	Mandatory under other conditions	0, 1	Numeric
G2c	Primary Caregiver Expresses Distress, Anger, Depression	Mandatory under other conditions	0, 1	Numeric
G2d	Caregiver Status—None of the Above	Mandatory under other conditions	0, 1	Numeric

Element		Mandatory Status	Valid Values	Data Type
ID	Name			
G3a	Hours of Informal Help—5 Weekdays	Mandatory under other conditions	0–999	Numeric
G3b	Hours of Informal Help—2 Weekend Days	Mandatory under other conditions	0–999	Numeric
H1aA	Meal Preparation—Self Performance	Mandatory under other conditions	0, 1, 2, 3, 8	Numeric
H1bA	Ordinary Housework—Self Performance	Mandatory under other conditions	0, 1, 2, 3, 8	Numeric
H1cA	Managing Finances—Self Performance	Mandatory under other conditions	0, 1, 2, 3, 8	Numeric
H1dA	Managing Medications—Self Performance	Mandatory under other conditions	0, 1, 2, 3, 8	Numeric
H1eA	Phone Use—Self Performance	Mandatory under other conditions	0, 1, 2, 3, 8	Numeric
H1fA	Shopping—Self Performance	Mandatory under other conditions	0, 1, 2, 3, 8	Numeric
H1gA	Transportation—Self Performance	Mandatory under other conditions	0, 1, 2, 3, 8	Numeric
H1aB	Meal Preparation—Difficulty	Mandatory for new or correction records	0, 1, 2	Numeric
H1bB	Ordinary Housework—Difficulty	Mandatory for new or correction records	0, 1, 2	Numeric
H1cB	Managing Finances—Difficulty	Mandatory for new or correction records	0, 1, 2	Numeric
H1dB	Managing Medications—Difficulty	Mandatory for new or correction records	0, 1, 2	Numeric
H1eB	Phone Use—Difficulty	Mandatory for new or correction records	0, 1, 2	Numeric
H1fB	Shopping—Difficulty	Mandatory for new or correction records	0, 1, 2	Numeric
H1gB	Transportation—Difficulty	Mandatory for new or correction records	0, 1, 2	Numeric

Element		Mandatory Status	Valid Values	Data Type
ID	Name			
H2a	Mobility in Bed	Mandatory for new or correction records	0, 1, 2, 3, 4, 5, 6, 8	Numeric
H2b	Transfer	Mandatory for new or correction records	0, 1, 2, 3, 4, 5, 6, 8	Numeric
H2c	Locomotion in Home	Mandatory for new or correction records	0, 1, 2, 3, 4, 5, 6, 8	Numeric
H2d	Locomotion Outside of Home	Mandatory for new or correction records	0, 1, 2, 3, 4, 5, 6, 8	Numeric
H2e	Dressing Upper Body	Mandatory for new or correction records	0, 1, 2, 3, 4, 5, 6, 8	Numeric
H2f	Dressing Lower Body	Mandatory for new or correction records	0, 1, 2, 3, 4, 5, 6, 8	Numeric
H2g	Eating	Mandatory for new or correction records	0, 1, 2, 3, 4, 5, 6, 8	Numeric
H2h	Toilet Use	Mandatory for new or correction records	0, 1, 2, 3, 4, 5, 6, 8	Numeric
H2i	Personal Hygiene	Mandatory for new or correction records	0, 1, 2, 3, 4, 5, 6, 8	Numeric
H2j	Bathing	Mandatory for new or correction records	0, 1, 2, 3, 4, 5, 6, 8	Numeric
H3	ADL Decline	Mandatory for new or correction records	0, 1	Numeric
H4a	Mode of Locomotion—Indoors	Mandatory for new or correction records	0, 1, 2, 3, 4, 8	Numeric
H4b	Mode of Locomotion—Outdoors	Mandatory for new or correction records	0, 1, 2, 3, 4, 8	Numeric
H5	Stair Climbing	Mandatory for new or correction records	0, 1, 2	Numeric

Element		Mandatory Status	Valid Values	Data Type
ID	Name			
H6a	Stamina—Days	Mandatory for new or correction records	0, 1, 2, 3	Numeric
H6b	Stamina—Hours	Mandatory for new or correction records	0, 1	Numeric
H7a	Client Believes She/ He Can Increase Function Independence	Mandatory for new or correction records	0, 1	Numeric
H7b	Caregivers Believe Client Can Increase Function Independence	Mandatory for new or correction records	0, 1	Numeric
H7c	Good Prospects of Recovery	Mandatory for new or correction records	0, 1	Numeric
H7d	Functional Potential—None of the Above	Mandatory for new or correction records	0, 1	Numeric
I1a	Bladder Continence	Mandatory for new or correction records	0, 1, 2, 3, 4, 5, 8	Numeric
I1b	Worsening of Incontinence	Mandatory for new or correction records	0, 1	Numeric
I2a	Pads or Briefs	Mandatory for new or correction records	0, 1	Numeric
I2b	Indwelling Urinary Catheter	Mandatory for new or correction records	0, 1	Numeric
I2c	Bladder Devices—None of the Above	Mandatory for new or correction records	0, 1	Numeric
I3	Bowel Continence	Mandatory for new or correction records	0, 1, 2, 3, 4, 5, 8	Numeric
J1a	Cerebrovascular Accident (Stroke)	Mandatory for new or correction records	0, 1, 2	Numeric
J1b	Congestive Heart Failure	Mandatory for new or correction records	0, 1, 2	Numeric

Element		Mandatory Status	Valid Values	Data Type
ID	Name			
J1c	Coronary Heart Disease	Mandatory for new or correction records	0, 1, 2	Numeric
J1d	Hypertension	Mandatory for new or correction records	0, 1, 2	Numeric
J1e	Irregularly Irregular Pulse	Mandatory for new or correction records	0, 1, 2	Numeric
J1f	Peripheral Vascular Disease	Mandatory for new or correction records	0, 1, 2	Numeric
J1g	Alzheimer's	Mandatory for new or correction records	0, 1, 2	Numeric
J1h	Dementia Other Than Alzheimer's	Mandatory for new or correction records	0, 1, 2	Numeric
J1i	Head Trauma	Mandatory for new or correction records	0, 1, 2	Numeric
J1j	Hemiplegia/Hemiparesis	Mandatory for new or correction records	0, 1, 2	Numeric
J1k	Multiple Sclerosis	Mandatory for new or correction records	0, 1, 2	Numeric
J1l	Parkinsonism	Mandatory for new or correction records	0, 1, 2	Numeric
J1m	Arthritis	Mandatory for new or correction records	0, 1, 2	Numeric
J1n	Hip Fracture	Mandatory for new or correction records	0, 1, 2	Numeric
J1o	Other Fractures (Wrist, Vertebral)	Mandatory for new or correction records	0, 1, 2	Numeric
J1p	Osteoporosis	Mandatory for new or correction records	0, 1, 2	Numeric

Element		Mandatory Status	Valid Values	Data Type
ID	Name			
J1q	Cataract	Mandatory for new or correction records	0, 1, 2	Numeric
J1r	Glaucoma	Mandatory for new or correction records	0, 1, 2	Numeric
J1s	Any Psychiatric Diagnosis	Mandatory for new or correction records	0, 1, 2	Numeric
J1t	HIV infection	Mandatory for new or correction records	0, 1, 2	Numeric
J1u	Pneumonia	Mandatory for new or correction records	0, 1, 2	Numeric
J1v	Tuberculosis	Mandatory for new or correction records	0, 1, 2	Numeric
J1w	Urinary Tract Infection	Mandatory for new or correction records	0, 1, 2	Numeric
J1x	Cancer, Not Including Skin Cancer	Mandatory for new or correction records	0, 1, 2	Numeric
J1y	Diabetes	Mandatory for new or correction records	0, 1, 2	Numeric
J1z	Emphysema/COPD/ Asthma	Mandatory for new or correction records	0, 1, 2	Numeric
J1aa	Renal Failure	Mandatory for new or correction records	0, 1, 2	Numeric
J1ab	Thyroid Disease (Hyper or Hypo)	Mandatory for new or correction records	0, 1, 2	Numeric
J1ac	Disease—None of the Above	Mandatory for new or correction records	0, 1	Numeric
J2a	Oth A—ICD-10-CA Code	Optional	Valid ICD-10-CA code	Alphanumeric

Element		Mandatory Status	Valid Values	Data Type
ID	Name			
J2b	Oth B—ICD-10-CA Code	Optional	Valid ICD-10-CA code	Alphanumeric
J2c	Oth C—ICD-10-CA Code	Optional	Valid ICD-10-CA code	Alphanumeric
J2d	Oth D—ICD-10-CA Code	Optional	Valid ICD-10-CA code	Alphanumeric
K1a	Blood Pressure Measured	Mandatory under other conditions	0, 1	Numeric
K1b	Received Influenza Vaccine	Mandatory under other conditions	0, 1	Numeric
K1c	Test for Blood in Stool or Screening Endoscopy	Mandatory under other conditions	0, 1	Numeric
K1d	If Female: Received Breast Exam or Mammography	Mandatory under other conditions	0, 1	Numeric
K1e	Preventive Health—None of the Above	Mandatory under other conditions	0, 1	Numeric
K2a	Diarrhea	Mandatory for new or correction records	0, 1	Numeric
K2b	Difficulty Urinating or Urinating 3 Times per Night	Mandatory for new or correction records	0, 1	Numeric
K2c	Fever	Mandatory for new or correction records	0, 1	Numeric
K2d	Loss of Appetite	Mandatory for new or correction records	0, 1	Numeric
K2e	Vomiting	Mandatory for new or correction records	0, 1	Numeric
K2f	Problem Conditions 2+ Days—None of the Above	Mandatory for new or correction records	0, 1	Numeric
K3a	Chest Pain	Mandatory for new or correction records	0, 1	Numeric
K3b	No Bowel Movement in 3 Days	Mandatory for new or correction records	0, 1	Numeric

Element		Mandatory Status	Valid Values	Data Type
ID	Name			
K3c	Dizziness/ Lightheadness	Mandatory for new or correction records	0, 1	Numeric
K3d	Edema	Mandatory for new or correction records	0, 1	Numeric
K3e	Shortness of Breath	Mandatory for new or correction records	0, 1	Numeric
K3f	Delusions	Mandatory for new or correction records	0, 1	Numeric
K3g	Hallucinations	Mandatory for new or correction records	0, 1	Numeric
K3h	Problem Conditions—None of the Above	Mandatory for new or correction records	0, 1	Numeric
K4a	Pain—Frequency	Mandatory for new or correction records	0, 1, 2, 3	Numeric
K4b	Pain—Intensity	Mandatory for new or correction records	0, 1, 2, 3, 4	Numeric
K4c	Pain—Disrupts Usual Activities	Mandatory for new or correction records	0, 1	Numeric
K4d	Pain—Character	Mandatory for new or correction records	0, 1, 2	Numeric
K4e	Pain—Adequate Medication	Mandatory for new or correction records	0, 1, 2	Numeric
K5	Falls Frequency	Mandatory for new or correction records	0, 1, 2, 3, 4, 5, 6, 7, 8, 9	Numeric
K6a	Unsteady Gait	Mandatory for new or correction records	0, 1	Numeric
K6b	Client Limits Going Outdoors Because Afraid of Falling	Mandatory for new or correction records	0, 1	Numeric

Element				
ID	Name	Mandatory Status	Valid Values	Data Type
K7a	Client Felt/Was Advised to Reduce Drinking/Smoking	Mandatory for new or correction records	0, 1	Numeric
K7b	Client Had to Have Drink First Thing in A.M., Was in Trouble Due to Drinking	Mandatory for new or correction records	0, 1	Numeric
K7c	Smoked or Chewed Tobacco Daily	Mandatory for new or correction records	0, 1	Numeric
K8a	Client Feels He/She Has Poor Health	Mandatory for new or correction records	0, 1	Numeric
K8b	Unstable Condition, ADL, Mood or Behaviour	Mandatory for new or correction records	0, 1	Numeric
K8c	Flare-Up of a Recurrent or Chronic Problem	Mandatory for new or correction records	0, 1	Numeric
K8d	Treatment Changed in Last 30 Days	Mandatory for new or correction records	0, 1	Numeric
K8e	Prognosis of Less Than 6 Months to Live	Mandatory for new or correction records	0, 1	Numeric
K8f	Health Status—None of the Above	Mandatory for new or correction records	0, 1	Numeric
K9a	Fearful of Family Member/Caregiver	Mandatory for new or correction records	0, 1	Numeric
K9b	Unusually Poor Hygiene	Mandatory for new or correction records	0, 1	Numeric
K9c	Unexplained Injuries, Broken Bones, Burns	Mandatory for new or correction records	0, 1	Numeric
K9d	Neglected, Abused	Mandatory for new or correction records	0, 1	Numeric
K9e	Physically Restrained	Mandatory for new or correction records	0, 1	Numeric

Element		Mandatory Status	Valid Values	Data Type
ID	Name			
K9f	Other Status—None of the Above	Mandatory for new or correction records	0, 1	Numeric
L1a	Weight Loss	Mandatory for new or correction records	0, 1	Numeric
L1b	Severe Malnutrition (Cachexia)	Mandatory for new or correction records	0, 1	Numeric
L1c	Morbid Obesity	Mandatory for new or correction records	0, 1	Numeric
L2a	One or Fewer Meals a Day	Mandatory for new or correction records	0, 1	Numeric
L2b	Noticeable Decrease in Amount of Food or Fluids Consumed	Mandatory for new or correction records	0, 1	Numeric
L2c	Insufficient Fluid	Mandatory for new or correction records	0, 1	Numeric
L2d	Enteral Tube Feeding	Mandatory for new or correction records	0, 1	Numeric
L3	Swallowing	Mandatory for new or correction records	0, 1, 2, 3, 4	Numeric
M1a	Problem Chewing	Mandatory for new or correction records	0, 1	Numeric
M1b	Dry Mouth	Mandatory for new or correction records	0, 1	Numeric
M1c	Problem Brushing Teeth/Dentures	Mandatory for new or correction records	0, 1	Numeric
M1d	Oral Status—None of the Above	Mandatory for new or correction records	0, 1	Numeric
N1	Skin Problems	Mandatory for new or correction records	0, 1	Numeric

Element		Mandatory Status	Valid Values	Data Type
ID	Name			
N2a	Pressure Ulcer	Mandatory for new or correction records	0, 1, 2, 3, 4	Numeric
N2b	Stasis Ulcer	Mandatory for new or correction records	0, 1, 2, 3, 4	Numeric
N3a	Burns	Mandatory for new or correction records	0, 1	Numeric
N3b	Open Lesions (Other Than Ulcers)	Mandatory for new or correction records	0, 1	Numeric
N3c	Skin Tears/Cuts	Mandatory for new or correction records	0, 1	Numeric
N3d	Surgical Wound	Mandatory for new or correction records	0, 1	Numeric
N3e	Corns, Calluses, Structural Problems, Infections, Fungi	Mandatory for new or correction records	0, 1	Numeric
N3f	Skin Problems—None of the Above	Mandatory for new or correction records	0, 1	Numeric
N4	Prior Pressure Ulcer	Mandatory for new or correction records	0, 1	Numeric
N5a	Antibiotics	Mandatory for new or correction records	0, 1	Numeric
N5b	Dressings	Mandatory for new or correction records	0, 1	Numeric
N5c	Surgical Wound Care	Mandatory for new or correction records	0, 1	Numeric
N5d	Other Wound/Ulcer Care	Mandatory for new or correction records	0, 1	Numeric
N5e	Wound Care—None of the Above	Mandatory for new or correction records	0, 1	Numeric

Element		Mandatory Status	Valid Values	Data Type
ID	Name			
O1a	Lighting	Mandatory under other conditions	0, 1	Numeric
O1b	Floors/Carpets	Mandatory under other conditions	0, 1	Numeric
O1c	Bathroom/Toilet	Mandatory under other conditions	0, 1	Numeric
O1d	Kitchen	Mandatory under other conditions	0, 1	Numeric
O1e	Heating/Cooling	Mandatory under other conditions	0, 1	Numeric
O1f	Personal Safety	Mandatory under other conditions	0, 1	Numeric
O1g	Access to Home	Mandatory under other conditions	0, 1	Numeric
O1h	Access to Rooms in House	Mandatory under other conditions	0, 1	Numeric
O1i	Home Environment—None of the Above	Mandatory under other conditions	0, 1	Numeric
O2a	Client Lives With Others	Mandatory for new or correction records	0, 1	Numeric
O2b	Client or Primary Caregiver Feels Client Be Better Off in Another Living Arrangement	Mandatory for new or correction records	0, 1, 2, 3	Numeric
P1aA	Home Health Aides—Days	Mandatory under other conditions	0, 1, 2, 3, 4, 5, 6, 7	Numeric
P1bA	Visiting Nurses—Days	Mandatory under other conditions	0, 1, 2, 3, 4, 5, 6, 7	Numeric
P1cA	Homemaking Services—Days	Mandatory under other conditions	0, 1, 2, 3, 4, 5, 6, 7	Numeric
P1dA	Meals—Days	Mandatory under other conditions	0, 1, 2, 3, 4, 5, 6, 7	Numeric
P1eA	Volunteer Services—Days	Mandatory under other conditions	0, 1, 2, 3, 4, 5, 6, 7	Numeric
P1fA	Physical Therapy—Days	Mandatory under other conditions	0, 1, 2, 3, 4, 5, 6, 7	Numeric
P1gA	Occupational Therapy—Days	Mandatory under other conditions	0, 1, 2, 3, 4, 5, 6, 7	Numeric
P1hA	Speech Therapy—Days	Mandatory under other conditions	0, 1, 2, 3, 4, 5, 6, 7	Numeric

Element		Mandatory Status	Valid Values	Data Type
ID	Name			
P1iA	Day Care or Day Hospital—Days	Mandatory under other conditions	0, 1, 2, 3, 4, 5, 6, 7	Numeric
P1jA	Social Worker in Home—Days	Mandatory under other conditions	0, 1, 2, 3, 4, 5, 6, 7	Numeric
P1aB	Home Health Aides—Hours	Mandatory under other conditions	0–999	Numeric
P1bB	Visiting Nurses—Hours	Mandatory under other conditions	0–999	Numeric
P1cB	Homemaking Services—Hours	Mandatory under other conditions	0–999	Numeric
P1dB	Meals—Hours	Mandatory under other conditions	0–999	Numeric
P1eB	Volunteer Services—Hours	Mandatory under other conditions	0–999	Numeric
P1fB	Physical Therapy—Hours	Mandatory under other conditions	0–999	Numeric
P1gB	Occupational Therapy—Hours	Mandatory under other conditions	0–999	Numeric
P1hB	Speech Therapy—Hours	Mandatory under other conditions	0–999	Numeric
P1iB	Day Care or Day Hospital—Hours	Mandatory under other conditions	0–999	Numeric
P1jB	Social Worker in Home—Hours	Mandatory under other conditions	0–999	Numeric
P1aC	Home Health Aides—Mins	Mandatory under other conditions	0–99	Numeric
P1bC	Visiting Nurses—Mins	Mandatory under other conditions	0–99	Numeric
P1cC	Homemaking Services—Mins	Mandatory under other conditions	0–99	Numeric
P1dC	Meals—Mins	Mandatory under other conditions	0–99	Numeric
P1eC	Volunteer Services—Mins	Mandatory under other conditions	0–99	Numeric
P1fC	Physical Therapy—Mins	Mandatory under other conditions	0–99	Numeric
P1gC	Occupational Therapy—Mins	Mandatory under other conditions	0–99	Numeric
P1hC	Speech Therapy—Mins	Mandatory under other conditions	0–99	Numeric

Element		Mandatory Status	Valid Values	Data Type
ID	Name			
P1iC	Day Care or Day Hospital—Mins	Mandatory under other conditions	0–99	Numeric
P1jC	Social Worker in Home—Mins	Mandatory under other conditions	0–99	Numeric
P2a	Oxygen	Mandatory for new or correction records	0, 1, 2, 3	Numeric
P2b	Respirator for Assistive Breathing	Mandatory for new or correction records	0, 1, 2, 3	Numeric
P2c	All Other Respiratory Treatments	Mandatory for new or correction records	0, 1, 2, 3	Numeric
P2d	Alcohol/Drug Treatment Program	Mandatory for new or correction records	0, 1, 2, 3	Numeric
P2e	Blood Transfusion(s)	Mandatory for new or correction records	0, 1, 2, 3	Numeric
P2f	Chemotherapy	Mandatory for new or correction records	0, 1, 2, 3	Numeric
P2g	Dialysis	Mandatory for new or correction records	0, 1, 2, 3	Numeric
P2h	IV Infusion—Central	Mandatory for new or correction records	0, 1, 2, 3	Numeric
P2i	IV Infusion—Peripheral	Mandatory for new or correction records	0, 1, 2, 3	Numeric
P2j	Medication by Injection	Mandatory for new or correction records	0, 1, 2, 3	Numeric
P2k	Ostomy Care	Mandatory for new or correction records	0, 1, 2, 3	Numeric
P2l	Radiation	Mandatory for new or correction records	0, 1, 2, 3	Numeric

Element		Mandatory Status	Valid Values	Data Type
ID	Name			
P2m	Tracheostomy Care	Mandatory for new or correction records	0, 1, 2, 3	Numeric
P2n	Exercise Therapy	Mandatory for new or correction records	0, 1, 2, 3	Numeric
P2o	Occupational Therapy	Mandatory for new or correction records	0, 1, 2, 3	Numeric
P2p	Physical Therapy	Mandatory for new or correction records	0, 1, 2, 3	Numeric
P2q	Day Centre	Mandatory for new or correction records	0, 1, 2, 3	Numeric
P2r	Day Hospital	Mandatory for new or correction records	0, 1, 2, 3	Numeric
P2s	Hospice Care	Mandatory for new or correction records	0, 1, 2, 3	Numeric
P2t	Physician or Clinic Visit	Mandatory for new or correction records	0, 1, 2, 3	Numeric
P2u	Respite Care	Mandatory for new or correction records	0, 1, 2, 3	Numeric
P2v	Daily Nurse Monitoring	Mandatory for new or correction records	0, 1, 2, 3	Numeric
P2w	Nurse Monitoring Less Than Daily	Mandatory for new or correction records	0, 1, 2, 3	Numeric
P2x	Medical Alert Bracelet or Electronic Security Alert	Mandatory for new or correction records	0, 1, 2, 3	Numeric
P2y	Skin Treatment	Mandatory for new or correction records	0, 1, 2, 3	Numeric
P2z	Special Diet	Mandatory for new or correction records	0, 1, 2, 3	Numeric

Element		Mandatory Status	Valid Values	Data Type
ID	Name			
P2aa	Special Treatment—None of the Above	Mandatory for new or correction records	0, 1	Numeric
P3a	Oxygen	Mandatory under other conditions	0, 1, 2, 3, 4	Numeric
P3b	IV	Mandatory under other conditions	0, 1, 2, 3, 4	Numeric
P3c	Catheter	Mandatory under other conditions	0, 1, 2, 3, 4	Numeric
P3d	Ostomy	Mandatory under other conditions	0, 1, 2, 3, 4	Numeric
P4a	Number of Overnight Hospital Admissions	Mandatory for new or correction records	0, 1, 2, 3, 4, 5, 6, 7, 8, 9	Numeric
P4b	Number of ER Visits Without an Overnight Stay	Mandatory for new or correction records	0, 1, 2, 3, 4, 5, 6, 7, 8, 9	Numeric
P4c	Emergent Care	Mandatory under other conditions	0, 1, 2, 3, 4, 5, 6, 7, 8, 9	Numeric
P5	Treatment Goals	Mandatory under other conditions	0, 1	Numeric
P6	Overall Change in Care Needs	Mandatory for new or correction records	0, 1, 2	Numeric
P7	Trade Offs	Mandatory under other conditions	0, 1	Numeric
Q1	Number of Medications	Mandatory for new or correction records	0, 1, 2, 3, 4, 5, 6, 7, 8, 9	Numeric
Q2a	Antipsychotic/ Neuroleptic	Mandatory for new or correction records	0, 1	Numeric
Q2b	Anxiolytic	Mandatory for new or correction records	0, 1	Numeric
Q2c	Antidepressant	Mandatory for new or correction records	0, 1	Numeric
Q2d	Hypnotics or Analgesics	Mandatory for new or correction records	0, 1	Numeric

Element		Mandatory Status	Valid Values	Data Type
ID	Name			
Q3	Medical Oversight	Mandatory under other conditions	0, 1	Numeric
Q4	Compliance/Adherence With Medications	Mandatory under other conditions	0, 1, 2, 3	Numeric
R1c	Date Assessment Coordinator Signed As Complete	Mandatory for new or correction records	YYYYMMDD, valid date	Date

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