



HWI

Health Workforce Information Minimum Data Set (HWI MDS)

Data Submission Manual



Canadian Institute
for Health Information

Institut canadien
d'information sur la santé

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Introduction

About CIHI

The Canadian Institute for Health Information (CIHI) is an independent, not-for-profit organization that provides comparable and actionable data and information that are used to accelerate improvements in health care, health system performance and population health across Canada. Our stakeholders use our broad range of health system databases, measurements and standards, together with our evidence-based reports and analyses, in their decision-making processes. We protect the privacy of Canadians by ensuring the confidentiality and integrity of the health care information we provide.

For more information, visit our website at cihi.ca.

CIHI's Privacy and Security Program

CIHI has a comprehensive privacy program in place to protect the confidentiality and security of our data holdings. A cornerstone of this program is a set of strict principles and policies that govern how CIHI collects, stores, analyzes and disseminates data. These are outlined in the documents *Privacy Policy on the Collection, Use, Disclosure and Retention of Personal Health Information and De-Identified Data, 2010* and *Policy on Health Facility–Identifiable Information*, available at cihi.ca. These policies have been reviewed to ensure that they are aligned with Schedule 1 of the federal *Personal Information Protection and Electronic Documents Act* (PIPEDA).

CIHI's Privacy Program also includes

- A Privacy Secretariat committed to developing a culture of privacy at CIHI;
- An active Privacy, Confidentiality and Security team that includes representation from across the organization;
- A chief privacy advisor, who provides advice and counsel on privacy matters;
- The Privacy and Data Protection Committee — a subcommittee of CIHI's Board of Directors;
- Mandatory staff training to keep health information protection matters front and centre; and
- Outreach activities to keep stakeholders advised.

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CIHI would also like to acknowledge the internal executive committee and working groups for their ongoing strategic advice and stewardship guidance.

About this document

Purpose

This document outlines the technical and data submission specifications for CIHI's [Health Workforce Database \(HWDB\)](#).

Its purpose is to

- Provide an overview of how to submit a registration record to CIHI;
- Describe CIHI's data testing and validation processes; and
- Provide additional resources for submitting a registration record.

Note: This document does not include definitions and rationales for the data elements. This information can be found in the Health Workforce Information Minimum Data Set (HWI MDS) Data Dictionary, which can be downloaded from the [Health Workforce Database metadata page](#).

Audience

This document has 2 key audiences:

- **Submitting organizations/jurisdictions:** Health care provider groups that currently submit registration records to CIHI. Data providers must ensure that the data they submit to CIHI aligns with the specifications outlined in this document.
- **Non-submitting organizations/jurisdictions:** Some health care provider groups that do not currently submit to CIHI have expressed interest in developing databases that are nationally comparable and that are consistent with CIHI's standards. CIHI supports these organizations' use of the *HWI MDS Data Submission Manual* and HWI MDS Data Dictionary, which can be downloaded from the [Health Workforce Database metadata page](#), to populate and build a database that is consistent with CIHI's standards.

Note: These documents do not provide the steps to build a database; rather, they introduce the standards used for collecting, processing and reporting HWI data.

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About Health Workforce Information at CIHI

CIHI's Health Workforce Database (HWDB) contains information on supply, geographic, demographic, education and employment characteristics for health care providers in Canada. Information captured in this database is guided by the HWI MDS data standard. CIHI established this standard to ensure a standardized approach to identifying and collecting the general data needed to support federal, provincial and territorial workforce planning and policy development and research, and to enable pan-Canadian comparability.

Background

In 2004, CIHI consulted major stakeholders to identify and validate HWI priority information needs and related indicators, and to ascertain which data elements should be collected in a standardized fashion across Canada. Leveraging these findings, CIHI undertook the Health Human Resources Databases Development Project and developed national, supply-based databases for 5 groups of regulated health care providers:

- Occupational Therapist Database (OTDB)
- Pharmacist Database (PDB)
- Physiotherapist Database (PTDB)
- Medical Radiation Technologist Database (MRTDB)
- Medical Laboratory Technologist Database (MLTDB)

Collectively, these were referred to as the Health Human Resources Database (HHRDB).

These databases complemented existing HWI databases on physicians, nurse practitioners, registered nurses, registered psychiatric nurses and licensed practical nurses. In addition, CIHI also maintained a database of aggregate data on 18 other groups of health care providers.

Since then, for various reasons, the MRTDB and MLTDB have been decommissioned; information on these providers is now collected at the aggregate level. Additionally, while HWI data is collected and submitted separately for each group of health care providers, the information is collated into the HWDB to ensure consistency in reporting. The exception is [physician](#) information, as CIHI maintains Scott's Medical Database (SMDB) — its database on the supply of physicians in Canada — by acquiring raw data annually from Scott's Directories (a private third party). Scott's Directories collects data from organizations and institutions such as jurisdictional registrars, the Royal College of Physicians and Surgeons of Canada and the College of Family Physicians of Canada, and from physicians who contact it directly. This raw data is processed and enhanced according to CIHI's Reference Data Model before being included in the SMDB.

The HWI MDS Modernization Project

From 2019 to 2022, CIHI revisited its current practices to ensure they aligned with the evolving health information needs of stakeholders. The findings highlighted the continued importance of collecting and analyzing HWI data to support health workforce planning and policy development. They also noted that CIHI's current data and methods were fragmented and incomplete, making it difficult to report on and understand the pan-Canadian health workforce landscape comprehensively.

In response, CIHI has updated the HWI MDS data standard (including current data elements and values, and their associated definitions) to

- Reduce the data collection burden and collect only those data elements necessary to support health workforce planning and policy development;
- Standardize the concepts and values for data collection and reporting across all groups of health care providers;
- Better meet stakeholder needs and reflect Canada's health care systems; and
- Align with an international health information standard: the Systematized Nomenclature of Medicine — Clinical Terms (SNOMED CT).
 - SNOMED CT is an international vocabulary of clinical phrases for use in electronic health care systems. Alignment with SNOMED CT ensures consistent recording of information across all health care domains. Using the same terminology makes it possible to integrate and link health workforce data with other data holdings with minimal data transformation. This mapping fosters data exchange.
 - The SNOMED CT Canadian Edition contains content that is specific to Canadian use contexts and is maintained by Canada Health Infoway.
 - To obtain information on SNOMED CT mapping codes, email hwi@cihi.ca.

The updated HWI MDS data standard will allow for comparable, high-quality, linkable health workforce data across health care provider groups to support pan-Canadian health workforce planning, policy development and research. It evolves the standardized approach to data collection, streamlines current processes and reduces the data collection burden. It will be updated on a regular 3-year cycle.

Health workforce data in the Canadian MIS Database

In addition to being collected through the HWI MDS, health workforce information is also collected through CIHI's [MIS Standards](#). The *Standards for Management Information Systems in Canadian Health Service Organizations* (MIS Standards) is a set of national standards for gathering and processing data and for reporting financial and statistical data on the day-to-day operations of a health service organization. It provides a framework for integrating clinical, financial and statistical data. However, unlike the HWI MDS, which uses a person-centric modular design, the MIS Standards collects information at a functional centre level. A functional centre is a method used to report the functions of health services and is organized according to the type of health services provided (e.g., hospital, community, outpatient setting). For example, a physiotherapy functional centre fulfills the function of providing physiotherapy services by a physiotherapist or a physiotherapist assistant; services provided by both providers are reported in the same functional centre. Functional centre data collected through the MIS Standards is reported annually to the [Canadian MIS Database \(CMDB\)](#).

By using the data gathered through the MIS Standards in the CMDB, we can analyze various aspects of the health workforce at a functional centre level, including regular and overtime salaries, benefits (such as vacation and sick leave), purchased salaries and employee benefit contributions. This analysis can provide a more comprehensive view of the overall health workforce. With the updated MIS Standards 2025, enhanced reporting can be done for defined occupational classes, specifically for nursing groups, and can clarify the scope of vacancies. The defined occupational classes are categorized based on licensure and education rather than job title or position; the occupational classes include groups like registered nurses, paramedics, midwives and personal support workers. Occupational classes are established for reporting regular and overtime salaries, benefits, purchased salaries and hours worked. They are also used to categorize hours worked based on personnel employment status (e.g., full time, part time, casual). However, comparing these classes with the HWI MDS definitions of health care providers presents challenges. CIHI's Health Workforce Information team is collaborating with the MIS Standards team to better understand staffing levels at the functional centre level, aiming for national comparability in full-time equivalencies and provider type comparisons.

Data submission specifications

This section provides data submission specifications and includes information on the following:

- Data submission guidelines
- Data acceptance rules
- Data submission and transmission

Non-submitting organizations/jurisdictions may wish to adopt the specifications outlined in this document, which are consistent with CIHI's HWI data standards.

Data submission guidelines

Records for submission

The target population is all health care providers in each Canadian province and territory.

CIHI currently collects information on health care providers in several professions who **complete an annual registration form and submit it to their provincial or territorial regulatory body**.

Note: Where regulatory bodies do not exist, a relevant national, provincial or territorial health professional association or government entity may be the CIHI data source.

At minimum, CIHI requires the submission of all active registrations; depending on the requirements established with each professional group/jurisdiction, CIHI may also collect inactive registrations. More information on registration statuses captured by CIHI can be found in the HWI MDS Data Dictionary (Category 1, Field 2: Provider Registration Status), which can be downloaded from the [Health Workforce Database metadata page](#).

Data sources

CIHI receives data from

- Provincial and territorial governments;
- Provincial and territorial regulatory bodies; and
- National professional associations.

Note: In this document, these entities are referred to as *data providers*.

The annual registration form that an applicant completes is the property of the regulatory body.

Per an agreement with CIHI, data providers submit a set of standardized data that is collected using the registration forms. The information collected pertains to demographic, education, training and employment characteristics of health care providers.

Annual registration, collection and submission dates

Registration periods

In order to practise in a given jurisdiction, regulated health care providers across Canada complete an annual registration (or renewal) form and submit it to their provincial or territorial regulatory body. This form is expected to be submitted within a specific time frame known as the registration period, which varies among health care provider types and jurisdictions.

Collection dates

To better ensure timeliness, CIHI may collect data prior to the end of the registration period.

A cut-off date for data collection is established through consultation with the data providers. It reflects the time when most of the registrations for the registration period have been received.

Submission period

Data is expected to be submitted to CIHI within 30 days of the agreed-upon collection date.

Note: Collection and submission dates for CIHI's current data providers will be provided as part of the annual data collection package. For additional information, please email hwi@cihi.ca.

Data acceptance rules

The data acceptance rules established by CIHI are as follows:

- Data should be edited at source. Only error-free data should be submitted. Error-free data is defined as information that
 - Conforms to the physical [record layout](#) and [file layout](#) as defined in this document; and
 - Contains only valid values or codes as defined in the [record layout](#).
- A submission file can contain registration data only for the period agreed upon in the data agreement with CIHI.
- Data must be submitted in a file of fixed record length.
- A control record must be present at the start of the data file. The control record is a summary of the file contents and functions as a reference for verifying individual records.
- Data providers will be notified of any errors detected in their control records. Data providers must provide edits and/or the rationale for the errors to CIHI before validation processes can continue.
- Data providers will be informed of errors detected in their submitted data files via a detailed [error report](#). Data providers must supply corrected records by resubmitting the error report.

Data submission and transmission

To protect the safety of confidential information and to satisfy national and provincial privacy legislation, CIHI requests that all data files be submitted via its electronic Data Submission Services (eDSS).

CIHI offers eDSS as a means of transmitting electronic files via the internet. eDSS provides security that meets corporate and industry standards using

- Secure encrypted protocols during file upload and transfer from the client's machine to CIHI's servers; and
- Restriction of system access to only those users who have been authorized and authenticated.

Accessing eDSS

Data providers can access eDSS by logging in to their CIHI profile. Each data provider will require eDSS access to submit data to each data holding at CIHI.

Requesting access

If you have a CIHI profile, [log in](#) and select **Request Access: New/Revoke**.

- To request access for yourself, click the checkbox **Request access for yourself**.
- To request access for other users at your organization, begin typing the user's name or email address in the **Search for a user** field. All users added to the request will appear in the Summary of Selected Users at the bottom of the page.
- If you're unable to locate a user, click **Create a new user**.

Login credentials will be emailed to the user's email address so they can activate their profile; activation is required before access can be processed.

If you have any issues or are not able to create a profile, email help@cihi.ca with the following information for each affected user:

- User's first name, last name and email address, and organization name.

Adding/revoking eDSS service

Once all users have been added to the request, click **Add/Revoke Services**.

- To locate the services to add or revoke for the selected user, begin typing the program, organization name or organization identifier in the **Search for services** field. The search results can be narrowed down further using the **Filter Results** field once results are displayed.

- In the column **Access type**, click the arrow in the **Select** drop-down box and choose **Grant** or **Revoke**. Your choices will be reflected in the Summary of services at the bottom of the page.

For more information on requesting access to eDSS, please email help@cihi.ca.

Submitting data in eDSS

eDSS is available 24 hours a day, 7 days a week so facilities can submit data at their convenience.

To use eDSS, data providers must be able to connect to the internet using an internet browser and have file compression software such as WinZip.

The *Electronic Data Submission Services (eDSS) External User Guide* is available for reference in the eDSS application. Refer to the guide for information on requirements and processes for data submissions.

Data technical specifications

This section deals with characteristics of the complete file submitted to CIHI and the layout for records submitted within each file.

File characteristics

Registration data is submitted in a file that must consist of the following:

- A control record: This record describes the contents of the file and must be the first record in the file. The control record must be 390 characters in length.
- Detailed records: These records must all be in the same format and be 390 characters in length. Each record describes the registration, demographic, geographic, education and employment characteristics of a single registrant. 1 record represents 1 individual registrant. Each record must start on a new line.

The file to be created is a plain (ASCII) text file *without* delimiters (such as tabs or commas). It must have “.txt” as the file extension.

To successfully submit a file to CIHI using eDSS, the text file must be zipped. For more information on submitting data to CIHI using eDSS, please review the [Submitting data in eDSS](#) section of this document.

File-naming convention

File names should be standardized to facilitate the receipt and processing of health care provider data. The file name layout is as follows:

Table 1 File layout naming convention

Field	Value format*	Value description
Data Type	AAA	HHR: Health Human Resources
Data Year	YYYY	The data collection year being submitted
Submission Period	NN	Submission period is a requirement for submitting files to CIHI using eDSS; please enter 00.
Organization Identifier	ANNNN	A 5-character code assigned to the data provider, generated per corporate standards. Identifiers will be provided via email. This same identifier will be used when submitting data files via eDSS.
Submitting Province/Territory Code	AA	NL: Newfoundland and Labrador PE: Prince Edward Island NS: Nova Scotia NB: New Brunswick QC: Quebec ON: Ontario MB: Manitoba SK: Saskatchewan AB: Alberta BC: British Columbia YT: Yukon NT: Northwest Territories NU: Nunavut
Submitting Health Care Provider Type	NN	01: Registered nurse 02: Licensed practical nurse 03: Registered psychiatric nurse 04: Nurse practitioner 05: Occupational therapist 06: Physiotherapist 07: Pharmacist 08: Personal support worker
File Sequence Number ID	NNN	Indicates which version of the file is being submitted. The first file to be submitted for a given data submission year will be file version 001. Subsequent iterations of the file will increment the version number by 1 each time the file is submitted (002, 003, etc.).
File Name Extension	.zip	The file name extension must be .zip. This extension indicates a text file that has been zipped.

Note

* N represents a number (0–9) and A represents a letter (A–Z).

Example file name

- HHR202400xxxxxPE07001.zip

This fictitious example identifies the file as submitting for the **HHR** data type for the data year **2024**, submission period **00** from the data provider **xxxxx — Organization Identifier**. The submitting province is **PE: Prince Edward Island** for the health care provider type **07: Pharmacist**. It is the **first iteration** of the file to be received from the data provider.

Control record format

A control record is required at the start of each file. The control record describes the contents of the file using a standardized naming convention based on CIHI's data standards. The type and format of information in the control record is outlined in the table below.

Table 2 Control record format

Field number	Data element	Start byte	Length	Type	Value format	Value description
1	Health Care Provider Type	1	3	Character	AAA	LPN: Licensed practical nurse RRN: Registered nurse RNP: Nurse practitioner RPN: Registered psychiatric nurse OCC: Occupational therapist PHY: Physiotherapist PHA: Pharmacist PSW: Personal support worker For provider types not listed above, the data provider itself can establish the abbreviation.
2	Province/Territory Code	4	5	Character	AANNN	A 5-character code assigned to the data provider: NL001: Newfoundland and Labrador PE001: Prince Edward Island NS001: Nova Scotia NB001: New Brunswick QC001: Quebec ON001: Ontario MB001: Manitoba SK001: Saskatchewan AB001: Alberta BC001: British Columbia YT001: Yukon NT001: Northwest Territories NU001: Nunavut

Field number	Data element	Start byte	Length	Type	Value format	Value description
3	Data Year	9	4	Character	YYYY	The data collection year being submitted
4	Number of Records	13	6	Numeric	NNNNNN	The total number of records in the file (not including the control record) Note: All 6 numeric characters in this field must be filled. If the number of records being submitted is less than 6 characters in length (i.e., <100,000), any preceding characters must be filled with a zero.
5	File Creation Date	21	8	Date	YYYYMMDD	The date the file was created
6	Provider Registration Identifier	29	1	Character	R or S	R (registration number) or S (substitute number)
7	Filler	30	363	Character	X	Xs are added to the end of the record so that the control record is the same length as the detailed records

Note

Field 6: Provider Registration Identifier may be included in 1 of 2 ways:

- The actual registration number may be used; or
- A substitute (dummy) number may be used.

The type of number to be supplied is left to the discretion of the jurisdiction; however, the number for each registrant needs to be the same every year regardless of which type of number is provided. If dummy numbers are supplied, they must remain consistent every year for each individual registrant (this enables CIHI to conduct longitudinal analysis on the data).

Sample control record

OCCSK001202400075020240920Rxxxxxxxxxxxxxxxxxxxx . . .

Table 3 Sample control record

Health Care Provider Type	Province/Territory Code	Data Year	Number of Records	File Creation Date	Provider Registration Identifier	Filler
OCC	SK001	2024	000750	20240920	R	X

In this sample control record,

- **OCC** indicates that the health care providers are occupational therapists;
- **SK001** indicates that the file was submitted by Saskatchewan;
- **2024** indicates that the data collection year is 2024;
- **000750** indicates that there are 750 records in the file (not including the control record);
- **20240920** indicates that the file was created on September 20, 2024;
- **R** indicates that the registration numbers are actual registration numbers; and
- **X** indicates that the control record is padded with 363 filler characters.

File and record processing

Once data files are received by CIHI, all records undergo specific processing before being included. That processing occurs in the following sequence:

File integrity validation processing

File integrity validation processing checks the physical characteristics of the data file. The contents of the file's control record are checked for errors and the detailed records are counted. The count ensures that the number of detailed records matches the number indicated in the control record (Field 4). Each detailed record is also checked to ensure that its record length matches the specifications (i.e., 390 characters).

Data providers will be notified when files do not pass file integrity validation processing.

Record validation processing

Record validation processing validates the data elements included in each record for format, content and internal consistency.

This includes validating code fields; for example, the only possible code values for Provider Registration Status are 15 (*active, full*), 25 (*active, other*) and 35 (*inactive*). The data also undergoes tests of the logical relationships between specific fields. For example, an error is identified if the value for Provider Basic/Highest Level of Education Graduation Year is less than the value for Birth Year.

Errors and suspect data identified through the editing process will be included in an error report. The record will not be included in the HWDB until all errors are corrected.

Error correction

CIHI will share reports that identify errors with the HWDB's data providers. These reports will be provided in an Excel file.

Errors are reviewed and corrected by the data provider. This is an iterative process that requires ongoing consultation between CIHI and the data provider in the weeks after file submission. Data providers are expected to correct the source data and to resubmit the error report with corrections and comments.

In addition to an error report, data providers *may* receive a report summarizing fluctuations in data submitted in current versus past data years. Data providers are encouraged to review and resubmit to CIHI within the same zip file as the error report.

Data providers resubmitting error reports to CIHI are encouraged to follow the same file layout naming conventions and submission instructions as those for text files. For more information on submitting data to CIHI using eDSS, please review the [Submitting data in eDSS](#) section of this document.

Record layout

Tables 4 and 5 provide the detailed information required to create records in a sequential file suitable for processing by CIHI. **Table 4** lists the 49 unique data elements as they would appear in a detailed record — sequentially and with all possible occurrences.

Table 5 summarizes the specifications for the 49 unique data elements.

For definitions of the data elements and values, as well as examples and additional information, please refer to the HWI MDS Data Dictionary, which can be downloaded from the [Health Workforce Database metadata page](#).

Record layout notes

- **Field number** indicates the uniquely assigned number for each data element.
- **Field name** indicates the name of the data element.
- **Occurrence** indicates the number of times a data element can be repeated when more than one occurrence (i.e., multiple selection) of the data element is allowed.
- **Start byte** indicates the starting point of each data element in the record.
- **Length** indicates the number of characters for each data element.
- **Value format/labels** indicates the permissible values and specific format for each data element.
- All fields are **characters**.

There are 49 unique data elements; however, some data elements can be collected more than once. This can occur for 2 reasons: a data element allows for multiple selection; or a data element allows for multiple employments.

Multiple selection data elements

- A maximum of 3 entries are allowed.
- These 3 entries occur sequentially.

Example

- Jenna is a physiotherapist who can provide services in 3 languages: English, Spanish and Chinese.
- All 3 languages are captured under Language — Ability to Provide Service (fields 19 to 21) sequentially as ENGSPA ZHO.
- When there are fewer than 3 entries, use *not applicable* to fill the remaining fields.

Multiple employment data elements

- A maximum of 3 entries are allowed.
- These 3 entries do not occur sequentially; instead, they occur in blocks.
 - Fill the first block of applicable data elements for the provider's first employment, the second block for the second employment and the third block for the third employment.
- When there are fewer than 3 employments, use *not applicable* to fill the remaining fields.

Table 4 HWI MDS data elements

Category	Field number	Start byte	Length	Field name
Registration	1	1	3	Provider Type
	2	4	2	Provider Registration Status
	3	6	6	Provider Registration Date
	4	12	64	<i>Proposed</i> — National Unique Identifier
	5	76	16	Provider Provincial/Territorial Registration Number
	6	92	2	Provider Registration Province/Territory
	7	94	2	Provider Concurrent Registration Province/Territory (1)
	8	96	2	Provider Concurrent Registration Province/Territory (2)
	9	98	2	Provider Concurrent Registration Province/Territory (3)
	10	100	3	Provider Concurrent Registration Country (1)
	11	103	3	Provider Concurrent Registration Country (2)
	12	106	3	Provider Concurrent Registration Country (3)
	13	109	2	Provider Initial Registration Province/Territory
	14	111	4	Provider Initial Registration Year

Category	Field number	Start byte	Length	Field name
Demographics	15	115	1	Gender
	16	116	1	Sex at Birth
	17	117	4	Birth Year
	18	121	3	Language — Ability to Provide Service (1)
	19	124	3	Language — Ability to Provide Service (2)
	20	127	3	Language — Ability to Provide Service (3)
	21	130	2	Indigenous Identity (1)
	22	132	2	Indigenous Identity (2)
	23	134	2	Indigenous Identity (3)
	24	136	2	Racialized Group (1)
	25	138	2	Racialized Group (2)
	26	140	2	Racialized Group (3)
Geography (of Provider Residence)	27	142	2	Provider Residence Province/Territory
	28	144	3	Provider Residence Country
	29	147	6	Provider Residence Postal Code
Education	30	153	2	Provider Basic Education Level
	31	155	4	Provider Basic Education Graduation Year
	32	159	8	Provider Basic Education Graduation Institution
	33	167	2	Provider Basic Education Graduation Province/Territory
	34	169	3	Provider Basic Education Graduation Country
	35	172	2	Provider Highest Level of Education
	36	174	4	Provider Highest Level of Education Graduation Year
	37	178	8	Provider Highest Level of Education Institution
	38	186	2	Provider Highest Level of Education Graduation Province/Territory
	39	188	3	Provider Highest Level of Education Graduation Country
Employment	40	191	2	Employment Status
	41	193	1	Employed in Profession
	42	194	2	Seeking Employment

Category	Field number	Start byte	Length	Field name
Employment 1	43	196	2	Provider Employment Category
	44	198	2	Provider Employment Full-Time/Part-Time/Casual Status
	45	200	2	Provider Employment Full-Time/Part-Time/ Casual Preference
	46	202	4	Provider Employment Annual Earned Hours
	47	206	2	Provider Employment Place of Work (1)
	48	208	2	Provider Employment Place of Work (2)
	49	210	2	Provider Employment Place of Work (3)
	50	212	2	Provider Employment Position (1)
	51	214	2	Provider Employment Position (2)
	52	216	2	Provider Employment Position (3)
	53	218	3	Provider Employment Area of Practice (1)
	54	221	3	Provider Employment Area of Practice (2)
	55	224	3	Provider Employment Area of Practice (3)
	56	227	2	Provider Employment Funding Source
	57	229	1	Agency Health Care Provider Flag
	58	230	1	Multiple Site Flag
	59	231	2	Primary Site Virtual Care
	60	233	2	Primary Site Encounter Mode (1)
	61	235	2	Primary Site Encounter Mode (2)
	62	237	2	Primary Site Encounter Mode (3)
	63	239	10	Primary Site Organization Identifier
	64	249	6	Primary Site Postal Code
	65	255	1	Site of Practice Indicator for Postal Code
	66	256	2	Primary Site Province/Territory
	67	258	3	Primary Site Country

Category	Field number	Start byte	Length	Field name
Employment 2	68	261	2	Provider Employment Category
	69	263	2	Provider Employment Full-Time/Part-Time/Casual Status
	70	265	2	Provider Employment Full-Time/Part-Time/ Casual Preference
	71	267	4	Provider Employment Annual Earned Hours
	72	271	2	Provider Employment Place of Work (1)
	73	273	2	Provider Employment Place of Work (2)
	74	275	2	Provider Employment Place of Work (3)
	75	277	2	Provider Employment Position (1)
	76	279	2	Provider Employment Position (2)
	77	281	2	Provider Employment Position (3)
	78	283	3	Provider Employment Area of Practice (1)
	79	286	3	Provider Employment Area of Practice (2)
	80	289	3	Provider Employment Area of Practice (3)
	81	292	2	Provider Employment Funding Source
	82	294	1	Agency Health Care Provider Flag
	83	295	1	Multiple Site Flag
	84	296	2	Primary Site Virtual Care
	85	298	2	Primary Site Encounter Mode (1)
	86	300	2	Primary Site Encounter Mode (2)
	87	302	2	Primary Site Encounter Mode (3)
	88	304	10	Primary Site Organization Identifier
	89	314	6	Primary Site Postal Code
	90	320	1	Site of Practice Indicator for Postal Code
	91	321	2	Primary Site Province/Territory
	92	323	3	Primary Site Country

Category	Field number	Start byte	Length	Field name
Employment 3	93	326	2	Provider Employment Category
	94	328	2	Provider Employment Full-Time/Part-Time/Casual Status
	95	330	2	Provider Employment Full-Time/Part-Time/ Casual Preference
	96	332	4	Provider Employment Annual Earned Hours
	97	336	2	Provider Employment Place of Work (1)
	98	338	2	Provider Employment Place of Work (2)
	99	340	2	Provider Employment Place of Work (3)
	100	342	2	Provider Employment Position (1)
	101	344	2	Provider Employment Position (2)
	102	346	2	Provider Employment Position (3)
	103	348	3	Provider Employment Area of Practice (1)
	104	351	3	Provider Employment Area of Practice (2)
	105	354	3	Provider Employment Area of Practice (3)
	106	357	2	Provider Employment Funding Source
	107	359	1	Agency Health Care Provider Flag
	108	360	1	Multiple Site Flag
	109	361	2	Primary Site Virtual Care
	110	363	2	Primary Site Encounter Mode (1)
	111	365	2	Primary Site Encounter Mode (2)
	112	367	2	Primary Site Encounter Mode (3)
	113	369	10	Primary Site Organization Identifier
	114	379	6	Primary Site Postal Code
	115	385	1	Site of Practice Indicator for Postal Code
	116	386	2	Primary Site Province/Territory
	117	388	3	Primary Site Country

Total record length: 390 characters

Table 5 HWI MDS record layout

Category	Field	Field name	Occurrence	Start byte	Length	Value format/labels
Registration	1	Provider Type	1	1	3	162: Licensed practical nurse 186: Nurse practitioner 188: Occupational therapist 204: Personal support worker 206: Pharmacist 212: Physiotherapist 250: Registered nurse 252: Registered psychiatric nurse Only providers who submit record-level data are shown. Refer to Appendix A in the HWI MDS Data Dictionary, found on the Health Workforce Database metadata page , for a full list of provider types.
	2	Provider Registration Status	1	4	2	15: Active, full 25: Active, other 35: Inactive
	3	Provider Registration Date	1	6	6	Format YYYYMM Valid year and month
	4	<i>Proposed</i> — National Unique Identifier	1	12	64	Format 0–9, A–Z, blank 97: Not collected 98: Not applicable 99: Unknown All 64 characters in this field must be filled. If the identifier being submitted is shorter than 64, any characters preceding the identifier must be filled with a space. However, for <i>not collected</i> , <i>not applicable</i> and <i>unknown</i> , the 63 characters preceding the identifier (i.e., 7, 8 or 9) must be filled with 9s.

Category	Field	Field name	Occurrence	Start byte	Length	Value format/labels
Registration (continued)	5	Provider Provincial/ Territorial Registration Number	1	76	16	Format 0–9, A–Z, blank Provincial or territorial registration number or suitable alternative All 16 characters in this field must be filled. If the registration number being submitted is shorter than 16, any characters preceding the registration number must be filled with a space.
	6	Provider Registration Province/Territory	1	92	2	Refer to Appendix B in the HWI MDS Data Dictionary, found on the Health Workforce Database metadata page , for valid Canadian province and territory codes. 97: Not collected
	7, 8, 9	Provider Concurrent Registration Province/ Territory*	3	94	6	Refer to Appendix B in the <i>HWI MDS Data Dictionary</i> , found on the Health Workforce Database metadata page , for valid Canadian province and territory codes. 97: Not collected 98: Not applicable 99: Unknown
	10, 11, 12	Provider Concurrent Registration Country*	3	100	9	Refer to Appendix C in the HWI MDS Data Dictionary, found on the Health Workforce Database metadata page , for valid country codes. 997: Not collected 998: Not applicable 999: Unknown
	13	Provider Initial Registration Province/Territory	1	109	2	Refer to Appendix B in the <i>HWI MDS Data Dictionary</i> , found on the Health Workforce Database metadata page , for valid Canadian province and territory codes. 97: Not collected 98: Not applicable 99: Unknown
	14	Provider Initial Registration Year	1	111	4	Format YYYY Valid year 9997: Not collected 9998: Not applicable 9999: Unknown

Category	Field	Field name	Occurrence	Start byte	Length	Value format/labels
Demographics	15	Gender	1	115	1	F: Female M: Male X: Another gender 6: Prefer not to answer 7: Not collected 9: Unknown
	16	Sex at Birth	1	116	1	F: Female M: Male I: Intersex 6: Prefer not to answer 7: Not collected 9: Unknown
	17	Birth Year	1	117	4	Format YYYY Valid year 9997: Not collected 9999: Unknown
	18, 19, 20	Language — Ability to Provide Service*	3	121	9	Refer to Appendix D in the HWI MDS Data Dictionary, found on the Health Workforce Database metadata page , for valid language codes. 997: Not collected 998: Not applicable 999: Unknown
	21, 22, 23	Indigenous Identity*	3	130	6	10: First Nations 15: Inuk/Inuit 20: Métis 95: Do not know 96: Prefer not to answer 97: Not collected 98: Not applicable 99: Unknown

Category	Field	Field name	Occurrence	Start byte	Length	Value format/labels
Demographics (continued)	24, 25, 26	Racialized Group*	3	136	6	10: Black 15: East Asian 20: Indigenous 25: Latin American 30: Middle Eastern 35: South Asian 40: Southeast Asian 45: White 50: Mixed racial group 59: Another race category 95: Do not know 96: Prefer not to answer 97: Not collected 98: Not applicable 99: Unknown
Geography (of Provider Residence)	27	Provider Residence Province/Territory	1	142	2	Refer to Appendix B in the HWI MDS Data Dictionary, found on the Health Workforce Database metadata page , for valid Canadian province and territory codes. 97: Not collected 98: Not applicable 99: Unknown
	28	Provider Residence Country	1	144	3	Refer to Appendix C in the HWI MDS Data Dictionary, found on the Health Workforce Database metadata page , for valid country codes. 997: Not collected 998: Not applicable 999: Unknown
	29	Provider Residence Postal Code	1	147	6	Format ANANAN 6-digit postal code assigned by Canada Post 999997: Not collected 999998: Not applicable 999999: Unknown

Category	Field	Field name	Occurrence	Start byte	Length	Value format/labels
Education	30	Provider Basic Education Level	1	153	2	10: Baccalaureate 15: Certificate 20: College or CEGEP diploma — complete 25: Doctorate 30: High school or secondary school degree — complete 35: Master's 40: Postgraduate-level profession-specific degree 45: Residency 50: Some secondary or high school education 97: Not collected 98: Not applicable 99: Unknown
	31	Provider Basic Education Graduation Year	1	155	4	Format YYYY Valid year 9997: Not collected 9998: Not applicable 9999: Unknown
	32	Provider Basic Education Graduation Institution	1	159	8	Refer to Appendix E in the <i>HWI MDS Data Dictionary</i> , found on the Health Workforce Database metadata page , for a list of post-secondary Canadian education institution codes. 00000010: Other Canadian institution 00000020: Non-Canadian institution 99999997: Not collected 99999998: Not applicable 99999999: Unknown
	33	Provider Basic Education Graduation Province/Territory	1	167	2	Refer to Appendix B in the <i>HWI MDS Data Dictionary</i> , found on the Health Workforce Database metadata page , for valid Canadian province and territory codes. 97: Not collected 98: Not applicable 99: Unknown

Category	Field	Field name	Occurrence	Start byte	Length	Value format/labels
Education (continued)	34	Provider Basic Education Graduation Country	1	169	3	Refer to Appendix C in the <i>HWI MDS Data Dictionary</i> , found on the Health Workforce Database metadata page , for valid country codes. 997 : Not collected 998 : Not applicable 999 : Unknown
	35	Provider Highest Level of Education	1	172	2	10 : Baccalaureate 15 : Certificate 20 : College or CEGEP diploma — complete 25 : Doctorate 30 : High school or secondary school degree — complete 35 : Master's 40 : Postgraduate-level profession-specific degree 45 : Residency 50 : Some secondary or high school education 97 : Not collected 98 : Not applicable 99 : Unknown
	36	Provider Highest Level of Education Graduation Year	1	174	4	Format YYYY Valid year 9997 : Not collected 9998 : Not applicable 9999 : Unknown
	37	Provider Highest Level of Education Institution	1	178	8	Refer to Appendix E in the <i>HWI MDS Data Dictionary</i> , found on the Health Workforce Database metadata page , for a list of post-secondary Canadian education institution codes. 00000010 : Other Canadian institution 00000020 : Non-Canadian institution 99999997 : Not collected 99999998 : Not applicable 99999999 : Unknown

Category	Field	Field name	Occurrence	Start byte	Length	Value format/labels
Education (continued)	38	Provider Highest Level of Education Graduation Province/Territory	1	186	2	Refer to Appendix B in the <i>HWI MDS Data Dictionary</i> , found on the Health Workforce Database metadata page , for valid Canadian province and territory codes. 97: Not collected 98: Not applicable 99: Unknown
	39	Provider Highest Level of Education Graduation Country	1	188	3	Refer to Appendix C in the <i>HWI MDS Data Dictionary</i> , found on the Health Workforce Database metadata page , for valid country codes. 997: Not collected 998: Not applicable 999: Unknown
Employment	40	Employment Status	1	191	2	10: Employed 15: Unemployed 20: On leave from work 25: On unpaid leave of absence 30: On paid leave of absence 35: On parental leave 40: On maternity leave 45: On paternity leave 50: On short-term disability 55: On long-term disability 60: Retired 65: Retired because of age 70: Retired because of disability 97: Not collected 98: Not applicable 99: Unknown

Category	Field	Field name	Occurrence	Start byte	Length	Value format/labels
Employment (continued)	41	Employed in Profession	1	193	1	Y: Yes N: No 7: Not collected 8: Not applicable 9: Unknown
	42	Seeking Employment	1	194	2	10: In profession 15: Not in profession 20: Not seeking employment 97: Not collected 98: Not applicable 99: Unknown
	43, 68, 93	Provider Employment Category [†]	3	196, 261, 326	2	10: Permanent employee 15: Temporary employee 20: Self-employed 25: Conditional employment (synonym: provisional employment) 30: Cooperative student employment 35: Practicum student work experience 39: Other — not elsewhere classified 97: Not collected 98: Not applicable 99: Unknown
	44, 69, 94	Provider Employment Full-Time/Part-Time/Casual Status [†]	3	198, 263, 328	2	10: Full time 15: Part time 20: Casual work 97: Not collected 98: Not applicable 99: Unknown

Category	Field	Field name	Occurrence	Start byte	Length	Value format/labels
Employment (continued)	45, 70, 95	Provider Employment Full-Time/Part-Time/Casual Preference [†]	3	200, 265, 330	2	10: By choice 15: Seeking full time 20: Seeking part time 25: Seeking casual 97: Not collected 98: Not applicable 99: Unknown
	46, 71, 96	Provider Employment Annual Earned Hours [†]	3	202, 267, 332	4	Format HHHH 4-digit hours 9997: Not collected 9998: Not applicable 9999: Unknown All 4 characters in this field must be filled. If the value being submitted is shorter than 4, any characters preceding the value must be filled with a space.

Category	Field	Field name	Occurrence	Start byte	Length	Value format/labels
Employment (continued)	47–49, 72–74, 97–99	Provider Employment Place of Work*, †	9	206, 271, 336	6	10: Assisted-living residence 12: Children's hospital 14: Client's or patient's workplace 16: Client's or patient's home 18: Community health centre 20: Community mental health and substance use centre 22: Community pharmacy 24: Community pharmacy corporate office 26: Correctional facility 28: Dispatch location 30: Educational institution 32: General hospital 34: Government 36: Group living 38: Home office 40: Hospice 42: Industry, manufacturing and commercial 44: Long-term care facility 46: Military base 48: Multidisciplinary professional practice 50: Nursing station and outpost clinic 52: Primary health care office 54: Professional association 56: Public health unit 58: Psychiatric hospital 60: Regulatory body 62: Rehabilitation facility 64: Satellite clinic 66: Single-disciplinary professional practice 68: Union 69: Other 97: Not collected 98: Not applicable 99: Unknown

Category	Field	Field name	Occurrence	Start byte	Length	Value format/labels
Employment (continued)	50–52, 75–77, 100–102	Provider Employment Position*, †	9	212, 277, 342	6	10: Administrator 12: Analyst 14: Case manager 16: Chief executive officer/registrar 18: Chief nursing officer 20: Clinical specialist 22: Community health nurse 24: Community paramedic 26: Consultant 28: Coordinator 30: Direct care provider 32: Director/assistant director 34: Educator 36: Industrial pharmacist 38: Manager/assistant manager 40: Nurse midwife 42: Occupational health nurse 44: Owner/operator 46: Parish nurse 48: Professional leader 50: Psychiatric liaison nurse 52: Relief pharmacist 54: Researcher 56: Sales 58: Supervisor 60: Tactical paramedic 69: Other 97: Not collected 98: Not applicable 99: Unknown

Category	Field	Field name	Occurrence	Start byte	Length	Value format/labels
Employment (continued)	53–55, 78–80, 103–105	Provider Employment Area of Practice*, †	9	218, 283, 348	9	Areas of direct care 110: Substance use service 112: Amputation care 114: Anesthesiology 116: Burns care 118: Cardiology 120: Chronic disease 122: Chronic pain 124: Clinical immunology and allergy 126: Cognitive disorders 128: Critical care 130: Developmental habilitation/disabilities 132: Dermatology 134: Diabetes care 136: Ear, nose and throat (ENT) 138: Emergency care 140: Endocrinology and metabolism 142: Ergonomics 144: Foot care 146: Forensics 148: Gastroenterology 150: General practice 152: Genetics 154: Geriatrics 156: Gynecology 158: Hand therapy 160: Health promotion 162: Hematology 164: Infection control procedure 166: Internal medicine 168: Maternity/newborn 170: Mental health care 172: Military medicine

Category	Field	Field name	Occurrence	Start byte	Length	Value format/labels
Employment (continued)	53–55, 78–80, 103–105	Provider Employment Area of Practice*, †	9	218, 283, 348	9	174: Musculoskeletal 176: Nephrology 178: Neurology 180: Nutrition therapy 182: Occupational health 184: Oncology 186: Ophthalmology 188: Dentistry 190: Organ transplant 192: Orthopedics 194: Palliative care 196: Pathology 198: Patient safety 200: Pediatrics 202: Pharmacotherapy 204: Plastic surgery 206: Primary care 208: Public health and prevention 210: Psychiatry 212: Pelvic health 214: Physical medicine and rehabilitation 216: Radiology 218: Respiriology 220: Rheumatology 222: Sports medicine 224: Surgery 226: Trauma 228: Urology 230: Vestibular rehabilitation 232: Vision care 234: Wound management service

Category	Field	Field name	Occurrence	Start byte	Length	Value format/labels
Employment (continued)	53–55, 78–80, 103–105	Provider Employment Area of Practice*, †	9	218, 283, 348	9	Administration 236: Administration 238: Health policy 240: Regulation 242: Supervision 244: Informatics/health information 246: Medical-/legal-related client service management 248: Client service management Education 250: Staff education 252: Client/patient education 254: Institutional education Research 256: Research Other 258: Advocacy 260: Sales 269: Other areas of practice not otherwise specified 997: Not collected 998: Not applicable 999: Unknown
	56, 81, 106	Provider Employment Funding Source†	3	227, 292, 357	2	10: Public 15: Private 20: Mix of public and private 97: Not collected 98: Not applicable 99: Unknown
	57, 82, 107	Agency Health Care Provider Flag†	3	229, 294, 359	1	Y: Yes N: No 7: Not collected 8: Not applicable 9: Unknown

Category	Field	Field name	Occurrence	Start byte	Length	Value format/labels
Employment (continued)	58, 83, 108	Multiple Site Flag [†]	3	230, 295, 360	1	Y: Yes N: No 7: Not collected 8: Not applicable 9: Unknown
	59, 84, 109	Primary Site Virtual Care ^{†, ‡}	3	231, 296, 361	2	10: More than 50% of the time 15: 10% to 49% of the time 20: Less than 10% of the time 25: Never 97: Not collected 98: Not applicable 99: Unknown
	60–62, 85–87, 110–112	Primary Site Encounter Mode ^{*, †, ‡}	9	233, 298, 363	6	10: In person 15: Email 20: Messaging 25: Telephone 30: Videoconference 39: Other 97: Not collected 98: Not applicable 99: Unknown
	63, 88, 113	Primary Site Organization Identifier ^{†, ‡, §}	3	239, 304, 369	10	For a full list of organization identifier codes, email hwi@cihi.ca . 9999999996: Not in organization identifier list 9999999997: Not collected 9999999998: Not applicable 9999999999: Unknown All 10 characters in this field must be filled. If the identifier being submitted is shorter than 10, any characters preceding the identifier must be filled with a space.

Category	Field	Field name	Occurrence	Start byte	Length	Value format/labels
Employment (continued)	64, 89, 114	Primary Site Postal Code†, ‡, §	3	249, 314, 379	6	Format ANANAN 6-digit postal code assigned by Canada Post 999997: Not collected 999998: Not applicable 999999: Unknown
	65, 90, 115	Site of Practice Indicator for Postal Code†, ‡, §	3	255, 320, 385	1	Y: Yes N: No 7: Not collected 8: Not applicable 9: Unknown
	66, 91, 116	Primary Site Province/Territory†, ‡, §	3	256, 321, 386	2	Refer to Appendix B in the <i>HWI MDS Data Dictionary</i> , found on the Health Workforce Database metadata page , for valid Canadian province and territory codes. 97: Not collected 98: Not applicable 99: Unknown
	67, 92, 117	Primary Site Country†, ‡, §	3	258, 323, 388	3	Refer to Appendix C in the <i>HWI MDS Data Dictionary</i> , found on the Health Workforce Database metadata page , for valid country codes. 997: Not collected 998: Not applicable 999: Unknown

Notes

* These are multiple selection data elements. A maximum of 3 entries are allowed; the 3 entries occur sequentially (in clusters).

† These data elements capture information for first, second and third employment. This refers to the employment, with an employer or in a self-employed arrangement, that is associated with the highest, second-highest and third-highest number of annual earned hours. A maximum of 3 entries are allowed; the 3 entries occur in blocks. Note that some employment data elements are also multiple selection data elements (i.e., they allow for up to 3 entries).

‡ These data elements capture information about a provider's primary site of practice — the site where the provider is directly engaged in employment associated with their profession for the most hours. When primary site is not available or the provider works at no fixed location, the employer or business office can be provided as an alternate.

§ These data elements capture geographic information about the provider's employment. Primary Site Organization Identifier is collected only if Provider Employment Funding Source is *public* or *mix of public and private*. If Provider Employment Funding Source is *private*, *not collected*, *not applicable* or *unknown*, select *not applicable* for Primary Site Organization Identifier.

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