Nursing Database Privacy Impact Assessment

Canadian Institute
for Health Information

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Better data. Better decisions.
Healthier Canadians.

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To lead the development and
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that enables sound policy and
effective health system management
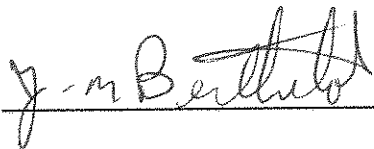that improve health and health care.

Our Values

Respect, Integrity, Collaboration,
Excellence, Innovation

CIHI is pleased to publish the following Privacy Impact Assessment pursuant to its *Privacy Impact Assessment Policy*:

NURSING DATABASE
PRIVACY IMPACT ASSESSMENT

Approved by:

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Ottawa – June 2012

Table of Contents

10 Quick Facts About the Nursing Database

1. The nursing workforce in Canada consists of three regulated professions: registered nurses (RNs), including nurse practitioners (NPs), licensed practical nurses (LPNs) and registered psychiatric nurses (RPNs).

2. The Nursing Database contains data that is used to develop a comprehensive national perspective on the supply and distribution of the regulated nursing workforce in Canada.

3. The goal of the Nursing Database is to provide quality and timely information on supply and distribution of the regulated nursing workforce in order to enable informed decision-making and policy formulation by governments, health professionals, researchers and advocacy groups that are concerned about nursing services and health care delivery.

4. The Nursing Database contains demographic, education and employment information on all RNs (including NPs), LPNs and RPNs holding an active practicing licence in a Canadian province/territory in the first six months of a jurisdiction's registration year.

5. The database does not capture information on nurses maintaining associate or non-active licences.

6. Some typical types of studies include labour market studies and examination of the education and employment characteristics of the regulated nursing workforce within a broad overview of health human resources planning.

7. The data may also be used in conjunction with other data sources to support research projects, such as measuring the need for nursing care relative to diagnostics and patient care requirements (nursing resource intensity weight), the mobility/migration of the workforce and workload measurement.

8. The Nursing Database provides comparable provincial/territorial demographic, education and employment data on the supply and distribution of the regulated nursing professions in Canada.

9. The data supports policy-making and related approved analysis and research projects on the supply and distribution of the regulated nursing professions in Canada and facilitates nursing human resource planning.

10. Recent analyses produced by CIHI using data from the Nursing Database include *Regulated Nurses: Canadian Trends, 2005 to 2009,* and *Workforce Trends of Regulated Nurses in Canada, 2009.*

1   Introduction

The Canadian Institute for Health Information (CIHI) collects and analyzes information on health and health care in Canada. Its mandate is to provide timely, accurate and comparable information to inform health policies, support the effective delivery of health services and raise awareness among Canadians of the factors that contribute to good health. CIHI obtains data directly from hospitals, regional health authorities, medical practitioners and governments, including personal health information about patients, and registration and practice information about health professionals.

The purpose of this privacy impact assessment (PIA) is to examine the privacy, confidentiality and security risks associated with the nursing databases. It includes a review of the 10 privacy principles set out in the Canadian Standards Association's Model Code for the Protection of Personal Information as they apply to the Nursing Database.

This assessment updates a PIA completed in 2003.

2   Overview

The nursing workforce in Canada consists of three regulated professions: registered nurses (RNs), including nurse practitioners (NPs), licensed practical nurses (LPNs)[i], and registered psychiatric nurses (RPNs)[ii]. Nurses are integral to the functioning of the Canadian health care system and represent the largest group within the health care workforce. Members of these distinct professions work in a variety of roles and settings across the continuum of health services.

The Nursing Database contains data that is used to develop a comprehensive national perspective on the supply and distribution of the regulated nursing workforce in Canada.

The Nursing Database contains data related to nurses' professional information and limited demographic[iii] personal information.

2.1   Registered Nurses (RN)

Since 1980, the Nursing Database has collected data on the supply and distribution of registered nurses in Canada. Historically, Statistics Canada was responsible for the collection and dissemination of registered nursing data and produced the *Revised Registered Nurses Data Series* (from 1980 to 1988) and the *Registered Nurses Management Data* (from 1989 to 1998). CIHI assumed responsibility for data collection and management in the 1996 data year and for dissemination in the 1999 data year.

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i.   The term licensed practical nurse (LPN) is used throughout this document. In some jurisdictions, registered practical nurse (RPN), registered nursing assistant (RNA) and licensed nursing assistant (LNA) are accepted corresponding terms.

ii. RPNs are educated and regulated as a separate profession in British Columbia, Alberta, Saskatchewan, Manitoba and Yukon only.

iii. For more information on demographics, see Section 2.5 of this document.

In 2008, NP data was incorporated into the Nursing Database, starting with data year 2003. Consistent methodology was applied to the NP records.

2.2   Licensed Practical Nurses

To increase the comprehensiveness of the information regarding the Canadian regulated nursing workforce, starting with the 2002 data year, CIHI began collecting more supply and distribution data concerning the LPN workforce in Canada. Previously, minimal information on LPNs in Canada had been available from the publication *Health Personnel in Canada* for the period 1966 to 2001, including information such as the number of LPNs, population per LPN and the number of graduates in licensed practical nursing. The new information provides demographic, employment and education information about LPNs at the provincial, territorial and national levels in a standardized, comparable format.

2.3   Registered Psychiatric Nurses

To increase the comprehensiveness of information on the Canadian regulated nursing workforce, CIHI began collecting more supply and distribution data concerning the RPNs workforce in Western Canada, starting in the 2002 data year. RPNs are regulated as a separate profession in British Columbia, Alberta, Saskatchewan, Manitoba and Yukon. Previously, minimal information on RPNs in Canada had been available from the publication *Health Personnel in Canada* for the period 1990 to 2001, including such information as the number of RPNs and the population per RPN. The new information provides demographic, employment and education information about RPNs at the provincial level in a standardized, comparable format.

2.4   Goals and Objectives

Specifically, the goal of the Nursing Database is to provide quality and timely information on supply and distribution of the regulated nursing workforce to enable informed decision-making and policy formulation by governments, health professionals, researchers and advocacy groups that are concerned about nursing services and health care delivery.

The objectives of the Nursing Database are

- To manage the national database in collaboration with the provincial/territorial regulating authorities for RNs (including NPs), LPNs and RPNs, including the collection, processing, analyzing and reporting of accurate and timely information on each of the regulated nursing professions in Canada;

- To provide comparable provincial/territorial demographic, education and employment data on the supply and distribution of the regulated nursing professions in Canada;

- To support policy-making and related approved analysis and research projects on the supply and distribution of the regulated nursing professions in Canada; and

- To facilitate nursing human resource planning.

A high-level data-flow diagram illustrating the collection, use and disclosures of the regulated nursing data is presented in Appendix A.

2.5   Scope of the Nursing Database

- The Nursing Database contain demographic, education and employment information on all RNs (including NPs), LPNs and RPNs holding an active-practising licence in a Canadian province/territory in the first six months of a jurisdiction's registration year.

- The database does not capture information on nurses maintaining associate or non-active licences. This approach excludes nurses with an active licence but otherwise not practising nursing, since it is possible to have an active licence and be temporarily out of the workforce for reasons such as education leave, medical leave and living and/or working abroad.

- Unless otherwise noted, CIHI reports only on nurses employed in nursing (that is, those who are active in the nursing workforce).

Jurisdictions make all reasonable efforts to collect and submit all data elements to CIHI in the required format.

For the 2009 data year collection:

- The RN data comprises a maximum of 28 variables. In 2009, data providers submitted on average 27 variables of the maximum 28.

- The LPN data comprises a maximum of 32 variables. In 2009, data providers submitted on average 30 variables of the maximum 32.

- The RPN data comprises a maximum of 34 variables. In 2009, data providers submitted on average 32 variables of the maximum 34.

The data sets are refined annually in conjunction with the data providers to reflect changes in the nursing professions.

Following is a description of selected data elements from the Nursing Database that could be considered sensitive and the rationale for their collection:

I. **Jurisdictional Identification Number**

- This number, assigned by each provincial/territorial regulating authority, uniquely identifies a registered nurse, a nurse practitioner, a licensed practical nurse or a registered psychiatric nurse.

- The collection of this variable enables longitudinal, retrospective and concurrent analyses and studies of supply and distribution trends.

- CIHI collects only the Jurisdictional Identification Number. It does not collect names associated with it.

- Prior to any disclosure to parties other than those identified in section 3.6 following, CIHI further de-identifies each record by removing the Jurisdictional Identification Number.

II. **Gender**—This variable is required to determine trends for employment recruitment and career patterns for health human resources planning.

III. **Age**—This variable is required to determine trends and to establish patterns for health human resources planning. Only the year of birth is collected; day and month of birth are not collected to further protect the confidentiality of the registrant and to reduce the possibility of re-identification.

IV. **Postal Code of Residence**—The six-digit postal code of residence is collected by most jurisdictions. It is required to support the following types of analysis:

- Sub-provincial/territorial analysis of mobility/geography and distribution of the regulated nursing workforce; and,

- Analysis with other common variables, such as education (that is, barriers to continuing education) and employment.

The six-digit postal code by itself is not normally a person-identifiable data element; the postal code is attached to a geographic area. However, when the postal code is collected in combination with other data elements, such as profession, age and gender, it increases the possibility of re-identification of an individual (residual disclosure). CIHI has strict practices in place for disclosure avoidance. To reduce the potential of identification, CIHI converts the six-digit postal code into a Census Sub-Division[iv] (CSD) region before any analysis or disclosure of the data. The CSD region is the equivalent of a small city. This practice reduces the risk of re-identification of any individual in these CIHI databases.

Appendix B lists all the data elements of the Nursing Database.

3 Privacy Analysis

3.1 Authorities and Agreements for the Collection, Use and Disclosure of Information

CIHI collects data for the Nursing Database under mutually agreed-upon terms between CIHI and the provincial and territorial regulatory authorities for RNs (including NPs), LPNs and RPNs. The data is collected, used and disclosed in accordance with these terms and CIHI's *Health Workforce Privacy Policy, 2011.*

Regulating authorities in all jurisdictions have legislated authority to collect personal information for registries and have discretion regarding use and disclosure.

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iv. As per Statistics Canada definitions of census geographical units.

Registered Nurses

The current agreement with the 12 provincial and territorial regulatory authorities for registered nursing in Canada is set out in a *Registered Nurse Data Letter of Understanding* ("Letter of Understanding"), which governs the collection, use, disclosure and protection of RN data. Currently, the signatories to the Letter of Understanding are CIHI, Statistics Canada, the Canadian Nurses Association and the 12 regulatory authorities.[v] Individual regulatory authorities may have companion agreements with CIHI outlining further requirements. A more formal data-sharing agreement with the RN regulating authorities is currently under negotiation.

Licensed Practical Nurses

The same general guidelines as for the RN apply to the LPN for the collection, use and protection of registrant data collected and submitted by the 12 provincial and territorial regulatory authorities[vi] for LPNs in Canada.

Registered Psychiatric Nurses

The same general guidelines as for the RN and LPN apply to the RPN for the collection, use and protection of registrant data collected and submitted by the four provincial and one territorial regulatory authorities for RPNs in Western Canada.

A data-sharing agreement with LPN and RPN regulating authorities is also under negotiation and is expected to be completed by the end of 2012.

3.2   Accountability for Health Workforce Personal Information

CIHI's President and Chief Executive Officer is accountable for ensuring compliance with CIHI's *Health Workforce Privacy Policy, 2011*. CIHI has a Chief Privacy Officer and General Counsel, a corporate Privacy, Confidentiality and Security Team, a Privacy and Data Protection Committee of its Board of Directors and an external Chief Privacy Advisor.

Participants in the Nursing Database are subject to the requirements of data protection laws in their respective jurisdictions and the independent oversight of privacy commissioners or their equivalents.

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v.   The Registered Nurses Association of Northwest Territories and Nunavut (RNANT) is responsible for RN licensure in Nunavut (the 13th Canadian jurisdiction).

vi.   Nunavut is currently not participating in the submission of LPN data.

Table 1 identifies key internal positions and groups with responsibilities for the Nursing Database in terms of privacy and security risk management:

Table 1: Roles and Responsibilities for Privacy and Security Risk Management

Position/Group	Role/Responsibilities
Vice President, Programs	The Vice President, Programs, is responsible for the overall operations and strategic direction of the Nursing Database.
Director, Pharmaceuticals and Health Workforce Information Services	The Director is fully accountable for the Nursing Database. The Director is responsible for strategic and operational decisions.
Manager, Health Human Resources B	The Manager is responsible for ongoing management, development and deployment of the Nursing Database. The Manager makes operational decisions and manages consultation with the Nursing Database stakeholders as appropriate.
Vice President and Chief Technology Officer	The Vice President and Chief Technology Officer is responsible for the strategic direction and overall operations/implementation of CIHI's technological and security solutions.
Chief Privacy Officer	The Chief Privacy Officer is responsible for the strategic direction and the overall implementation of CIHI's privacy program.
Program Lead, Health Human Resources B	The Program Lead is responsible to ensure that the required privacy and security measures are applied to the Nursing Database.

3.3 Identifying Purposes for Health Workforce Personal Information

Across Canada, RNs submit registration information to their provincial or territorial regulatory bodies, which have legal authority to use the information for administrative and licensing purposes.

CIHI receives a subset of this information for use in the Nursing Database. The Nursing Database collects demographic, education and employment information at national and provincial/territorial levels. The data allows for clear and objective analyses that support informed decision-making and policy formulation.

The data is used for statistical reporting and research purposes, including, but not limited to, pan-Canadian reports, analytical tools, an annual statistical report, ad hoc data/information requests and analytical studies pertaining to the supply and distribution of the workforce of RNs (including NPs), LPNs and RPNs in Canada. Some typical types of studies include labour market studies and examination of the education and employment characteristics of the regulated nursing workforce within a broad overview of health human resources planning. The data may also be used in conjunction with other data sources to support research projects, such as measuring the need for nursing care relative to diagnostics and patient care requirements (nursing resource intensity weight), the mobility/migration of the workforce and workload measurement. More information about CIHI's derived nursing products is available on CIHI's website at www.cihi.ca.

The purposes of the Nursing Database are congruent with the mandates of the regulatory authorities, and the program area consults on an ongoing basis with the regulating authorities to ensure consensus about the purposes.

These purposes are clearly stated on CIHI's website, as well as in this privacy impact assessment.

3.4   Consent for the Collection, Use or Disclosure of Health Workforce Personal Information

Data providers are responsible for meeting the statutory requirements in their respective jurisdictions, where applicable, at the time the data is initially collected. CIHI is a secondary user of health workforce personal information, specifically for the planning and management of the health system, including statistical analysis and reporting. Nursing Database data is disclosed to CIHI without individual consent.

3.5   Limiting Collection of Health Workforce Personal Information

CIHI is committed to the principle of data minimization. As per sections 1 and 2 of CIHI's *Health Workforce Privacy Policy, 2011*, CIHI collects from data providers only that data which is reasonably required for health system uses (including statistical analysis and reporting) that support the management, evaluation or monitoring of the allocation of resources to, or planning for, the health care system in Canada (including support for the improvement of the overall health of Canadians). CIHI limits the collection of health workforce personal information to that which is necessary for the purposes and goals of the Nursing Database.

The Nursing Database collects only those variables identified as necessary to meet its mandate.

The initial data set for the Nursing Database was created and established by Statistics Canada and the regulated nursing stakeholders. In 1996, when the RNDB (now known as NDB) was transferred to CIHI, a review of the variables collected took place. A minimum dataset was established in 1999, following agreement with all provincial/territorial regulating authorities. Since 1999, variables have been reviewed and updated yearly with the regulating authorities to ensure that the purposes of the Nursing Database can be met with the data collected.

To increase the comprehensiveness and comparability of the Nursing Database, the LPN and RPN databases were developed using the database template. The variables to be collected were reviewed and adapted to meet the needs of the specific profession. A minimum dataset was established for the LPN and RPN databases by achieving consensus with the LPN and RPN regulating authorities. A review and update of the variables collected are completed yearly with the regulating authorities to ensure that the purposes of the LPN and RPN databases can be met with the data collected.

Each provincial and territorial regulatory authority for RNs, LPNs and RPNs submits all or some of the pre-established data elements set out in Appendix B.

3.6   Limiting Use, Disclosure and Retention of Health Workforce Personal Information

CIHI uses and discloses Nursing Database information as permitted by the Letter of Understanding between CIHI and the nursing regulating authorities.

Limiting Use

Within CIHI, the Nursing Database has sophisticated security features to ensure that only authorized staff have access to the data holdings for authorized purposes. All authorized users are made aware of their obligations and responsibilities for privacy and confidentiality.

Data Linkage

Sections 14 to 31 of CIHI's *Health Workforce Privacy Policy, 2011* govern linkage of records of health workforce personal information. Pursuant to this policy, CIHI permits the linkage of health workforce personal information under certain circumstances. Data linkage within a single data holding for CIHI's own purposes is generally permitted. Data linkage across data holdings for CIHI's own purposes and all third-party requests for data linkage are subject to an internal review and approval process. The linked data remains subject to the use and disclosure provisions in the *Health Workforce Privacy Policy*, *2011*.

Criteria for approval of data linkages are set out in section 24 of CIHI's *Health Workforce Privacy Policy, 2011*, as follows:

(1)   The individuals whose health workforce personal information is used for data linkage have consented to the data linkage; or

(2)   All of the following criteria are met:

  (a)   The purpose of the data linkage is consistent with CIHI's mandate;

  (b)   The public benefits of the linkage significantly offset any risks to the privacy of individuals;

  (c)   The results of the data linkage will not be used for any purpose that would be detrimental to the individuals that the health workforce personal information concerns;

  (d)   The data linkage is for a time-limited specific project and the linked data will be subsequently destroyed in a manner consistent with sections 28 and 29; or

  (e)   The data linkage is for purposes of an approved CIHI ongoing program of work where the linked data will be retained for as long as necessary to meet the identified purposes and, when no longer required, will be destroyed in a manner consistent with sections 28 and 29; and

  (f)   The data linkage has demonstrable savings over other alternatives or is the only practical alternative.

Section 28 of CIHI's *Health Workforce Privacy Policy, 2011*sets out the requirement that CIHI will destroy personal health information and de-identified data in a secure manner, using destruction methodologies appropriate to the format, media or device, such that reconstruction is not reasonably foreseeable.

Section 29 of CIHI's *Health Workforce Privacy Policy, 2011* further requires that for linked data, secure destruction will occur within one year of publication of the resulting analysis, or three years after the linkage, whichever is sooner, in a manner consistent with CIHI's Information Destruction Standard. For linked data resulting from a CIHI ongoing program of work, secure destruction will occur when the linked data is no longer required to meet the identified purposes, in a manner consistent with CIHI's Information Destruction Standard. These requirements apply to data linkages both for CIHI's own purposes and for third-party data requests.

Return of Own Data

Section 34 of CIHI's *Health Workforce Privacy Policy, 2011* establishes that the return of data to the original data provider is not a disclosure but is considered a use. This may include return of health workforce personal information. In the case of the Nursing Database, the regulating authorities are given access to their own data.

Limiting Disclosure

Public Release of Data From the Nursing Database

As part of its mandate, CIHI publishes aggregated data only in a manner designed to minimize any risk of identifiability and residual disclosure of health workforce personal information. For example, aggregate statistics and analyses are made available on CIHI's website. This generally requires a minimum of five observations per cell. Data releases and reports are subject to CIHI's standard practices for avoiding residual disclosure. Reports are reviewed for such risks and, where necessary, data is aggregated to a higher level.

Third-Party Data Requests

Customized, record-level de-identified data and aggregate information from the Nursing Database are periodically requested by a variety of users, including federal and provincial/territorial governments, education institutions and the media.

CIHI administers a third-party data request program that contains and ensures tight privacy and security controls within the recipient organization. Furthermore, as set out in sections 45 to 47 of CIHI's *Health Workforce Privacy Policy, 2011*, CIHI data disclosures are made at the highest degree of anonymity possible while still meeting the research and/or analytical purposes of the requester. This means that, whenever possible, data is aggregated. Where aggregate data is not sufficiently detailed for the intended purpose, data that has been de-identified may be disclosed to the recipient on a case-by-case basis and in situations where the recipient has entered into a data protection agreement or other legally binding instrument with CIHI. Only those data elements necessary to meet the intended purpose may be disclosed.

In 2009, CIHI adopted a complete lifecycle approach to data management. As part of that lifecycle, Privacy and Legal Services (PLS) developed and is responsible for the ongoing compliance monitoring process whereby all data sets that are disclosed to third-party data recipients are tracked and monitored for secure destruction at the end of their lifecycle. Prior to disclosing data, third-party recipients sign a non-disclosure/confidentiality agreement and agree to comply with the conditions and restrictions imposed by CIHI relating to the collection, purpose, use, security, disclosure and secure destruction of data.

As of January 2011, in addition to the compliance monitoring process, which leverages data captured to monitor compliance with data destruction requirements, PLS contacts third-party data recipients on an annual basis to certify that they continue to comply with their obligations as set out in any data-sharing agreement, third-party data request form and/or data protection agreement signed with CIHI.

For 2010–2011, CIHI responded to a total of 132 requests for data from the Regulated Nursing Database, as shown in Table 2.

Table 2: Requests for Data From the Regulated Nursing Database		
	Number	**Percentage**
Federal/provincial/territorial governments	11	8.3
Education institutions—researcher	27	20.5
Non-government interest/private sectors	44	33.3
Other (international, media)	50	37.9

Of the 132 requests:

- 101 requests were for information that was already available in the nursing publication or for new aggregate data; and

- 31 were miscellaneous requests (for example, fact-checking, aggregate data).

As set out in the Letter of Understanding and also agreed upon at the transfer of the RN information from Statistics Canada to CIHI, Statistics Canada on an annual basis receives a complete data file of RN data only. All data disclosed to Statistics Canada is subject to the strict protections for confidentiality required by the *Statistics Act*.

As a key partner and representative of Canadian RNs, and upon authorization from all RN regulating authorities in the Letter of Understanding, the Canadian Nurses Association annually is sent a de-identified data file (of the Registered Nurses data only) for statistical and research purposes.

Limiting Retention

CIHI will retain data as long as is necessary to meet the purposes of the Nursing Database and of its users to conduct longitudinal, retrospective and concurrent analyses and studies of supply and distribution trends. Data no longer required for the purposes of the Nursing Database will be archived under secure conditions.

3.7 Accuracy of Health Workforce Personal Information

The staff of the Nursing Database conducts edit, validation and logical checks on the data transmitted from the provincial/territorial regulating authorities to ensure that it is in the proper format and to identify missing and/or invalid data and inconsistencies in data transmissions. Feedback reports are forwarded to the specific provincial/territorial regulating authority for the purposes of taking action as required and/or supporting continuous improvements in data quality or enhancements to the data quality cycle. CIHI corrects the data once the specific regulating authority has communicated with it. These are desirable practices from a data quality and data protection perspective because of the need to ensure accurate information in the database.

Once this stage of processing has been completed, a second review identifies duplicate records. To accurately count the number of RNs, LPNs and RPNs working in Canada, procedures are used to avoid double-counting of RNs registered in two or more jurisdictions.

CIHI's Data Quality Framework also applies to the Nursing Database. This CIHI tool is designed to provide a common, objective approach to assessing and documenting the data quality of its various data holdings along five general dimensions of quality: accuracy, comparability, timeliness, usability and relevance.

3.8 Safeguards for Health Workforce Personal Information

The provincial/territorial regulating authorities (data providers) are responsible for data collection, which occurs during the annual registration process. They capture the data electronically from the licensing forms and complete any manipulation of the provincial/territorial data (in order to meet national standards) before sending the data files to CIHI.

CIHI has created preferred methods of collection that set out best practices for the secure submission of data. CIHI staff work with data providers to encourage compliance with these best practices, which include preferred encryption and submission methods. Although all data providers of the Nursing Database encrypt their data prior to submission, only 25% encrypt it according to CIHI's preferred methods. The method of data submission varies among the data providers; some data is submitted electronically, some is received on CD by courier and one jurisdiction continues to provide hard-copy information. While it is recognized that CIHI cannot control how jurisdictions submit data, and that some jurisdictions have minimal IT support for such activities, risks to the data while in transit are recognized. Staff have recently developed new strategies to encourage data provider compliance with best practices, including work currently under way to promote data submission by eDSS (electronic Data Submission Service) and the use of encryption methods that fully meet CIHI's standards.

More generally, CIHI has established physical, technical and administrative security practices to ensure the confidentiality and security of all of its data holdings. Moreover, CIHI employees are aware of the importance of maintaining the confidentiality of health workforce personal information through a mandatory privacy and security training program, and through ongoing communication about CIHI's privacy and security policies and procedures.

CIHI is committed to safeguarding its IT ecosystem, to securing its data holdings and to protecting information with administrative, physical and technical security safeguards appropriate to the sensitivity of the information. Audits are an important component of CIHI's overall information security program and are intended to ensure that best practices are being followed and assess compliance with all information security policies, procedures and practices implemented by CIHI. Audits are used to assess, among other things, technical compliance of information-processing systems with best practices and published architectural and security standards, CIHI's ability to safeguard its information and information-processing systems against threats and vulnerabilities, and the overall security posture of CIHI's technical infrastructure, including networks, servers, firewalls, software and applications.

An important component of CIHI's audit program is regular third-party vulnerability assessments and penetration tests of its infrastructure and selected applications. All recommendations resulting from third-party audits are tracked in the corporate risk register and actioned accordingly.

3.9 Openness About the Management of Health Workforce Personal Information

CIHI makes available information about its privacy policies, data practices and programs relating to the management of health workforce personal information. Specifically, CIHI's *Privacy and Security Framework, 2010* and the *Health Workforce Privacy Policy, 2011* are available to the public on its corporate website (www.cihi.ca).

3.10 Individual Access to and Amendment of Health Workforce Personal Information

The regulating authorities provide record-level data to CIHI. The data includes Jurisdiction Identification numbers (also known as registration numbers). However, CIHI does not collect names and street addresses and does not have access to the key that associates/links the number with a person. The Nursing Database contains very limited health workforce personal information and, as such, individuals cannot reliably be identified.

Requests from individuals seeking access to their personal information will be processed in accordance with sections 60 to 63 of CIHI's *Health Workforce Privacy Policy, 2011.* It should be noted that over the eight years since the original PIA was completed, there have been no cases in which an individual has approached CIHI to request access to or amendment of his or her personal information in the Nursing Database.

3.11 Complaints About CIHI's Handling of Health Workforce Personal Information

As set out in sections 64 and 65 of CIHI's *Health Workforce Privacy Policy, 2011*, complaints about CIHI's handling of health workforce personal information are investigated by the Chief Privacy Officer. The Chief Privacy Officer may direct an inquiry or complaint to the Privacy Commissioner of the jurisdiction of the person making the inquiry or complaint.

4 Conclusion

CIHI's assessment of the Nursing Database did not identify any privacy risks.

Appendix A: Data Flow Diagram
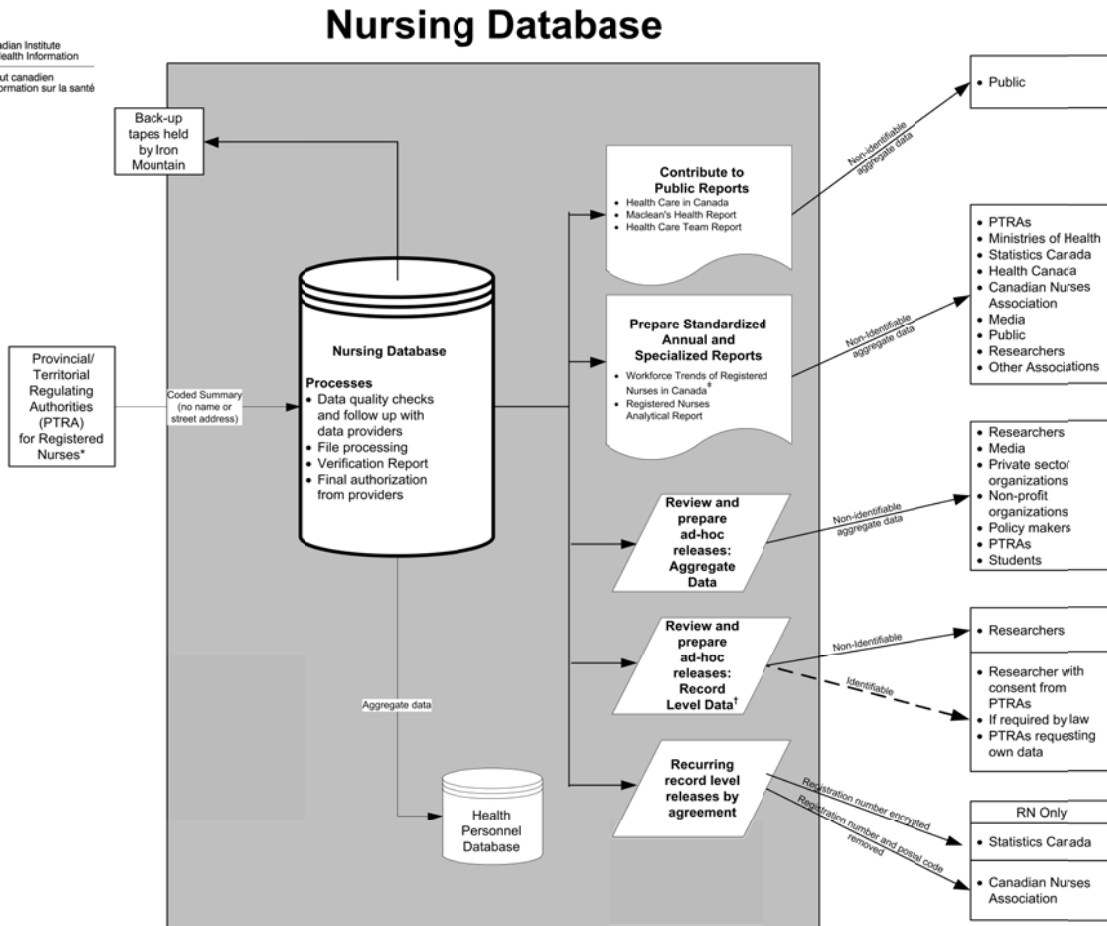
Appendix B: Data Elements 2010

Canadian Regulated Nursing Professions Database: 2009 Data Collection

The percentage of data elements collected by jurisdiction, as of 2010, is shown in the final row. The percentage of coverage of a data element nationally for all three nurse types is shown in the final column. The shaded cells in Appendix B indicate the information that is not required for collection in each of the three nursing categories (RN, LPN and RPN). The blanked cells represent variables that are required for collection but were not submitted to CIHI by the jurisdictions.

Nursing Databases: 2009 Data Collection

Jurisdiction columns (each divided into RN / LPN, with RPN for Manitoba, Saskatchewan, Alberta and British Columbia): Newfoundland and Labrador · Prince Edward Island · Nova Scotia · New Brunswick · Quebec · Ontario · Manitoba · Saskatchewan · Alberta · British Columbia · Yukon · Northwest Territories[‡] · TOTAL.

Data Element	TOTAL %
Data Record Type	100.0
Occupational Identification Number*	100.0
Practice Status	100.0
Survey Year	100.0
Province/Territory or Country of Registration	100.0
Jurisdictional Identification Number	100.0
Gender	96.4
Year of Birth	96.4
Entry/Initial RN Education	100.0
Entry/Initial LPN Education	100.0
Entry/Initial RPN Education	100.0
Year of Graduation	100.0
Province/Territory or Country of Graduation	100.0
Other Education in Nursing Discipline (RN)—Non Degree	100.0
Other Education in Nursing Discipline (LPN)—Non Degree	
Other Education in Nursing Discipline (RPN)—Non Degree	
Other Education in Nursing Discipline—Degree	91.7
Other Education in Nursing—Non LPN—Degree	58.3
Other Education in Nursing—Non RPN—Degree	75.0
Education in Other Than RN	83.3
Education in Other Than LPN	66.7
Education in Other Than RPN	100.0
Employment Status	100.0
Full-Time/Part-Time Status	100.0
Multiple Employment	96.4
Province/Territory or Country of Employment	100.0
Place of Work (Primary Employer)	100.0
Primary Area of Responsibility (Primary Employer)	100.0
Position (Primary Employer)	96.4
Province/Territory or Country of Residence	100.0
Postal Code (Residence)	96.4
Postal Code (Primary Employer)†	85.7
Date of Registration	100.0
Place of Work (Second Employer)	57.1
Place of Work (Third Employer)	53.6
Area of Responsibility (Second Employer)	57.1
Area of Responsibility (Third Employer)	53.6
Position (Second Employer)	100.0
Position (Third Employer)	53.6
Employer Postal Code (Second Employer)	68.8
Employer Postal Code (Third Employer)	62.5
First Nations Organization	75.0
Total Number of Records	100.0
Total Number Employed in Nursing	100.0
Total Percentage of Elements Collected	

Total Percentage of Elements Collected, by jurisdiction:

Jurisdiction	RN	LPN	RPN
Newfoundland and Labrador	86.7	73.5	
Prince Edward Island	71.9	82.4	
Nova Scotia	78.1	100.0	
New Brunswick	81.3	88.2	
Quebec	71.9	94.1	
Ontario	81.3	76.5	
Manitoba	71.9	100.0	97.1
Saskatchewan	106.7	97.1	74.3
Alberta	106.7	97.1	100.0
British Columbia	100.0	100.0	100.0
Yukon	81.3	97.1	
Northwest Territories	100.0	67.6	

Legend: ▨ = Information not collected. ✗ = collected.

Notes

■ Information not collected.

* Occupational Identification Number: This number is applied to each record submitted to CIHI to distinguish between the three regulated nursing professions in the Nursing Database (for example, 11001 for RN records; 11002 for LPN records; 11003 for RPN records; and 11004 for NP records).

† Postal Code of Employer: Worksite is not person-identifiable data.

‡ For RNs, Northwest Territories and Nunavut data is combined, as RNs did not specify in which territory they worked the majority of the time. For LPNs, data is combined for the majority of the time. For LPNs, data is not collected for Nunavut.

Cette publication est aussi disponible en français sous le titre *Base de données sur
les infirmières et infirmiers*.

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