

**Privacy Impact Assessment
National Survey of Selected Medical Imaging
Equipment, 2005**

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National Survey of Selected Medical Imaging Equipment, 2005 Privacy Impact Assessment

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National Survey of Medical Imaging Equipment, 2005

Privacy Impact Assessment

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Preamble

The Canadian Institute for Health Information is mandated to coordinate the development and maintenance of a comprehensive and integrated health information system for Canada. It is responsible for providing and coordinating the provision of accurate and timely information necessary to establish sound health policies, manage the Canadian health system effectively, and generate public awareness of factors affecting good health. Since respecting personal privacy, safeguarding the confidentiality of individual records, and system security are critical to successfully meeting its mandate, CIHI has created a Privacy Secretariat reporting to the CEO and has established principles and policies for the protection of health information (which continue to undergo revision and enhancement in a rapidly changing field)¹. As part of this initiative, CIHI is committed to conducting a Privacy Impact Assessment (PIA) on each of its data holdings. It is a tool used to assess the possible privacy-related consequences of systems and practices for the collection, use, and disclosure of personal information.

This document is a report of the results of a PIA undertaken for CIHI's National Survey of Selected Medical Imaging Equipment, 2004. **The survey does not collect, use or disclose personal information.** The information collected and retained for survey purposes is business contact information, provided on a voluntary basis by Managers and Directors of hospital and publicly and privately funded medical imaging sites. To apply due diligence, the survey data has been reviewed, as summarized in the sections below.

¹ *Privacy and Confidentiality of Health Information at CIHI: Principles and Policies for the Protection of Personal Health Information and Policies for Institution-Identifiable Information*, third edition, April 2002.

1. Introduction and Overview

After completion of the national survey on medical imaging technologies (2001) by the Canadian Coordinating Office for Health Technology Assessment (CCOHTA), CIHI initiated a follow-up national survey on medical imaging technologies. This national study led to the publication of the CIHI 2003 report entitled *Medical Imaging in Canada*. In 2004 the survey was again administered by CIHI and the results were reported in *Medical Imaging in Canada, 2004* in January 2005.

Although CIHI administers the survey, a private consulting firm is contracted to conduct the survey each year.

2. Description

2.1 General Goals and Objectives

The objective of National Survey of Selected Medical Imaging Equipment, 2004 was to complement the information from previous surveys and extend the comparison of survey data from the National Survey of Selected Medical Imaging Equipment for an additional year. The survey was made available to respondents in both English and French and was used as a basis to establish the current nature, distribution and use of the technologies in hospitals and private settings.

The goal of the survey is to update and expand the knowledge base of information currently available (*Medical Imaging in Canada, 2003*) about these seven technologies. The survey includes both public and privately funded equipment. The survey is comprehensive in nature and designed to collect data from all known equipment holders and to discover and include any new equipment not reported in previous surveys.

2.2 Need for the National Survey of Selected Medical Imaging Technology, 2004

The 2005 survey may further broaden the existing knowledge base of these diagnostic and treatment technologies by including other key Medical Imaging and Treatment Technologies. This knowledge is a crucial component of managing resources with respect to providing and planning future public access to diagnostic and treatment technology.

2.3 Current and Intended Scope

Current Scope

The survey is used as a basis to establish the current nature, distribution and use of the technologies in hospitals and private settings described below:

- Magnetic resonance imaging (MRI scanners);

- Computed tomography (CT scanners);
- Positron emission tomography (PET scanners);
- Angiography (angio suites);
- Catheterization laboratories (cath labs);
- Nuclear medicine (NM cameras);
- Lithotripsy (litho) equipment.

Intended Scope

Another goal of the survey is to:

- a) Allow for further comparison to Organization for Economic Co-operation and Development (OECD) countries;
- b) Provide a level of information considered key for strategic planning on a national, provincial or territorial basis; and,
- c) Place Canada at the forefront in terms of understanding its existing circumstance, which is considered absolutely essential in planning for the future.

2.4 Conceptual Technical Architecture

The survey data resides at CIHI's office in Ottawa, Ontario, Canada, in Microsoft Excel and Word formats. The Canadian MIS Database team at CIHI is responsible for maintaining the technological infrastructure of the survey data.

3. Data Collection

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

Survey respondents volunteer to participate and agree to allow CIHI to make equipment inventory information (examples include: type, age, etc...) publicly available at the facility level. Other information related to utilization and funding is aggregated and reported by province or territory. Data is collected via the Internet, using a secured web site that is administered by the consulting firm ProMed Associates Ltd.

3.2 Limits on Data Collection

The survey is used as a basis to establish the current nature, distribution and use of the technologies in hospitals and private settings described below:

- Magnetic resonance imaging (MRI scanners);
- Computed tomography (CT scanners);
- Positron emission tomography (PET scanners);
- Angiography (angio suites);
- Catheterization laboratories (cath labs);
- Nuclear medicine (NM cameras);

- Lithotripsy (litho) equipment.

The data elements collected are set out in Appendix A.

3.3 Data Quality

The National Survey of Selected Medical Imaging Equipment is subject to the CIHI Data Quality Program.

3.4 Sources of Data

CIHI collects yearly data from the National Survey of Selected Medical Imaging Equipment from approximately 450 health service providers, including Medical Imaging Directors and Managers from hospital medical imaging departments as well as both publicly and privately funded freestanding sites.

3.5 Personal Information Collected for the Survey

The only personal information collected is the name of the respondent along with his or her business contact information. This information is not disclosed in any way without the consent of the respondent. This information makes up a contact list used to invite respondents to voluntarily participate in the survey each year.

4. Use and Disclosure of Information

4.1 Uses and Disclosure of Information

The survey data is used to produce pan-Canadian reports, analytical tools, ad hoc data and information requests and analytical studies. All of the survey data is available online in Quick Stats tables at www.cihi.ca.

5. Privacy Standards: Concerns and Security Measures

5.1 Security Safeguards

Although remote access to the survey data is available through www.cihi.ca, CIHI maintains firewalls and online security protocols that prevent manipulation of the actual data, thus protecting data integrity.

CIHI offices maintain a secure working environment requiring password-protected, controlled-access pass cards to enter the working areas. In addition:

- CIHI staff sign a confidentiality agreement as a condition of employment. CIHI and staff acknowledge that breaches are grounds for dismissal and possible legal action;
- CIHI staff attend mandatory privacy, confidentiality and security training;
- CIHI does not allow confidential records to be removed from its offices;
- Employees are granted access to data on a need-to-know basis; and
- User names/password structures must conform to CIHI's standards and be changed on a regular basis.

6. A Privacy Report Card

6.1 Privacy Report Card

CIHI's data collection, use and disclosure activities are guided by its corporate privacy principles, policies and procedures, which are based on the 10 privacy principles set out in Schedule 1 of the federal *Personal Information Protection and Electronic Documents Act*. Practices for maintaining the National Survey of selected Medical Imaging Equipment in relation to the 10 privacy principles are summarized below:

1. **Accountability:** CIHI has designated its President and Chief Executive Officer as accountable for compliance with CIHI's *Privacy and Confidentiality of Health Information at CIHI: Principles and Policies for the Protection of Health Information*.
2. **Identifying Purposes:** The purposes of the survey are clearly identified in CIHI's Web site, as well as in this Privacy Impact Assessment.
3. **Consent:** Consent to retain the respondents' names and business contact information is implied, as the participants have volunteered to participate.
4. **Limiting Collection:** The collection of personal information is limited to the respondents' name and business contact information. The survey elements are included in Appendix A.

5. **Limiting Use, Disclosure and Retention:** CIHI will retain data as long as is necessary to meet the purposes of the database and of its users to conduct longitudinal, retrospective and concurrent analyses, and studies of supply and distribution trends. CIHI will review these retention practices on a regular basis. Data no longer required by CIHI will be archived under secure conditions.
6. **Accuracy:** The survey is subject to the CIHI Data Quality Program. In addition, CIHI undertakes data checks and edits when data are received and works with participating organizations to identify data errors or omissions.
7. **Safeguards:** Appropriate physical, technological, procedural and other safeguards, including staff confidentiality pledges, staff training and secure transfer of data, provide a secure environment for information held by CIHI.
8. **Openness:** CIHI provides information on its corporate privacy policies, data practices, programs and uses of information on its corporate Web site. The same information is available in paper format upon request.
9. **Individual Access:** Respondents may contact CIHI to insure their contact information is accurate.
10. **Challenging Compliance:** CIHI's compliance with its privacy policies and procedures may be challenged. If a person does not agree that the Chief Privacy Officer has satisfactorily resolved his or her complaint, the complaint is referred to the Chief Privacy Advisor.

Conclusion

This Privacy Impact Assessment describes CIHI's data collection, use and disclosure of the National Survey of Selected Medical Imaging data. The assessment has highlighted that the survey contains only aggregate data and business contact information. The collection, use, disclosure and retention of this survey data meets the requirements of CIHI's corporate privacy principles, policies and procedures. CIHI will review and amend the survey Privacy Impact Assessment should non-aggregated data be collected or other significant changes occur in future.

More information about the Medical Imaging Survey data is available upon request; please direct enquiries to:

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7. Sources of Information for this Privacy Impact Assessment

- Canadian Institute for Health Information, *Medical Imaging in Canada, 2004*;
- National Survey of Selected Medical Imaging Technology documentation;
- CIHI Data Quality Program.

Appendix A
National Survey of Selected Medical Imaging
Equipment List of Survey Data Elements

Equipment List of Survey Data Elements

The data elements that were collected were consistent with the data elements requested in 2001 and 2003. They included: name of province or territory, health region, hospital (facility), the number of units (to establish current distribution); type of equipment (only equipment operational as of January 1, 2004 could be included in the survey); classification data (identified individual data elements for each type of technology, see listing below); source of operating funding/revenue from April 1, 2003 to March 31, 2004 (sources of funding and the percentage distribution of those sources); year installed (to determine age); was this the initial year of service; original equipment manufacturer (OEM); site address and postal code for each piece of equipment; as well as confidential contact information for further follow-up.

In addition, in the 2004 survey, participants were asked to respond to several new questions that included the following elements:

- 1) the average weekly hours the equipment was in use;
- 2) the percentage of time that the equipment was in use for clinical purposes only;
- 3) whether film was used to record exams, or whether images were stored on electronic media (film, electronic, or both);
- 4) whether images acquired with this equipment were routed to a Picture Archive and Communication System (PACS);
- 5) whether PACS images were accessible in strategic areas of the hospital (i.e. care areas/clinics);
- 6) whether key images that were stored were available on a departmental image viewing system; and
- 7) number of examinations in a fiscal year (asked of CT and MRI only).

The additional questions asked for each specific type of technology were:

Angiography Suites:

- i) Select Applications: General Angio/Cardiac Angio/Neurological Angio;
- ii) Main Purpose: Diagnostic/Interventions/Both;
- iii) Type: Single Plane/Bi-Plane.

Cardiac Angiography—Catheterization Laboratory:

- i) Configuration: Single Plane/Bi-Plane;
- ii) Dynamic Study Recording: Conventional (cine)/Digital (electronic);
- iii) Main Purpose: Diagnostic/Interventions/Both;
- iv) Dedicated to Physiologic procedures (device implant and cardiac electrical conduction evaluation studies): Yes/No.

Computerized Tomography (CT):

- i) Scanning Mode: Spiral/Non-Spiral;
- ii) Multidetectors: Identify level of CT technology (i.e. 4-slice, 16-slice or enter 0 if no multidetectors);
- iii) Capable of Fluoroscopy: Yes/No;
- iv) Mobile CT: the names of the sites that shared the unit (or No if the installation is fixed);
- v) Applications: Diagnostic/Interventions/Both;
- vi) Whether the CT is also used for some treatment simulations;
- vii) For the fiscal year beginning April 1, 2003 and ending March 31, 2004, the total number of CT examinations[†] performed at your facility/site.

Lithotripsy:

- i) Shockwaves generation technology: Electromagnetic/Electrohydraulic/Piezoelectric;
- ii) Imaging source: X-Ray/Ultrasound/Both.

Magnetic Resonance Imaging (MRI):

- i) Field Strength (Tesla);
- ii) Configuration: Closed bore/Open bore;
- iii) Mobile MRI: If mobile, the names of the sites that shared the unit (or No if the installation is fixed);
- iv) For the fiscal year beginning April 1, 2003 and ending March 31, 2004, the total number of MRI examinations[†] performed at your facility/site.

Nuclear Medicine—Bone Densitometer:

- i) Type: Peripheral scanner/Axial scanner.

Nuclear Medicine—Gamma Camera:

- i) Number of Scanning Heads (Detectors): Single head/Dual head/Triple head.

Nuclear Medicine—Positron Emission Tomography (PET):

- i) Imaging scope: Head only/Full body;
- ii) Type of practice: Dedicated to Research/Dedicated to Clinical Purposes/Both;
- iii) Does your facility operate a cyclotron? Yes/No.

Nuclear Medicine—Single Photon Emission Computed Tomography (SPECT):

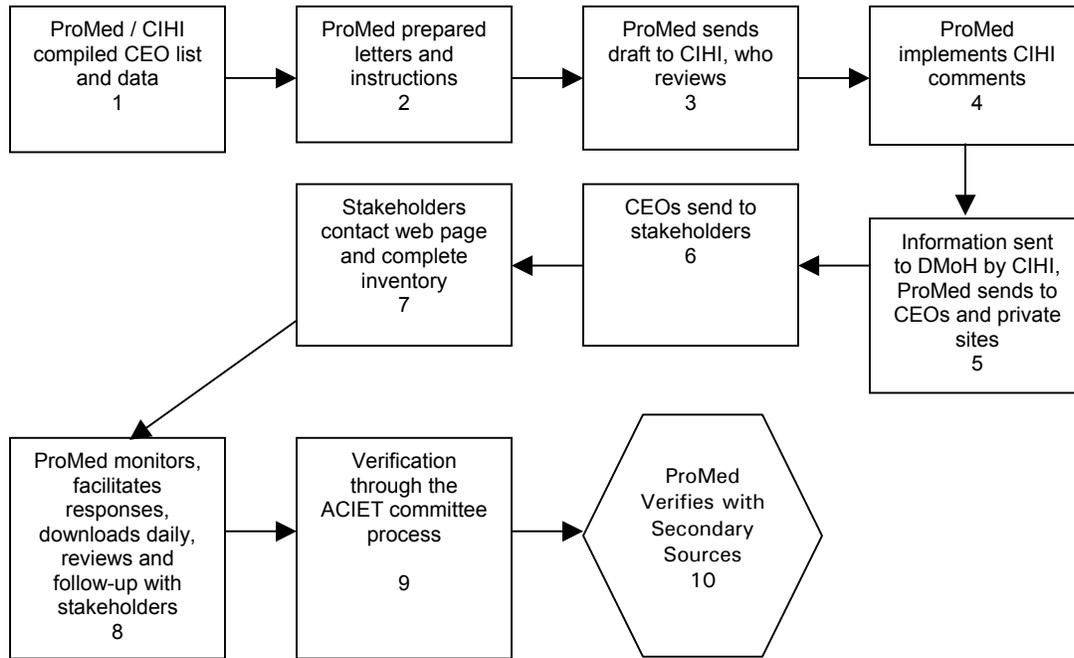
- i) Number of Scanning Heads (Detectors): Single head/Dual head/Triple head.

[†] The definition of an examination is from the Guidelines for Management Information Systems in Canadian Health Service Organizations (MIS Guidelines). Examinations are defined as a technical investigation using an imaging modality to study one body structure, system or anatomical area that yields one or more views for diagnostic and/or therapeutic purposes. Exceptions include routinely ordered multiple body structures that by common practice or protocol are counted as one exam. Source: MIS Guidelines.

Appendix B

Data Flow Diagram

Primary Process - Work Flow



Secondary Process – Work Flow

