



IDEAL FOR

Emerging professionals

CPHIMS-CA candidates

Anyone with an interest in health informatics, digital health, and the Canadian health system

Core Health Informatics Syllabus

Course Title: **Core Health Informatics (Core HI)**

Course Code: **CHI**

Overview

Digital Health Canada has defined a set of Health Informatics Professional Core Competencies as a guide for health informatics and digital health professionals.

These recommended competencies are divided into **seven core areas** which form the basis for the Core Health Informatics (Core HI) course modules outlined in this document.

Health Informatics Professional Core Competencies

A1 Information Management

A2 Technology Ecosystem

B3 Clinical and Health Services

B4 The Canadian Healthcare System

C5 Healthcare Transformation

C6 Project Management

C7 Analysis and Evaluation



A1 Information Management

Unit: CHIA1 Information Technology

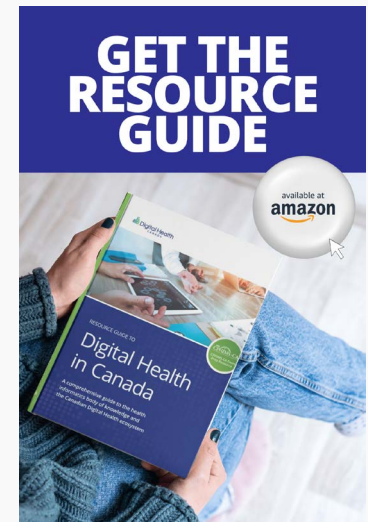
Duration: 1:04:00

Unit Objectives

By the end of this unit, learners will be able to:

- A1.1 Advance the management of information as a key strategic resource
- A1.2 Demonstrate an understanding of the key attributes of data and information (e.g., quality, integrity, appropriateness) and their limitations within the context of intended uses
- A1.3 Determine appropriate data sources and gaps in data sources in relation to identified business needs across the healthcare system
- A1.4 Demonstrate an understanding of the data interrelationships and dependencies among the various health information systems (e.g., decision support systems, electronic health records, order entry, registries, etc.)
- A1.5 Demonstrate an understanding of the implications of ethical, legislative, and regulatory requirements related to the management of health information
- A1.6 Apply accepted policies, principles and guidelines for the management of health information (e.g., Digital Health Canada Guidelines and Canadian Health Information Management Association practices, business intelligence, data security, etc.)
- A1.7 Demonstrate an understanding of relevant health information standards and their appropriate use (e.g., classifications, nomenclature, interoperability, standards, messaging, terminology, etc.)
- A1.8 Integrate data quality principles and methodologies into the identification, use and management of information sources (people and systems)
- A1.9 Demonstrate an understanding of system integration and clinical workflow among health information systems (e.g., decision support systems, electronic health records, order entry, registries, etc.)
- A1.10 Demonstrate an understanding of the principles of good information governance
- A1.11 Demonstrate an understanding of privacy, security and confidentiality concepts and the role they play in building and maintaining trust in the system to protect personal health information
- A1.12 Demonstrate an understanding of existing privacy frameworks and how to apply them to projects (e.g., strengths and weaknesses of these frameworks)
- A1.13 Demonstrate the ability to identify the types of roles in the Information Management domain (CIO, CTO, CNO, CPO, etc.)

Supplemental Resource



A2 Technology Ecosystem

Unit: CHIA2 Information Technology

Duration: 2:20:00

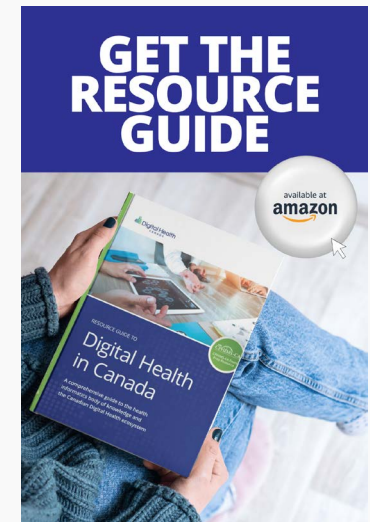


Unit Objectives

By the end of this unit, learners will be able to:

- A2.1 Demonstrate an understanding of key information technology concepts and components (e.g., networks, storage devices, operating systems, information retrieval, data warehousing, applications, firewalls, etc.)
- A2.2 Engage relevant stakeholders at the appropriate stages of the system life cycle
- A2.3 Address information, business, and technical requirements to meet the full range of stakeholders' information needs
- A2.4 Contribute to the selection and utilization of appropriate information technologies to meet business requirements
- A2.5 Apply appropriate health informatics standards and enterprise models to enable system interoperability (e.g., terminology, data structure, system to system communication, privacy, security, safety, governance)
- A2.6 Apply knowledge of health data, information and workflow models to information technology solutions
- A2.7 Apply information technology best practices (e.g., quality management systems, testing, service level agreements, business continuity and incident management) throughout the system life cycle
- A2.8 Apply best practices and solutions required to manage the security of data, systems, devices and networks (e.g., COACH Guidelines for the Protection of Health Information)
- A2.9 Demonstrate an understanding of emerging technologies and their impact on healthcare including addressing the interoperability challenges to sharing health data among systems and providers
- A2.10 Promote the safe and appropriate use of health information technologies to ensure patient safety

Supplemental Resource



B3 Clinical and Health Services

Unit: CHIB3 Clinical and Health Services

Duration: 2:24:00



Unit Objectives

By the end of this unit, learners will be able to:

- B3.1 Apply knowledge of basic clinical and biomedical concepts, clinical care processes, technologies and workflow for purposes of analysis, design, development and implementation of health information systems and applications
- B3.2 Understand basic clinical terminology and commonly used abbreviations and acronyms
- B3.3 Recognize commonly used formats, structures and methods for recording and communicating clinical data and how these are incorporated into system and application use
- B3.4 Foster the adoption and use of health information systems in clinical settings
- B3.5 Facilitate appropriate consumer use of health information and communication technologies
- B3.6 Assess and mitigates clinical safety risks associated with health information and systems throughout the system life cycle
- B3.7 Facilitate clinicians' use of electronic decision support tools in accessing evidence to support practice (e.g., clinical decision support, closed-loop medical administration)

Supplemental Resource: *Resource Guide to Digital Health in Canada*

The *Resource Guide* can be used to:

- Provide foundational knowledge in digital health to new and experienced professionals
- Orient staff and stand as an ongoing reference for professional or academic development
- Provide insight to vendors or interest groups currently facing challenges entering digital health
- Supplement knowledge gaps that currently exist municipally and provincially due to varying terminology and knowledge of the field
- Act as a resource for students and emerging professionals who are new or entering the field of digital health
- Assist with standardizing processes carried out by individuals, teams, institutions and governing bodies; Assist with preparing for the Canadian Supplemental (CA) exam.



B4 The Canadian Healthcare System

Unit: CHIB4 The Canadian Healthcare System

Duration: 2:18:00

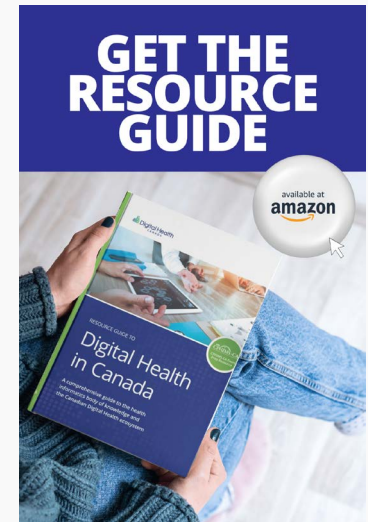


Unit Objectives

By the end of this unit, learners will be able to:

- B4.1 Demonstrate knowledge of health and health systems in Canada and appropriately apply this information to work products and services, including:
 - Key characteristics (e.g., governance, funding, structures, related organizations, emerging trends, etc.)
 - Determinants of health (e.g., environment, genetics, socioeconomic)
 - Key factors affecting healthcare (e.g., demographics, new technologies, incentives)
 - Understanding basic Health informatics associations across Canada (e.g., Digital Health Canada, Canadian Nursing Informatics Association, Information Technology Association of Canada, Canadian Institute for Health Information, Infoway, etc.)
 - Understanding the cultural and community context of care access and delivery
- B4.2 Demonstrate knowledge of the way HI benefits are realized and measured in the Canadian healthcare system
- B4.3 Demonstrate an understanding of different types of Canadian healthcare delivery models across the continuum of care and their interrelationships (e.g., hospitals, clinics, ambulatory centres and community health agencies, regional health authorities)
- B4.4 Demonstrate knowledge of strengths and weaknesses of how people, resources and information flow through the health system and key drivers (e.g., chronic disease management)
- B4.5 Apply knowledge of the roles and relationships of health professionals along with the organizational and regulatory structure in which they work
- B4.6 Address the challenges related to the adoption and realization of clinical value of information systems in the health sector
- B4.7 Understand emerging needs and approaches to including the privacy of personal health information while improving care delivery and managing health systems (e.g., OCAP)
- B4.8 Promote the safe and appropriate use of health information technologies to ensure patient safety

Supplemental Resource



C5 Healthcare Transformation

Unit: CHIC5 Healthcare Transformation

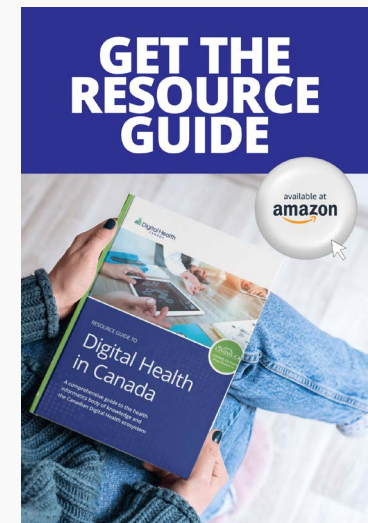
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Unit Objectives

By the end of this unit, learners will be able to:

- C5.1 Apply the basic theories, concepts and practices of management including: i. organizational behaviour and culture ii. human resources iii. financial and budget management iv. governance, accountability, risk analysis and management vi. procurement and vendor relationships, and vii. customer relationships
- C5.2 Contribute to organizational plans and strategies to ensure that information and systems enable business goals and strategy
- C5.3 Promote an information culture by facilitating appropriate uses of information and knowledge
- C5.4 Facilitate self, individual, team and organizational learning and development through the use of appropriate technologies, communication channels and organizational skills
- C5.5 Use audience-appropriate communication and language to present information and convey concepts to relevant stakeholders
- C5.6 Apply best practices in quality improvement and process engineering to facilitate business and clinical transformation
- C5.7 Contribute to ongoing evaluation of the functionality of systems so that they can evolve to support best practice in clinical care
- C5.8 Apply best practices of change management in the implementation of new processes or systems

Supplemental Resource



C6 Project Management

Unit: CHIC6 Project Management

Duration: 1:59:00



Unit Objectives

By the end of this unit, learners will be able to:

- C6.1 Apply project management principles and best practices (e.g., project charter, scope, life cycle, budgets, resourcing)
- C6.2 Apply project management principles and best practices throughout the project life cycle by fostering collaboration and taking into account the unique challenges inherent in health information systems projects
- C6.3 Anticipate issues and opportunities and mitigates risks associated with projects

Supplemental Resource: *Resource Guide to Digital Health in Canada*

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C7 Analysis and Evaluation

Unit: CHIC7 Analysis and Evaluation

Duration: 2:05:00

Unit Objectives

By the end of this unit, learners will be able to:

- C7.1 Identify and frames information queries in collaboration with stakeholders in order to meet their needs for analysis and interpretation of data
- C7.2 Identify relevant sources of data and information in order to: i. assess the quality of information, and ii. draw appropriate conclusions
- C7.3 Demonstrate an understanding of appropriate analytical and evaluation techniques and concepts (e.g., qualitative and quantitative methods, basic statistical techniques, indicators and evaluation measures)
- C7.4 Contribute to quality analysis by organizing and transforming data into reliable and meaningful information for diverse audiences
- C7.5 Present data and information in a way that is effective for users
- C7.6 Demonstrate knowledge of indicators and metrics for healthcare delivery and population health

Supplemental Resource: *Resource Guide to Digital Health in Canada*

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Digital Health Canada is a member-supported not-for-profit professional association that **connects, inspires,** and **empowers** those who are creating the future of health in Canada.

Our members are a diverse community of accomplished, influential professionals working to make a difference in advancing healthcare through information, technology, and data management.

Digital Health Canada fosters network growth and connection; brings together ideas from multiple segments for incubation and advocacy; supports members through professional development at the individual and organizational level; and advocates for the Canadian digital health industry.



GOALS

- **Excellence for Members** – growing and empowering our membership and empowering through tools and relationships;
- **Acting for Equity** – supporting our membership and advancing our network with equity, diversity and inclusion; and
- **Leadership for Industry** – distinguishing Digital Health Canada as a knowledge authority and enabler of innovation in the digital health industry.

VISION

Digitally connected and accessible healthcare for all.

MISSION

Connect, empower, and inspire those enabling digital healthcare in Canada.

VALUES

- **Service:** We serve our members by anticipating and responding to their changing needs.
- **Integrity:** We are values aligned in our approach to relationship building and decision making.
- **Innovation:** We bring awareness to and advocate for new innovations that challenge the status quo and support new models and methods to enhance healthcare.
- **Belonging:** We actively and equitably create a sense of belonging for the diverse professional and personal identities in our membership.
- **Continuous Learning:** We are committed to continuous learning to improve outcomes for our organization and members.
- **Collaboration:** We work intentionally alongside our members and strategic partners to advance common goals.