Let's Talk Informatics

Coding & Abstracting and Data Submission to CIHI

Linda Plummer

March 25, 2021

Webex, Halifax, Nova Scotia

Please be advised that we are currently in a controlled vendor environment for the One Person One Record project.

Please refrain from questions or discussion related to the One Person One Record project.

Informatics…

utilizes health information and health care technology to enable patients to receive best treatment and best outcome possible.

Clinical Informatics…

is the application of informatics and information technology to deliver health care. AMIA. (2017, January 13). Retrieved from https://www.amia.org/applications-infomatics/clinical-informatics

Objectives

At the conclusion of this activity, participants will be able to…

- Identify what knowledge and skills health care providers will need to use information now and in the future.
- Prepare health care providers by introducing them to concepts and local experiences in Informatics.
- Acquire knowledge to remain current with new trends, terminology , studies, data and breaking news.
- Cooperate with a network of colleagues establishing connections and leaders that will provide assistance and advice for business issues, as well as for best-practice and knowledge sharing.

Objectives for Today

- Identify the education and knowledge a Health Information Professional will require to code and abstract patient medical records.
- What is coding and abstracting.
- What type of patient data is captured and sent to CIHI
- What national indicators are produced
- See the trend of an indicator
- Identify some challenges

Conflict of Interest Declaration

- I do not have an affiliation (financial or otherwise) with a pharmaceutical, medical device, health care informatics organization, or other for-profit funder of this program.

Management Structure HIS February 2021
833 People

Carol Ann Snair
HIS Director Clinical Access & Patient Flow

- **Holly Campbell** Manager, EZ
- **TBD** Assistant Manager EZ
- **Judi Randell** Manager CZ
- **Kay Mayo** Assistant Manager CZ
- **Cindy Teal** Assistant Manager CZ
- **Lissa Jutras** Manager NZ
- **Shannon MacIsaac** Assistant Manager NZ
- **Amy Stewart** Assistant Manager NZ
- **Kim Miller** Manager WZ
- **Dawn Hanrahan** Assistant Manager WZ
- **Angela Veinot (LA)** Assistant Manager WZ

39 FTE | **47 FTE** | **44 FTE** | **59 FTE**

Sherri Mellish
Admin, HIS Directors

- **Charmaine Chisholm** HIS Business Operations Leader & Prov Clinical Documentation Forms

7 FTE

Linda Plummer
HIS Director Clinical Documentation, Audit & Reporting

- **Sharon McNeil** Manager Coding Third Party ROI
- **Cathy Attwood** Assistant Manager Coding

80 FTE

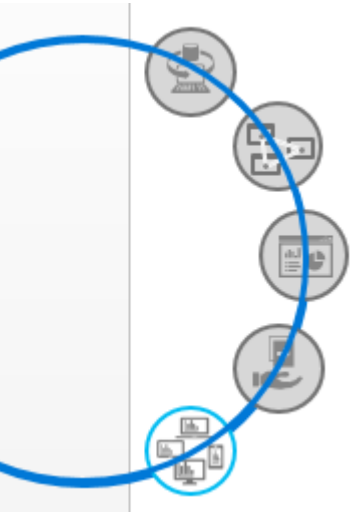
- **TBD** Manager Health Record **102 FTE**
- **TBD** Assistant Manager WZ/NZ
- **LOA** Assistant Manager EZ
- **Kristyn Soper** Assistant Manager CZ
- **Gail Julien (LA)** Assistant Manager CZ

102 FTE

- **Kerri Carew** Manager Transcription **64 FTE**
- **Diane Cake Lawrence** Assistant Manager CZ & WZ
- **Betty Anne MacPhee** Assistant Manager NZ & EZ

64 FTE

Health Information Professional - Education



Complete a two-year diploma program
national certification exam
pay yearly dues
complete CPE credits, to maintain credentials (CHIM)

Courses in the two year HIM program: Anatomy & Physiology, Medical Terminology, Pharmacology, Health Record Law, Coding and Abstracting, Health Information Management, Statistics.

Ongoing standards review to ensure national guidelines are met.
Comparable data and indicators

What do **Health Information Professionals** do?

Code the Charts

Coders review key physician chart documentation, as part of the coding process, to find out what diagnoses and interventions the patient had while in the facility.

Corrections

CIHI runs through the data for errors, and notifies the institutions. Errors are corrected and resubmitted.

Documents Reviewed

Discharge Summary, History & Physical, Consults, Emergency Department Record, Operative Reports, Progress Notes ,Physicians Orders, Diagnostic investigations for further specificity, Pathology report...

Performance Measurement

Revisions to data can be submitted throughout the year

CIHI Submission

month-end edits are run, as well as all death charts are recoded by a different coder to ensure accurate HSMR data.

Reciprocal Billing and Reporting

Submit monthly reciprocal billing files for out of province cost recovery. Performance & Analytics produces many reports from the data. Case costing also uses the data.

Acronyms and Definitions

- **DAD** – **D**ischarge **A**bstract **D**atabase - captures administrative, clinical and demographic information on hospital discharges (including deaths, sign-outs and transfers)

- **NACRS** – **N**ational **A**mbulatory **C**are **R**eporting **S**ystem – captures data for all hospital-based and community-based ambulatory care: day surgery, outpatient, clinics, emergency department

- **CIHI** – **C**anadian **I**nstitute for **H**ealth **I**nformation - provides comparable and actionable data and information that are used to accelerate improvements in health care, health system performance and population health across Canada.

- **HSMR** – **H**ospital **S**tandardized **M**ortality **R**atio - the ratio of observed (actual) deaths to expected deaths.

Diagnosis Typing

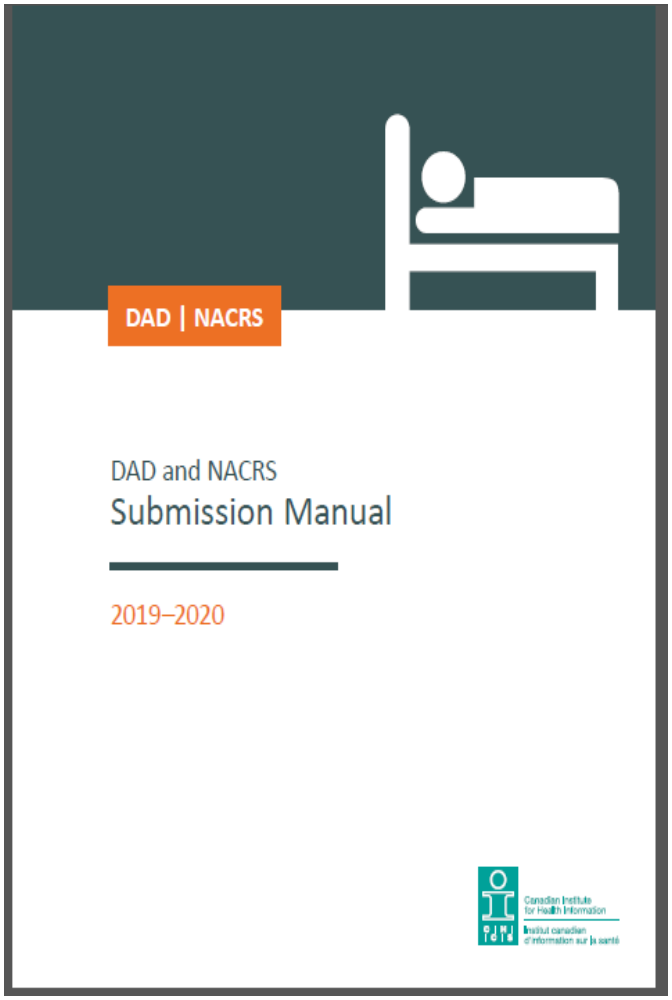
- **Most Responsible (Type M)** - the main reason the patient was in the hospital or the diagnosis that contributes most to the length of stay of the patient, in terms of resource use.
- **Pre-Admit Comorbidity (Type 1)** - This is a condition that was present prior to admission, that is treated while the patient was in, and contributes to the patient's length of stay.
- **Post-Admit Comorbidity (Type 2)** - This is a condition that arises during the patient's stay while in hospital, and contributes to the care and length of stay.
- **Secondary Diagnosis (Type 3)** - These are conditions the patient may have, but do not contribute to the length of stay. Some secondary diagnoses are required, e.g. post-op respiratory complication (type 2), with pneumonia as a secondary diagnosis describing the respiratory condition.
- **Cause code (Type 9)** - This describes how a diagnosis occurred for accidents (e.g. fall from bike for fracture) or qualifying a diagnosis as post-procedural or to note place of occurrence.
- **Transfer Service Diagnosis (Type W, X, Y)** - transfer service diagnoses – treated as a Type 1
- **Newborns (Type 0)**

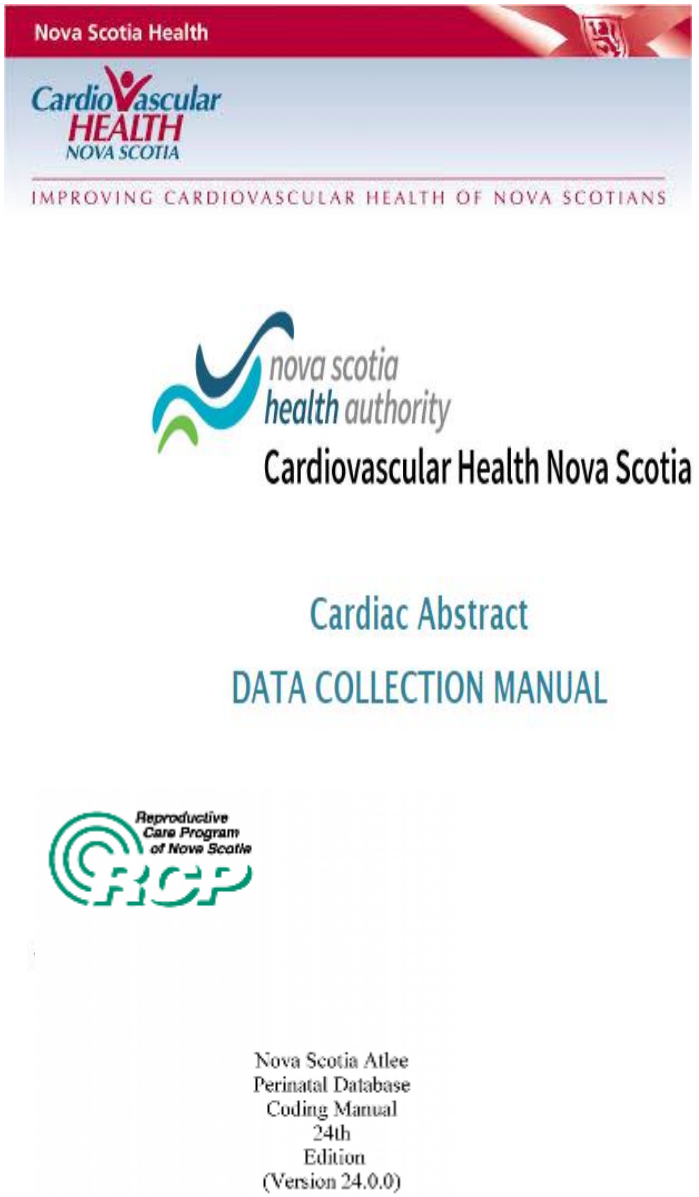
DAD DATA ELEMENTS

PATIENT/SUBMISSION INFO	ADMISSION INFORMATION	SEPARATION INFORMATION	PROVIDER	SERVICE TRANSFERS	IC10/CCI	CARE UNIT	OTHER FIELDS	PROJECT INFORMATION
PROVINCE ID	MOM/BABY RECORD # (LINK INFO)	DISCHARGE DATE /TIME	MAIN PATIENT SERVICE	TRANSFER SERVICE	WEIGHT IN KILOS(NB)	CARE UNIT	NS ACCIDENT DATE	PROJECT 700 (INCOMPLETE INFO)
INSTITUTION NUMBER	ADMIT DATE/TIME	LOS DAYS	MAIN PATIENT SUBSERVICE	SERVICE DAYS	DIAGNOSES X 25	CU ADMIT DATE/TIME	TRANSFUSION GIVEN	PROJECT 340(STROKE)
CODER	INSTITUTION FROM INFORMATION	LOS HOURS	RCP SPECIAL CASE Y/N	ALC DAYS	DIAGNOSES TYPES	CU DISCHARGE TIME		PROJECT 303-30 (H)
PATIENT NAME	ADMIT CATEGORY	LOS MINUTES	MOST RESPONSIBLE PROVIDER	ACUTE DAYS	DX PREFIX	LOS DAYS		REPRODUCTIVE CARE
ADDRESS INFO--STREET , CITY , PROVINCE	ENTRY CODE	DISCHARGE DISPOSITION	MRP SERVICE	LOS DAYS	DX CLUSTER	LOS HOURS		MH INDICATORS
POSTAL CODE	ADMIT BY AMBULANCE	DEATH IN OR (Y/NA)	OTHER RESPONSIBLE/CONSULTANT PROVIDERS		GLASGOW COMA SCALE	UNIT DEATH INDICATOR		
CHART NUMBER	READMISSION CODE	ORGAN RETRIEVAL PT	NURSING UNIT OF DISCHARGE		INTERVENTIONS X 25			
ACCOUNT NUMBER	ED DECISION TO ADMIT	INSTITUTION TO INFORMATION			SURGEON			
ADMIT DATE/TIME	DATE AND TIME PATIENT LEFT ED				SURGEON SERVICE			
DISCHARGE DATE/TIME	ED WAIT IN DAYS				LOCATION (ROOM)			
NS HCN	ED WAIT IN MINUTES				ANESTHETIC TECHNIQUE			
PROVINCE RESPONSIBLE FOR PAYMENT					ANESTHESIOLOGIST			
PRIMARY MED. INSURANCE					PRE-ADMIT FLAG			
RESPONSBILITY FOR PAYMENT(DOH ETC)					EPISODE START DATE/TIME			
RESIDENCE CODE					EPISODE END DATE/TIME			
GENDER					DURATION			
BIRTH DATE								
AGE								

NACRS DATA ELEMENTS (DAY SURGERY)			
AMBULATORY DEMOGRAPHIC		**AMBULATORY CLINICAL**	**PROJECTS**
ADMIT DATE	RESPONSBILITY FOR PAYMENT(DOH ETC)	VISIT MIS CODE	PROJECT 700
PATIENT TYPE	ADMIT BY AMBULANCE	NAT. VISIT MIS CODE	
PROVINCE ID	INSTITUTION FROM INFORMATION	AMB CARE TYPE CODE	
INSTITUTION NUMBER	MODE OF VISIT (FACE TO FACE ETC)	AMB CARE GROUP CODE	
CODER	VISIT DISPOSITION	ACCESS PRIMARY HEALTHCARE	
DATE CODED	VISIT DISPOSITION DATE /TIME	NURSING UNIT (LOCATION)	
CHART NUMBER	INSITUTION TO INFORMATION	PROVIDER (MOST RESPONSIBLE, SURGEON, ANESTHIOLOGIST)	
ACCOUNT NUMBER	LOS DAYS	PROVIDER SERVICE	
PATIENT NAME	LOS HOURS	PROVIDER TYPE	
ADDRESS INFO--STREET , CITY , PROVINCE	LOS MINUTES	DIAGNOSES	
POSTAL CODE		DIAGNOSES TYPE	
RESIDENCE CODE		DX PREFIX	
GENDER		DX CLUSTER	
BIRTH DATE		INTERVENTIONS	
PROVINCE RESPONSIBLE FOR PAYMENT		OR LOCATION (MAIN, ENDO ETC)	
N.S HCN		ANESTHESIA TECH.	
PRIMARY MED. INSURANCE		TRANSFUSION GIVEN (Y/N)	

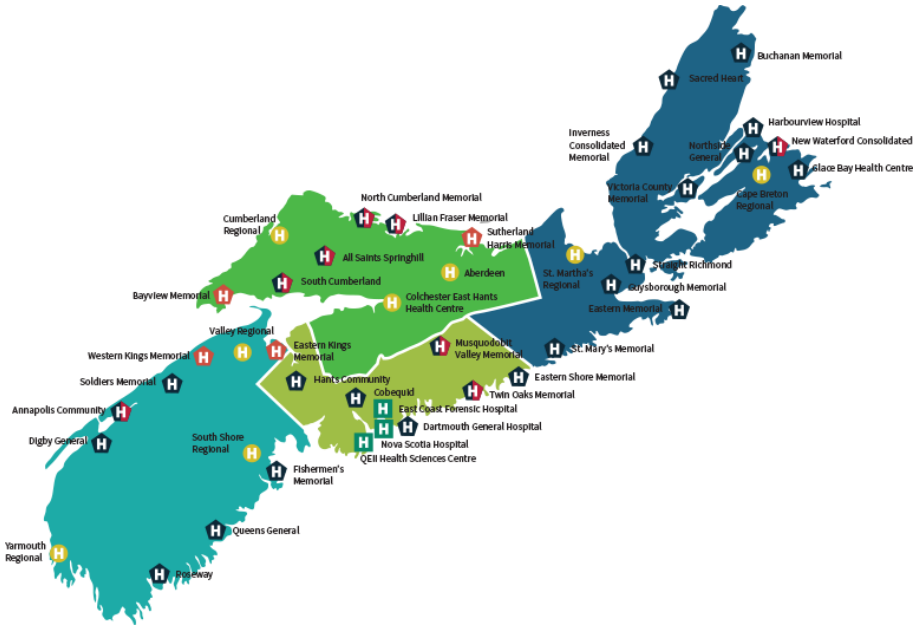
NACRS DATA ELEMENTS (EMERGENCY)			
AMBULATORY DEMOGRAPHIC		**AMBULATORY CLINICAL**	**PROJECTS**
ADMIT DATE	INSTITUTION FROM INFORMATION	VISIT MIS CODE	PROJECT 340
PATIENT TYPE	MODE OF VISIT (FACE TO FACE ETC)	NAT VISIT MIS CODE	
PROVINCE ID	VISIT DISPOSITION	AMB CARE TYPE	
INSTITUTION NUMBER	VISIT DISPOSITION DATE /TIME	AMB CARE GROUP CODE	
CODER	INSITUTION TO INFORMATION	TRIAGE LEVEL	
DATE CODED	LOS DAYS	TRIAGE DATE /TIME	
CHART NUMBER	LOS HOURS	INITIAL DR. ASSESSMENT(DATE/TIME)	
ACCOUNT NUMBER	LOS MINUTES	DATE/TIME PT LEFT ER	
PATIENT NAME		ACCESS TO PRIMARY HEALTHCARE	
ADDRESS INFO--STREET , CITY , PROVINCE		ED VISIT INDICATOR	
POSTAL CODE		PROVIDER (MOST RESPONSIBLE, SURGEON, ANESTHIOLOGIST)	
RESIDENCE CODE		PROVIDER SERVICE	
GENDER		PROVIDER TYPE	
BIRTH DATE		DIAGNOSES	
PROVINCE RESPONSIBLE FOR PAYMENT		DIAGNOSES TYPE	
N.S HCN		DX PREFIX	
PRIMARY MED. INSURANCE		DX CLUSTER	
RESPONSBILITY FOR PAYMENT(DOH ETC)		INTERVENTIONS	
ADMIT BY AMBULANCE		ANESTHESIA TECH.	





Nova Scotia Atlee
Perinatal Database
Coding Manual
24th
Edition
(Version 24.0.0)

Patient Visits Coded



01 258,812 ER visits

02 115,690 Day surgeries

03 85,648 Inpatients and RCP for Maternity & NB cases

04 9,516 Cardiovascular Health

Diagnosis Coding – sample cases

A newborn female is delivered vaginally at 34 weeks with birth weight of 2,400 grams. She is transferred to the NICU with a diagnosis of prematurity and request for a cardiology consultation. Following consultation, she is diagnosed with a patent ductus arteriosus (PDA), which spontaneously closes after five days. She is discharged home at 21 days of age.

Code	DAD	Code Title
P07.1	(M)	Other low birth weight
P07.3	(1)	Other preterm infants
Q25.0	(1)	Patent ductus arteriosus
Z38.000	(0)	Singleton, born in hospital, delivered vaginally, product of both spontaneous (NOS) ovulation and conception

A patient is admitted as an inpatient for elective hip replacement for osteoarthritis (coxarthrosis) but develops acute chest pain prior to surgery. A cardiologist is called to see the patient, and STEMI is documented. The patient is transferred to the cardiac care unit on thrombolytic therapy. The elective surgery is cancelled and the patient remains in hospital for treatment of MI. The final diagnosis is recorded as acute anterior wall MI.

Code	DAD	Code Title
I21.0	(M)	Acute transmural myocardial infarction of anterior wall
I21.0	(2)	Acute transmural myocardial infarction of anterior wall
R94.30	(3)	Electrocardiogram suggestive of ST segment elevation myocardial infarction [STEMI]
Z53.0	(3)	Procedure not carried out because of contraindication

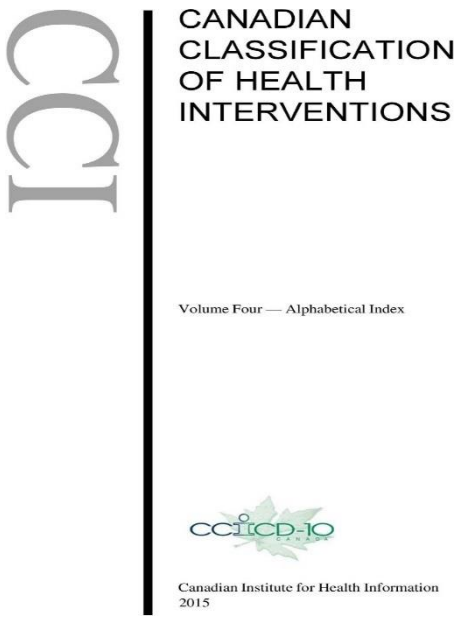
Intervention Coding – sample cases

The patient has an open reduction internal fixation of a bimalleolar fracture of the left ankle. Fixation is performed using screws. Intraoperative fluoroscopy images of the ankle demonstrate fixation of the fracture. Post-operative X-ray confirms satisfactory reduction and internal fixation.

1.WA.74.LA-NW	Fixation, ankle joint, open approach, using screw, plate and screw fixation device alone
3.WA.10.VA	Xray, ankle joint, without contrast (e.g. plain film) (with or without fluoroscopy)

A fasciocutaneous free flap from the thigh is harvested to repair a serious facial burn.

1.YF.80.LA-XX-F	Repair, skin of face, using free flap [e.g. microvascular free flap]
1.YV.58.LA-XX-F	Procurement, skin of leg, of free flap using open approach



Computer Assisted Coding

1 Improve the coding process **2 Reduce costs** **3 Raise healthcare quality**

How NLP works

The NLP engine analyzes and **interprets text from multiple documentation sources created during a patient's hospital stay**—including the Discharge Summary, History & Physical, Emergency Department Report and Operating Room Report— and assists the coder to assess the clinical picture.

NLP can **identify and annotate diagnoses and procedures in patient documentation, link diagnosis and intervention codes, and ensure that conditions are not overlooked by coders when they review the documents.** This frees coders from the non-coding tasks of organizing documents and searching for relevant information, which consumes much of their time. Algorithms and models allow the software to start with existing sources of knowledge, analyze new data, and improve its own capabilities: in short, the more an NLP platform is used, the smarter it gets.

The software **enables complete and accurate code selection and guides the coder through the levels of choices, ensuring all inclusions, exclusions and the code**—also directives are incorporated. The software does not replace the coder's expertise, but enhances it, by recognizing key words and phrases that lead to coding suggestions. The system annotates each document for possible diagnoses and procedures, and prompts them to move as far as possible through the software's clinical pathways. Taking it a step further, NLP can also facilitate the critical process of clinical documentation improvement. It all leads to improved productivity and accuracy in the coders' output.

Canadian Institute for Health Information

Better Data. Better Decisions. Healthier Canadians.

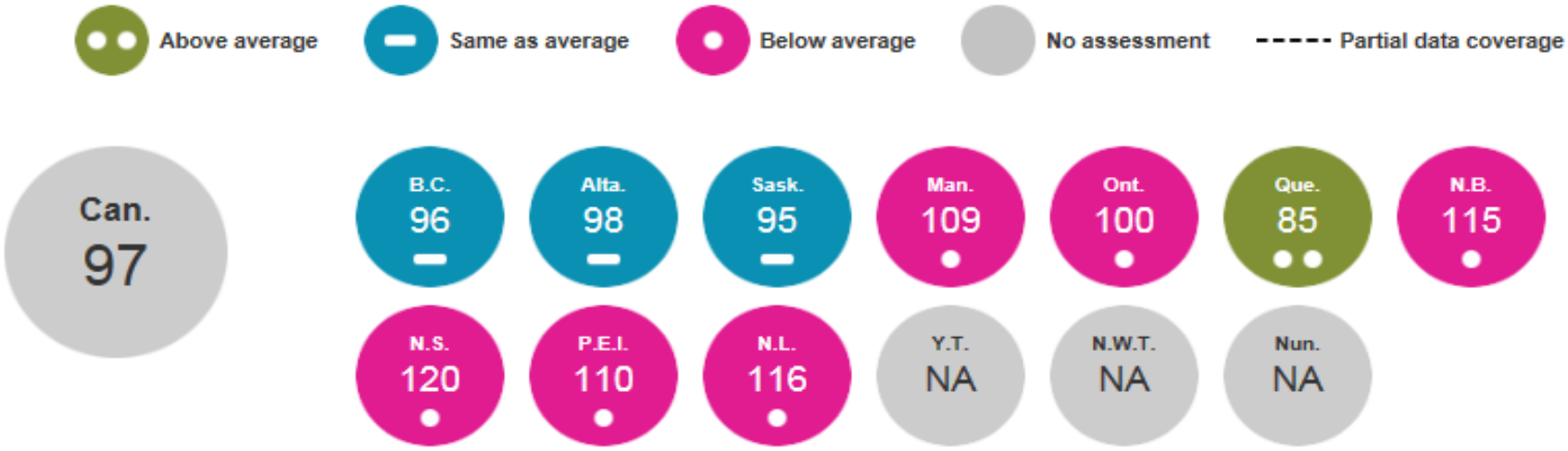
- *yourhealthsystem.cihi.ca*

Hospital Standardized Mortality Ratio – HSMR FY 18-19

2018–2019: Comparison of hospital deaths to the average Canadian experience

Select a province or territory to compare to the national average and customize your view on this page.

The determination of higher or lower than average is based on a statistical assessment and the desirable direction of the indicator. Above average, which is colour-coded as green with 2 dots, represents the desirable direction for each indicator. For more information, see Help.



Source: Canadian Institute for Health Information.

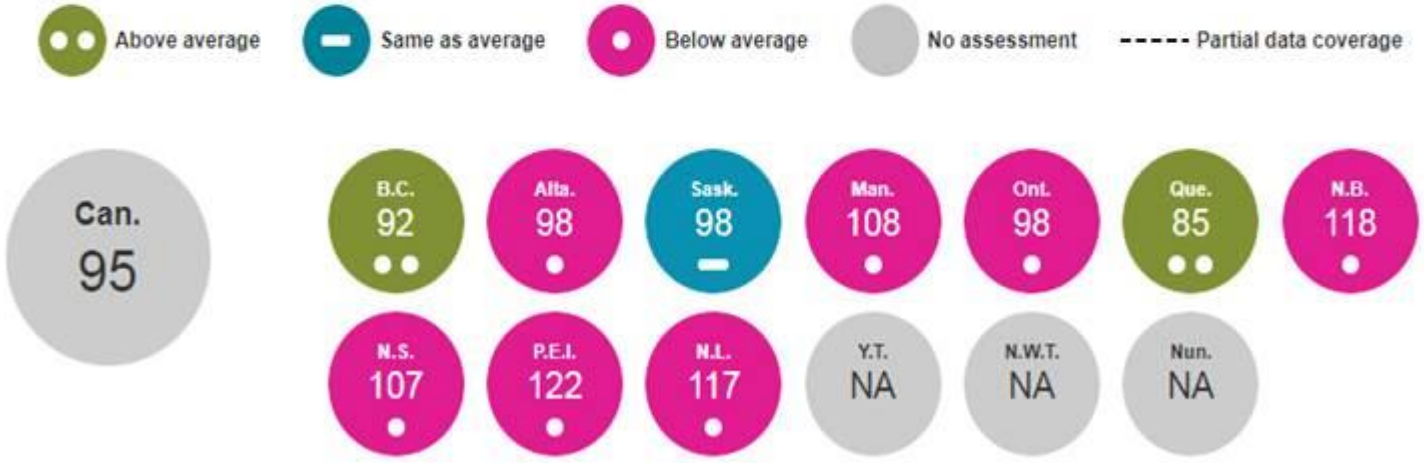
Hospital Standardized Mortality Ratio – HSMR FY 19-20

2019–2020: Comparison of hospital deaths to the average Canadian experience

Select a province or territory to compare to the national average and customize your view on this page.

The determination of higher or lower than average is based on a statistical assessment and the desirable direction of the indicator. Above average, which is colour-coded as green with 2 dots, represents the desirable direction for each indicator. For more information, see Help.

The information below will change when a filter is selected.



Source: Canadian Institute for Health Information.

Hospital Standardized Mortality Ratio – HSMR Open year 20-21

Indicators

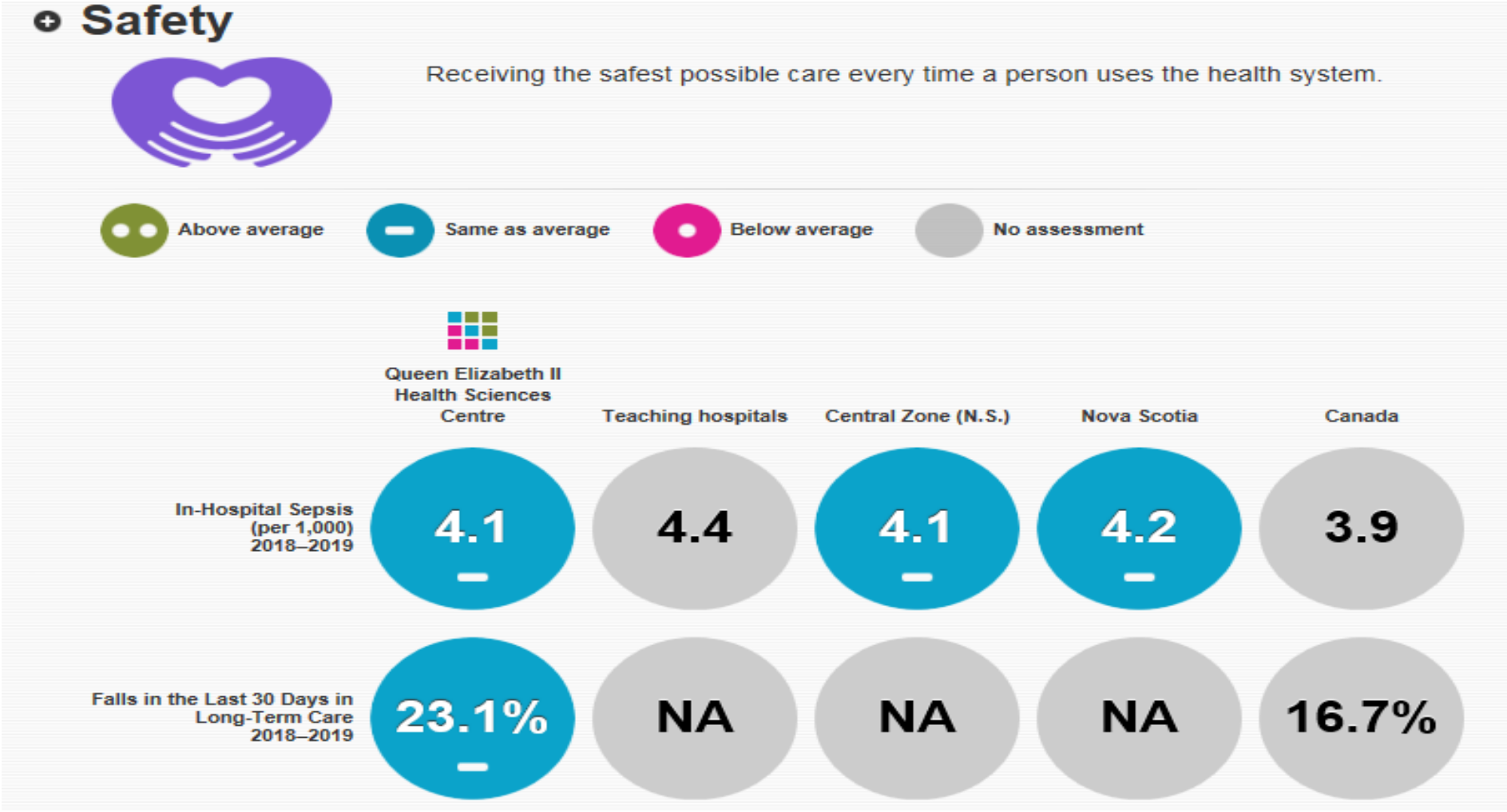
Appropriateness and Effectiveness

Providing care to only those who could benefit; this reduces the incidence, duration, intensity and consequences of health problems.

Above average | Same as average | Below average | No assessment

	Queen Elizabeth II Health Sciences Centre	Teaching hospitals	Central Zone (N.S.)	Nova Scotia	Canada
All Patients Readmitted to Hospital 2018–2019	8.9% ••	9.7%	8.7% ••	8.8% ••	9.4%
Medical Patients Readmitted to Hospital 2018–2019	12.6% ••	14.4%	12.0% ••	12.9% ••	14.1%
Surgical Patients Readmitted to Hospital 2018–2019	6.8% –	7.0%	6.7% –	6.4% ••	6.8%

Indicators


Safety
Receiving the safest possible care every time a person uses the health system.
Above average
Same as average
Below average
No assessment
Queen Elizabeth II Health Sciences Centre
Teaching hospitals
Central Zone (N.S.)
Nova Scotia
Canada
In-Hospital Sepsis (per 1,000) 2018–2019
4.1
4.4
4.1
4.2
3.9
Falls in the Last 30 Days in Long-Term Care 2018–2019
23.1%
NA
NA
NA
16.7%

Challenges

The coding team review key physician chart documentation, as part of the coding process, to determine the diagnoses and interventions the patient had during the admission. The key documents are:

- Discharge Summary
- History & Physical
- Consults
- Emergency Department Record
- Operative Reports
- Progress Notes
- Physicians Orders
- Diagnostic investigations
- Pathology report
- others

01 Charts coded without Discharge Summaries

02 Poor documentation of dates and times

03 Ambiguity in documentation

04 Multiple documents to review

Questions

The ***Let's Talk Informatics*** series meet the criteria outlined in the Manipro+ Certification guide for non-certified credits by providing content aimed at improving computer skills as applied to learning and access to information.

To receive a certificate of attendance for today's session, there is a place for you to provide your email address in the evaluation survey.

Thank you for attending today's event.