Provincial EMS Database

a unique opportunity !

OPALS Annual meeting - November 2008
John Trickett RN BScN
Manager, Ottawa Base Hospital Program
Chair, OBHG Executive

Ontario Base Hospital Group
Data Management Sub-Committee

Active since 2004

Members

- Municipal representation
- EHS Staff
- BH Program Staff
- BH Physicians
- Front line paramedic
- Clinical Researchers/epidemiologists

Current Members

John Trickett	Ottawa BHP **(Chair)**
Jim Harris	Durham BHP
Jon Dreyer	London BHP
Nancy Densmore	London BHP
Rob Burgess	SOCPC
Leanne Colvin	EHS
Cathy Francis	EHS
John Prno	AMEMSO
Stephen Turner	London ACP
Mark Hull	EHS
Dr Christian Vaillancourt	Ottawa
Jennifer Long	Toronto

Mandate

To advise the Director of Emergency Health Services Branch, on information gathering and database issues relating to the provision of ***ambulance based pre-hospital care*** in Ontario.

To review current ***patient data collection*** and data reporting standards and practices and to update regularly the ***patient related data*** gathering and reporting requirements and practices necessary to meet the current and emerging needs of stakeholders.

The Challenge for EMS in Ontario

- No standardized, well defined clinical data points
- No data collection/entry standards or parameters
- Limited data analysis expertise or formal training programs within the current BH or EMS system
- Multiple e-ACR vendors – all defining their own data sets & fields

- Data cleaning & transmission
- PHIPA & Security
- Data mapping → common output
- EMS services/BH partnership to select best design or platform
- Resourcing

Alberta
HEALTH AND WELLNESS

HEALTH INFORMATION STANDARD

HEALTH INFORMATION STANDARDS COMMITTEE FOR ALBERTA

EMERGENCY HEALTH SERVICES - PATIENT CARE REPORT
MINIMUM DATA SET

Resuscitation (2005) 67S1, S3–S6

ELSEVIER

RESUSCITATION

www.elsevier.com/locate/resuscitation

European Resuscitation Council Guidelines for Resuscitation 2005
Section 1. Introduction

US Department of Transportation
National Highway Traffic Safety Administration (NHTSA)

NHTSA
Uniform Pre-Hospital
Emergency Medical Services (EMS)
Dataset

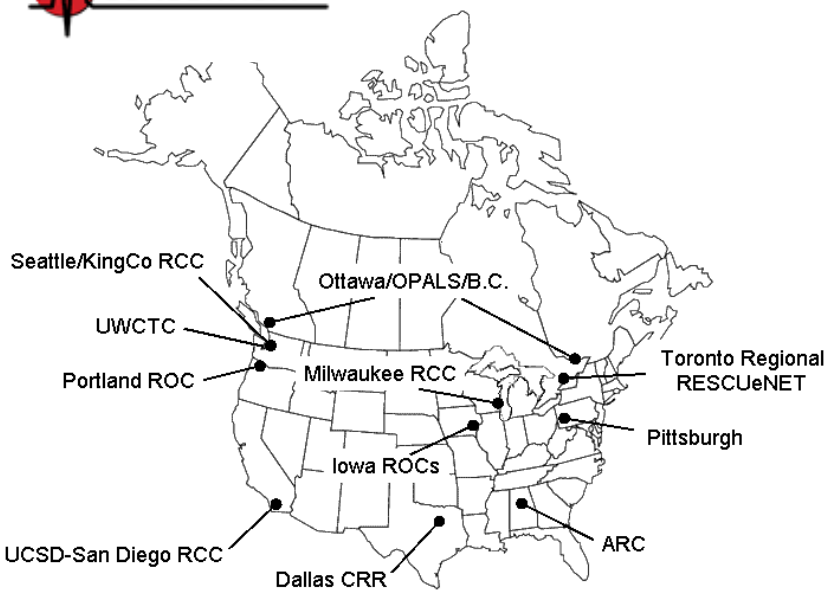
Version 2.2.1 (2006)

NEMSIS

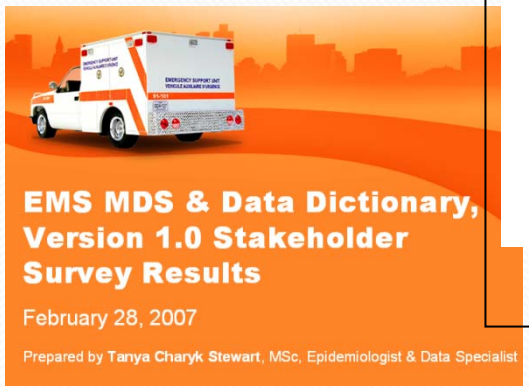
Final Documentation
and
Data Dictionary

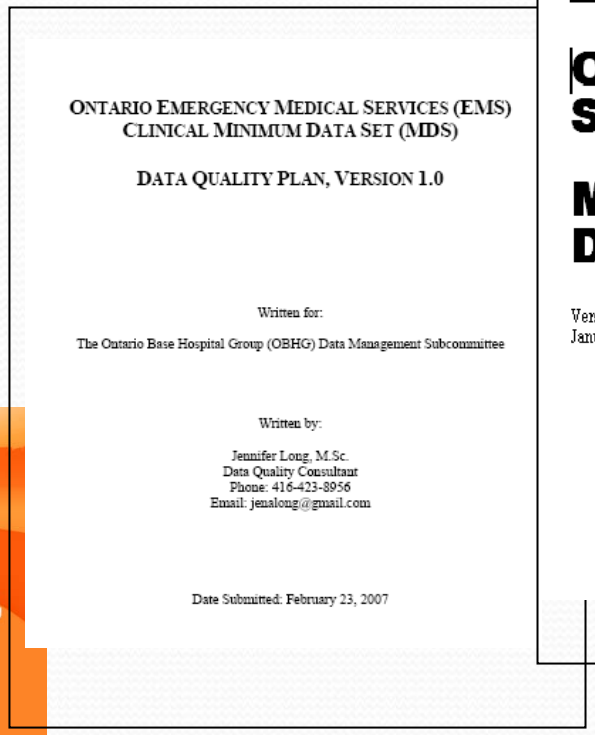
WWW.NEMSIS.ORG

RESUSCITATION OUTCOMES CONSORTIUM



Part of the Solution:
Ontario EMS Data Dictionary




ONTARIO EMERGENCY MEDICAL SERVICES (EMS)
CLINICAL MINIMUM DATA SET (MDS)

DATA QUALITY PLAN, VERSION 1.0

Written for:

The Ontario Base Hospital Group (OBHG) Data Management Subcommittee

Written by:

Jennifer Long, M.Sc.
Data Quality Consultant
Phone: 416-423-8956
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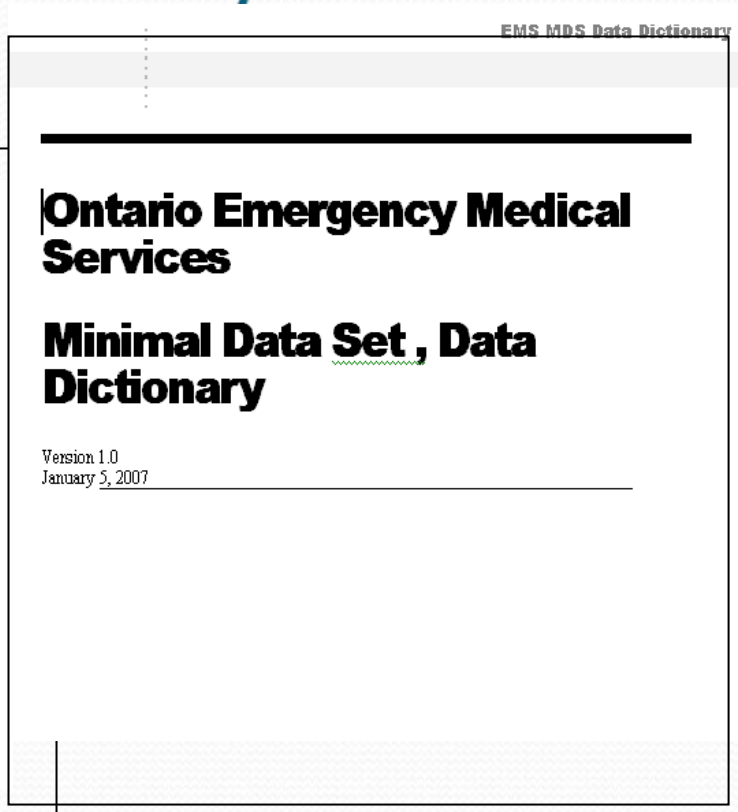
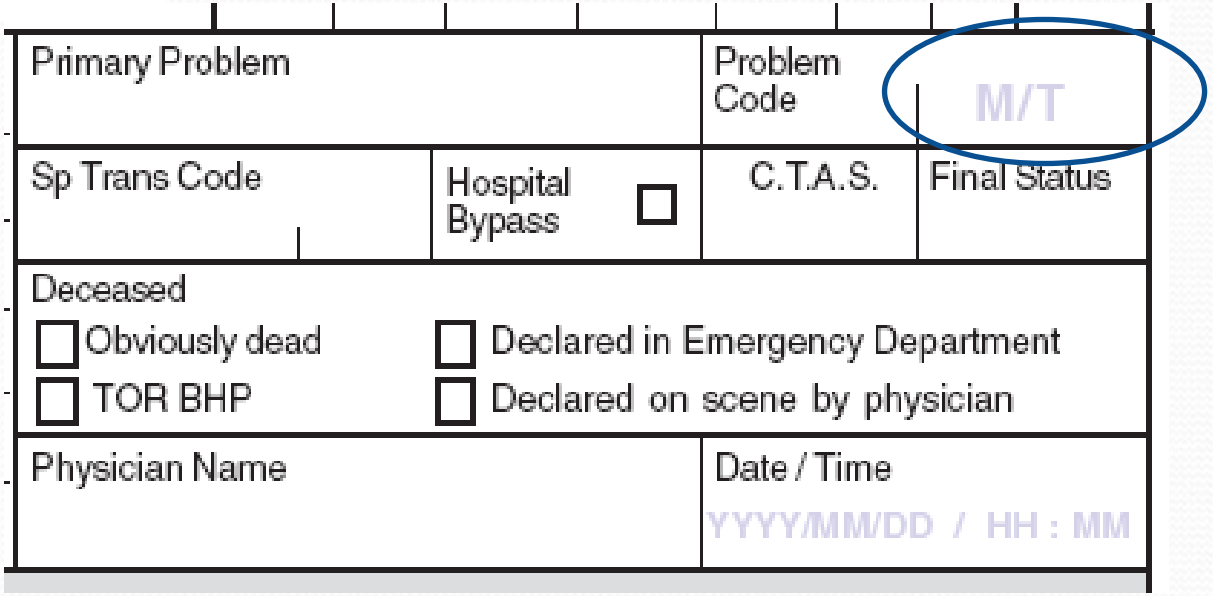
Date Submitted: February 23, 2007

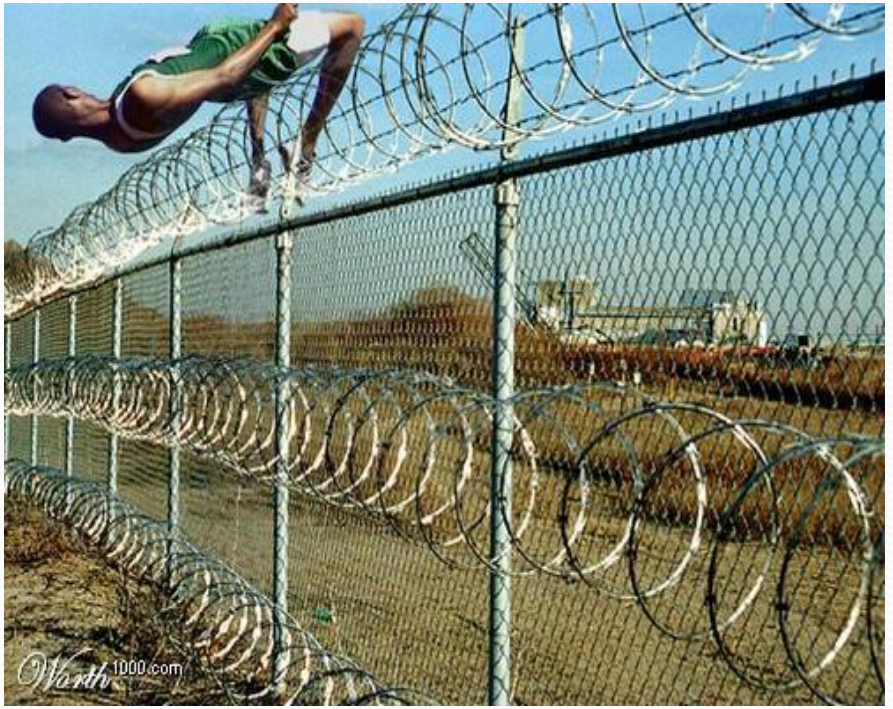


Consistent Coding

Special Transport Codes
01 Pt. Meets Trauma Triage Protocol
02 Pt. Meets Stroke Protocol
03 Pt. Meets STEMI Protocol



Regardless of the problem….



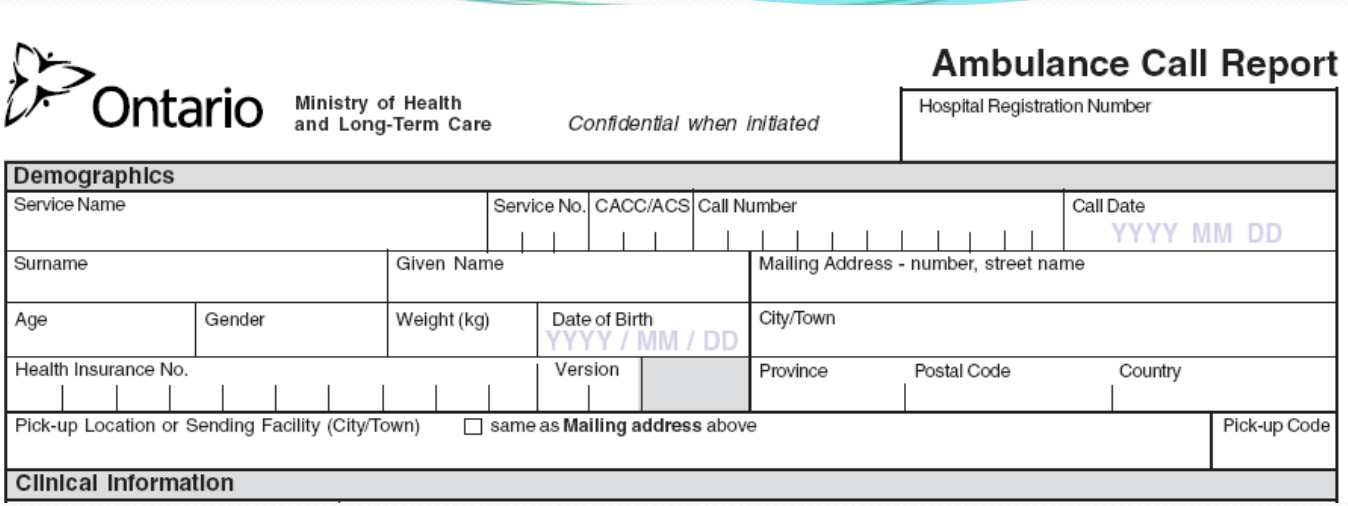
83 consistently "defined" and structured data elements

EMS MDS Data Dictionary

Data Element Number	20
Data Element Category	Patient Demographics
Data Element	**Health Insurance Number**
Status	Clinical
Definition	This is the complete 10-digit Ontario HIN with version code
Source	*Ambulance Call Report (ACR) – Demographics section – Health Insurance No*
Data Element - Code version (Mnemonic)	HIN
Format & Response Codes	10-digit numeric value, no decimal point, valid according to Ontario HIN algorithm
Paramedic Instructions	1. Carefully record the patient's 10-digit **Ontario HIN** in the 10 boxes of *Ambulance Call Report (ACR) – Demographics section – Health Card No.* This can be obtained from the HIN card. This field is reserved for Ontario HINs only.
Data Abstraction Instructions	1. Enter the HIN as identified by paramedic on the from *Ambulance Call Report (ACR) – Demographics section – Health Insurance No.*
Associated Data Elements	VERSION
Local Database Inclusion	Yes
Provincial Database Inclusion	Yes
Uses of Data Element	Link to outcome data
Position	
Size	10
Logic Checks	
Skip	
Comments/Recommendations	

Section 2 – Clinical Information			
2.1	22	Occurrence	Date/Time of Occurrence
	23	Cardiac	DNR Confirmation No.
2.2	24 - 26	Trauma	Problem site/type – Location
	27 - 29	Trauma	Problem site/type – Type
	30 - 32	Trauma	Problem site/type – Mechanism
2.3	33	Cardiac	Arrest Witnessed By
	34	Cardiac	CPR Started By
	35	Cardiac	1st Shock By
	36	Cardiac	Date/Est. Time of Arrest
	37	Cardiac	Date/Time CPR Started
	38	Cardiac	Date/Time of First Shock
2.4	39	Procedures	Procedure Dates/Times ▶
	40	Procedures	Procedure Codes ▶
	41	Procedures	Dose Administered ▶
	42	Procedures	Units ▶
	43	Procedures	Route of Administration ▶
2.5	44	Vital Signs	Pulse Date/Time ▶
	45	Vital Signs	Pulse ▶
	46	Vital Signs	Unassisted Respiratory Rate Date/Time ▶
	47	Vital Signs	Unassisted Respiratory Rate ▶
	48	Vital Signs	SBP Date/Time ▶
	49	Vital Signs	SBP ▶
	50	Vital Signs	DBP Date/Time ▶
	51	Vital Signs	DBP ▶
	52	Vital Signs	O2 Sat Date/Time ▶
	53	Vital Signs	O2 Sat ▶
	54	Vital Signs	Endtidal CO2 Date/Time ▶
	55	Vital Signs	Endtidal CO2 ▶
	56	Vital Signs	GCS Date/Time ▶
	57	Vital Signs	GCS Total ▶
	58	Procedures	Crew Member Number ▶

In 2009



Ontario Ministry of Health and Long-Term Care

Confidential when initiated

Ambulance Call Report

Hospital Registration Number

Demographics

Service Name	Service No.	CACC/ACS	Call Number	Call Date YYYY MM DD
Surname	Given Name			Mailing Address - number, street name
Age	Gender	Weight (kg)	Date of Birth YYYY / MM / DD	City/Town
Health Insurance No.			Version	Province / Postal Code / Country
Pick-up Location or Sending Facility (City/Town) ☐ same as **Mailing address** above				Pick-up Code

Clinical Information

- New Ambulance Call Report
- Multiple e-ACR vendors working from the same Ontario definitions
- Revised documentation standards
- Revised ACR completion manual
- Minimal data set – tightly defining core data points

Cardiac
51 Ischemic Chest Pain
53 Palpitations
54 Pulmonary
55 Post Arrest

Torso
60 Chest Pain
61 Abdominal/Pelvic/Perineal/ Rectal Pain
62 Back Pain

Obstetrical
71 Obstetrical <20 weeks
72 Obstetrical ≥20 weeks

Endocrine/Toxicological
81 Drug/Alcohol Overdose
82 Poisoning/Toxic Exposure
83 Diabetic Emergency
84 Local Allergic Reaction
85 Anaphylaxis

Other
90 Musculoskeletal
91 Environmental Emergency
92 Weakness/Dizziness/ Unwell
93 Treatment/ Diagnosis & Return
94 Convalescent/Invalid/ Return Home
95 Inter-facility Transfer
96 Organ Retrieval/Transfer
97 Nausea/Vomiting/Diarrhea
98 Lift Assist
99 Assessment Only/ No Injuries

Problem Codes

VSA
01 VSA

Airway
11 Obstruction (Partial/Complete)

Breathing
21 Dyspnea
24 Respiratory Arrest

Circulation
31 Hemorrhage
33 Hypotension
34 Hypotension, Suspected Sepsis

Neurological
41 Stroke/TIA
42 Temp. Loss of Consciousness
43 Altered Loc
44 Headache
45
46 Seizure
48 Confusion/

Cardiac Resuscitation Procedures/Therapy
300 CPR
301 Cardiac Monitor/Rhythm Interpretation - i.e. Interpret a rhythm strip
302 Cardioversion
303 Valsalva Manoeuver
306 Defibrillation-Manual
307 Defibrillation-Semi-Automatic
308 Analyze - Automated Device
309 External Pacing
313 12-Lead Acquisition
316 Return of Spontaneous Circulation
317 Return of Spontaneous Respirations

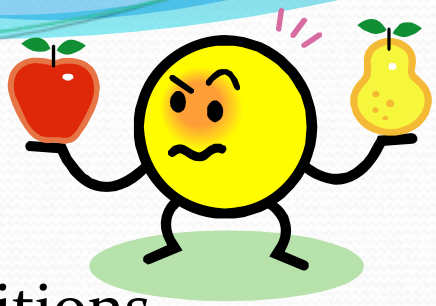
Airway/Breathing Procedures
318 LMA/Alternate Airway
319 Unsuccessful LMA/ Alternate Airway
320 Needle Thoracostomy
321 Unsuccessful Needle Thoracostomy
322 Needle/Surgical Cricothyroidotomy
323 Unsuccessful Needle/ Surgical Cricothyroidotomy
324 Nasal-Tracheal Intubation
325 Unsuccessful ETT-Nasal

Opportunity

- Core set of tightly defined clinical data points that can be further enhanced/complimented
- Ability to measure all recorded patient interactions against a provincial standard.
- Potential for a consolidated data set
- Data driven decision making

  Eg's
  - Developing & evaluating Stroke/STEMI/Trauma bypass protocols
  - Document and optimize airway management
  - Effectiveness/application of specific medical directives
  - Termination of Resuscitation (ToR) rules

Future opportunity



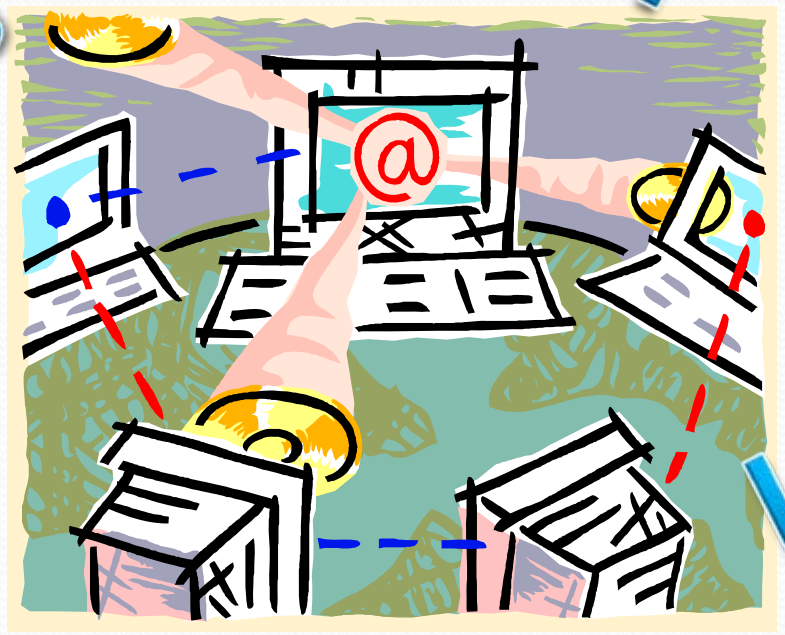
- Clinical research – using standard definitions
- Clinical benchmarking & system performance
- Basis for business case submissions
  - Patient outcome focussed
  - Municipal & provincial govt. buy in
- Enabling provider education needs to be truly focused on quantified patient and practitioner need
- The patient is the ultimate winner

SOCPC

Durham

Hamilton

Thunder Bay



London

Sudbury

RPPEO