Evolution of CCIS

SARS highlighted the need to improve Ontario's critical care system to better respond to sudden surges in demand.
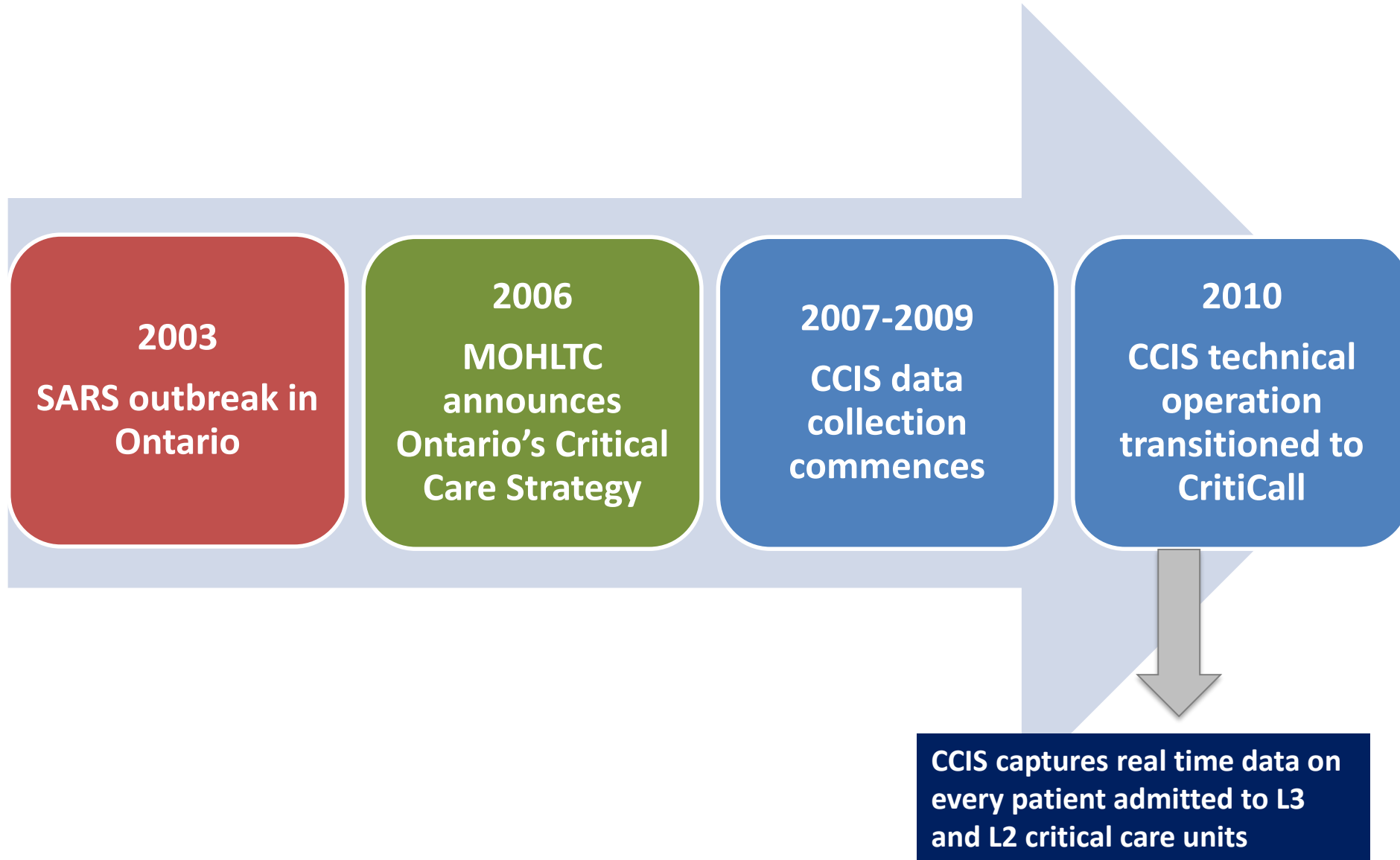
2003

2004

MOHLTC began a formal review of adult critical care services in Ontario. A Steering Committee was established to study Access, Accountability, HR, Surge Capacity and New Technologies.

2005

Steering Committee report published with recommendations to improve the quality and efficiency of adult critical care services in Ontario.

2006

MOHLTC announced $90 Million for a Critical Care Strategy. The Critical Care Secretariat was established.

CCSO leading improvements and system innovation in critical care

2014 – PRESENT

ONTARIO'S CRITICAL CARE SYSTEM TRANSFORMATION TIMELINE

Transformation to CCSO
The Secretariat expanded to incorporate programs such as Neurosurgery, Trauma and Burns, Paediatric critical care and Chronic Ventilation. The evolution of CCSO is supported by the Proficnial Programs Branch at the Ministry.

2012

2006 –2012

The Critical Care Secretariat played an important role in developing the initiatives under Ontario's Critical Care Strategy.

CCIS Background

2003
SARS outbreak in Ontario

2006
MOHLTC announces Ontario's Critical Care Strategy

2007-2009
CCIS data collection commences

2010
CCIS technical operation transitioned to CritiCall

CCIS captures real time data on every patient admitted to L3 and L2 critical care units

3

CCSO and CritiCall Ontario

CCSO

- Provides strategic oversight related to CCIS initiatives and enhancements

- Responsible for data quality and hospital accountability related to data entry

- Responsible for keeping inventory updated in CCIS

- Uses CCIS data for performance improvement, to inform capacity planning, capacity investment, and system improvements

- Uses CCIS critical care occupancy data in managing critical care moderate surge process

CritiCall Ontario

- Houses the CCIS application and provides technical support for CCIS users

- Ensures compliance with privacy legislation and holds data sharing agreements with hospitals entering data into CCIS

- Implements enhancements and technical upgrades to the system

- Produces CCIS reports in collaboration with CCSO and facilitates moderate surge

- Provides training and education to the CCIS users

CCSO Critical Care Services Ontario
www.criticalcareontario.ca

CCIS Architecture Includes Five Key Aspects

CCRT & PCCRT

1. Web based data repository
For collection of data submitted by hospitals

Patient Admission & Discharge
Life Support Intervention (LSI)
Outcomes (VAP/CLI)
Severity of Illness (MODs)

5. On-line document library
Stores relevant guides and training materials
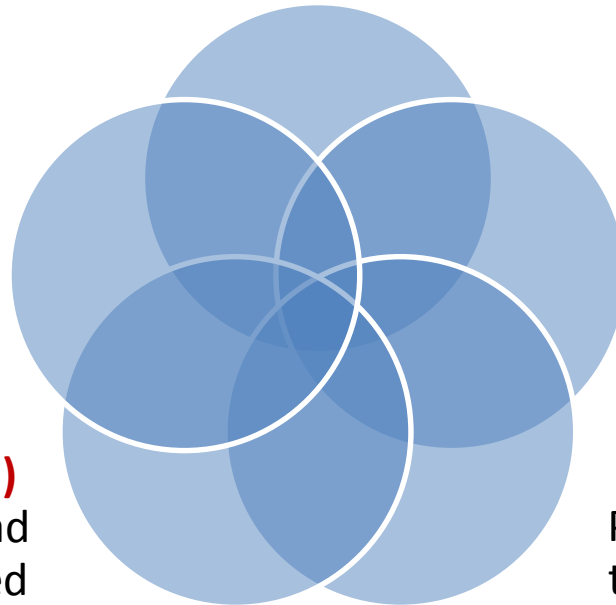
2. A bed availability dashboard
Providing information on bed occupancy

4. Core Data Export (CDE)
– Allows users to download data that has been entered in CCIS for additional analysis

3. Reports Portal
Pre-defined reports that CCIS users can access to trend and compare data

In addition, Quarterly & Scorecard Reports are disseminated to all CC units every quarter

Key Features of CCIS

- Is integral to the Critical Care Strategy

- It captures near real time data on every patient admitted to Level 3 and Level 2 critical care units in the province

- It supports the information needs of the critical care system and helps monitor critical care capacity in the province

- It provides data to support decision-making about

  ✓ Performance improvement

  ✓ Resource utilization

  ✓ Capacity planning

  ✓ Forecasting and strategic planning

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Data Captured in CCIS

Patient Demographics *e.g. Patient name / MRN / Date of Birth / Gender*

Admission/ Discharge Information *e.g. Admission Source , Date and time , Discharge Destination, Awaiting Transfer*

Life Support Interventions (LSI) *e.g. Ventilation Note: NEMS value is calculated from LSI data.*

Outcomes *e.g. VAP/CLI incidence, Unplanned Extubation*

Multiple Organ Dysfunction Score (MODS) / Paediatric Logistic Organ Dysfunction (PELOD) *For under 18yrs e.g. Neurological: Glasgow Coma Score (Eye + Verbal + Motor Response)*

Antimicrobial Indicators *e.g. Number of different Antibacterial / Antifungal Therapies , C. Diff incidents*
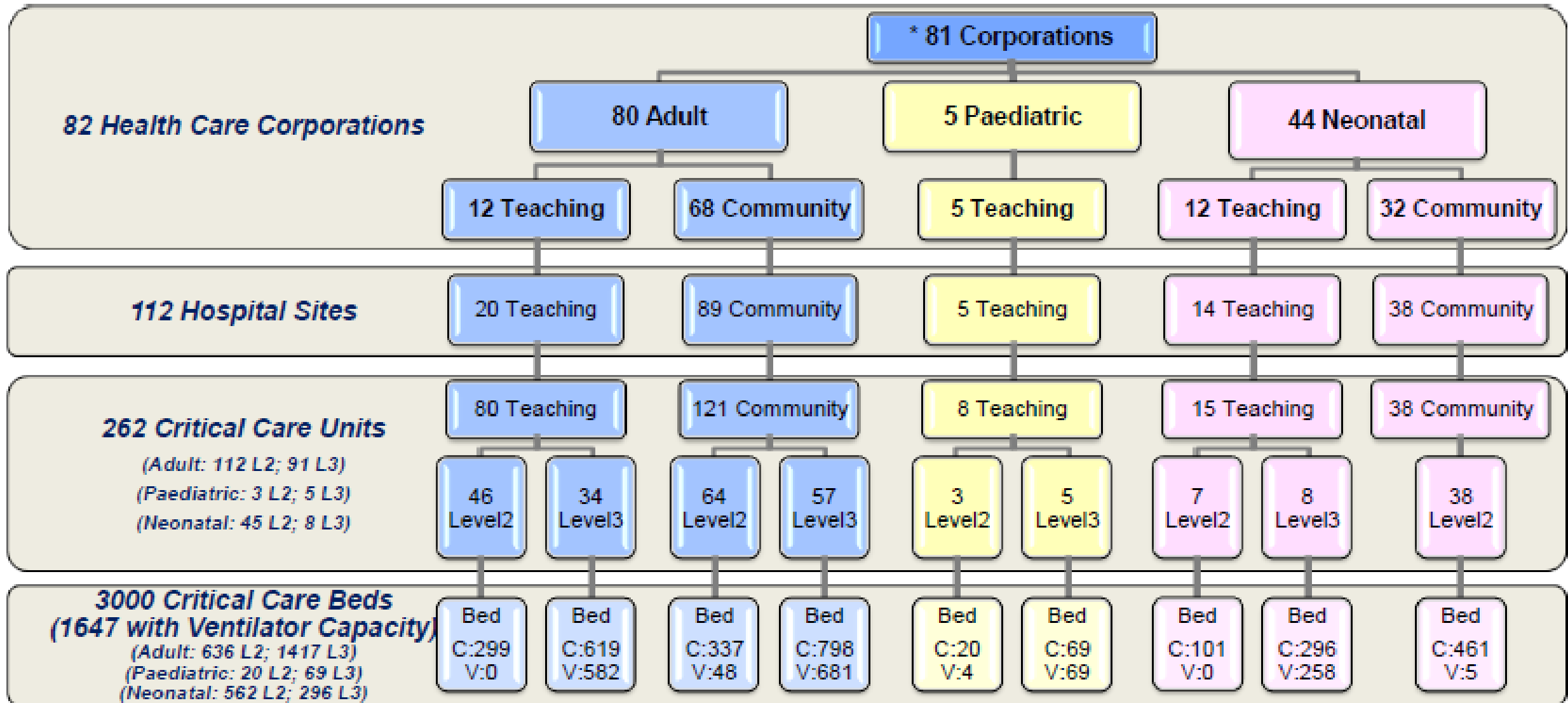
CCRT / PCCRT *e.g. New Consult , Follow-Up Consult , Monthly Statistics (# deaths and #admissions)*

Bed Availability Dashboard *e.g. occupancy rates, reserved beds, Not Available Beds (reasons)*

New Enhancement: COVID–19 Data in CCIS

- Critical Care Services Ontario (CCSO) in collaboration with CritiCall Ontario, enhanced the provincial Critical Care Information System (CCIS) to capture COVID-19 specific data elements

- As of March 19, 2020, all critical care Level 2 and Level 3units are able to enter COVID-19 data in CCIS on admission and at any time during the patient's ICU stay.

- The capture of near real time information on the COVID-19 status of patients admitted to Ontario critical care units will facilitate monitoring the incidence and trend over time of COVID-19 in this patient population

- CCSO will use the data to develop dashboards to provide hospitals, regions and provincial leadership with information pertinent to COVID-19 activity in critical care, and to inform responsive system planning and address any emerging pressures in critical care capacity

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ONTARIO CRITICAL CARE SYSTEM CAPACITY (FY2019/20 Q3)

CCIS Ontario's Critical Care Information System

CCSO Critical Care Services Ontario

* 81 Corporations

82 Health Care Corporations

- **80 Adult**
- **5 Paediatric**
- **44 Neonatal**

Adult:
- 12 Teaching
- 68 Community

Paediatric:
- 5 Teaching

Neonatal:
- 12 Teaching
- 32 Community

112 Hospital Sites

- 20 Teaching
- 89 Community
- 5 Teaching
- 14 Teaching
- 38 Community

262 Critical Care Units

(Adult: 112 L2; 91 L3)
(Paediatric: 3 L2; 5 L3)
(Neonatal: 45 L2; 8 L3)

- 80 Teaching
- 121 Community
- 8 Teaching
- 15 Teaching
- 38 Community

Units:
- 46 Level2
- 34 Level3
- 64 Level2
- 57 Level3
- 3 Level2
- 5 Level3
- 7 Level2
- 8 Level3
- 38 Level2

3000 Critical Care Beds (1647 with Ventilator Capacity)

(Adult: 636 L2; 1417 L3)
(Paediatric: 20 L2; 69 L3)
(Neonatal: 562 L2; 296 L3)

	Bed	Bed	Bed	Bed	Bed	Bed	Bed	Bed	Bed
C	299	619	337	798	20	69	101	296	461
V	0	582	48	681	4	69	0	258	5

* May not add to 82 corporations because 3 corporations provide adult, paediatric and neonatal services, 2 corporations provide both paediatric and neonatal services, and 39 corporations provide both adult and neonatal services

Bed C: Critical Care Bed; Bed V: Critical Care Beds with Ventilator Capacity

CONTACT

Address

Critical Care Services Ontario
LuCliff Place, 700 Bay Street, Suite 1400
Toronto, ON
M5G 1Z6

Email: info@ccso.ca
Phone: 416-340-4800 ext. 5577 or ext. 5856
Fax: (416) 340-4920

CCSO Critical Care Services Ontario
www.criticalcareontario.ca