Neonatal Critical Care Indicator and Reports Guide

User Guide for Report Format, Indicator Definitions & Details

Version 1.1

Critical Care Services Ontario March 2022

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CCSO is funded by the Government of Ontario.

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Version 1.1	Updated March 2022
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Abbreviations

CCIS	Critical Care Information System
CCSO	Critical Care Services Ontario
CLI	Central Line Infection
CritiCall	CritiCall Ontario
LHIN	Local Health Integration Network (Currently referred to as Sub Region)
LSI	Life Support Intervention
MERP	Medication Error Reporting and Prevention
MIS	Management Information System
МОН	Ministry of Health
NICU	Neonatal Intensive Care Unit
ONICAC	Ontario Neonatal Intensive Care Advisory Committee
OR	Operating Room
ORNGE	Ontario Air Ambulance Corporation
PCMCH	Provincial Council for Maternal and Child Health
PHRS	Provincial Hospital Resource System
PM WG	Performance Management Working Group
SCC WG	Systems Capacity and Abilities Working Group
SPS	Solutions for Patient Safety
UE	Unplanned Extubations
VAP	Ventilator Associated Pneumonia
WANNNT	Winnipeg Assessment of Neonatal Nursing Needs Tool
WHO	World Lloolth Organization
WHIE	World Health Organization

1. Purpose & Scope of the NICU Scorecard

Critical Care Services Ontario (CCSO) provides the provincial program oversight for all Neonatal Intensive Care Units (NICUs) within Ontario, as listed in *Appendix A*. The NICU scorecard serves as one of the key CCSO tools in providing the distributed performance monitoring of Ontario NICUs at the corporate and regional levels, as well as system-level performance oversight through the Ontario Neonatal Intensive Care Advisory Council (ONICAC).

The ONICAC was established in November 2017 and reports to CCSO on the implementation and evaluation of strategies that support the neonatal critical care system in Ontario.

The ONICAC and its working groups are actively engaged in identifying potential areas for improvement in access to, and delivery of, quality care to ensure that regardless of geography neonatal patients across Ontario have access to specialty critical care services. The key to achieving this objective is the development and implementation of a performance management framework to support a culture of accountability and system management.

About this Guide

This guide is intended to provide neonatal hospitals with the standardized definitions and methodology used to produce the neonatal critical care scorecard. The guide also includes an overview of the report format to familiarize users with the layout of reports (see Section 2).

This document contains methodology information for each of the neonatal indicators (see Section 3).

<u>Note</u>: This guide is <u>not</u> a replacement for any hospital, Ontario Health (OH) Region, or Ministry reporting requirements or performance management programs.

Audience

This guide is designed for hospital administrators, clinical leaders, and decision support/data analysts in Ontario NICUs. The intent of the guide is to summarize indicator reporting processes and define indicators and data calculation methodology.

The Reporting Process

Neonatal Intensive Care scorecard will be issued quarterly.



The general timeframes for report release are outlined in the table below:

Quarter Dates	Report Release
Q1: Apr 1 - Jun 30	August
Q2: Jul 1 - Sept 30	November
Q3: Oct 1 - Dec 31	February
Q4: Jan 1 - Mar 31	Мау

About the Indicator Development Process

From 2017-present, the Performance Management Working Group (PM WG) of the ONICAC worked to identify meaningful and viable neonatal intensive care performance indicators to assess and monitor system level access, quality, and system integration for neonatal critical care in the province.

Performance Indicators and Data

At this time, there are 12 performance indicators available for reporting. The data for ten of the tweleve indicators on the Scorecard are populated with data entered in the Critical Care Information System (CCIS) by the NICU units/hospitals. The remaining two measures are sourced from the case facilitation data from Critical Ontario.

Domain	Objective	Indicator	Data Source
		Central Line Infection (CLI) Rate	CCIS
Quality	Deliver Safe Care	Ventilator Acquired Pneumonia (VAP) Rate	CCIS
		Unplanned Extubation Rate	CCIS
Access	Provide Timely	Response to Consult Request for Infants Declared Life or Limb Within 10 Minutes	Case Facilitation, CritiCall Ontario
Access	Care	Acceptance for Transfer of Infants Declared & Confirmed Life or Limb Within 60 Minutes	Case Facilitation, CritiCall Ontario
		NICU Bed Occupancy Rate (%)	CCIS
		Percent of Beds Not Available	CCIS
		Days Waiting for Transfer (%)	CCIS
System Integration		NICU LSI Compliance – LSI entry	CCIS
	Optimize Patient Flow	Patient Days with LSI \leq 3 and LSI \geq 4 (%)	CCIS
		Patient Days with Ventilation (%)	CCIS
		Transfers from & Discharges To Lower, Same & Higher Level of Care Units	CCIS

A summary of the indicators reported is included below:

Target-Setting Methodology

Performance indicators are useful tools to highlight current state, but true performance management requires goals/targets. Desired targets are evidence-based/data-driven, agreeable to major stakeholders and can serve as the catalysts for system change and quality improvement.

The Performance Management Working Group (PM WG) of the Ontario Neonatal Advisory Committee (ONICAC) will develop the methodology for setting targets and target status as part of further development of the NICU Scorecard. Once the target-setting approach is finalized, this section of user guide will be updated.

Peer Groups

Peer groups make it possible to compare units with a similar level of care and acuity. The Performance Management Working Group (PM WG) approved the following 5 categories for NICU Peer Groups.

Peer Group	Number of Beds *
NICU Group – Small 2a/2b	≤ 8
NICU Group – Large 2a/2b	≥ 9
NICU Group – Small 2c	≤ 15
NICU Group – Large 2c	≥ 16
NICU Group – 3a/3b	Not Applicable

* Peer Groups are divided into small and large sub-categories based on the level of care and the median number of beds. Units with less than the median are considered small, units with more than the median are considered large.

See Appendix A for the list of NICU units and Peer Groups.

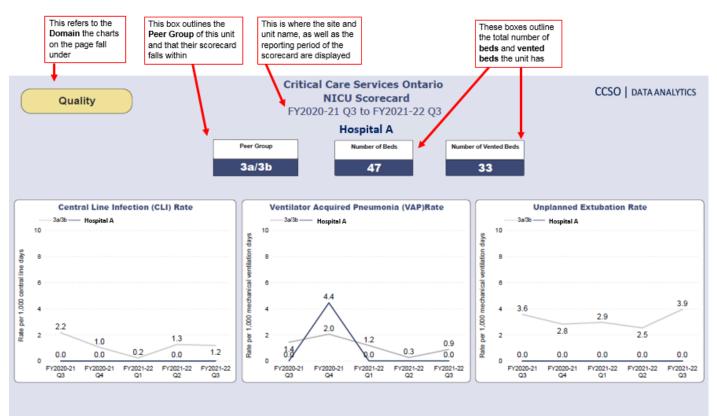
See Appendix B for NICU Levels of Care Definitions.



2. Report Overview

An overview of the scorecard report format is provided here with information about different features of the report.

1) Page 1 of Scorecard



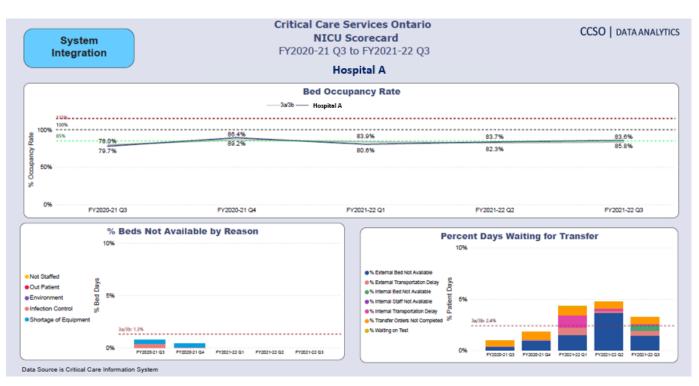
Data Source is Critical Care Information System



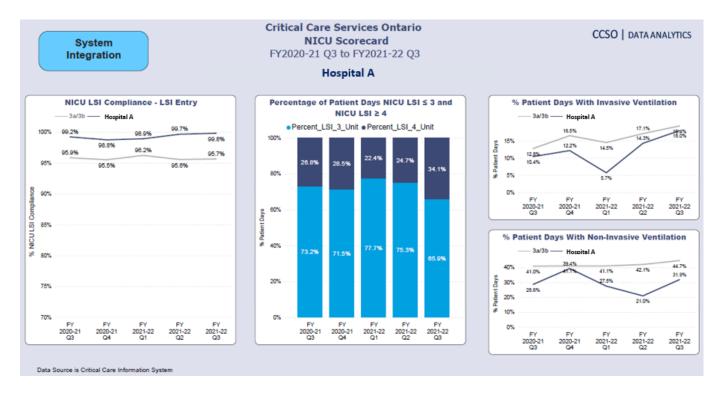
2) Page 2 of Scorecard



3) Page 3 of Scorecard



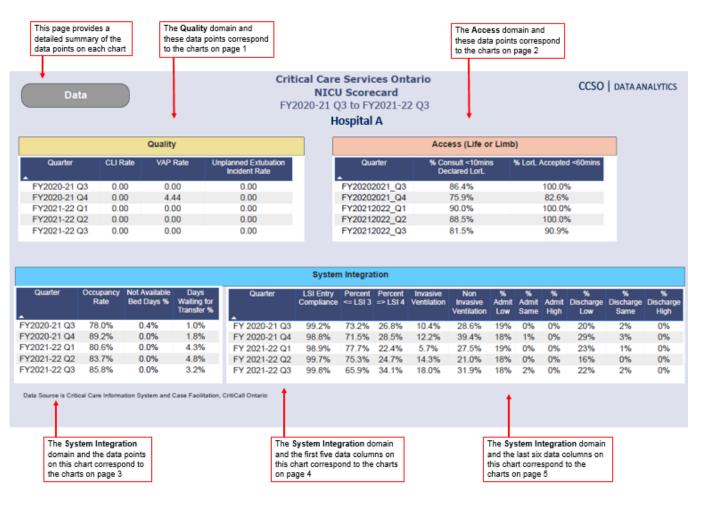
4) Page 4 of Scorecard



5) Page 5 of Scorecard These boxes outline the total number of transfers and discharges in the entire reporting period **Critical Care Services Ontario** CCSO | DATA ANALYTICS NICU Scorecard System FY2020-21 Q3 to FY2021-22 Q3 Integration Hospital A Number of Transfers from External Units Number of Discharges to External Units 241 293 Transfers From Lower, Same and Higher Level of Care (LOC) Units Discharges To Lower, Same and Higher Level of Care (LOC) Units 🛭 % Admit Low 🔿 % Admit Same 😑 % Admit Higt • % Discharge Low • % Discharge Same • % Discharge High Hospital A Hospital A 40% 40% 20% 20% 0% 0% 1% 0% 0% 0% 0% 2% 05 2% 28 01 0% 0% FY 2020-21 Q3 FY 2020-21 Q4 FY 2021-22 Q1 FY 2021-22 Q2 FY 2021-22 Q3 FY 2020-21 Q3 FY 2020-21 Q4 FY 2021-22 Q1 FY 2021-22 Q2 FY 2021-22 Q3 3a/3b 3a/3b 40% 40% 24% 21% 21% 209 20% 79/ 0% 0% 096 096 0% ox 0% 0% FY 2020-21 Q3 FY 2020-21 Q4 FY 2021-22 Q1 FY 2021-22 Q2 FY 2021-22 Q3 FY 2020-21 Q3 FY 2020-21 Q4 FY 2021-22 Q1 FY 2021-22 Q2 FY 2021-22 Q3 Data Source is Critical Care Information System



6) Page 6 of Scorecard





3. Indicator Definitions

1) Central Line Infection Rate

Indicator Name	Central Line Infection (CLI) Rate
Indicator Domain	Quality
Indicator Objective	Deliver Safe Care
Indicator Definition	The Central Line Infection rate is defined as the ratio of central line infections per 1,000 central line days.
Indicator Data Source	CCIS
Indicator Calculation	 Numerator: Number of central line infections Denominator: Number of central line days in reporting period Calculation: [Numerator] / [Denominator] x 1000 Inclusion: All patients cared for in the NICU Central Line Infection incidents diagnosed after 48 hours of critical care admission
Indicator Consideration	This indicator is consistent with the current (Adult and Paediatric) CCSO Critical Care Unit Level Scorecard indicator.
Frequency of Reporting	Quarterly
Report Generator	CCSO from CCIS data



2) Ventilator Acquired Pneumonia Rate

Indicator Name	Ventilator Acquired Pneumonia (VAP) Rate
Indicator Domain	Quality
Indicator Objective	Deliver Safe Care
Indicator Definition	The Ventilator Acquired Pneumonia rate is defined as the ratio of ventilator acquired pneumonia incidents per 1,000 mechanical ventilation days.
Indicator Data Source	CCIS
Indicator Calculation	 Numerator: Number of ventilators acquired pneumonia incidents Denominator: Number of mechanical ventilation days in the reporting period Calculation: [Numerator] / [Denominator] x 1000 Inclusion: All patients cared for in the NICU Ventilator acquired pneumonia incidents diagnosed after 48 hours of critical care admission
Indicator Consideration	This indicator is consistent with the current (Adult and Paediatric) CCSO Critical Care Unit Level Scorecard indicator.
Frequency of Reporting	Quarterly
Report Generator	CCSO from CCIS data



3) Unplanned Extubation Rate

Indicator Name	Unplanned Extubation Rate
Indicator Domain	Quality
Indicator Objective	Deliver Safe Care
Indicator Definition	The Unplanned Extubation rate is defined as the ratio of unplanned extubation incidents per 1,000 mechanical ventilation days.
Indicator Data Source	CCIS
Indicator Calculation	 Numerator: Number of unplanned extubation incidents Denominator: Number of mechanical ventilation days in reporting period Calculation: [Numerator] / [Denominator] x 1000 Inclusion: All patients cared for in the NICU
Indicator Consideration	This indicator is consistent with the current (Adult and Paediatric) CCSO Critical Care Unit Level Scorecard indicator.
Frequency of Reporting	Quarterly
Report Generator	CCSO from CCIS data



4) Consult for Infants Declared Life or Limb Response within 10 Minutes

Indicator Name	Consult for Infants Declared Life or Limb Response within 10 Minutes
Indicator Domain	Access
Indicator Objective	Provide Timely Care
Indicator Definition	The percent of consultations for neonates declared Life or Limb that are completed within 10 minutes
Indicator Data Source	CritiCall Ontario Case Facilitation
Indicator Calculation	 Numerator: Number of neonatal consultations declared Life or Limb that receive a response from a neonatologist within 10 minutes Denominator: Number of neonatal consultations declared Life or Limb Calculation: [Numerator] / [Denominator] x 1000 Inclusion: All patients cared for in the NICU
Indicator Consideration	TBD
Frequency of Reporting	Quarterly
Report Generator	CCSO from CritiCall Ontario Case Facilitation data

5) Acceptance of Infants Declared & Confirmed Life or Limb to Higher Level of Care within 60 Minutes

Indicator Name	Acceptance of Infants Declared & Confirmed Life or Limb to Higher Level of Care within 60 Minutes
Indicator Domain	Access
Indicator Objective	Provide Timely Care
Indicator Definition	The percent of consultations for infants declared & confirmed Life or Limb that are accepted for transfer to a higher level of care within 60 minutes
Indicator Data Source	CritiCall Ontario Case Facilitation
Indicator Calculation	 Numerator: Number of neonatal consultations declared and confirmed Life or Limb that are accepted for transfer to a higher level of care within 60 minutes Denominator: Number of neonatal consultations declared and confirmed Life or Limb that are accepted for transfer to a higher level of care Calculation: [Numerator] / [Denominator] x 1000 Inclusion: All patients cared for in the NICU
Indicator Consideration	TBD
Frequency of Reporting	Quarterly
Report Generator	CCSO from CritiCall Ontario Case Facilitation data

6) NICU Bed Occupancy Rate

Indicator Name	NICU Bed Occupancy Rate
Indicator Domain	System Integration
Indicator Objective	Optimize Patient Flow
Indicator Definition	The NICU Occupancy is defined as the rate of occupied beds.
	Note: Bed numbers in CCIS are changed only upon approval of written change requests signed by a hospital CEO and the sub-region's Critical Care Lead and submitted to the CCSO.
Indicator Data Source	CCIS
Indicator	Numerator: Number of Patient Days
Calculation	• Denominator: Number of days in reporting period x # of beds in CCIS inventory
	Calculation: [Numerator] / [Denominator] x 100
	Inclusion: All patients cared for in the NICU
Indicator Consideration	This indicator is consistent with the current (Adult and Paediatric) CCSO Critical Care Unit Level Scorecard indicator.
Frequency of Reporting	Quarterly
Report Generator	CCSO from CCIS data

7) Beds Not Available (%)

Indicator Name	Beds Not Available (%)	
Indicator Domain	System Integration	
Indicator Objective	Optimize Patient Flow	
Indicator Definition	Percent of beds not available to provide care for the people who need them.	
	Reasons for Beds not available include: <u>Not Staffed</u> : The bed does not currently have the staffing resources to assume care of a patient. <u>Outpatients</u> : Bed occupied by an outpatient receiving a critical care service (e.g. blood testing for jaundice monitoring, insertion of a weighted feeding tube, other as identified by the organization) in this critical care unit. <u>Environment</u> : Flood, fire, or internal disaster. <u>Infection Control</u> : The bed is not available due to infection control issues within the critical care unit. <u>Shortage of Equipment</u> : Bed is unavailable due to shortage of equipment that is essential to provide care to a critical care patient.	
Indicator Data Source	CCIS (identified in the Bed Availability Tool of CCIS)	
Indicator Calculation	 Numerator: Not Available Bed Days Denominator: Number of days in reporting period x # of beds in CCIS inventory Calculation: [Numerator] / [Denominator] x 100 	
	 Example of how Not Available Bed Days are calculated: Beds Not Available Date & Time = 01/04/2019, 07:00 Number of Beds Not Available = 2 Reason = Infection Control Beds Not Available Date & Time = 02/04/2019, 07:00 Number of Beds Not Available = 0 Total Number of Bed Not Available days = 2 days Inclusion: All patients cared for in the NICU 	
Indicator Consideration	This indicator is consistent with the current (Adult and Paediatric) CCSO Critical Care Unit Level Scorecard indicator.	
Frequency of Reporting	Quarterly	
Report Generator	CCSO from CCIS data	



8) Days Waiting for Transfer (%)

Indicator NameDyas Waiting for Transfer (%)Indicator DomainSystem IntegrationIndicator ObjectiveOptimize Patient FlowIndicator DefinitionThe amount of time that patients spend occupying a NICU bed when they no longer require the intensity of care. Wait durations above 4 hours are considered avoidable hours; therefore, avoidable days exclude the first 4 hours of a wait.The 'Awaiting Transfer Reasons' are: - Internal Staff Not Available - Internal Staff Not Available - Internal Transportation Delay - External Bed Not Available - Internal Transportation Delay - External Transportation Delay - Transfer Orders Not Complete - Waiting on Test/Procedure CompletionIndicator Data SourceCCISIndicatorC CISIndicator• Numerator: Total delayed transfer days - Total Delayed Transfer Days (Avoidable Days) = (Discharge Date & Time - Awaiting Transfer Start Date & Time) - 4 hours • Denominator: Number of patient days • Calculation: [Numerator] / [Denominator] x 100 • Example of how Total Delayed Transfer Days are calculated: • Awaiting Transfer Start Date & Time = 01/04/2019, 07:00 • Discharge Date & Time = 07/04/2019, 19:00 - 4 hours • Total Delayed Transfer days = 6.3 days • Inclusion: All patients cared for in the NICUIndicator ConsiderationThis indicator is consistent with the current (Adult and Paediatric) CCSO Critical Care Unit Level Scorecard indicator.Frequency of ReportingQuarerly <th></th> <th></th>			
Indicator Objective Optimize Patient Flow Indicator Definition The amount of time that patients spend occupying a NICU bed when they no longer require the intensity of care. Wait durations above 4 hours are considered avoidable hours; therefore, avoidable days exclude the first 4 hours of a wait. The 'Awaiting Transfer Reasons' are: - Internal Bed Not Available - Internal Staff Not Available - Internal Transportation Delay - External Transportation Delay - External Transportation Delay - Transfer Orders Not Complete - Waiting on Test/Procedure Completion Indicator Data Source CCIS Indicator Calculation - Total Delayed Transfer days - Total Delayed Transfer Days (Avoidable Days) = (Discharge Date & Time – Awaiting Transfer Start Date & Time) – 4 hours - Denominator: Number of patient days - Calculation: [Numerator] / [Denominator] x 100 - Example of how Total Delayed Transfer Days are calculated: - Awaiting Transfer Start Date & Time = 01/04/2019, 07:00 - Discharge Date & Time = 07/04/2019, 19:00 – 4 hours - Total Delayed Transfer days - Total Delayed Transfer days - Total Delayed Transfer days - Calculation: [Numerator] / [Denominator] x 100 - Example of how Total Delayed Transfer Days are calculated: - Awaiting Transfer Start Date & Time = 01/04/2019, 07:00 -	Indicator Name	Dyas Waiting for Transfer (%)	
Indicator DefinitionThe amount of time that patients spend occupying a NICU bed when they no longer require the intensity of care. Wait durations above 4 hours are considered avoidable hours; therefore, avoidable days exclude the first 4 hours of a wait.The 'Awaiting Transfer Reasons' are: - Internal Bed Not Available - Internal Transportation Delay - External Transportation Delay - External Transportation Delay - Transfer Orders Not Complete - Waiting on Test/Procedure CompletionIndicator Data SourceCCISIndicator CalculationC CISIndicator Calculation• Numerator: Total delayed transfer days • Total Delayed Transfer Start Date & Time) – 4 hours • Denominator: Number of patient days • Calculation: [Numerator] / [Denominator] x 100 • Example of how Total Delayed Transfer Days are calculated: • Awaiting Transfer Start Date & Time = 01/04/2019, 07:00 • Discharge Date & Time = 07/04/2019, 19:00 – 4 hours • Total Delayed Transfer days • Total Delayed Transfer days • Total Delayed Transfer Start Date & Time = 01/04/2019, 07:00 • Discharge Date & Time = 07/04/2019, 19:00 – 4 hours • Total Delayed Transfer days = 6.3 daysIndicator ConsiderationThis indicator is consistent with the current (Adult and Paediatric) CCSO Critical Care Unit Level Scorecard indicator.	Indicator Domain	System Integration	
require the intensity of care. Wait durations above 4 hours are considered avoidable hours; therefore, avoidable days exclude the first 4 hours of a wait.The 'Awaiting Transfer Reasons' are: - Internal Bed Not Available - Internal Staff Not Available - Internal Transportation Delay - External Bed Not Available - Internal Transportation Delay - External Transportation Delay - External Transportation Delay - Transfer Orders Not Complete - Waiting on Test/Procedure CompletionIndicator CalculationCCISIndicator Calculation• Numerator: Total delayed transfer days • Total Delayed Transfer Days (Avoidable Days) = (Discharge Date & Time – Awaiting Transfer Start Date & Time) – 4 hours • Denominator: Number of patient days • Calculation: [Numerator] / [Denominator] x 100 • Example of how Total Delayed Transfer Days are calculated: • Awaiting Transfer Start Date & Time = 01/04/2019, 07:00 • Discharge Date & Time = 07/04/2019, 19:00 – 4 hours • Total Delayed Transfer days • Total Delayed Transfer days • Total Delayed Transfer days • Total Delayed Transfer days • Denominator: Number of patient days • Calculation: [Numerator] / [Denominator] x 100Indicator Consideration• Inclusion: All patients cared for in the NICUIndicator ConsiderationThis indicator is consistent with the current (Adult and Paediatric) CCSO Critical Care Unit Level Scorecard indicator.Frequency of ReportingQuarterly	Indicator Objective	Optimize Patient Flow	
Internal Bed Not Available Internal Staff Not Available Internal Transportation Delay External Bed Not Available External Bed Not Available External Transportation Delay Transfer Orders Not Complete Waiting on Test/Procedure CompletionIndicator Data SourceCCISIndicator CalculationCCISIndicator Calculation• Numerator: Total delayed transfer days • Total Delayed Transfer Days (Avoidable Days) = (Discharge Date & Time – Awaiting Transfer Start Date & Time) – 4 hours • Denominator: Number of patient days • Calculation: [Numerator] × 100 • Example of how Total Delayed Transfer Days are calculated: • Awaiting Transfer Start Date & Time = 01/04/2019, 07:00 • Discharge Date & Time = 07/04/2019, 19:00 – 4 hours • Total Delayed Transfer days = 6.3 days • Inclusion: All patients cared for in the NICUIndicator ConsiderationThis indicator is consistent with the current (Adult and Paediatric) CCSO Critical Care Unit Level Scorecard indicator.Frequency of ReportingQuarterly	Indicator Definition	require the intensity of care. Wait durations above 4 hours are considered avoidable hours; therefore, avoidable days exclude the first 4 hours of a wait.	
Indicator Data SourceCCISIndicator Calculation• Numerator: Total delayed transfer days • Total Delayed Transfer Days (Avoidable Days) = (Discharge Date & Time – Awaiting Transfer Start Date & Time) – 4 hours • Denominator: Number of patient days • Calculation: [Numerator] / [Denominator] x 100 • Example of how Total Delayed Transfer Days are calculated: • Awaiting Transfer Start Date & Time = 01/04/2019, 07:00 • Discharge Date & Time = 07/04/2019, 19:00 – 4 hours • Total Delayed Transfer days = 6.3 days • Inclusion: All patients cared for in the NICUIndicator ConsiderationCCISFrequency of ReportingQuarterly		 Internal Bed Not Available Internal Staff Not Available Internal Transportation Delay External Bed Not Available External Transportation Delay Transfer Orders Not Complete 	
Calculation • Total Delayed Transfer Days (Avoidable Days) =	-		
Consideration Care Unit Level Scorecard indicator. Frequency of Reporting Quarterly		 Total Delayed Transfer Days (Avoidable Days) = (Discharge Date & Time – Awaiting Transfer Start Date & Time) – 4 hours Denominator: Number of patient days Calculation: [Numerator] / [Denominator] x 100 Example of how Total Delayed Transfer Days are calculated: Awaiting Transfer Start Date & Time = 01/04/2019, 07:00 Discharge Date & Time = 07/04/2019, 19:00 – 4 hours Total Delayed Transfer days = 6.3 days 	
Reporting			
Report Generator CCSO from CCIS data		Quarterly	
	Report Generator	CCSO from CCIS data	



9) NICU Life Support Intervention (LSI) Compliance – LSI Entry

Indicator Name	NICU Life Support Intervention (LSI) Compliance – LSI Entry	
Indicator Domain	System Integration	
Indicator Objective	Optimize Patient Flow	
Indicator Definition	NICU LSI Compliance – LSI Entry is defined as the rate of timely entries for NICU LSI data.	
	Timely Entries are cases where the intervention date is submitted before 23:59 of the following day.	
Indicator Data Source	CCIS	
Indicator Calculation	 Numerator: Number of Patient Days with LSI data entered Denominator: Number of Patient Days with LSI data expected Calculation: [Numerator] / [Denominator] x 100 Inclusion: All patients cared for in the NICU Expected Entries are the number of calendar days patients are in the NICU during the reporting period 	
Indicator Consideration	This indicator is consistent with the current (Adult and Paediatric) CCSO Critical Care Unit Level Scorecard indicator.	
Frequency of Reporting	Quarterly	
Report Generator	CCSO from CCIS data	

10) Percentage of Patient Days with Life Support Interventions (LSI) \leq 3 and LSI \geq 4

Indicator Name	Patient Days with Life Support Interventions (LSI) \leq 3 and LSI \geq 4 (%)	
Indicator Domain	System Integration	
Indicator Objective	Optimize Patient Flow	
Indicator Definition	% of Patient Days with LSI ≤ 3: Percent of patient days with NICU LSI data entered with a score of less than or equal to 3 % of Patient Days with LSI ≥ 4: Percent of patient days with NICU LSI data entered with a score of greater than or equal to 4	
Indicator Data Source	CCIS	
Indicator Calculation	 <u>% of Patient Days with LSI ≤ 3:</u> Numerator: Number of patients days with NICU LSI score ≤ 3 Denominator: Number of patient days with NICU LSI data entered Calculation: [Numerator] / [Denominator] x 100 <u>% of Patient Days with LSI ≥ 4:</u> Numerator: Number of Patients Days with NICU LSI score ≥ 4 Denominator: Number of Patient Days with NICU LSI data entered Calculation: [Numerator] / [Denominator] x 100 Inclusion: All patients days in the NICU with LSI data entered 	
Indicator Consideration	This indicator is consistent with the current (Adult and Paediatric) CCSO Critical Care Unit Level Scorecard indicator.	
Frequency of Reporting	Quarterly	
Report Generator	CCSO from CCIS data	



11) Percentage of Patient Days with Ventilation

Indicator Name	Patient Days with Ventilation (%)	
Indicator Domain	System Integration	
Indicator Objective	Optimize Patient Flow	
Indicator Definition	Percent of patient days with invasive or non-invasive ventilation.	
Indicator Data Source	CCIS	
Indicator Calculation	 <u>% of patient days with invasive ventilation:</u> Numerator: Number of patients days with invasive ventilation Denominator: Number of patient days Calculation: [Numerator] / [Denominator] x 100 <u>% of Patient Days with Non-Invasive Ventilation:</u> Numerator: Number of patients days with non-invasive ventilation Denominator: Number of patient days Calculation: [Numerator] / [Denominator] x 100 Inclusion: All patients days in the NICU with LSI data entered 	
Indicator Consideration	This indicator is consistent with the current (Adult and Paediatric) CCSO Critical Care Unit Level Scorecard indicator.	
Frequency of Reporting	Quarterly	
Report Generator	CCSO from CCIS data	

12) Transfers from & Discharges to Lower, Same & Higher Level of Care Units

Indicator Name	Transfers from & Discharges to Lower, Same & Higher Level of Care Units	
Indicator Domain	System Integration	
Indicator Objective	Optimize Patient Flow	
Indicator Definition	Percent of admissions transferred from and discharges to lower, same & higher external level of care units using NICU Peer Groups	
Indicator Data Source	CCIS	
Indicator Calculation	 % of Admissions transferred from lower, same & higher level of care units: Numerator: Number of admissions transferred from lower, same & higher external level of care units Denominator: Number of admissions Calculation: [Numerator] / [Denominator] x 100 Inclusion: All NICU admissions Some Examples of Admission from the lower, same, or higher level of care: Admission from a lower level of care: Baby admitted to a 3a/3b unit was a transfer from a Large 2c unit Admission from the same level of care: Baby admitted to a 3a/3b unit was a transfer from a 3a/3b unit Admission from a higher level of care: Baby admitted to a Large 2c unit was a transfer from a 3a/3b unit Mumerator: Number of discharges to lower, same & higher external level of care units: Numerator: Number of discharges to lower, same & higher external level of care units: All NICU discharges Calculation: [Numerator] / [Denominator] x 100 Inclusion: All NICU discharges Some Examples of Discharge to lower, same or higher level of care: Discharge to a lower level of care: Baby discharged from a Large 2c unit to a large 2a/2b unit Discharge to a higher level of care: Baby discharged from a Large 2c unit to a large 2c unit Discharge to a higher level of care: Baby discharged from a Large 2c unit to a large 2c unit	
Indicator Consideration	This indicator is consistent with the current (Adult and Paediatric) CCSO Critical Care Unit Level Scorecard indicator.	
Frequency of Reporting	Quarterly	
Report Generator	CCSO from CCIS data	

Appendices

APPENDIX A: Inventory of NICU Units reported in CCIS (as of March, 2022), By Peer Group

LHIN Code	Corporation Name	Site Name	Level Of Care	Peer Group
(01) ESC	Bluewater Health	Sarnia	2a	Small 2a/2b
(01) ESC	Chatham-Kent Health Alliance	Chatham	2b	Small 2a/2b
(02) SW	Grey Bruce Health Services	Grey Bruce Health Services - Owen Sound	2b	Small 2a/2b
(02) SW	St. Thomas-Elgin General Hospital	St. Thomas Elgin General Hospital	2a	Small 2a/2b
(02) SW	Stratford General Hospital	Stratford General Hospital	2a	Small 2a/2b
(03) WW	Cambridge Memorial Hospital	Cambridge Memorial Hospital	2a	Small 2a/2b
(04) HNHB	Brant Community Healthcare System	Brantford General Hospital	2b	Small 2a/2b
(06) MH	Halton Healthcare Services Corporation	Milton	2a	Small 2a/2b
(09) CE	Lakeridge Health	Ajax	2b	Small 2a/2b
(10) SE	Quinte Healthcare Corporation	Belleville	2a	Small 2a/2b
(11) CH	Hôpital Montfort	Hôpital Montfort	2a	Small 2a/2b
(11) CH	Queensway - Carleton Hospital	Queensway Carleton Hospital	2a	Small 2a/2b
(13) NE	Timmins and District General Hospital	Timmins and District Hospital	2a	Small 2a/2b
(03) WW	Grand River Hospital Corporation	Kitchener Waterloo Hospital	2b	Large 2a/2b
(03) WW	Guelph General Hospital	Guelph General Hospital	2a	Large 2a/2b
(04) HNHB	Joseph Brant Hospital	Joseph Brant Hospital	2b	Large 2a/2b
(04) HNHB	St. Joseph's Healthcare (Charlton)	Charlton	2b	Large 2a/2b
(06) MH	Halton Healthcare Services Corporation	Oakville Trafalgar	2b	Large 2a/2b
(09) CE	Peterborough Regional Health Centre	Peterborough Regional Health Centre	2b	Large 2a/2b
(05) CW	William Osler Health Centre	Etobicoke General	2c	Small 2c
(06) MH	Trillium Health Partners	Mississauga Hospital	2c	Small 2c
(07) TC	Toronto East Health Network	Michael Garron Hospital	2c	Small 2c
(08) CE	Mackenzie Health	Mackenzie Health	2c	Small 2c
(08) CE	Markham Stouffville Hospital	Markham Stouffville Site	2c	Small 2c
(08) CE	Southlake Regional Health Centre	Southlake Regional Health Centre	2c	Small 2c
(09) CE	Scarborough Health Network	General	2c	Small 2c
(12) NSM	Orillia Soldiers Memorial Hospital	Orillia Soldiers Memorial Hospital	2c	Small 2c
(12) NSM	Royal Victoria Regional Health Centre	Royal Victoria Regional Health Centre	2c	Small 2c
(13) NE	Health Sciences North	Health Sciences North	2c	Small 2c
(13) NE	North Bay Regional Health Centre	North Bay Site	2c	Small 2c
(13) NE	Sault Area Hospital	Sault Area Hospital	2c	Small 2c
(14) NW	Thunder Bay Regional Health Sciences Centre	Thunder Bay Regional Health Sciences Centre	2c	Small 2c
(01) ESC	Windsor Regional Hospital	Metropolitan Campus	2c	Large 2c
(04) HNHB	Hamilton Health Sciences	McMaster University Medical	2c	Large 2c
(04) HNHB	Niagara Health System	St. Catharines General	2c	Large 2c
(05) CW	William Osler Health Centre	Brampton Civic Hospital	2c	Large 2c
(06) MH	Trillium Health Partners	Credit Valley Hospital	2c	Large 2c
(07) TC	Unity Health Toronto	St. Joseph's	2c	Large 2c
(07) TC	Unity Health Toronto	St. Michael's	2c	Large 2c
(08) CE	Humber River Hospital	Wilson Site	2c	Large 2c
(08) CE	North York General Hospital	General Site	2c	Large 2c
(09) CE	Lakeridge Health	Oshawa	2c	Large 2c
(09) CE	Scarborough Health Network	Centenary	2c	Large 2c
(11) CH	The Ottawa Hospital	Civic Site	2c	Large 2c
(02) SW	London Health Sciences Centre	Children's Hospital	3b	3a/3b
(02) SW	Hamilton Health Sciences	McMaster University Medical	3b	3a/3b
(04) 1101B	Sinai Health System	Mount Sinai Hospital	3a	3a/3b 3a/3b
(07) TC	Sunnybrook Health Sciences Centre	Bayview Campus	3a	3a/3b
(07) TC	The Hospital for Sick Children	The Hospital for Sick Children	3b	3a/3b 3a/3b
(10) SE	Kingston Health Sciences Centre	Kingston General	3b	3a/3b
(10) SE (11) CH	Children's Hospital of Eastern	Children's Hospital of Eastern	3b 3b	3a/3b 3a/3b
(11) CH	The Ottawa Hospital	General Site	30 3a	3a/3b 3a/3b
	The Ottawa Hospital	General Site	Ja	39/20

APPENDIX B: NICU Levels of Care Definitions

Peer Group	Definition
Level 2a	Acute Care Criteria: Gestational age ≥ 34 weeks and 0 days and a birth weight of > 1800 grams Repatriation Criteria: Stable infants with a corrected age of > 32 weeks and 0 days and a weight of > 1500 grams and not requiring ventilator support or advanced treatments or investigations.
Level 2b	All Level 2a Standards Plus Additional Items for Level 2b NICUs Acute Care Criteria: Babies born at a gestational age of ≥ 32 weeks and 0 days and a birth weight of > 1500 grams Repatriation Criteria: Stable infant with a corrected age > 30 weeks and 0 days and a weight > 1200 grams and not requiring any form of invasive or non-invasive ventilation, or advanced treatments or investigations.
Level 2c	Additional for Level 2c NICU Acute Care Criteria: Babies born at a gestational age of ≥ 30 weeks and 0 days and a birth weight of > 1200 grams Repatriation Criteria: Baby with a corrected gestational age of ≥ 28 weeks and 0 days and a weight of ≥ 1000 grams; stable on CPAP for a minimum of 48 hours and not requiring non-invasive or invasive ventilatory support
Level 3a	Acute Care Criteria: Babies born of any gestational age and birth weight
Level 3b	Acute Care Criteria: Babies born of any gestational age and birth weight plus some additional requirements for Level 3b (optional for Level 3a)

For more detailed information on the Levels of Care and criteria within each Peer Group, please refer to the *Neonatal Intensive Care Unit (NICU) Levels of Care Guidance Document* which can be found by following this link here: <u>https://criticalcareontario.ca/wp-content/uploads/2021/10/NICU-Levels-of-Care-Update_Guidance-Document_FINAL-2021.pdf</u>