

Changing the culture of care: Implementation of family integrated care (FICare) across Alberta NICUs

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SHINE Neonatology Conference

January 22, 2026

Conflict of Interest

Karen Benzies is the Founder and CEO of Liminality Innovations Inc., a social enterprise created to ensure that Alberta FICare™ (also known as Merge™) is accessible to NICUs outside Alberta.

Objectives

01

Describe the Alberta FICare model and implementation processes

02

Describe evidence from the Alberta FICare™ journey from ideation to sustainment in the health system

03

Describe strategies to change the culture of care in NICUs

**YOU CAN'T FIX THE SYSTEM
BY REPAIRING ONLY ONE LANE.**





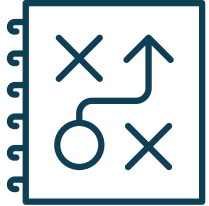
Parents
unintentionally
marginalized

One in ten
babies is born
preterm

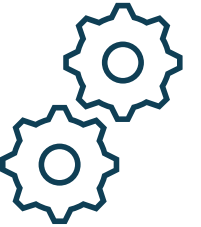
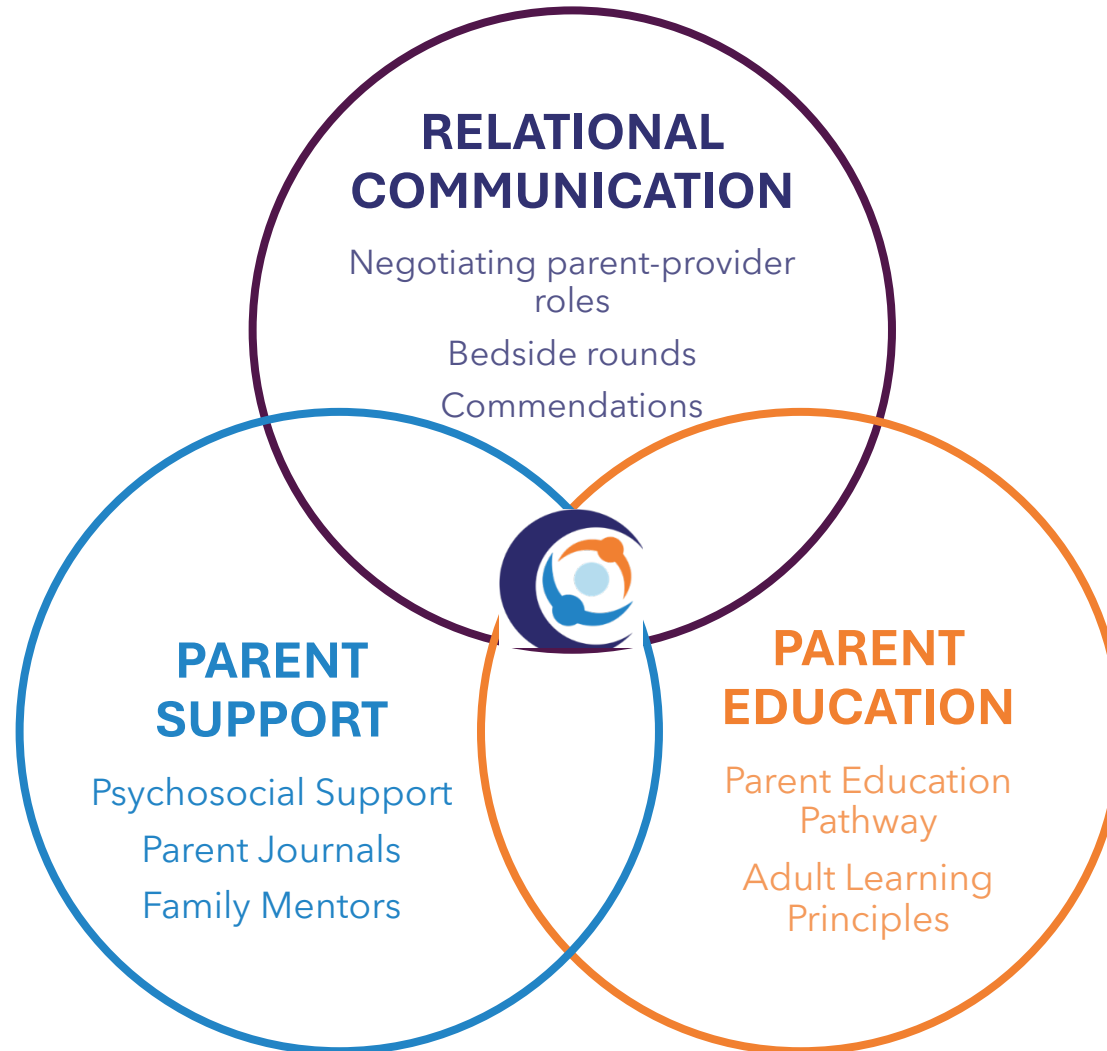
Hospitals do
not have
enough beds

Hospitals
exceed
budgets

Alberta FiCare™ Model



Strategies



Tools

“We were basically parenting with supervision... for 9 days, while we got ready to go home.”

Evolution in Care



“We started off with the nurses providing all her care. Three weeks later, we were doing it all.”

Clinical-Trial Validation of Alberta FICare™



Used with family permission

Parents less distressed; more confident

Fewer invasive medical interventions

Babies discharged 2.55 days sooner

Health system avoided costs

Better child development

(Benzies et al., 2020; Moe et al., 2022; Murphy et al., 2021; Shafey et al., 2022; Wasylak et al., 2022)

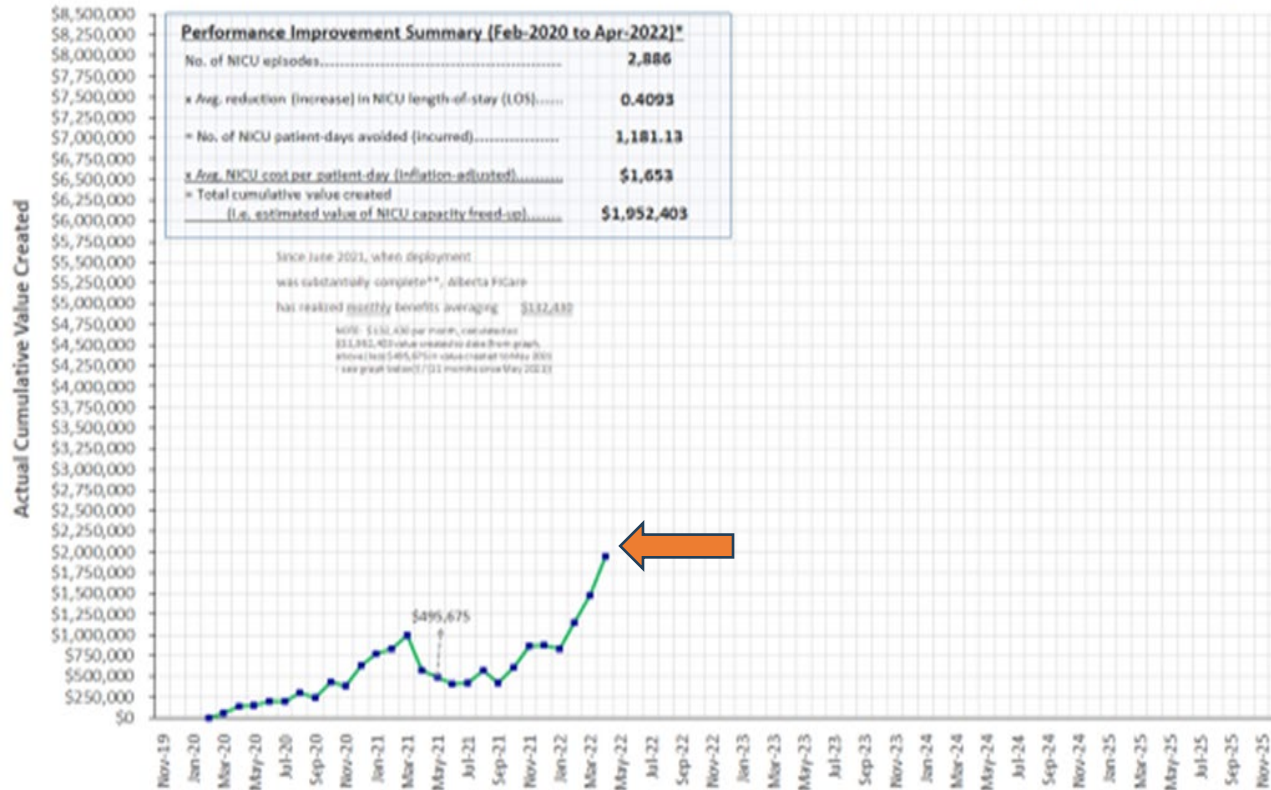
Alberta FICare™ Value Created (data to March 2022)

Alberta FICare - Actual Cumulative Value Created

(using data from Alberta FICare Tableau dashboard)

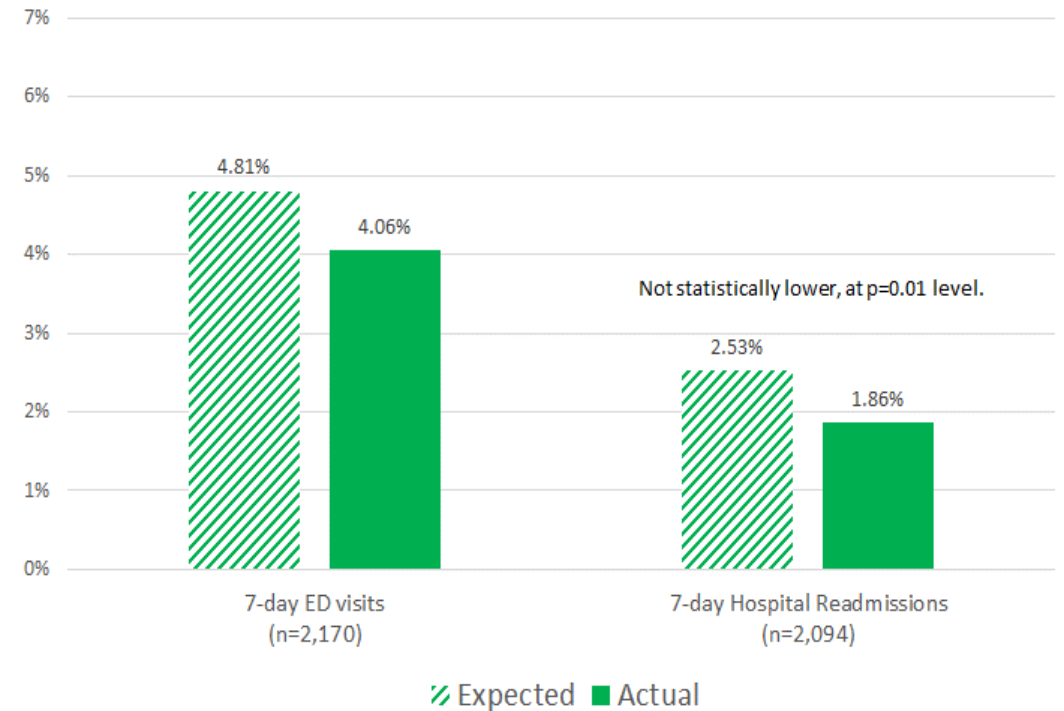
https://tableau.albertahealthservices.ca/#/views/AlbertaFicareDashboard/LOS_Cross_Tab?iid=

(Calculated as: Cumulative estimated number of NICU patient-days avoided for infants born at 32 to 36 weeks gestational age x \$1,653)



Balancing Metrics

Expected & Actual Percentage of Infants with 7-Day ED Visits and 7-Day Hospital Readmissions



Note: The actual and expected rates are based on the most current available data from the FICare Tableau dashboard. The data was extracted on Apr-17-2023.

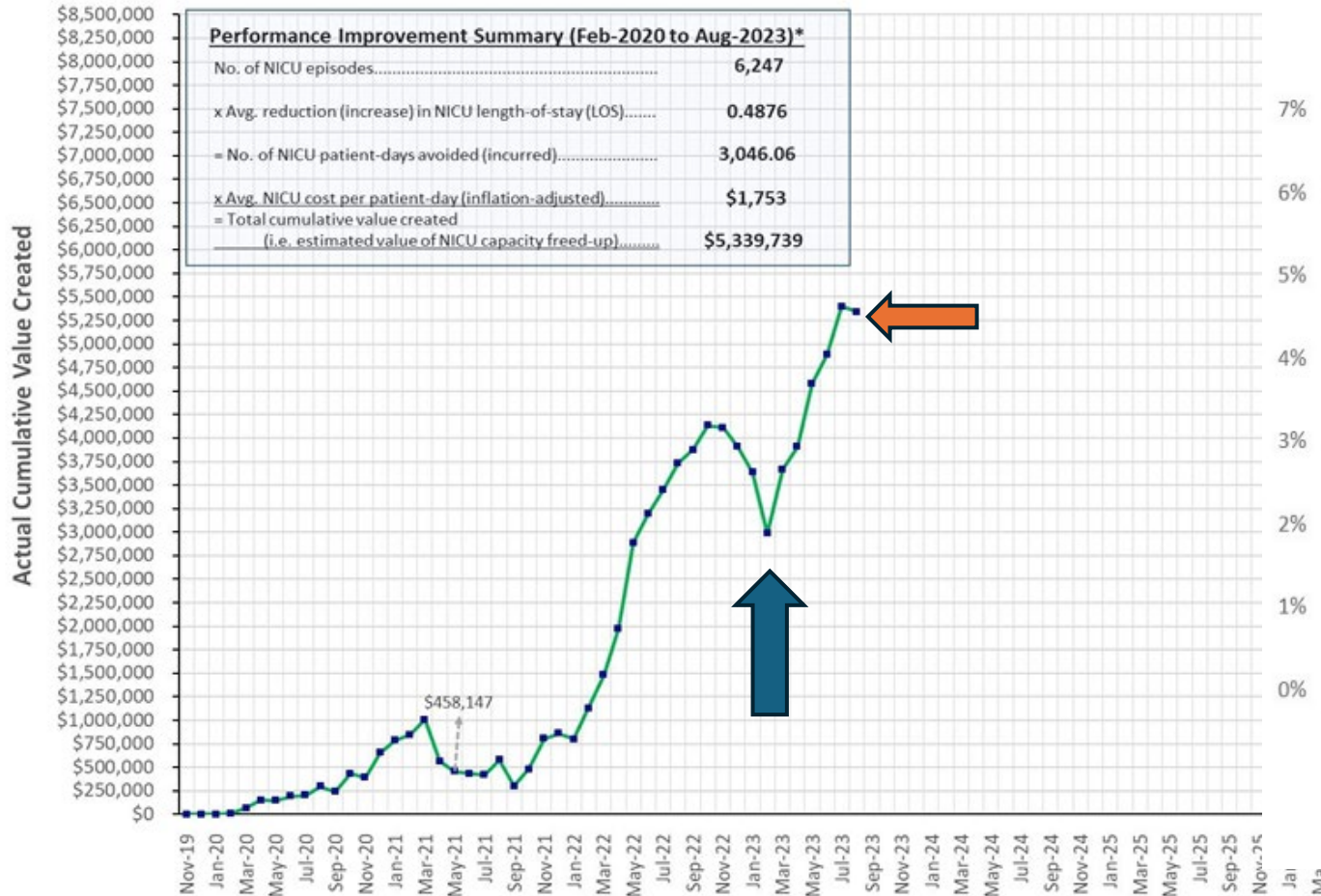
In order to account for babies who may have been transferred to another NICU or hospital (i.e. not actually discharged home), nine (9) months of data have been excluded. As such, the last month of data included in this analysis was Dec-2021.

Alberta FiCare™ Value Created (data to August 2023)

Alberta FiCare - Actual Cumulative Value Created

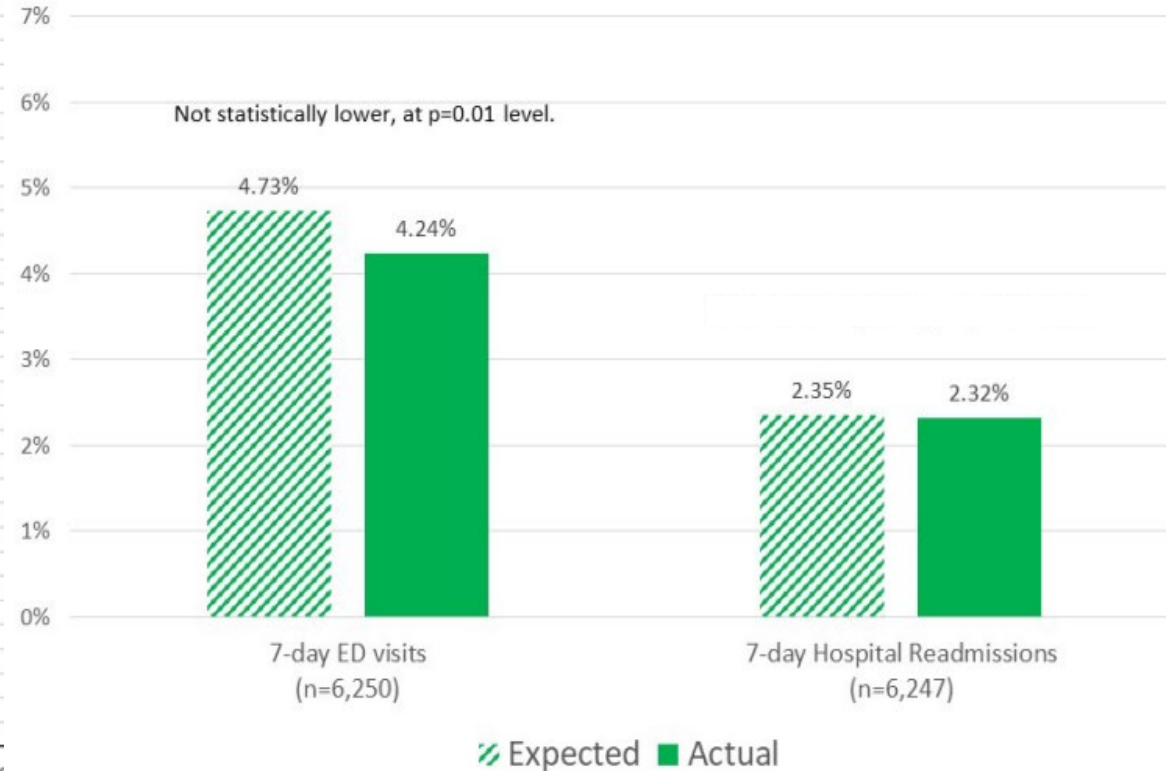
data from Alberta FiCare Tableau dashboard
services.ca/#/views/AlbertaFiCareDashboard/LOS_Cross_Tab?iid=

(Calculated as: Cumulative estimated number of NICU patient-days avoided for infants born at 32 to 36 weeks gestation)



Balancing Metrics

Expected & Actual Percentage of Infants with
7-Day ED Visits and 7-Day Hospital Readmissions



Similar Results in Another Province (Level II NICU 13 beds)

	Before	After	Difference
Average LOS (days) for preterm babies	14.59 days	12.68 days	1.91 days
Average cost per baby	\$21,506	\$18,690	\$2816

Estimated cost avoidance associated
with decreased LOS



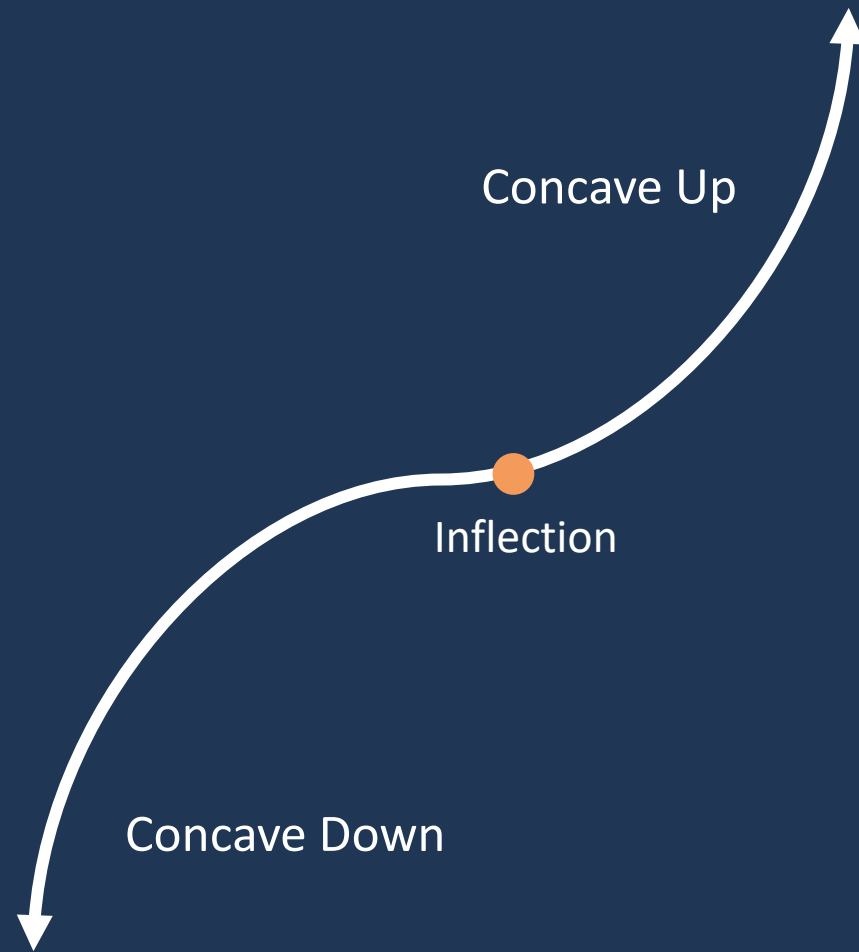
\$213,966

Based on a \$1474 per day cost per infant (Rios et al., 2020)

A healthcare professional, likely a nurse or doctor, is shown in profile, leaning over a newborn baby in a hospital bed. The professional is wearing a light blue uniform and is focused on adjusting a medical device on the baby's chest. The baby is lying on a patterned blanket and has several medical sensors attached to their chest and limbs. The background shows a clinical setting with medical equipment and a table with supplies. The entire image is overlaid with a semi-transparent dark blue filter.

How Did We Change Culture in Alberta NICUs?

Inflection Points for Sustainment of Alberta FICareTM



Definitions

Sustainability is part of the ongoing and dynamic process beyond initial implementation that ensures continued delivery of the intervention in the absence of the external change agent Chambers & Norton, 2013; Stirman et al., 2012; Urquhart et al., 2020

Sustainment is an outcome of implementation that include:

- Intervention continues to be delivered and is routinized in the system
- Ongoing capacity to support delivery (admin, funding, evaluation)
- Outcomes continue to be maintained Moulin et al., 2020

Framework for Sustainment of Alberta FICare™

Contextual Fit and Feasibility

(Metz & Louison, 2018)

Intervention Indicators

- Evidence
- Usability
- Supports

Implementing Site Indicators

- Need
- Fit
- Capacity

Inflection Points for Sustainability

Research Context

(Klaic et al. 2022)

- Aligned with health system strategic priorities
- Iterative user-centered co-design
- Implementation contextualized to site

Health System Context

(Klaic et al. 2022)

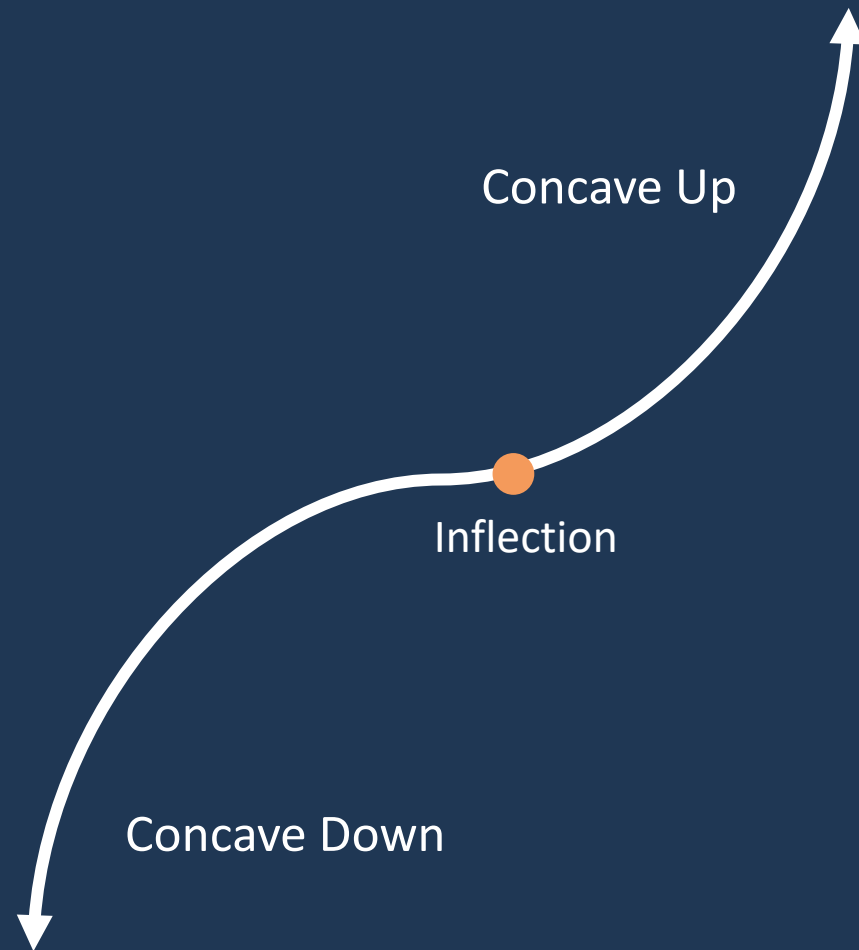
- Learning health system
- Enduring partnerships
- Responsivity to societal & system change
- Embedded governance
- Intentional integration into the health system

Sustainment of Alberta FICare™

(Moulin et al., 2020)

- Continued alignment with priorities
- Ongoing capacity to deliver with fidelity
- Outcomes continue to be maintained

Strategic Inflection Points for Research Context



Aligned with Strategic Priorities

MNCY SCN VISION: Healthy mothers, newborns, children, youth & families.

STRATEGIC DIRECTIONS



METRICS

PRIORITIES

- MyCHILD
- Clinical Dashboards
- Performance Indicators



ACCESS & CAPACITY

- Obstetrics access for rural, Indigenous, marginalized women
- Facilitated transitions for children with chronic or complex care needs
- Optimized Pediatric Capacity
 - standardized health care provider education
 - telemedicine support



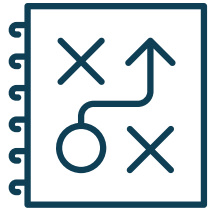
QUALITY & SUSTAINABILITY

- Pregnancy Pathways
- Pediatric Concussion Pathway
- Indigenous population outcomes
- Sustainable NICU/Peds workforce
- Alberta Family Integrated Care (FI-Care) in the NICU
- Using resources wisely
- Research
- Clinical Knowledge Topics

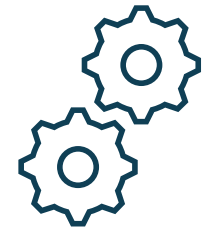
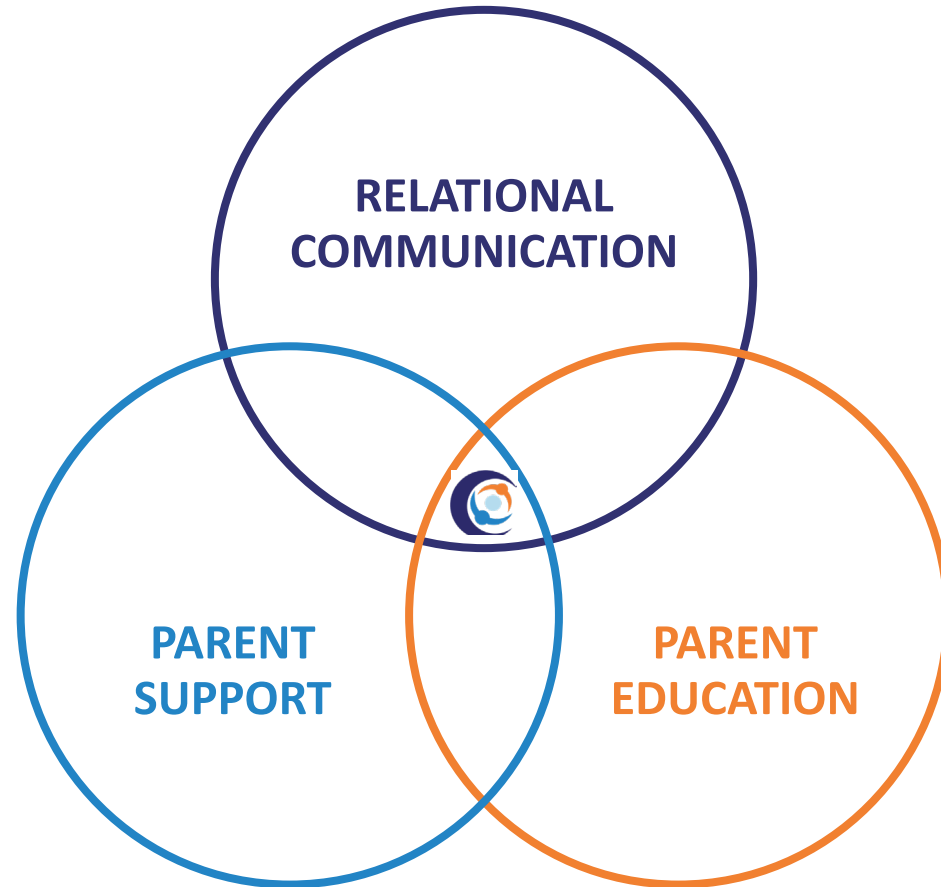


Strategic directions of the Maternal, Newborn, Child and Youth Strategic Clinical Network (MNCY SCN) strategic directions.

Iterative User-Centered Co-Design Lennox et al., 2018



Strategies

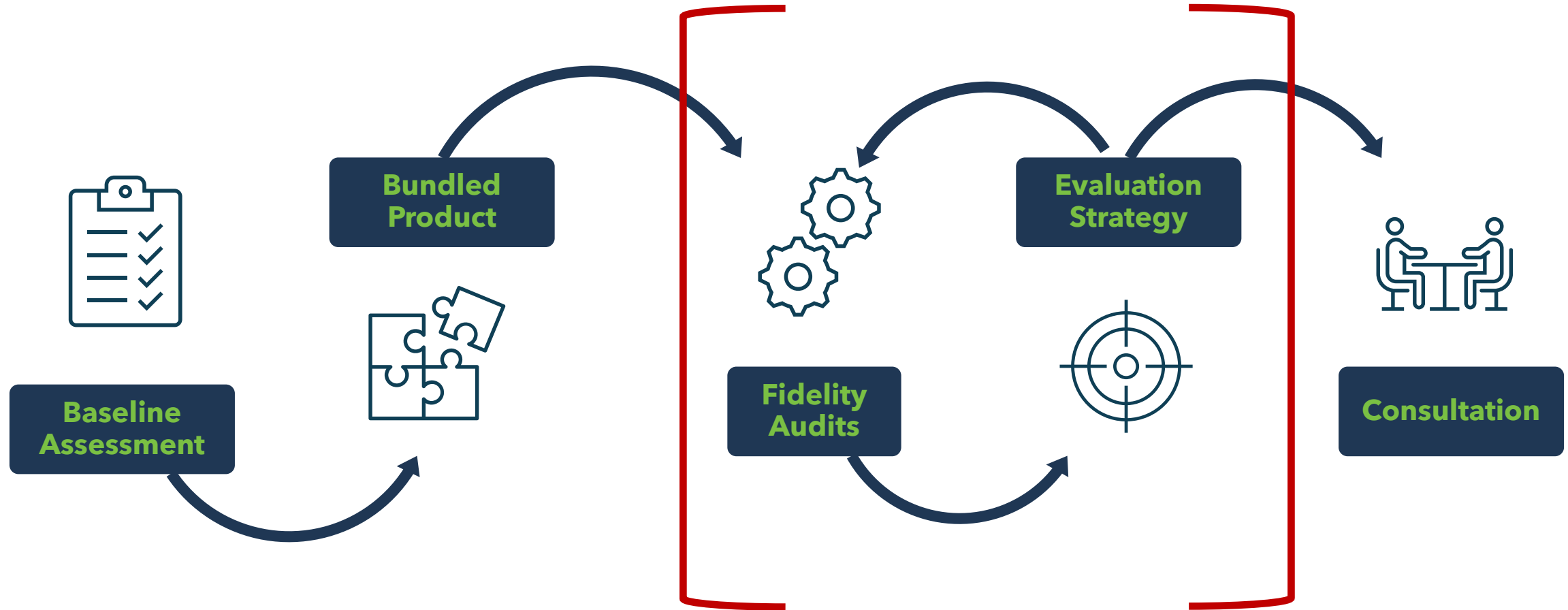


Tools

Alberta FICare™ was *co-designed for the Alberta context upon the advice of Alberta health care providers* Benzies et al., 2018, 2020

Dynamic, iterative implementation cycles

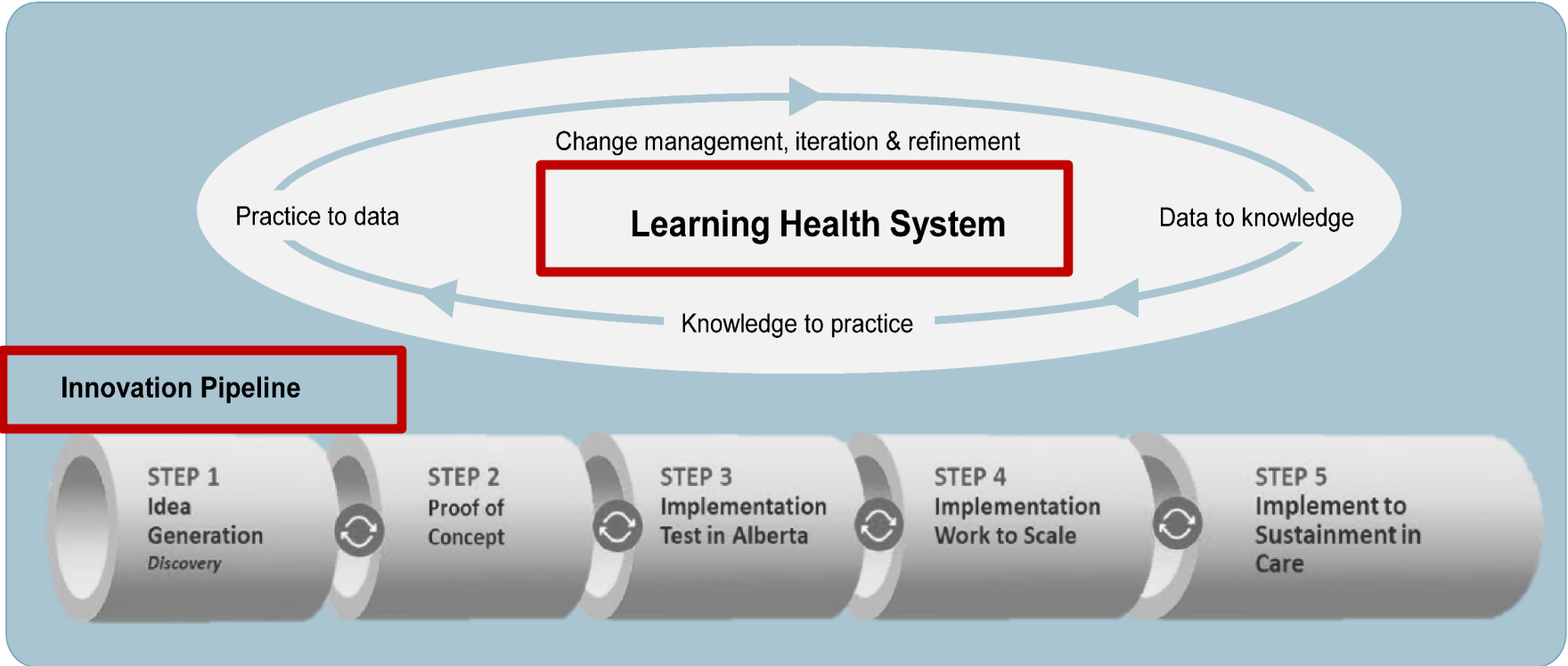
(Lennox et al., 2018; Nilsen & Bernhardsson, 2019)



Inflection Points for *Health* *System* Context



- Patient, Family & Provider Experience
- Gaps in Outcomes & System Performance
- Evidence-Based Practice



- IMPROVED**
- Patient, Family &, Provider Experience
 - Patient & Population Outcomes & System Performance
 - Value
 - New Evidence, Models, Best Practice

Infrastructure



Enduring Partnerships

(McNeil et al., 2021)

Alberta Family Integrated Care (FICare)[™]: From engaged clinicians in a cluster randomized controlled trial to health system partnership in scale and spread across a province

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¹Alberta Health Services; ²University of Calgary

Keywords: neonatal intensive care; stakeholder engagement; adaptability; flexibility; integrated knowledge translation

INTRODUCTION

Alberta Family Integrated Care (FICare)[™] is an evidence-informed approach to integrating families into the care of their newborn in the neonatal intensive care unit (NICU). We describe moving from engaging stakeholders as part of a cluster randomized controlled trial (cRCT)^{1,2} to full

THE PARTNERSHIP

Partnership initiation and maintenance

After careful deliberation and extensive review of preliminary Alberta FICare cRCT results by the MNCY SCN, a joint funding proposal was submitted and awarded for scale and spread. This proposal was co-led by the cRCT researcher and

Responsivity to Societal and Health System Change

Stirman et al., 2013

Transition to Provincial Electronic Medical Record

Problem: Paper parent education pathway not required

SOLUTION: Provincial Working Group built architecture and transferred content to EMR

Adapt to Changing Characteristics of the Population

Problem: Characteristics of the population is evolving

SOLUTION: Training modules updated to support practice with diverse populations

Training Modules for Multidisciplinary Staff

Problem: Modules less relevant to unit clerks

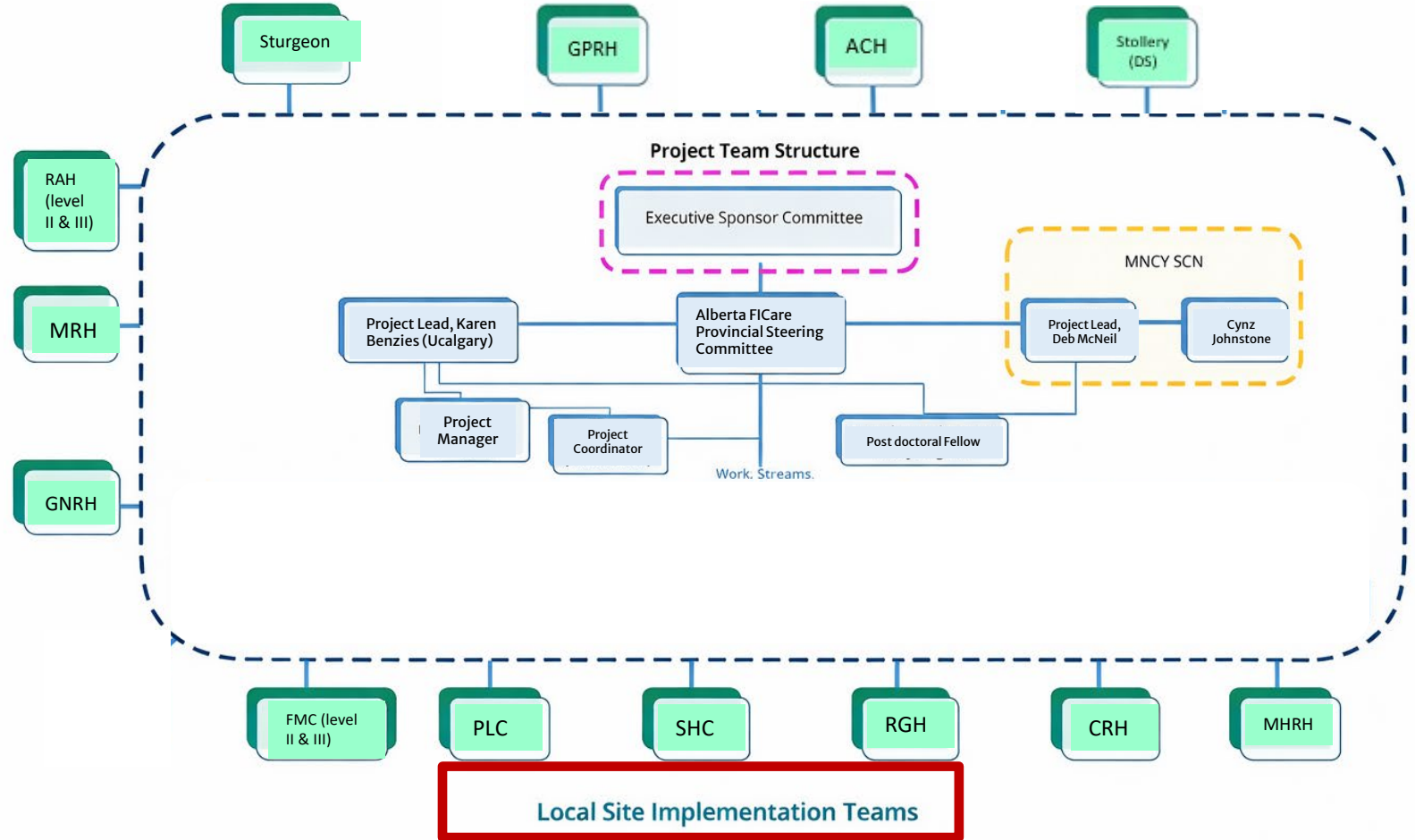
SOLUTION: Adapted modules for unit clerks and other non-professional staff

Multidisciplinary Staff

Problem: Staff required demonstration of family integrated bedside rounds

SOLUTION: Created healthcare provider and parent videos

Embedded Governance



- Parent Advisors (may also be Family Mentors)
- NICU Manager or delegate
- Allied Health Manager or delegate
- Clinical Director or delegate
- Clinical Nurse Educators
- NICU staff (e.g. from nursing, allied health)

Intentional Integration into the Health System

Alberta FICare Scale and Spread Roundup

MILESTONES ACHIEVED



In the face of the COVID-19 pandemic and alongside the Connect Care rollout, neonatal care providers and hospital administrators successfully implemented Alberta FICare in all 14 NICUs - we think that's a pretty big deal!

- Milestones you helped achieve over the last 3 years include:
- Refinement and launch of a total of 29 eLearning modules for neonatal care providers and unit clerks in MyLL (AHS) and CLiC (Covenant Health)
 - Integration of Alberta FICare training in new hire orientation
 - Development of over 15 staff and parent education resources, including video demonstrations of family integrated bedside rounds for [staff](#) and parents, and an updated [oral feeding video](#)
 - Development of the [Alberta FICare dashboard](#) - accessible to all AHS and Covenant Health staff working in NICU

HealthyParentsHealthyChildren

I'M PREGNANT I'M A PARENT RESOURCES POPULAR TOPICS



POSTPARTUM

If Your Baby is Born Preterm

- GETTING TO KNOW THE NEONATAL INTENSIVE CARE UNIT (NICU) →
- GETTING TO KNOW YOUR BABY →
- FEEDING YOUR BABY IN THE NICU →
- GETTING READY TO GO HOME →
- FEEDING YOUR BABY AT HOME →
- THE FIRST FEW WEEKS AT HOME →
- LOOKING AHEAD TO THE EARLY YEARS →

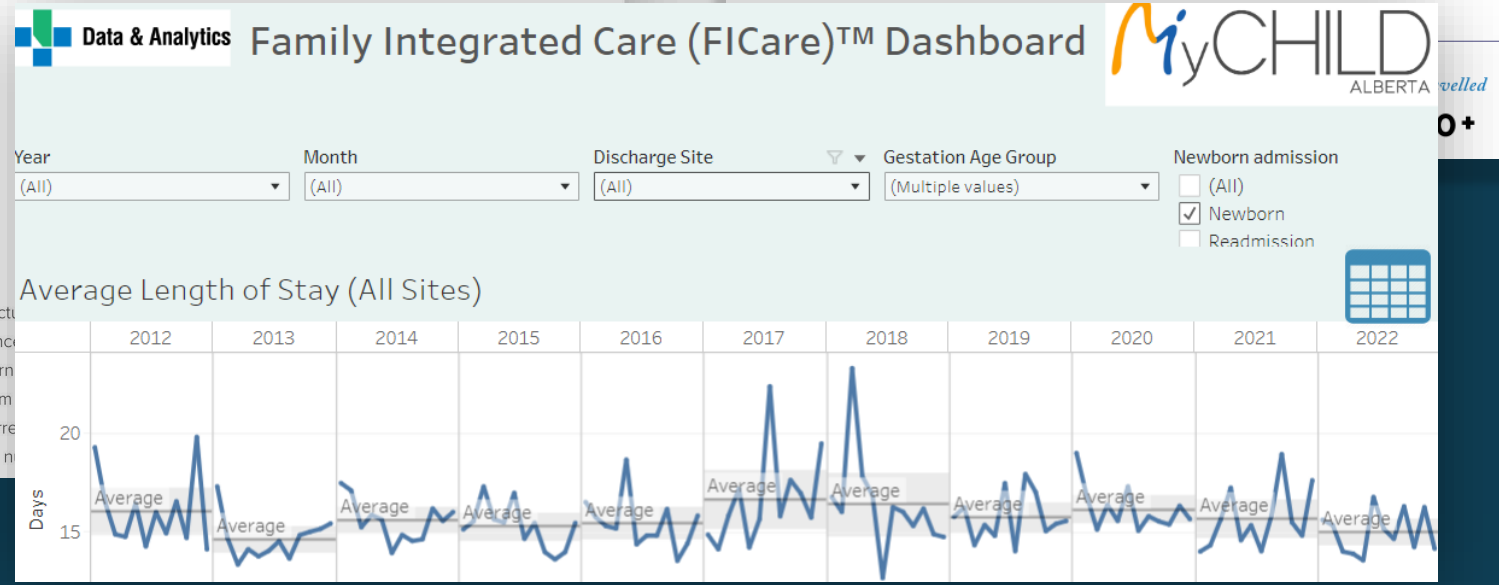
Getting to Know the Neonatal Intensive Care Unit (NICU)

IN THIS SECTION:

- Corrected age
- Your health care providers
- Your role in your baby's care
- Daily rounds
- Common equipment
- Common tests
- Hand hygiene
- Transfers
- Taking care of yourselves

Corrected age

Your baby's chronological age (or actual measure of time that has passed since born. However, if your baby was born health care provider will use the term (or adjusted or gestational age). Corrected baby's chronological age minus the n



SUSTAINED IMPACT



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Improved infant, parent, and health system outcomes

Enhanced patient and family experience

Avoided NICU costs

Acknowledgements

- Families of moderate and late preterm infants
- Alberta Innovates-PRIHS (cluster RCT, 2-month follow-up)
- Alberta Children's Hospital Research Institute (Play Study)
- Canadian Institutes of Health Research (18-month follow-up)
- Health Innovation Implementation and Spread (HIIS) Fund (provincial scale and spread)
- Maternal Newborn Youth and Child (MNCY) Strategic Clinical Network (SCN)
- AHS/Covenant Health Directors, Executive Directors, Patient Care Managers, and Super-Users
- AHS Analytics
- AHS Benefits Realization
- Strategy for Patient-Oriented Research
- Calgary Lab Services
- Faculty of Nursing, University of Calgary
- Graduate Students, Universities of Calgary and Toronto
- Research Assistants, University of Calgary
- Pilar Zanoni, Project Manager (clinical trials and scale and spread)
- Jana Kurilova, Research Associate (clinical trials and scale and spread)



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Let's connect!



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