

Maternal Newborn Child & Youth Strategic Clinical Network™

MNCY SCN

Transformational Roadmap 2020-2024



Maternal Newborn
Child & Youth Strategic
Clinical Network™

**Inspiring solutions.
Together.**

September 24, 2020

Table of contents

Table of contents.....	2
A message from MNCY SCN™ Executive	3
Messages from the Patient and Family Advisory Council.....	5
Introduction	7
Our Vision.....	7
Our Mission	7
Guiding Principles.....	7
Background	8
Celebrating Successes from 2017-2020 TRM	8
2020-2024 TRM Development	10
Engagement	10
Strategic Directions.....	10
Enablers	11
Risks and Challenges	12
Priorities for 2020-2024	12
Maternal Fetal Newborn	12
Neonatal Intensive Care	15
Child & Youth.....	17
Indigenous Maternal Newborn Child & Youth	22
MNCY SCN Monitoring Indicators.....	24
Conclusion	25
Appendix A – Projects – Complete List by Subspecialty	26
Appendix B – Membership	30
References.....	42

A message from MNCY SCN™ Executive

“The Maternal Newborn Child and Youth Strategic Clinical Network™ (MNCY SCN™) was launched just five short years ago in 2015. In this time, we have established a strongly engaged provincial-wide network of maternal, infant and child health professionals. We have also created a very active patient and family advisory council. Together these health professionals and patient/families created an initial set of priorities – our first Transformational Roadmap (TRM) - with the purpose of achieving our overarching vision healthy mothers, babies, children, youth and families.

We’re delighted to report we’ve made great progress on a large number of our original priorities. Several initiatives addressing these priorities have been successfully developed, implemented and evaluated, and have now moved on to maintenance and sustainment phases. Examples include neonatal intensive care unit (NICU) nursing education modules, and pathways for antenatal, postpartum, and pediatric concussion care.

To address other priorities we have developed and launched several initiatives that are well underway including:

- An initiative to implement and evaluate the impact of pediatric patient care rounds at a regional hospital via telehealth with Children’s hospital-based health professionals.
 - The goal of this initiative is to increase the proportion of children successfully hospitalized closer to their homes.
- Creating a comprehensive service plan to establish and maintain high-quality, well-staffed obstetrical services in rural hospitals using a ‘maternity corridors of care planning model.’
- A randomized trial to assess the effectiveness of using a patient navigator to facilitate adolescents with chronic disease transition from pediatric to adult-based care.
 - The primary objective of this trial is to reduce the number of emergency department visits by these young adults by supporting a seamless transition to appropriate adult-based care. In these areas, where we still have several ongoing initiatives, these original priorities have been maintained.

Our second TRM, intended to guide the development of MNCY initiatives over our next five years, has been a year in the making. To ensure the new priorities in this TRM reflect the consensus opinion of Alberta’s maternal, infant and child health communities, the MNCY team has undertaken a systematic and thorough process. This process has included:

1. Interviews with administrative and medical leaders in the obstetrics, NICU, and pediatric communities, and, as well, leaders in tertiary, regional and rural geographic areas;
2. Use of these interview learnings to develop surveys which we asked all members of our four standing committees (Maternal/Fetal; NICU; Child and Youth; Indigenous Maternal and Child) to complete;
3. Small group discussions with our youth and parent advisory groups;
4. Presentation of our survey results from the standing committees, and the broad themes developed from the youth and parent small group discussions, to our core committee members segregated out into maternal, neonatal and child health groupings. Each of these three groups, relying heavily on the survey results and parent/youth recommendations, came to a consensus on MNCY's new priorities.

The launch of the 2020-2024 TRM is coinciding with an unprecedented health and economic crisis brought on by the emergence of a novel coronavirus. The coordinating role of the MNCY SCN in how we prepare and respond to care and protect mothers and our youngest population through this period of vulnerability may take priority over many of the activities outlined in this current document. We also acknowledge that new priorities may emerge as we respond and learn from this event. Hence we will reserve capacity to be able to respond accordingly. To date, COVID19 has taught us how strong and connected our network has become in the years since its inception. The 2020-2024 TRM provides a plan for how we will move forward beyond the immediate crisis to address priorities and actions to improve the health outcomes and care of our populations and be better ready to respond to future challenges. Never before have the words, "We are stronger together", been more relevant.

Our thanks goes out to all the network members who have committed their time and efforts in the past and continue to commit to working with us in the future. We look forward to the next five years and the successes it will bring!"



Dr. David Johnson

Senior Medical Director
Maternal Newborn Child & Youth
Strategic Clinical Network™
Alberta Health Services



Shelley Valaire

Senior Provincial Director
Maternal Newborn Child & Youth
Strategic Clinical Network™
Alberta Health Services

Messages from the Patient and Family Advisory Council

Leanne Stamp and baby Adah

“I am a person who believes that when a woman is becoming a mother there is so much at stake. Her physical, emotional and social wellbeing is fundamental and foundational to the health and wellbeing of her child and family – for the rest of their lives.

As a care system, we need to move our ambitions beyond a live mother and baby. These outcomes are of course, critically important, but also of vital importance is the *wellbeing* of the mother after she leaves the healthcare setting. I believe that women are entitled to begin their motherhood journeys whole and empowered, supported by a maternity care system that is responsive to their individual needs, circumstances and wishes.”



Christine Johns and family

“As the mother of two, the youngest who is medically complex, I have witnessed first-hand the importance of patient and family voices in ensuring an inclusive health care system that is coordinated, collaborative and patient and family centered.

When a child is given a diagnosis, especially a serious one, it is not just the child who receives the diagnosis, but the entire family. When patients and families are engaged as partners, such as with the MNCY Patient and Family Advisory Council, we ensure that their lived experience has a significant impact in shaping policy and program decisions and deepens the understanding of how patient and family lives are impacted by the decisions made.”

As Patient and Family Advisors, we have the privilege and responsibility of using our voices to amplify the voices of Albertan mothers and families, and to influence and shape maternal child services here in our home. We possess a great sense of pride for the work that Patient and Family Advisors and MNCY SCN members have achieved together, and optimism for the further possibilities of collaboration between providers and service users.

The values of our council are included below with compassion and empowerment at the top of the list.



Throughout this document you will see our faces and our narratives, with the hope that it reminds those within the system that we aren't just patients with a condition or disease, we are patients with a story. Our plan for the advisory council is that, through our shared vision, stories and desire for change, we can make a significantly informed impact on the health care system for all Albertan families.

Christine Johns · Sarah Mooney · Jennifer Perron · Stephanie Kelly ·
Rena Brito · Anne Merritt · Leanne Stamp · Laurel Ryan · Kristina
McGuire · Sharla Ozeroff · Michelle Neraasen · Chelsea Price

Introduction

The Maternal Newborn Child & Youth (MNCY) Strategic Clinical Network™ (SCN™) was officially launched in March 2015. Multidisciplinary members from four unique subspecialties: maternal/fetal newborn, neonatal intensive care, child & youth and Indigenous maternal newborn child and youth, as well as many supporting health, research and related disciplines have worked together to create the 2020-2024 Transformational Roadmap (TRM).

Our Vision

“Healthy mothers, babies, children, youth and families.”

Our Mission

To mobilize people, evidence and data to achieve the best possible health outcomes for mothers, newborn, children, and families within a sustainable, publically funded health care system.

Guiding Principles

- Families are our partners - patient and family centered care
- Coordinated and collaborative - engaged stakeholders (clinicians, operational leaders, researchers, families, and others) guide work
- Aligned with organizational, provincial, and national priorities
- Focused on health system sustainability through integration, innovation and knowledge translation
- Focused on health equity
- Focused on outcomes

Background

“From preconception to the end of adolescence, the MNCY SCN is positioned to facilitate health care transformation”

A major focus of the SCN in the formative years was on the reduction of variation in practices between rural, regional and urban sites that were impacting outcomes, as well as on practices that were costly to the system without significant benefit. With this initial focus, significant effort was put into the development of pathways, guidelines, processes and practices in which variations could be reduced or cost savings could be achieved. As the SCN matures and initial investments in research provide outcome measurements and new emerging evidence, the SCN’s focus is turning to innovative solutions that will transform health care.

The SCN endeavors to make maternal and child health a priority in Alberta, now and into the future by:

- Recognizing that the continuum for lifelong health begins with a healthy pregnancy
- Acknowledging the variation in maternal child outcomes for Indigenous populations in Alberta
- Partnering on rigorous, innovative research that is a priority to families, health care providers, and the healthcare system

Initial priorities established within the 2017-2020 TRM were related to the need for:

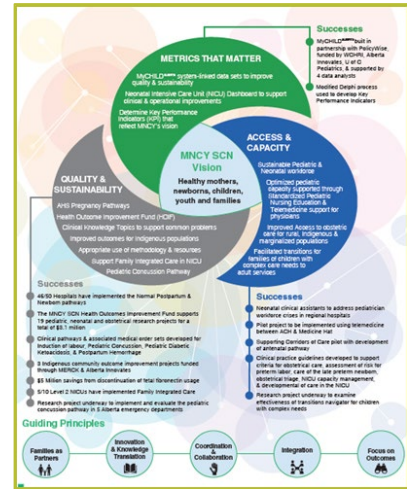
- Metrics to guide and direct our work
- Improved access and optimization of health system capacity
- Quality improvement and sustainability of a publically funded health care system

Celebrating Successes from 2017-2020 TRM

Examples of successes achieved by the MNCY SCN:

- Development and implementation of a process to award funding for 39 research or quality improvement projects supporting MNCY SCN priorities with the use of external funding
- Development of the MyCHILD^{Alberta} analytic capacity to support both quality and research initiatives

- Utilization of consensus model to identify MNCY SCN's key monitoring and quality indicators
- Development of a MNCY SCN Patient and Family Advisory Council
- Development and implementation of an Alberta Postpartum and Newborn Pathway, and Alberta Antenatal Pathway
- Implementation of the Canadian Obstetrical Triage Assessment and Scoring (OTAS) system in all acute care hospitals that provide obstetrical services
- Development and implementation of a guideline and decision tree to support the assessment and management of the women at risk for preterm birth to replace fetal fibronectin testing
- Development of numerous provincial clinical practice guidelines, pathways and order sets aimed at reducing variation in practices and outcomes for mothers, newborns, neonates children and youth. Examples include: establishing criteria for obstetrical care, care of the late preterm, developmental care of the preterm in the NICU setting
- Development of a resource to support neonatal palliative care in the NICU setting
- Partnership and support with other AHS departments, programs or researchers to build and implement programs such as the AHS Neonatal Intensive Care Staff Orientation Program, and support for the Partnership for Research and Innovation in the Health System (PRIHS II) grant to support the "Family integrated care in the NICU" research project
- Development and implementation of Clinical Knowledge and Clinical Management (CKCM) topics such as hypoxic ischemic encephalopathy, induction of labor, postpartum hemorrhage, delayed cord clamping, pediatric concussion, and pediatric diabetic ketoacidosis
- Development of a web based information portal "Well on your Way" website that supports youth, their families and health care providers to find the information they need to navigate the journey to Adult care. Alberta Children's Hospital (ACH) and Stollery Youth Advisory Councils were both highly engaged in supporting this initiative



2020-2024 TRM Development

Engagement

The process that was used to support planning and ensure appropriate and adequate input from stakeholders for the 2020-2024 TRM included:

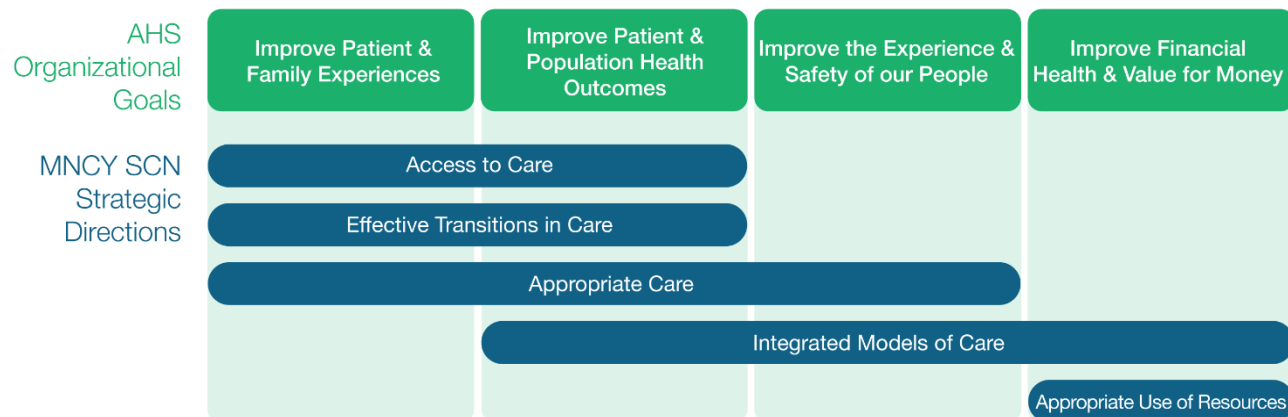
- Leadership retreat/visioning to reaffirm vision and mission, review priorities, successes, challenges, and processes used to adopt new initiatives and determine signature projects
- A MNCY SCN network membership refresh of both core and subspecialty standing committees
- Establishment of a MNCY SCN Patient and Family Advisory Council with representation from both urban and rural families
- Stakeholder engagement- MNCY SCN core and standing committees, working groups, patient and family liaison committee, youth groups, individual interviews- front line, operational and medical leadership for each zone, request for input from general population in MNCY SCN newsletter
- Connection and consultation with the Youth Advisory Councils of both ACH and Stollery Children's Hospital
- Collation and theming of topics, followed by:
 - Validation with standing and patient liaison committees
 - Voting by standing committees
 - Ranking by core committee
 - Validation with standing committees
- Establishment of a partnership with research and funding organizations to develop an ecosystem that will support maternal newborn and child priorities

Strategic Directions

Analysis of information derived from above actions resulted in the establishment of the following strategic directions for the 2020-2024 MNCY SCN TRM:

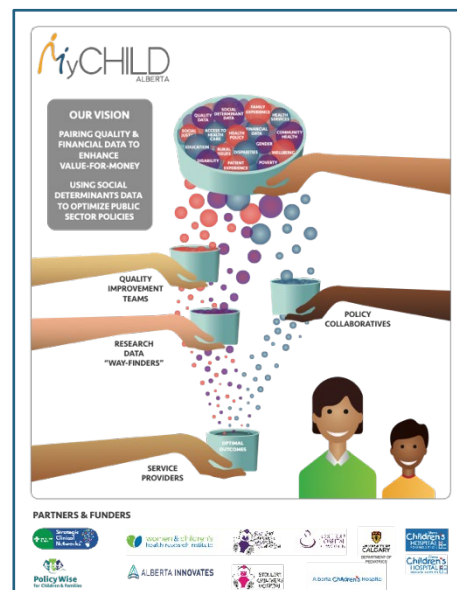
- Appropriate use of AHS resources
- Access to care
- Effective transitions in care
- Appropriate clinical care and management
- Efficient, integrated models of care

The MNCY SCN Strategic Directions align with AHS' four goals outlined in the AHS Health and Business Plan as highlighted below:



Enablers

- MNCY SCN Patient and Family Advisory Council
- Operational and clinical leadership participation on MNCY SCN standing committees
- Research Funding opportunities
 - MERCK
 - Health Outcomes Improvement Fund (HOIF)
 - Partnership for Research and Innovation in the Health System (PRIHS)
 - Health Innovation Implementation and Scale (HIIS)
- Maternal Child Ecosystem- partnership with researchers, academics and funders
- MyCHILD^{Alberta}



Risks and Challenges

As we move into the next five year cycle of the TRM there are a number of strategies from the 2017-20 TRM that are moving into the sustainability phase while others are moving into the development and implementation phase. The risks and challenges of changing and/or adding new priorities and the required strategies to achieve them include:

- Continuing resources required to sustain developed pathways and tools
- Bandwidth of current resources to support the development and implementation of new work
- Competing priorities at operational levels
- Continuance of MNCY SCN dedicated research funding options enabled through value- add vendor contract
- AHS organizational review and recommendations
- COVID19 response/consequences and emergence of new priorities

Priorities for 2020-2024

MNCY SCN established priorities for 2020-2024 includes and builds upon those identified in our original TRM. We believe a focus on these priorities will transform care, practices, processes and outcomes for maternal, newborn, child and youth populations in Alberta.

MNCY SCN's 12 priorities for 2020-2024 are listed according to subspecialty below.

Maternal Fetal Newborn

Priority 1: Develop and implement standardized pregnancy pathways to reduce variation in assessment and care for both the average and at-risk obstetrical and newborn patient.

Priority 2: Identify and support strategies to improve access to perinatal care for rural and remote communities and marginalized populations.

Priority 3: Identify and support strategies that will facilitate the effective and efficient care of the obstetrical and neonatal patient in the right place with the right resources according to the level of presenting risk.

“My dream is for all women in Alberta to be able to benefit from person-centered, evidence-based maternity care and to begin their motherhood journeys whole and empowered. As my young daughters grow and thrive every day, I hold a vision in my mind of a day when they too experience a positive, life enhancing experience of becoming mothers.”

Leanne Stamp

Importance of these priorities

Lack of prenatal care is associated with poor maternal and newborn outcomes such as neonatal death, premature birth, neonatal morbidity, NICU admission, caesarean section, hypertension, diabetes, preeclampsia, and postpartum hemorrhage ^(1, 2, 3, 4).

From 2006 to 2014 up to 15 per cent of women from rural and remote communities had fewer than four prenatal care encounters. The reasons are varied depending on the community but the most common issues are availability of services and transportation.

Early identification and appropriate management of obstetrical risk is associated with improved maternal and newborn outcomes including a reduction in cesarean section rates and NICU admissions.

Intrapartum care that is appropriate for gestational age, medical history and identified obstetrical risk, supports informed patient choice related to location for birth to support optimal maternal and newborn outcomes and reduce cost of transportation on organization and family.

Labour and delivery at an appropriate site for gestational age, medical and obstetrical risk will ensure that necessary medical and/or surgical interventions are available to mitigate the associated risks for mother and baby.

Short hospital stays in combination with lack of access to supportive care, increase the risk for poor feeding, parent bonding, and reduced identification of risk factors with mother or baby such as Postpartum Hemorrhage (PPH), Invasive Group A Streptococcus (IGAS), hyperbilirubinemia, Neonatal Abstinence Syndrome (NAS), and preeclampsia.

Babies born at less than 37 weeks gestation require enhanced level of assessment and care to identify and manage risks associated with level of prematurity.

Transport of mother and baby to a higher level of care post-delivery is costly to the organization.

2018 In Alberta

- 55,000 births
- 4,376 preterm births,
- 20% preterm births in Level 1 facilities without a NICU
- 11% NICU admission
- 29% primary Caesarean Section rate
- 5,261 incidents of postpartum hemorrhage

“After the birth of my twins, I was re-admitted to hospital with what was eventually found out to be a serious systemic infection. From day three to eight of my twin’s lives, I do not remember much as my body tried to fight the infection. I hope my story can help shed light on why education about the serious nature of invasive Group A strep disease is so important.”

Michelle Neraasen

Stakeholder identified strategies for future consideration

- Development and implementation of a multidisciplinary approach to prenatal care along a geographical corridor with models of care that support multidisciplinary teams working together to build confidence, trust, and support leading to enhanced family focused care
- Antenatal care provided by other disciplines such as registered nurses (RN), midwives, and nurse practitioners (NP)
- Midwives utilized for routine antenatal, intrapartum and postpartum care; physicians utilized for consultation and higher risk care requirements
- Explore models of care that are provided outside of hospital setting- identify strategies that are better for families and lower cost for system
- Optimize utilization of virtual health to support antenatal care in rural and remote areas

Current Maternal Fetal Newborn Initiatives and Expected Outcomes

Examples of Supporting Initiatives (see Appendix A for complete list of projects)	<ul style="list-style-type: none"> • HOPE- e-mental health (HOIF) • Postpartum Hemorrhage- Assessment & Management (HOIF), • Fetal Health Surveillance- Assessment & Management (HOIF), • Newborn Hyperbilirubinemia- Assessment & Management • Induction of Labour- Indications, process, management • Rural Maternity Corridors of Care to support access to appropriate perinatal care
Patient and Family Expected Outcomes	<ul style="list-style-type: none"> • Pregnant people partner with their care provider to make informed decisions for their maternity care with consideration of risk factors. • Pregnant people and their families experience improved coordination of care along the perinatal continuum • Parents and their families feel supported with being able to make informed feeding decisions and have access to available resources to address feeding issues
Health Team Expected Outcomes	<ul style="list-style-type: none"> • Reduction in condition specific mortality and morbidity rates • Improved rates of site appropriate care

Neonatal Intensive Care

Priority 1: Identify and support strategies to improve breastfeeding and breastfeeding duration in the NICU.

Priority 2: Identify and support adoption of models of care that keep mothers and babies (who require higher level of care) together.

Importance of these priorities

Successful breastfeeding in the premature newborn is associated with decrease in necrotizing enterocolitis (NEC), reduction in morbidity, reduction in length of stays, improved parent satisfaction/confidence in care provision, mother infant synchrony.⁵

NEC is a devastating disease with an estimated mortality rate of 20-30 per cent and an average of 22 and 60 additional hospital days in those with medical and surgical NEC, respectively.^{6,7} Mother's milk and breastfeeding is a protective factor in prevention of NEC. Therefore prioritizing the support for breastfeeding uptake in the NICU, would have beneficial impacts for mother and baby.⁸

Newborns born to birth parents who have disclosed prenatal opioid use are in a vulnerable state where adverse and costly outcomes are common if strategies are not implemented to support their symptoms. Without support, separation of the newborn from mother is associated with temperature, respiratory and heart rate instability, increased medical interventions and longer lengths of stay. The rate of infants requiring treatment for Neonatal Abstinence Syndrome (NAS) have been increasing in Alberta since 2010.⁹

2018 In Alberta

- 14 NICUs
 - 4 - Level 3 NICUs
 - 10 - Level 2 NICUs
- 5,000 babies admitted to NICU
- Average LOS- 24 days
- Average cost per NICU stay- \$9700 ²⁶

In 2018, approximately 75 per cent of the infants with NAS were admitted to the NICU with a mean NICU length of stay (LOS) of 14 days. In some Alberta Zones, 90-100 per cent of infants with NAS are admitted to the NICU with a mean LOS of approximately three weeks. In short, NAS is common, and with current care models this frequently results in NICU admission, typically with a costly two to three week stay.¹⁰

Implementing strategies which use nonpharmacological care and keep the mother and baby together in the post-partum unit ("rooming in") can lead to shorter length of stays, decreased admissions to the NICU for pharmacological treatment, increase the number of babies going home with mothers, and increase breastfeeding rates. Strategies to

address this priority will improve the life course of some of Alberta's most vulnerable babies.

"From my experience, anything that would provide support and build confidence for new moms' breastfeeding for the first time is crucial to success. In spite of my initial breastfeeding challenges with my first baby, today I am still breastfeeding, although slowly weening, my second child at 17 months.

Jennifer Perron

Stakeholder identified strategies for future consideration

- Partner with Healthy Children and Families Breastfeeding strategy to implement and evaluate the outcomes of the new 20 hour breastfeeding education and policy in pilot NICUs.
- Identify reasonable and safe approaches to caring for mothers and newborns requiring NICU care in the same space.
- When new NICUs are built, support the creation of space for parents to stay together with their newborns.

Current NICU Initiatives and Expected Outcomes

Examples of Supporting Initiatives (see Appendix A for complete list of projects)	<ul style="list-style-type: none"> • Family Integrated Care in the NICU (HIIS) • Care of newborn with Neonatal Abstinence Syndrome (NAS) (PRIHS) • NICU breastfeeding strategy pilot intervention
Patient and Family Expected Outcomes	<ul style="list-style-type: none"> • Families are provided with full opportunity to be present in the NICU with their child • Birthing parent and their families feel supported with their feeding decisions and have available resources to address feeding issues • Birthing parent feels supported with their health needs while caring for an infant within the NICU environment
Health Team Expected Outcomes	<ul style="list-style-type: none"> • Reduced NICU LOS • Reduced per cent of newborns with NAS admitted to NICU • Increased breastfeeding of the neonate at the time of discharge from NICU

Child & Youth

- Priority 1:** Identify and support strategies to optimize pediatric capacity across the province.
- Priority 2:** Facilitate transitions for children with chronic and or complex care needs to adult health care services.
- Priority 3:** Improve health care support for the medically complex child and family
- Priority 4:** Identify and support strategies that will improve access to developmental assessment, care and management.
- Priority 5:** Partner with Addictions and Mental Health SCN to Identify and support strategies that will improve access to mental health assessment, care and management.



Big sister Kate takes a listen to her brother Sam's heart after his surgery.

"It is vitally important to include and support all family members throughout the health care journey. There is never just a single patient; they are part of a greater dynamic"

– Kristina McGuire

- 9000 Alberta children have chronic or complex care needs
- 15 to 20% children live with chronic conditions and will require transition to adult care¹²
- 10 to 20% of Canadian children may develop a mental disorder¹⁹
- ED visits for mental health needs increased by 65% over a 10 year period¹⁹
- Alberta needs to recruit 35

Pediatricians/year to keep pace with population growth, physician retirements and to provide care in regional settings²⁶

Importance of these priorities

Having access to competent pediatric care outside of the tertiary care sites (Alberta Children's Hospital, Calgary, Calgary and Stollery Children's Hospital, Edmonton) is critical for the nearly 80 per cent of all emergency visits by children to emergency departments outside the Children's Hospitals, of which half are to rural hospitals.¹¹

Challenges in ensuring accessible pediatric care across a geographically diverse province is essential to being able to provide care close to home and requires strategies to incentivize and support training and ongoing competency of physicians providing pediatric care.

In North America, it is estimated 15 to 20 per cent of children live with a chronic condition that requires medical management into adulthood.¹² Transitioning from pediatric to adult care can be a vulnerable period where many factors including patient and adult care provider readiness contribute to less than ideal outcomes for young adults.¹³ Interventions aimed at facilitating the transition to adult care, set a young adult up or help a dependent adult ensure the continuity of care that is required for optimal health.

"It's a scary time because it's full of change.

I've always described it as going from this comfortable setting where you feel supported, to being pushed out into the unknown abyss and kind of having to just figure it out as you go"

Sarah Mooney

The Mind of a Youth Transitioning



Children with complex medical needs make up a small proportion of the overall population but use a large proportion of health care costs.¹⁴ In addition to cost, complexity of providing care across the continuum of providers and into adulthood require constant monitoring to identify gaps or opportunities to optimize the life course of some of these most vulnerable children and youth.¹⁵



“The introduction of Connect Care (one electronic health record) will have a positive benefit for complex patients like my son. In addition to ensuring we have better access to our own information; we see multiple clinics at Alberta Children’s Hospital and in the community who often do not have a complete view of his health.

Connect Care is vital to facilitate up-to-date seamless information sharing between patients and families and their healthcare providers.”

Christine Johns

Developmental disorders include conditions such as autism spectrum disorder (ASD), cerebral palsy (CP), attention deficit disorders (ADD), hearing loss, intellectual disabilities and more. As many as one in 66 Canadian children are diagnosed with ASD with a disproportionate of males being affected compared to females (one in 42 males versus one in 165 females).¹⁶

Early assessment and intervention of ASD plays a key role in optimizing life trajectory and outcomes for these children as delays in diagnosis can lead to missed opportunities in terms of critical windows for neurodevelopment. Although suspicion of ASD may be present as early as two years of age, mean age of diagnosis is between four and five years.¹⁷

A recent position statement by the Canadian Pediatric Society recommended monitoring all children for behavioral signs of ASD as part of general developmental screening stepped up to focused evaluation of children with increased risk factors for the purposes of diagnosing and intervening in critical periods.¹⁸ Other developmental disorders also benefit from early assessment and intervention which is why prioritizing strategies in this domain will improve the outcomes for this population.

Strategies to improve access to assessment, care and management of youth mental health and substance use issues is of utmost importance given alarming trends in Canada. While prevalence of mental health conditions is thought to have remained stable over time, use of Emergency Departments (ED) and inpatient hospital stays for these conditions have increased over time. In a 10-year period from 2006/07 to 2017/18, ED use for mental health visits increased by 75 per cent and 65 per cent

increase in hospitalizations. At the same time, hospitalizations for all other causes decreased by 24 per cent suggesting use of community based services and access to appropriate treatment options for these conditions are insufficient.¹⁹ Furthermore, in 2017-18, one in 20 hospital stays were related to harmful substance use, another area of concern for this population.

Partnering with the Addiction and Mental Health SCN on initiatives to address mental health and substance use, is seen as a more effective and sustainable approach to addressing this important area.

“In raising my five children, ranging in age from university to elementary, I have come to realize the importance of caring for our children's mental health needs while they are in the education system. Every year during the school council meetings I attend for junior high and high school, mental health and addictions are often a topic of discussion. As the government looks to streamline the provision of services, mental health is unfortunately not often seen as part of the mandate for the education system. To be healthy individuals, we have to realize that an individual's mental health is just as important as their physical health.”

Michelle Neraasen

Stakeholder identified strategies for future consideration

- Ensure strategies move beyond medical focus and include upstream prevention and address the social determinants of health
- Involve educational institutions, Primary Care, and other government ministries where appropriate
- Design of strategies should include patient/caregiver support whenever possible. When parents cannot be advocates, other options should be considered
- In the process of standardizing care, the entire spectrum from start to finish should be supported including education/training, evaluation and monitoring
- Addressing pediatric workforce issues in regional settings or underserved areas should consider broad strategies such as physician remuneration, integrating care with other health care providers (i.e. nurse practitioners), and resident/medical school training

Current Child & Youth Initiatives and Expected Outcomes

Examples of Supporting Initiatives (see Appendix A for complete list of projects)	<ul style="list-style-type: none"> • Transition Navigator Trial (HOIF) • Virtual Telemedicine TRAC (HOIF) • Pediatric Eating and Swallowing PEAS- (HOIF) • Pediatric Workforce sustainability
Patient and Family Expected Outcomes	<ul style="list-style-type: none"> • Pediatric patients and their families are provided with opportunities to be cared for closer to home • Patient reported outcomes are included within pediatric work whenever possible • Medically complex children and their families are supported throughout their health care journey with a “medical home”
Health Team Expected Outcomes	<ul style="list-style-type: none"> • Reduction in ED visits for youth transitioning to adult care • Improved rates of site appropriate care • Improved recruitment and retention of regional pediatricians • Decrease time to developmental assessment • Increased per cent of children with developmental issues optimally managed



Conversations with our Stollery and ACH Youth Advisory Councils have revealed expert, engaged and informed youth communities. Mental health support for children and youth is one of their top priorities.

Indigenous Maternal Newborn Child & Youth

Priority 1: Improve Indigenous mother, newborn and child outcomes.

Priority 2: Support inclusion of Indigenous cultural knowledge into all activities and processes aimed at improving outcomes for indigenous women, newborns, children and youth.

Importance of these priorities

There is a significant gap in health outcomes between Indigenous and non-Indigenous populations. The perinatal mortality rate in Alberta's First Nations populations was 8.66 per 1,000 births compared to 5.41 per 1,000 births in the non-Indigenous population in 2018.²⁰ While the gap between Indigenous and non-Indigenous perinatal mortality rates has decreased since 2013, there is little evidence to suggest improvements can be sustained without adopting culturally appropriate community driven strategies.

Early prenatal care which involves education, access to culturally safe care close to home, identification of risk factors and strategies to mitigate risk are interventions that have been shown to influence neonatal outcomes. Indigenous communities in Alberta are invited to design these strategies with the MNCY SCN.

- Life expectancy at birth in First Nation (FN) population is 69.8 years compared to 82.8 years in the non-First Nation (NonFN) population in 2019²²
- The perinatal mortality rate gap between Indigenous and non-Indigenous population was 3.25 per 1,000 births in 2018²⁰
- Preterm birth rate for FN babies was 13.7% compared to 8.6% for Non FN (IHDA 2018)
- The Aboriginal population in Alberta (First Nation, Metis, Inuit) grew by 37% in the 10 years leading up to the 2016 Census.²¹
- In Alberta, close to half of the Aboriginal population was under the age of 25 (46.7% compared to 30.8% in the non-Aboriginal population) the majority of whom are female.²¹

Stakeholder identified strategies for future consideration

- Bring birth back to the community through supportive birthing centers and utilization of a robust multidisciplinary team
- Expand opportunities for the use of indigenous midwives in First Nations and Metis communities
- Include Indigenous doulas in antenatal care
- Develop strategies that support the transfer of cultural wisdom related to motherhood and parenting to young Indigenous mothers and fathers

- Enhance health care providers awareness and understanding of benefits of a strengths based approach to care
- Include Indigenous perspective in all AHS guidelines and pathways

Current Indigenous Maternal Newborn Youth Initiatives and Outcomes

Examples of Supporting Initiatives (see Appendix A for complete list of projects)	<ul style="list-style-type: none"> • Kokum's Wisdom- Photo-voice project • Âcimostakewin Sharing Stories (HOIF) • Grandmothers' Wisdom Council • Bringing Birth Back to the Community projects
Patient and Family Expected Outcomes	<ul style="list-style-type: none"> • In accordance with OCAP (Ownership, Control, Access and Possession) principles outcomes will be identified and developed with communities.
Health Team Expected Outcomes	<ul style="list-style-type: none"> • All MNCY SCN developed resources include an Indigenous perspective • Improved rates of community appropriate care • Reduction in barriers to Indigenous women receiving perinatal care • Increased patient and family confidence, skill and knowledge related to birth and parenthood

MNCY SCN Monitoring Indicators

In addition to outcomes associated with specific initiatives, the MNCY SCN is also committed to measuring its progress using monitoring indicators. In the last few years, consultations and review of proposed indicators has narrowed down to the following table. These indicators are deemed important to having an overall understanding of the health of our populations.

As important as it is to have this information, the recognition that development of dashboards and/or a continuous update to all of the indicators listed below is onerous. Where possible, the SCN is tapping into existing sources of this information and prioritizing the development of future dashboards to be more manageable and preserve analytic capacity for emerging requests.

Maternal/Fetal	Newborn/Neonatal	Child/Youth
<ul style="list-style-type: none"> Prenatal Care <ul style="list-style-type: none"> 1st trimester care accessed Induction of Labor-by indication and gestational age (GA) Cesarean section (C/S) by Indication and GA Vaginal birth after c/s (VBAC) - Trial of Labor Maternal Morbidity <ul style="list-style-type: none"> Hysterectomy post C/S > 4 units blood loss Return to OR <24 hours after delivery ICU admission Readmission postpartum - venous thromboembolism (VTE) Maternal Mortality Mental Health- <ul style="list-style-type: none"> Post-partum Depression (PPD) screening Positive PPD screen 	<ul style="list-style-type: none"> Neonatal Mortality <ul style="list-style-type: none"> during L&D by GA by GA and level of care, specific to cause and birth weight Infant mortality (age 28 days to < 1 year) Preterm births by GA and location (level of care) Newborn (NB) Admissions to NICU NB Discharged from NICU with 3 or more medical needs Neonatal Readmissions <ul style="list-style-type: none"> <7 days <30 days Breastfeeding <ul style="list-style-type: none"> Initiation at birth at 2, 4 & 6 months 	<ul style="list-style-type: none"> Mental Health <ul style="list-style-type: none"> Wait times to access services ED visits by age Intentional Trauma ED visits by child with complex care needs, by age Morbidity by age (select causes) Mortality by age <ul style="list-style-type: none"> Select causes All causes Immunization rates by age and vaccine

Indigenous Maternal Child & Youth

In partnership and accordance with OCAP (Ownership, Control, Access and Possession) principles outcomes will be identified and developed with communities

Conclusion

This five-year TRM builds off the success of the MNCY SCN network of internal and external partners working towards a common vision of “Healthy mothers, babies, children, youth and families.” As we move beyond the threat of a global health and economic crisis, focused effort to continually improve the quality of care and outcomes of our populations in a fiscally sustainable environment will be even more important. The MNCY SCN TRM provides a path forward on this journey and we look forward to the next steps with all of our partners.

Appendix A – Projects – Complete List by Subspecialty

Maternal Fetal Newborn Initiatives

Current Projects

- Postpartum Pathway (added risk)
 - Postpartum Hemorrhage - A Quality Improvement Initiative at the Foothills Medical Centre (HOIF II)
- Newborn Pathway (added risk):
 - Newborn Hyperbilirubinemia implementation/evaluation
 - Evidence-informed hospital discharge policies for late preterm infants (HOIF I)
- Antenatal pathway implementation/evaluation
 - Evaluation of an antenatal perinatal mental health pathway: A randomized controlled trial (HOIF I)
 - The impact of exercise on maternal/ fetal health in twin pregnancies (HOIF II)
- Intrapartum Pathway
 - Prevention and Prediction: Improving Fetal Surveillance in Labour with Scalp Blood Lactate, a Pilot Project for Albertans (HOIF II)
 - Fetal Health Surveillance- tracing speed change evaluation
 - Induction of Labour- implementation of CKT to support appropriate IOL practices

Projects entering maintenance or evaluation

- Improved access to OBS care:
 - Implementation of Obstetrical Triage Assessment Scoring system
 - Criteria for Obstetrical care guideline/decision tree
- AHS Pregnancy Pathways:
 - Normal Postpartum Pathway
 - Normal Newborn Pathway
 - Antenatal Pathway
- Clinical Knowledge Topics & CPGs- Induction of Labour, Assessment and Management of PPH, Care of the late Preterm, Criteria for Obstetrical care, Prevention & management of falls guideline
- Development of Risk of Preterm Birth Guideline- discontinuation of Fetal Fibronectin (fFN)

Neonatal Intensive Care Projects

Current Projects

- Scale and spread of the FICare to all NICUs in province (HIIS)
- Development and implementation of NAS guideline (PRIHS 5)
- Perioperative Care in Neonatal Abdominal Surgery: Implementation of an Enhanced Recovery After Surgery Guideline (HOIF II)
- Early Identification of Cerebral Palsy (HOIF II)
- Implementation of the Prechtl Qualitative Assessment of General Movements (GMA) in the Calgary Zone to facilitate the early diagnosis of cerebral palsy in high risk neonates: A pilot quality improvement study (HOIF II)
- 25-hydroxy vitamin D levels in preterm infants of mothers with preeclampsia and normotensive pregnancies (HOIF II)
- Prevention of Necrotizing Enterocolitis in Neonatal Intensive Care Units of Alberta: Quality Improvement Project (HOIF I)
- Expansion of Targeted Neonatal Echocardiography Consultation Service in Edmonton zone (Zonal Edmonton Service for TNE: ZEST) (HOIF I)

Projects entering maintenance or evaluation

- Sustainable Neonatal workforce
 - Development and implementation of a provincial NICU nursing orientation program
- Family Integrated Care (FICare) in the NICU: successful completion of the PRIHS proof of concept project
- Clinical Knowledge Topics completed: Hypoxic Ischemic Encephalopathy, Developmental care, Delayed Cord Clamping

Child & Youth Projects

Current Projects

- Evaluation of Telehealth Rounding and Consultation (TRAC): An Alberta Children's Hospital - Alberta Regional Center Virtual Inpatient Collaborative Care Model (HOIF II)
- Pediatric Eating And Swallowing (PEAS) Provincial Project (HOIF II)
- Regional Pediatrician workforce sustainability
- Evaluation of effectiveness of child-oriented goal-setting in pediatric rehabilitation (the ENGAGE approach): A pragmatic cluster randomized controlled trial and economic analysis (HOIF II)

- The Tourette OCD Alberta Network (HOIF II)
- Supporting Youth with Intellectual Disabilities to Develop Healthy Relationships and Sexuality through Innovative Technology (HOIF II)
- Evaluation and optimization of a pre-emptive strategy for prevention of post-transplant lymphoproliferative disorder in children receiving solid organ transplants in Alberta (HOIF II)
- Nephea Kid Formula Implementation for Quality Improvement in Children with Chronic Kidney Disease (HOIF II)
- Building Integrated Care for children with functional constipation in Alberta. Using Enhanced Clinical Pathways for Pediatric Constipation supported by education and self-management pathways for the families (HOIF II)
- Non-Medical Opioid Use Following Short-Term Therapeutic Exposure in Children: A Systematic Review (HOIF II)
- MY NAP: Melatonin in Youth: N-of-1 trials in a stimulant-treated ADHD Population (HOIF II)
- Feasibility, evaluation and uptake analysis of a gluten-free food guide for Albertan children and youth in clinical and community settings (HOIF II)
- Fat Intolerance, Remnant Cholesterol & Sub-Clinical Cardiovascular risk Reduction in Overweight Children using a Fish Oil Intervention (HOIF II)
- Evaluating Policy Relevant Aspects of Motor Vehicle Safety in Children and Youth (HOIF II)
- Improving access to high quality dietary education on the gluten free diet for children with celiac disease, their families/care givers (HOIF II)
- Performance Measurement for High Acuity Pediatric Conditions (HOIF I)
- Barriers to and enablers of healthy lifestyle habits in adolescents with obesity (HOIF I)
- Improving patient safety during pediatric resuscitation: Team performance and error (HOIF I)
- Knowledge Synthesis and Knowledge Translation for Parent Priorities in Child Health (HOIF I)
- Exploring the mental healthcare needs of children in Alberta (HOIF I)
- A Randomized, Double-Blind, Placebo Controlled, Crossover Trial to Evaluate the Safety and Efficacy of AGY in Persons with Celiac Disease Age > 10 Years (HOIF I)

Projects entering maintenance or evaluation

- **Well on your way-** Helping youth transition to adult health care website www.ahs.ca/y2a
Well on Your Way website supports youth, their families and health care providers to find the information they need to navigate the journey to Adult care

- Implementation of the MNCY SCN Clinical Pathway for Acute Care of Pediatric Concussion: Uptake, Outcomes, and Health Care Impacts (HOIF I)
- Transition Navigator Trial: Evaluating a patient navigator service to improve health outcomes and experience of youth with special health care needs transitioning to adult oriented health care (HOIF I)
- CK Topics/CPGs – Diabetic Ketoacidosis, Respiratory Suite, Pain management in ED, Least restraint guidelines

Indigenous Maternal Newborn Child & Youth Projects

Current Projects

- Grandmothers Wisdom Council
- Âcimostakewin (sharing stories): Innovative Collaborations to Improve Health of Pregnant First Nations Women (HOIF II)

Projects entering maintenance or evaluation (MERCK funding)

- Maskwacis – Photovoice Project (Kokum's Wisdom)
- Montana Gardens project
- Edmonton Pregnancy Pathways – wrap around services for pregnant homeless women in Edmonton
- Little Red River Cree – Pregnancy Mentoring Program

Appendix B – Membership

MNCY SCN Leadership Team			
Shelley Valarie, Senior Provincial Director			
Dr. David Johnson, Provincial Medical Director			
Debbie Leitch, Executive Director			
Dr. Debbie McNeil, Scientific Director			
Dr. Seija Kromm, Assistant Scientific Director			
Stacey Nyl, Manager			
Margaret Sevcik, Senior Project Manager, HOIF			
Dr. Cyne Johnston, Senior Consultant			
Dr. Richard Oster, Senior Project Manager, MERCK			
Core Committee			
Name		Role	Zone
Alf, Dr.	Conradi	Pediatrician	Edmonton
Amy	Metcalfe	Assistant Professor, U of C, Obstetrics & Gynecology Medicine, Community Health Services	Calgary
Andrea, Dr.	Cullingham	Family Physician	Calgary
Bonita, Dr.	Lee	Infectious Diseases, Stollery	Edmonton
Bryan	Peffer	Executive Director, FMC	Calgary
Carina, Dr.	Majaesic	Site Medical Director - Stollery	Edmonton
Carlota	Basualdo-Hammond	Executive Director, Nutrition Services, Provincial Strategy, Standards and Practice	Provincial
Charlotte, Dr.	Foulston	Pediatrician - Medicine Hat	South
Christine	Westerlund	Senior Operating Officer, Stollery	Provincial
Chrystal	Ference	Director, Public Health Programs	Provincial
Colin, Dr.	Birch	Department Head, Obstetrics & Gynecology, FMC	Calgary
Connie	Burkart	Director, Lethbridge	South
Cyne	Johnston	MNCY SCN Senior Consultant	Provincial
Danica	Sharp	Director, Provincial Midwifery Services	Provincial
David, Dr.	Johnson	Senior Medical Director, MNCY SCN	Provincial
Debbie	Leitch	Executive Director, MNCY SCN	Provincial
Debbie	McNeil	Scientific Director, MNCY SCN	Provincial

Maternal Newborn Child & Youth Strategic Clinical Network™

Deon, Dr.	Erasmus	Family Physician, Provost	Central
Deonne	Dersch-Mills	Pharmacist	Edmonton
Doug , Dr.	Wilson	Obstetrics & Gynecology	Calgary
Ernest, Dr.	Phillippos	Medical Lead, Neonatology	Edmonton
Farah	Bandali	Director, Healthy Children and Families	Provincial
Gail	Cameron	Executive Director, Grey Nuns & Misericordia	Edmonton
Gloria, Dr.	Keays	Medical Officer of Health, Coronation Plaza	Provincial
Heather	Martin	Provincial Midwifery Services	Provincial
Helly, Dr.	Goez	University of Alberta	Edmonton
Jill	Woodward	Executive Director, Patient Care ACH	Calgary
Jo-Ann, Dr.	Johnson	Maternal Fetal Medicine, Foothills Medical Centre	Calgary
Jolene	Willoughby	Alberta Perinatal Health Program	Provincial
Juanita	Pilgrim	Maternal Child Manager, Fort McMurray	North
Julie	Evans	Allied Health Professional Practice & Education	Provincial
Keri	Laycock	Coordinator, Education and Consultation APHP	Provincial
Kristina	McGuire	Patient & Family Advisory	Provincial
Kristy	Cunningham	Stollery	Edmonton
Laura	Gibson	Policy Development	Provincial
Laurel	Ryan	Patient & Family Advisor	Provincial
Lisa	Hartling	Director, ARCHE	Calgary
Lonnie, Dr.	Zwaigenbaum	Zone Clinical Department Head	Edmonton
Margaret	Sevcik	HOIF Project Manager, MNCY SCN	Provincial
Marinka, Dr.	Twilt	Pediatric Rheumatologist, ACHRI Scientific Director	Calgary
Mark, Dr.	Anselmo	Head, Department of Pediatrics ACH	Calgary
Matt, Dr.	Hicks	Neonatologist (Researcher)	Edmonton
Michael, Dr.	Auld	Acting Zone Medical Director, Lethbridge	South
Monique	Janes	Director Population, Public and Indigenous Health	North
Ovsanna	Najaryan	Senior Strategic Health System Planner, Planning and Performance	Provincial
Po-Yin, Dr.	Cheung	Neonatal Perinatal Medicine, NICU RAH	Edmonton
Radha, Dr.	Chari	Medical Lead, Women's Health	Edmonton
Renee, Dr.	Farrell	Community Pediatrician	Calgary
Rosemary	Van Herk Auger	Director Patient Care, QEII Grande Prairie	North
Sandi	Sebastian	Director, Women and Children's Health Services RDRHC	Central

Maternal Newborn Child & Youth Strategic Clinical Network™

Sarah	Mooney	Patient & Family Advisor	Provincial
Seija	Kromm	Assistant Scientific Director, MNCY SCN	Provincial
Selene	Tash	Executive Director, Community Health Services	Edmonton
Shannon	Anderson	CNS, NICU & Child Health Program, Lead Baby Friendly Initiative, Grey Nuns	Edmonton
Shannon	Scott	Research/Pediatric RN, University of Alberta	Edmonton
Shelley	Valaire	Senior Provincial Director, MNCY SCN	Provincial
Stacey	Nyl	Manager MNCY SCN	Provincial
Stephanie, Dr.	Hart	Family Physician	
Susan	Nolt	Manager, Maternal-Infant and Early Childhood Development, Alberta Health	Provincial
Susanne, Dr.	Benseler	ACHRI Representative	Calgary
Tanya	Voth	WCHRI Representative	Edmonton
Teresa	Thurber	ED, Critical Care and Women's Health, RGH	Calgary
Thierry, Dr.	Lacaze	Medical Lead, Neonatology	Calgary
Tracee	Pratt	ED, Women's Health RAH & Sturgeon	Edmonton
Tracy	Sommerfeld	Senior Director Operations, Rural Health Services, Covenant Health	North
Val	Austen-Wiebe	Senior Provincial Director, PPIH SCN	Provincial
Valerie	Marsten	Executive Director, PLC Surgery & Women's Health	Calgary

Maternal Fetal Newborn Standing Committee

Name		Role	Zone
Amuchou, Dr.	Soraisham	Neonatologist	Calgary
Anita	Kozyrskyj	PhD, Professor, Department of Pediatrics	Edmonton
Art, Dr.	Jaroni	Family Medicine	Central
Brenda	Poole	Director, South Zone Rural West Facilities	South
Carlota	Basualdo-Hammond	Executive Director, Nutrition Services, Provincial Strategy, Standards and Practice	Edmonton
Charlene, Dr.	Lyndon	Obstetrics/Gynaecology, Women's Area Council	Edmonton
Chris, Dr.	Lever	Pediatrician	Calgary
Christa	Delacruz	Obstetrics/Gynaecology	North
Colin, Dr.	Birch	Department Head, Obstetrics & Gynecology	Calgary
Connie	Burkart	Director, Women's & Children's Health	South
Dallas	Belbeck	Clinical Knowledge & Content Management	Calgary

Maternal Newborn Child & Youth Strategic Clinical Network™

Danica	Sharp	Director, Provincial Midwifery Services, Health Professions, Strategy & Practice	Calgary
David, Dr.	Johnson	Senior Medical Director, MNCY SCN	Provincial
Debbie	Leitch	Executive Director, MNCY SCN	Provincial
Dena	Berci	Manager, Labour & Delivery, Postpartum	Calgary
Dorota	Swietach	Lois Hole Clinical Nurse Educator	Edmonton
Doug, Dr.	Wilson	Obstetrics/Gynaecology	Calgary
Duncan, Dr.	McCubbin	Obstetrics/Gynaecology	South
Elizabeth	Cook	Rural Director, South Zone West	South
Eliana, Dr.	Castillo	University of Calgary	Calgary
Farah	Bandali	Director, Health Children & Families	Provincial
Gail	Cameron	Executive Director, Covenant	Edmonton
Gina	Hogan	Team Lead, Perinatal Services	South
Giselle, Dr.	DeVetten	Family Medicine, Low Risk Obstetrics	Calgary
Gwen	Bouwsema	Manager, Misericordia	Edmonton
Heather	Johnson	Manager, Whitecourt	North
Heather	Martin	Midwife, Director of Midwifery North & Edmonton Zones	Edmonton
Jaclyn	Zakresky	Clinical Nurse Educator	North
Jacqueline	Lester	Clinical Educator, Public Health	South
Jalal, Dr.	Nanji	OBS trained anesthesiologist	Edmonton
Jane, Dr.	Schulz	Academic Department Health, Obstetrics & Gynecology	Edmonton
Jaye, Dr.	Malach	Obstetrical Lead	South West
Jeannie	Yee	Alberta Perinatal Health Program	Provincial
Jennifer	Splaine	Area Manager, Public Health	North
Joanne	Good	Registered Nurse	North
Julie, Dr.	Lauzon	Medical (Prenatal) Genetics	Calgary
Keri	Laycock	Coordinator, Education and Consultation	Edmonton
Kevin, Dr.	Wiebe	Obstetrics/Gynaecology	Central
Kristy	Cunningham	ED, Critical Care & Respiratory Therapy	Edmonton
Lana	Hataley	Executive Director	North
Laura	Gibson	Policy Advisor, Policy Services	Calgary
Laurel, Dr.	Smith	Obstetrics/Gynaecology	Central
Leanne	Stamp	Family & Patient Advisor	Central
Linda	Brad	Unit Manager	Edmonton
Lisa	Yushchyshyn	Manager, Women's Health, Lloydminster Hospital	Saskatchewan
Lori	Smith	Unit Manager, Maternity	Calgary

Maternal Newborn Child & Youth Strategic Clinical Network™

Lorna	Spitzke	CORe Lead Child & Women's Health, Connect Care	Provincial
Manoj, Dr.	Kumar	Neonatologist & Clinical Epidemiologist	Edmonton
Marilyn	Young	Program Manager, Public Health Prenatal and At Risk Programs	Calgary
Margaret	Sevcik	HOIF Project Manager, MNCY SCN	Calgary
Megan	Gleddie	Clinical Quality Coordinator Women's Health	Edmonton
Megan	Lalonde	Assistant Professor, Mount Royal, Midwifery Program, Midwife	Calgary
Megan	McQuiston	Clinical Practice Coordinator, Women's Health, Calgary Zone	Calgary
Michael, Dr.	Bow	Alberta Perinatal Health Program	Calgary
Nelly	Albornoz	Patient Care Manager, Obstetrics	Edmonton
Omoniyi, Dr.	Adebisi	Family Medicine	Central
Pamela	Sherman	Covenant Health Rural PCN	Central
Paul, Dr.	Gibson	Associate Profession, U of C	Calgary
Penny	Holmes	Manager, LDRP	Edmonton
Penny	Kelln	Manager, Obstetrics	North
Radha, Dr.	Chari	Zone Clinical Lead	Edmonton
Rhonda	VanThourno ut	Coordinator, APHP	Edmonton
Richard, Dr.	Ibach	Associate Zone Medical Director	North
Rshmi, Dr.	Khurana	Obstetrical Medicine	Edmonton
Sandi	Sebastian	Director, Women & Children's Health Services	Central
Sarah	Dimitriou	Service Planning Consultant Department of Family Medicine	Calgary
Seija	Kromm	MNCY Assistant Scientific Director	Provincial
Shantel	Hunter	Acute Care Manager, High River	Calgary
Sheila	Tyminski	Director, Nutrition Services	Calgary
Shelley	Valaire	Senior Provincial Director, MNCY SCN	Provincial
Shelly Lynn	Franklin	Manager	North
Sheri	McKenzie	Program Manager, Grey Nuns	Edmonton
Simrit, Dr.	Brar	Connect Care Area Council, OB/GYN	Calgary
Stacey	Nyl	Manager MNCY SCN	Provincial
Stephanie, Dr.	Cooper	Obstetrics & Gynecology	Calgary
Stephen, Dr.	Wood	Obstetrics & Gynecology	Calgary
Tannice	Hinrichsen	Manager, Grey Nuns	Calgary
Terri	Miller	Sexual & Reproductive Health/Healthy Children and Families, PPIH	Calgary

Tracee	Pratt	Executive Director, Lois Hole	Edmonton
Tracey	Correia	Manager, Edson	North
Tracy	Lee	Senior Advisor, Indigenous Health Program Central Zone	Central
Valerie	Marsten	ED, PLC Surgery & Women's Health	Calgary
Yvonne	Luu	Unit Manager	Calgary
Neonatal Intensive Care Unit (NICU) Standing Committee			
Name		Role	Zone
Amber, Dr.	Reichert	Neonatologist	Edmonton
Amie	Mays	Manager, NICU/Paediatrics	Central
Amuchou, Dr.	Soraisham	Neonatal-Perinatal Medicine, Pediatrics	Calgary
Ayman, Dr.	Abou Mehrem	CKCM Medical Lead for Neonatology	Provincial
Bryan	Peffer	Executive Director, Women's Health	Calgary
Carlos, Dr.	Fajardo	Neonatal-Perinatal Medicine	Calgary
Carlota	Basualdo-Hammond	Executive Director, Nutrition Services, Provincial Strategy, Standards and Practice	Provincial
Catherine	Korechuk	NICU Clinical Nurse Educator	Central
Cathy	Ringham	University of Calgary	Calgary
Charlotte, Dr.	Foulston	Pediatrician	South
Connie	Burkart	Director	South
Cyne	Johnston	Senior Consultant, MNCY SCN	Provincial
Dallas	Belbeck	CKCM Coordinator	Calgary
David, Dr.	Johnson	Senior Medical Director, MNCY SCN	Provincial
Debbie	Leitch	Executive Director, MNCY SCN	Provincial
Deonne	Dersch-Mills	Pharmacy, ACH	Calgary
Doug, Dr.	Wilson	Obstetrics & Gynaecology	Calgary
Elizabeth	Benson	Manager NICU	Calgary
Elsa, Dr.	Fiedrich	Pediatrician	Calgary
Gail	Cameron	Executive Director, Covenant	Edmonton
Gregory	Schmidt	Unit Manager NICU	North
Heather	Chinnery	Advanced Practice Nursing, Stollery	Edmonton
Ibaa, Dr.	Faltaous	Medical Director, NICU & Paeds	North
Jennifer, Dr.	Toye	NICU Connect Care Subgroup Representative	Provincial
Jennifer, Dr.	Unrau	Peds/NICU Chair FMC Policy & Procedure Committee	Calgary
Karen	Benzies	FICare	Provincial
Karen	Pelletier	Manager NICU	Edmonton
Katryna	Hubl	Patient & Family Advisor	Provincial

Maternal Newborn Child & Youth Strategic Clinical Network™

Keri	Laycock	Alberta Perinatal Health Program	Edmonton
Kerry	Hart	NICU Manager	Calgary
Kevin	Orton	NICU Manager	Calgary
Khalid, Dr.	Aziz	Neonatal-Perinatal Medicine	Edmonton
Kimberley	Thomas	Manager NICU	Calgary
Kristy	Cunningham	ED Critical Care & Respiratory Therapy Stollery	Edmonton
Kumar, Dr.	Kumaran	Medical Director, Neonatologist	Edmonton
Lara	Osterreicher	Executive Director Women's Health	Calgary
Laura	Slipp	Patient care Manager NICU PICU	Calgary
Lesa	Fee	Program Manager NICU & Child Health Clinics	Edmonton
Lisa	Lenuik	Patient Care Manager, Stollery & Sturgeon	Edmonton
Margaret	Sevcik	HOIF Project Manager, MNCY SCN	Calgary
Mark	Lansing	Unit Manager Covenant Health	Edmonton
Miriam	Fox	Nurse Practitioner	Edmonton
Monica	Whitehead	Manager NICU, Pediatrics Chinook	South
Nalini, Dr.	Singhal	Neonatologist	Calgary
Nalini, Dr.	Singhal	Neonatologist	Calgary
Nancy	Spooner	Clinical Nurse Educator	North
Nate	Crosland	Respiratory, Grey Nuns	Edmonton
Pilar	Zanoni	FICare	Provincial
Po-Yin, Dr.	Cheung	Neonatal Perinatal Medicine, RAH	Edmonton
Rebecca	Eldridge	Manager NICU	South
Rosemary	Van Herk Auger	Director Patient Care	North
Sandi	Sebastian	Director, Women and Children's Health Services	Central
Sandra	Dennis	Unit Manager, South Health Campus	Calgary
Sarah	Bieganeck	Patient Care Manager NICU	Edmonton
Sarah	Searle	Clinical Informatics Lead, C	Calgary
Sharif, Dr.	Shaik	NICU Medical Director & Facility Chief of Child Health	Edmonton
Sharla	Ozerooff	Patient & Family Advisor	Provincial
Shelley	Valaire	Senor Provincial Director, MNCY SCN	Provincial
Stacey	Nyl	MNCY Manager	Provincial
Tara	Follett	NICU Nurse Practitioner	Edmonton
Thierry, Dr.	Lacaze	Pediatrics, Neonatal-Perinatal Medicine	Calgary
Tracee	Pratt	Executive Director, Women's Health RAH	Edmonton
Trudie	Schimpf	Provincial Practice Lead, Nutrition Services	Edmonton

Valerie	Harrison	Program Manager	Edmonton
Wilma	Dove	Unit Manager PLC	Calgary
Child & Youth Standing Committee			
Name		Role	Zone
Alf, Dr.	Conradi	Pediatrician, PICU, Stollery	Edmonton
Allison	Hunter	Clinical Nurse Specialist, Nursing Education ACH	Calgary
Amie	Mays	Manager, NICU/Peds RDRHC	Central
April, Dr.	Elliott	Pediatrician, Adolescent Health	Calgary
Bonita, Dr.	Lee	Infectious Diseases	Edmonton
Carina, Dr.	Majaesic	Site Medical Director Stollery, AZMD	Edmonton
Carlota	Basualdo-Hammond	Executive Director, Nutrition Services, Provincial Strategy, Standards and Practice	Edmonton
Christine	Westerlund	Senior Operating Officer, Stollery	Edmonton
Colin, Dr.	Wilbur	MD Neurology	Edmonton
Connie	Berg-Chabaniuk	Program Manager, Child Health, Public Health	Edmonton
Connie	Burkart	Director Chinook Regional Hospital	South
Curtis	Perrott	Director, Pediatric Rehabilitation	Edmonton
David, Dr.	Johnson	Senior Medical Director	Calgary
Debbie	Leitch	MNCY SCN Executive Director	Centre
Gregory	Schmidt	Unit Manager Peds/NICU	North
Hasu, Dr.	Rajani	Pediatrician	Edmonton
Ibaa, Dr.	Faltaous	Medical Lead, NICU & Peds	North
Jacqueline	Pei	R.Psych., Ph.D.	Edmonton
Jaime	Sieuraj	Clinical Nurse Specialist, Quality and Patient Safety	Edmonton
Jennifer, Dr.	Conway	Pediatric Cardiology	Edmonton
Jennifer	Dellezay	Community Rehabilitation Manager Pediatrics	Central
Jennifer, Dr.	Macpherson	Facility Medical Director	Calgary
Jennifer, Dr.	Thull-Freedman	Pediatric Emergency Medicine, Medical Director of Quality and Safety, ACH	Calgary
Jessica, Dr.	Foulds	Pediatrician	Edmonton
Jill	Bullock	Clinical Nurse Specialist, Nursing Education ACH	Calgary
Jill	Woodward	Executive Director, Inpatient Care	Calgary
Juanita	Pilgrim	Maternal Child/Peds Manager	North
Julia, Dr.	Carter	Family Medicine	Calgary

Maternal Newborn Child & Youth Strategic Clinical Network™

Karen	Johnston	Manager Mental Health Nurse Practitioner	Edmonton
Kate	Storey	Patient & Family Advisor	Edmonton
Kathy	Reid	Clinical Nurse Specialist, Policy & Practice	Edmonton
Kathryn	daSilva Curiel	Clinical Nurse Specialist, Children's Hospice and Palliative Care Program/ASSIST	Calgary
Keri-Lynn	Strain	Manager, Healthy Parents, Healthy Children	Calgary
Laura	Benard	Senior Practice Consultant, HPSP, Allied Health	Provincial
Lawrence, Dr.	Richer	Pediatric Neurologist WICHRI	Edmonton
Lindsay	Huseby	Pediatric Educator	Central
Lorna	Spitzke	COREe Lead Child & Women's Health, Connect Care	Provincial
Marcel	Romanick	Clinical Practice Leader, Pharmacy Services	Edmonton
Marcia	Kashani	Executive Director, Ambulatory and Inpatient Care	Edmonton
Margaret	Sevcik	HOIF Project Manager	Calgary
Mark	Diachinsky	Pharmacist	Edmonton
Mark, Dr.	Epp	Pediatrician	Central
Melissa	Lachapelle	Provincial Practice Lead, Nutrition Services	Provincial
Michelle, Dr.	Bailey	Pediatrician, Hospitalist	Calgary
Monica	Whitehead	Manager NICU, Pediatrics	South
Natalie	Ford	RN, MN Red Deer College	Central
Ray	Harrison	Manager, Healthy Children and Youth, Healthy Living, Population, Public & Indigenous Health	Calgary
Rebecca	Eldridge	Manager Peds and NICU	South
Rosemary	Van Herk-Auger	Director Patient Care	North
Sandi	Sebastian	Director, Women and Children's Health Services	Central
Sarah	Mooney	Patient & Family Advisor	Edmonton
Seija	Kromm	Assistant Scientific Director, MNCY SCN	Calgary
Shannon	MacDonald	PhD, Assistant Professor	Edmonton
Shelly	Gladue	Senior Advisor, Indigenous Health Program	North
Shelley	Valaire	MNCY SPD	Provincial
Stacey	Nyl	Manager MNCY	Provincial

Stephanie	Hottentrager	CNE, Maternal Child	North
Indigenous Maternal Newborn Child & Youth (I-MNCY) Standing Committee			
Name		Role	Zone
Val	Austen-Wiebe	Committee Co-Chair, Executive Director Population, Public & Aboriginal Health SCN	Provincial
Ester (Dr.)	Tailfeathers	Committee Co-Chair, Senior Medical Director, Indigenous Health SCN	Provincial
Andrea	Thain Liptak	Director, Primary Care and Chronic Disease Management	Provincial
Anthony	Johnson	Project Coordinator, Kehewin Health Services	North
Ashton	James	Metis Nation of Alberta, Health Research	North
Bonnie	Graham	Director of Maskwacis Health Centre	North
Carol	Brzezicki	Senior Advisor, Aboriginal Health Program	Provincial
Cassandra	Felske-Durksen	Family Physician Royal Alex	Edmonton
Catherine	Hill	Edmonton - Glenrose	Edmonton
Cecilia	Blasetti	Director, Boyle McCauley Health Center	Edmonton
Chelsea	Crowshoe	Director, South, Indigenous Health Program, PPIH	South
Chelsea, Dr.	Topping	OB/GYN Lethbridge	South
Cheryl	Brace	Public Health and Primary Care Nurse Advisor, Department of Indigenous Services Canada	Provincial
Chrystal	Ference	Director, Public Health Programs	Provincial
Cindy	Roache	Nurse Advisor PH Indigenous Services Canada	Provincial
Connie	Burkart	Director, Women & Children's Health South Zone	South
Danica	Sharp	Executive Director, Midwifery	Provincial
David, Dr.	Johnson	Senior Medical Director, MNCY SCN	Provincial
Debbie	Leitch	Executive Director MNCY SCN	Provincial
Debbie	McNeil	Scientific Director MNCY SCN	Provincial
Deepa	Upadhyaya	Midwife, Calgary	Calgary
Donna	Matier	Acting Director, Population and Public Health	Provincial
Ellen, Dr.	Toth	Medical Leader, Aboriginal Health Program, AHS	Provincial
Grant	Frame	Edmonton Fort Saskatchewan Community Hospital	Edmonton
Jennifer	Splaine	Area Manager, Public Health, North Zone	North
Jessica	Swain	Indigenous Midwife	Central

John (Dr.)	Lilley	Physician Community Volunteer, Co-Chair of Pregnancy Pathways	Provincial
Jordanna	Lambert	North Zone (High Level/Peace River)	North
Kendra	Boutin	Manager, L & D, Wetaskiwin Hospital	Central
Kerry	Roberts	Director Rural Acute Care	South
Linda	McConnan	Pregnancy Pathways	Provincial
Lisa	Barrett	Area Manager Ponoka Acute, LTC Home Care & Wetaskiwin Home Care	Central
Lise	Brisebois-Blouin	Director Central Communities and Rural Facilities	Calgary
Maggie, Dr.	Quance	RN, Associate Dean of Research, Scholarship and Community Engagement, Faculty of Health, Community and Education, School of Nursing & Midwifery's Indigenous Health initiatives	Calgary
Melissa	Potestio	PPIH Scientific Office	Provincial
Nadine	McRee	Executive Director, Indigenous Health Program	Provincial
Nicole	Matheson	Midwife Central Zone Rocky Mountain House O'Chiese Anishinabe	Central
Penny	Morelyle	Senior Planner, Planning & Performance	Provincial
Rebecca	Rich	Obstetrician & Gynecologist	Edmonton
Richard	Oster	Senior Project Manager, MERCK for Mothers	Provincial
Sandi	Sebastian	Director RDRHC	Central
Seanna	Chesney	Program Manager, Maternal Child Health	Provincial
Seija	Kromm	MNCYY SCN Assistant Scientific Director	Provincial
Seth, Dr.	Heckman	Edmonton and Maskwacis (Cree)	Edmonton
Shannon	Dunfield	Manager, Grande Prairie Public Health	North
Shelly	Gladue	Senior Advisor, Indigenous Health Program (replacing Nicole Eshkakogan)	Provincial
Shelley	Valaire	Senior Provincial Director, MNCY SCN	Provincial
Stacey	Nyl	MNCY SCN Manager	Provincial
Tracee	Pratt	ED Women's Health	Edmonton
Tracy	Lee J.	Senior Advisor, Aboriginal Health Program	Provincial
Patient and Family Advisory Council			
Name		Zone (by residency)	
Anne	Merritt	Edmonton	
Chelsea	Price		
Christine	Johns	Calgary	
Jennifer	Perron	Calgary	

Maternal Newborn Child & Youth Strategic Clinical Network™

Kristina	McGuire	Calgary
Laurel	Ryan	Calgary
Leanne	Stamp	Central
Rena	Brito	Calgary
Sarah	Mooney	Edmonton
Sharla	Ozeroff	Edmonton
Stephanie	Kelly	Edmonton
Michelle	Nerrasen	St. Albert

References

Maternal Fetal Newborn

- 1 Nicolaides K.H. Turning the pyramid of prenatal care. *Fetal diagnosis and therapy*. 2011; 29(3):183-96.
- 2 Lagendik,J, Vas, A,Bertens L, Denkas S Bonsel G, Steyerberg E, Been j, Steegers E. Antenatal non-medical risk assessment and care pathways to improve pregnancy outcomes: A cluster randomized trial. *European Journal of Epidemiology*, 2018 March 33; 577-589.
- 3 Chen KH, Seow KM, Chen LR. Progression of gestational hypertension to pre-eclampsia: A cohort study of 20,103 pregnancies. *Pregnancy hypertension*. 2017 Oct 1; 10:230-7.
- 4 Medley N,Vogel, P,Angharad C, Alfirevic, Z. Interventions during pregnancy to prevent preterm birth: an overview of Cochrane systematic reviews. 2018. Vol 11. Art No: CD102505

Neonatal Intensive Care

- 5 Grummer-Strawn LM, Rollins N. Summarizing the health effects of breastfeeding. *Acta Paediatrica* 2015 <https://doi.org/10.1111/apa.13136>.
- 6 Bisquera JA, Cooper TR, Berseth CL. Impact of necrotizing enterocolitis on length of stay and hospital charges in very low birth weight infants. *Pediatrics*. Mar 2002;109(3):423-428.
- 7 Fitzgibbons SC, Ching Y, Yu D, et al. Mortality of necrotizing enterocolitis expressed by birth weight categories. *Journal of pediatric surgery*. Jun 2009;44(6):1072-1075; discussion 1075-1076).
- 8 Colaizy TT, Bartick MC, Jegier BJ, Green BD, et al. Impact of optimized breastfeeding on the costs of necrotizing enterocolitis in extremely low birthweight infants. *J Pediatr* 2016;175:100-5.
- 9 Health Trends Alberta 2018-04-17, Neonatal withdrawal symptoms from maternal use of drugs of addiction.
- 10 AHS Analytics Data/Dr. Matt Hicks PRIHS 5 Application - 2018 “The Alberta Neonatal Abstinence Syndrome Mother-Baby Care ImprovEmeNT (NASCENT) Program: A stepped wedge cluster randomized trial of a hospital-level Neonatal Abstinence Syndrome intervention”.
- 23 Thanh NX, Toye J, Savu A, Kumar M, Kaul P. Health service use and costs associated with low birth weight – A population level analysis. *Journal of Pediatrics* 2015; 167:551-6.
- 24 Alberta Health Services Data
- 25 Health Trends Alberta 2015-01-06, Maternal and newborn cost in Alberta.

26 Giving Birth in Canada: The Costs (2005) Canadian Institute for Health Information (CIHI)
https://secure.cihi.ca/free_products/Costs_Report_06_Eng.pdf

Child & Youth

11 MNCY SCN Transformational Road Map 2017-2020

12 Kaufman M, Pinzon J. Adolescent Health Committee. Transition to adult care for youth with special health care needs. *Paediatr Child Health* 2007; 12: 785–8.

13 McDonagh JE, Viner RM. Lost in transition? Between paediatric and adult services. *BMJ*. 2006; 332 (7539):435-437.

14 Cohen E, Berry JG, Camacho X, Anderson G, Wodchis W, Guttman A. Patterns and costs of health care use of children with medical complexity.
www.pediatrics.org/cgi/doi/10.1542/peds.2012-0175

15 Schraeder K, Nettel-Aquirre A, Mackie A, Barrett O, Johnson DW, Ryan AR, Dimitropoulos G, Samuel S. Identifying a retrospective cohort of adolescents with chronic health conditions from a paediatric hospital prior to transfer to adult care: The Calgary Transition Cohort. *BMJ Open* 2019;9:e027045.

16 Public Health Agency of Canada - Autism spectrum disorder among children and youth in Canada 2018 - A report of the National Autism Spectrum Disorder Surveillance System.

17 Daniels AM, Mandell DS. Explaining differences in age at autism spectrum disorder diagnosis: A critical review. *Autism*. 2014 July; 18(5): 583–597.

18 Zwaigenbaum L, Brian JA, Ip A. Early detection for autism spectrum disorder in young children – Canadian Paediatric Society Position Statement. *Paediatrics & Child Health*, 2019, Vol. 24, No. 7.

19 Canadian Institute for Health Information 2019 Infographic: Child and youth mental health in Canada.

26 Alberta Health Services Physician Workforce Plan and Forecast, 2018-2028.

Indigenous Maternal Newborn Child & Youth

20 Alberta Health Services 2019-2020 Q2 Performance Report.
<https://www.albertahealthservices.ca/assets/about/publications/ahs-pub-pr-2019-20-q2-objective-06.pdf>

21 2016 Census of Canada – Aboriginal People. Alberta Government, Treasury Board and Finance – Office of Statistics and Information – Demography. Dec 15, 2017.

22 Interactive Health Data Application: http://www.ahw.gov.ab.ca/IHDA_Retrieval/First Nations Indicators 2019