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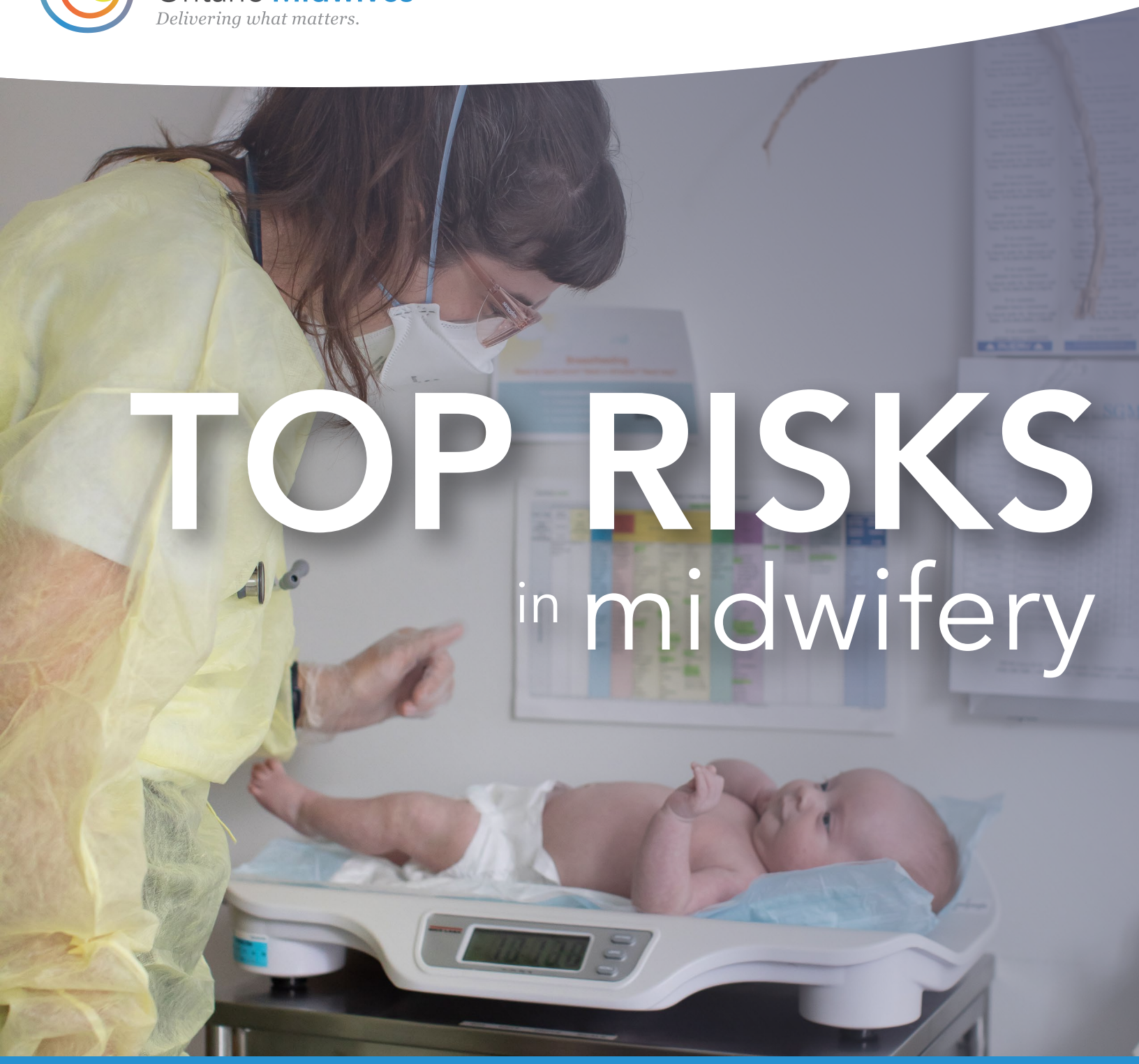

TOP RISKS in midwifery

A **QUALITY IMPROVEMENT** WORKSHOP

2024

CONTENTS

INTRODUCTION

Over the winter of 2024, the Association of Ontario Midwives (AOM) will host a series of quality improvement workshops focused on the top risks in midwifery. Representatives from birth centres, expanded midwifery care models (EMCM), Indigenous midwifery practices and midwifery practice groups will be requested to come together to learn from each other's successes and challenges in mitigating the top risks in midwifery as identified by the Healthcare Insurance Reciprocal of Canada (HIROC) and the AO). The workbook, survey, and workshops are intended to help midwives identify and prioritize areas of improvement in client safety and practice management. The information gathered from the survey and the workshops will help the AOM to identify systemic areas of risk and advocate for the tools and resources midwives need to continue to provide safe, client-centred care.

HIROC Claims

HIROC maintains a vast database of healthcare liability and property claims. An extensive review of incidents and claims was conducted to develop a list of high-cost risks for various healthcare sectors over a recent five-year period (e.g., primary care, midwifery, air and land ambulance services, etc.). HIROC developed Risk Reference Sheets, concise resources on each area of risk to facilitate knowledge transfer. They highlight claims themes and contain a checklist of evidence informed and peer reviewed mitigation strategies. These are known as Risk Assessment Checklists (RAC) and are the foundation of the AOM survey and workshops (included in the appendix).

AOM Quality and Risk Management Member Services

AOM On Call is a 24/7 confidential service where members can access support from a Quality and Risk Management Specialist for concerns relating to their work where legal, ethical, and / or practice-related advice is required. The AOM recognizes that the risks highlighted by HIROC are not only costly in terms of claims costs and client outcomes but also significantly impact midwives' well-being and ability to practice in a sustainable manner. The AOM risk management team applies a holistic approach to managing risk while incorporating HIROC mitigation strategies, principles from quality and client safety, fair and just culture, human rights and equity.

INSTRUCTIONS

The AOM requests that each birth centre, midwifery practice group and EMCM participate in RAC. The following tasks can be assigned to designates within your practice group / setting.

1. Choose a representative and a potential alternate (in case your representative cannot attend the workshop on the determined day).
2. The chosen representative and alternate will review the Survey Questions in the workbook and meet with the practice or team to discuss answers. Each question should be marked as Yes / No / Partial[1], or N/A. If you note an area of risk for your practice, please refer to the Resources section for tools and information to mitigate the risk and 'close the gap'. Note any questions that you may have to ask in the workshop or any resources that you might want to share.
3. The representative, or another designate from the practice, will fill out the online survey with your answers. The survey will also collect some basic information about your midwifery practice environment in relation to client safety, interprofessional relationships and risk. Your responses will be kept confidential and only aggregate data will be presented. If you have questions about your data and privacy, please email Julie Toole, Manager of Quality and Risk Management at the AOM: Julie.toole@aom.on.ca.
4. The representative should register and attend a workshop. If this individual is unable to attend, the alternate may attend in their place.
5. Complete the post-workshop evaluations.

If your practice receives business insurance through HIROC, you may be eligible for a discount once your participation in steps 1-5 is complete. Please contact midwives@hiroc.com for more details.

The exercises at the end of this booklet are optional and can be completed as a group or as an individual.

1 A 'Partial' response should indicate that the mitigation strategy is implemented 25-75% of the time or by 25-75% of midwives.

SURVEY QUESTIONS

These survey questions have been adapted from the risk mitigation strategies HIROC identified in the Risk Reference Sheets.[2] They are grouped thematically and can be marked Yes / No / Partial, or not applicable (N/A). Not every strategy will be relevant to every practice setting, but some are; whenever possible the setting is specified.

1. Communication and Documentation

	YES	NO	PARTIAL	N/A
a. In all your practice settings[3], are strategies in place to ensure comprehensive, contemporaneous or timely documentation of informed choice discussions (ICDs) throughout the perinatal period?	○	○	○	○
b. If informed consent / decline forms are used, are they accompanied by complete and timely documentation in the health record?	○	○	○	○

1.1 Intrapartum Care

In all settings where clients give birth, do midwives provide complete and timely documentation of ICDs (particularly when a client declines) regarding:

	YES	NO	PARTIAL	N/A
a. scheduled routine and PRN fetal monitoring assessments?	○	○	○	○
b. choosing between a repeat cesarean and a trial of labour after cesarean (TOLAC)?	○	○	○	○
c. cervical ripening and pharmaceutical induction and augmentation of labour?	○	○	○	○
d. EFM where recommended by the MRP or indicated by local hospital / health region policy, for example, during cervical ripening, inductions and augmentations?	○	○	○	○
e. EFM before discharge home following prostaglandin E1 or E2 for cervical ripening?	○	○	○	○
f. pregnant person and fetal assessments during the ripening, induction, or augmentation?	○	○	○	○

2 Find the Risk Reference Sheets in the Appendix of this workbook, or on HIROC's website: https://www.hiroc.com/resources.

3 Practice settings may include home birth settings, clinic spaces, birth centres and hospital environments. In some cases, the environment is specified. If you don't work in a particular environment, please choose N/A.

1.2 PPH response

In all practice setting(s), do midwives:

	YES	NO	PARTIAL	N/A
a. ensure complete and timely documentation of the ICDs surrounding the management of the third stage of the labour?	⚫	⚫	⚫	⚫

For out of hospital births, have midwives:

	YES	NO	PARTIAL	N/A
b. adopted a standardized intrapartum and PPH 'resuscitation' flowsheet or record?	⚫	⚫	⚫	⚫
c adopted a standardized gross placenta template to prompt a bedside placenta evaluation?	⚫	⚫	⚫	⚫

1.3 Shoulder Dystocia (SD)

	YES	NO	PARTIAL	N/A
a. Do you ensure complete and timely antenatal care management plans for pregnant persons with risk factors, incorporating pertinent information such as evaluations / interventions recommended, performed, and / or declined (e.g., glucose tolerance), nutritional counselling, referrals, consults and recommendations, and antenatal discussion of SD management?	⚫	⚫	⚫	⚫
b. Have midwives adopted a standardized SD documentation record or dictation aid to support timely and reliable documentation of SD management for all out of hospital births?	⚫	⚫	⚫	⚫
c. Have midwives supported hospital adoption of a similar standardized SD documentation record? And / or have midwives familiarized themselves with hospital documentation processes related to SD?	⚫	⚫	⚫	⚫

1.4 Newborns

	YES	NO	PARTIAL	N/A
a. Have midwives adopted a standardized neonatal resuscitation flowsheet / record / dictation aid for out of hospital births?	⚫	⚫	⚫	⚫
b. Do midwives ensure complete and timely documentation of the ICDs surrounding parental declines for routine and recommended screening, diagnostic testing, and interventions for suspected and at-risk neonates, and in particular declines related to neonatal hyperbilirubinemia and neonatal hypoglycemia?	⚫	⚫	⚫	⚫

1.5 Inter / Intraprofessional Communication

In your practice environment(s), have midwives:

	YES	NO	PARTIAL	N/A
a. adopted a standardized and formalized communication process for handovers and transfer of accountability during the intrapartum and postpartum periods, including (but not limited to) handover and transfer of accountability between: practitioners (e.g., midwife to nurse, midwife to midwife, midwife to physician); areas (e.g., labour to postpartum)?	●	●	●	●
b. adopted a standardized and structured communication framework for team (intra- and interdisciplinary) communication during the intrapartum and postpartum period (e.g., SBAR)?	●	●	●	●
c. supported formal strategies to monitor, measure, and improve documentation of the interdisciplinary team ordering, implementing, and caring for pharmaceutically induced or augmented pregnant persons?	●	●	●	●
d. made it a practice to debrief (with the interdisciplinary team and family) and offer supports following all births involving SD?	●	●	●	●
e. familiarized themselves with the contingency protocols for rapid response support when the MRP, physician consultant, resuscitation team, or surgical team does not respond or is unable to respond in a clinically appropriate timeframe? And, ensured the protocol is updated regularly to reflect human health resource changes and challenges?	●	●	●	●
f. supported implementation of formal strategies to discourage informal reports or consultations (e.g., hallway chats and heads up) with the physician consultant?	●	●	●	●
g. implemented strategies to facilitate timely communication to physician consultants, when indicated:				
• for pregnant persons enroute to the hospital from the community labour / birth setting?	●	●	●	●
• following a pregnant person's presentation to the obstetrical triage and / or labour / delivery floor?	●	●	●	●
• following the pregnant person's presentation to the hospital from the community birth location due to ongoing and / or unresolved FHS abnormalities or pregnant person concerns?	●	●	●	●
• when continuous EFM, where utilized or ordered, is discontinued?	●	●	●	●
• where fetal monitoring is challenging or of inadequate quality results in non-interpretable tracings?	●	●	●	●
• when a pregnant person declines some or all fetal assessments during labour (including EFM where indicated by hospital/health region guidelines)?	●	●	●	●
• in the presence of pregnant or postpartum person deterioration?	●	●	●	●

1.6 Informed Choice Discussions

In your practice environment(s), have midwives:

	YES	NO	PARTIAL	N/A
a. facilitated access to interpreter services throughout perinatal care, including intrapartum to facilitate informed choice conversations in all birth locations?	●	●	●	●
b. ensured all client handouts, resources (and related ICDs) use clear, explicit, and unbiased language when describing the risks, benefits, alternatives, and related evidence?	●	●	●	●
c. developed detailed antenatal and labour / birth care management plans for pregnant persons choosing a TOLAC/VBAC, ensured the care plan is readily accessible by team members, included all attempts to obtain the prior operative reports from prior caesareans as well as the actions taken to assess the person's clinical eligibility in the absence of the reports?	●	●	●	●
d. supported implementation of a current, clear, unbiased evidence-based handout / resource to supplement the ICDs regarding cervical ripening, and induction and augmentation of labour?	●	●	●	●
e. ensured the discussion (and documentation) of risks, benefits and alternatives related to cervical ripening, induction, augmentation and/or VBAC includes a clear description of the pregnant person's and fetus' clinical status?	●	●	●	●
f. made it a practice to obtain or briefly confirm (and document) the pregnant person's informed consent to VBAC:				
• upon admission to hospital or midwife-led birth centre?	●	●	●	●
• prior to pharmaceutical induction or augmentation of labour?	●	●	●	●
• upon acceptance of an interprofessional or intraprofessional (i.e. midwife to midwife) transfer of care?	●	●	●	●

2. Care Processes

2.1 Protocols

Has your practice group adopted or supported hospital adoption of a standardized evidence-based protocol:

	YES	NO	PARTIAL	N/A
a. for the induction booking process and triage?	⬤	⬤	⬤	⬤
b. to support the systematic classification of and response to abnormal IA and atypical and abnormal EFM tracing findings?[4]	⬤	⬤	⬤	⬤
c. to support a systematic and coordinated approach to newborn resuscitation?	⬤	⬤	⬤	⬤
d. for the management of TOLAC?	⬤	⬤	⬤	⬤
e. for the prevention, identification, and management of non-emergent, severe hypertension, and hypertensive emergencies?	⬤	⬤	⬤	⬤
f. for the prevention, identification, and management of PPHs and hemorrhagic shock?	⬤	⬤	⬤	⬤
g. for the prevention, identification, and management of pregnant and postpartum person sepsis and septic shock?	⬤	⬤	⬤	⬤

In your practice group(s), have midwives:

	YES	NO	PARTIAL	N/A
h. implemented formal strategies to improve access to clinical protocols and policies (e.g., off-site access, easy to access algorithms or decision trees to accompany the more comprehensive protocols etc.)?	⬤	⬤	⬤	⬤
i. supported hospital implementation of a standardized, current, evidence-based induction and augmentation of labour management protocol to facilitate a systematic and coordinated approach to:				
• cervical ripening?	⬤	⬤	⬤	⬤
• induction and augmentation of labour?	⬤	⬤	⬤	⬤
j. implemented a current evidence-based protocol for diabetes in pregnancy?	⬤	⬤	⬤	⬤
k. implemented formal strategies to review midwifery clinic policies / procedures / guidelines / algorithms and practices that use race as a 'correction factor' (trial of labour after caesarean calculators, hypertension algorithms, etc.)?[5]	⬤	⬤	⬤	⬤

4 Does the protocol include considerations regarding access to appropriate resources and infrastructure (intrauterine pressure catheters and FSEs) when providers are challenged to adequately monitor uterine activity and / or FHR?

5 Clinical calculators and algorithms that use race as a predictive variable have the potential to perpetuate or even amplify race-based health inequities. Race is a social construct, not biological. It does not account for disparities in outcomes, systemic racism does. See: HIROC Risk Reference sheet: Failure to Appreciate Deteriorating Pregnant and Postpartum Persons and Hidden in Plain Sight — Reconsidering the Use of Race Correction in Clinical Algorithms 10.1056/NEJMms2004740

	YES	NO	PARTIAL	N/A
l. implemented a formal protocol around Indigenous birthing practices (ie. medicines, elders, ceremony)?	○	○	○	○

2.2 Intrapartum

If you practice in hospital, have midwives:

	YES	NO	PARTIAL	N/A
a. supported adoption of a current evidence-based induction and augmentation of labour safety checklist (e.g., pre- and in-use oxytocin safety checklist)?	○	○	○	○
b. made themselves aware of the:				
• interfacility transport protocol?	○	○	○	○
• community birth setting transfer protocol?	○	○	○	○
c. advocated for the discontinuation of induction and augmentation "standing orders"?	○	○	○	○
d. familiarized themselves with hospital-based strategies to quantify blood loss during the antepartum, birth (vaginal and caesareans), and postpartum in hospital?	○	○	○	○

2.3 Shoulder Dystocia

In community-based birth locations, have midwives:

	YES	NO	PARTIAL	N/A
a. implemented a standardized evidence-based SD labour management protocol to ensure a systematic and coordinated approach that includes (but is not limited to) the need for a standardized assessment of individuals at risk for SD, early recognition, planned response, equipment, and documentation requirements / templates?	○	○	○	○
b. adopted a team-based approach to SD where all members of the care team are expected to:				
• be knowledgeable of the roles of each team member present and the necessary manoeuvres?	○	○	○	○
• communicate concerns surrounding risk factors and / or anticipated SD to the team where indicated (e.g., upon arrival at triage or admission to the unit, team huddles)?	○	○	○	○
• immediately call for help once SD is suspected and / or encountered?	○	○	○	○

2.4 Newborn

Have midwives implemented a standardized process to ensure all neonates:

	YES	NO	PARTIAL	N/A
a. in hospital during the 24-72 hours window are assessed, screened, and / or tested for hyperbilirubinemia prior to discharge?	●	●	●	●
b. who are not in hospital (e.g., community birth, early discharge) during the 24-72 hours window have alternate access to assessment / screening / testing outside of the hospital setting?	●	●	●	●
c. receive ongoing and judicious assessments to identify and respond to any sudden increase in TSB levels in the immediate days and weeks after birth?	●	●	●	●

For community based births, have midwives ensured early-onset neonatal GBS protocols clarify the action to be taken for asymptomatic neonates with:

	YES	NO	PARTIAL	N/A
d. incomplete, partial, or no delivery of intrapartum antibiotic prophylaxis?	●	●	●	●
e. prolonged rupture of membranes greater than 18 hours or a febrile birthing person?	●	●	●	●

In your practice environment(s), have midwives adopted standardized current evidence-based:[6]

	YES	NO	PARTIAL	N/A
f. gestational age hour-specific nomograms for reporting TcB and TSB findings?	●	●	●	●
g. phototherapy treatment graphs?	●	●	●	●
h. exchange transfusion graphs (where offered)?	●	●	●	●

In your practice environment(s), have midwives adopted standardized evidence-based neonatal protocols for the assessment, screening, diagnostic testing, and management of neonates at risk of or presenting signs of:[7]

	YES	NO	PARTIAL	N/A
i. hypoglycemia?	●	●	●	●
j. hyperbilirubinemia?	●	●	●	●
k. sepsis and septic shock?	●	●	●	●

6 For hospital births, this may mean following hospital policy, while for community based births, this may be a protocol developed by midwives.

7 For hospital births, this may mean following hospital policy, while for community based births, this may be a protocol developed by midwives.

Has your practice group implemented strategies to ensure MRPs conduct an assessment (in-person), prior to discharge of neonates from hospital who are:

	YES	NO	PARTIAL	N/A
l. visibly jaundiced and / or at higher risk (e.g., ABO incompatibility, positive Coombs test) with pending TcB or TSB test results?	●	●	●	●
m. at risk of GBS infection (e.g., incomplete prophylaxis during labour)?	●	●	●	●

In your practice environment(s), have midwives:

	YES	NO	PARTIAL	N/A
n. adopted strategies to enhance situational awareness during neonatal resuscitation, suctioning, and intubation?	●	●	●	●
o. implemented a plan to conduct a post-incident management process for all births with challenging resuscitations or intubation that includes (but is not limited to) requesting arterial and venous cord blood gases analysis and pathological placental examinations?	●	●	●	●
p. implemented team debriefs and supports following all significant neonatal hyperbilirubinemia, hypoglycemia, sepsis and septic shock, and resuscitation incidents?[8]	●	●	●	●
q. supported or advocated for development of formal strategies to facilitate the timely communication of discharge summaries (e.g., ED or NICU admission for neonatal hyperbilirubinemia) from the hospital to community / primary care provider?	●	●	●	●

2.5 Postpartum

Have midwives:

	YES	NO	PARTIAL	N/A
a. advocated for formal strategies to improve access to screening, testing, and follow-up in hospital and hospital associated labs for midwifery clients?	●	●	●	●
b. in collaboration with interdisciplinary team leaders, implemented standardized, evidence-based protocols (for example, an up-to-date hospital policy) that address the frequency, components, and documentation of assessments, vital signs monitoring, and trending of values including client-specific criteria for adjustments to frequency of monitoring in hospital?	●	●	●	●

8 For hospital births, this plan may be to follow hospital policy for team debriefs, while for community based births, the plan may be developed by midwives.

3. Team Training

In your practice environment(s), have midwives participated in scheduled interprofessional and cross-department team training and education strategies that address, consider or involve:

	YES	NO	PARTIAL	N/A
a. knowledge, skills, and practical experience required for both hospital and community birth locations?	●	●	●	●
b. transfers from the community birth setting?	●	●	●	●
c. team and practitioner situational awareness ('helicopter view') and human factors?	●	●	●	●
d. program areas or sites with limited practical experience with obstetrical and postpartum emergencies (e.g., neonatal resuscitations, sepsis, abnormal FHS, PPH) such as low birth volume sites, emergency departments and / or rural sites with limited access to laboratory services and a blood bank?	●	●	●	●
e. visual assessment of hyperbilirubinemia in neonates with darker skin pigmentations?	●	●	●	●
f. the limitations of a negative universal screening results for hyperbilirubinemia and awareness that the result does not replace the need for ongoing neonatal assessments for days / weeks after the screening?	●	●	●	●
g. the limitations of the visual assessment for hyperbilirubinemia (e.g., poor overall accuracy for predicting risk of significant hyperbilirubinemia)?	●	●	●	●
h. the limitations of point of care testing for hyperbilirubinemia and hypoglycemia i.e., a screening tool (e.g., glucometer, transcutaneous bilirubin) versus a diagnostic tool (e.g., blood test)?	●	●	●	●
i. unregulated care providers (such as clinical externs or clinical aides), locum physicians and midwives, Indigenous Elders or traditional healers, travel or agency nurses, and contracted care providers in addition to regulated health professionals?	●	●	●	●

Have midwives participated in team training and education strategies that address, consider or involve:

	YES	NO	PARTIAL	N/A
j. practitioner bias and assumptions about pregnant persons with a high BMI?	●	●	●	●
k. practitioner bias and assumptions about pregnant persons who use substances?	●	●	●	●
l. practitioner bias and assumptions about pregnant persons who have disabilities?	●	●	●	●
m. practitioners bias and assumptions about pregnant persons who are 2SLGBTQQIA+?	●	●	●	●

	YES	NO	PARTIAL	N/A
n. practitioner bias and assumptions about clients who are Indigenous, Black or People of Colour?	●	●	●	●

In your practice environment(s), have midwives implemented, or do they participate in strategies to support and enhance the interdisciplinary team's clinical knowledge, skills (technical and non-technical), and practical experience surrounding:[9]

	YES	NO	PARTIAL	N/A
o. the prevention, recognition and response to intrapartum and postpartum clinical deterioration, PPH, hemorrhage shock, severe and emergent hypertension, and sepsis and septic shock?	●	●	●	●
p. FHS during labour including FHS certification?	●	●	●	●
q. shoulder dystocia?	●	●	●	●
r. the prevention, recognition, and response to uterine rupture?	●	●	●	●
s. neonatal resuscitation?	●	●	●	●
t. the prevention, recognition, and response to neonatal clinical deterioration, hyperbilirubinemia, hypoglycemia, and sepsis and septic shock?	●	●	●	●
u. timely, appropriate responses to racism and / or anti-Indigenous discrimination in clinical care?	●	●	●	●

Are midwives coordinating or participating in scheduled interprofessional and cross-departmental clinical simulations related to:

	YES	NO	PARTIAL	N/A
v. PPH, hemorrhage shock, severe and emergent hypertension, and sepsis and septic shock, including (but not limited to) scheduled interprofessional and cross-departmental PPH, massive blood transfusion, preeclampsia and eclampsia?	●	●	●	●
w. FHS emergencies?	●	●	●	●
x. shoulder dystocia?	●	●	●	●
y. uterine rupture?	●	●	●	●
z. neonatal resuscitation?	●	●	●	●
aa. neonatal hyperbilirubinemia, hypoglycemia, and sepsis and septic shock?	●	●	●	●
bb. care team responses to racism or anti-Indigenous discrimination in clinical care?	●	●	●	●

9 Consider: rounds, peer reviews, workshops, or other professional development opportunities.

3.1 Privacy

	YES	NO	PARTIAL	N/A
a. In your practice setting(s), are there formal multifaceted and targeted strategies to support and enhance organization-wide (e.g., midwives, employees, independent contractors and students) awareness and compliance with privacy and cybersecurity incident prevention?	●	●	●	●
b. Is participation in annual privacy and cybersecurity training / education mandatory within your practice environment(s)?	●	●	●	●
c. In your practice setting(s), does the privacy and cybersecurity training (if applicable) consider or involve:				
• customized training / education (where indicated) based on the user's role, responsibilities and access to sensitive information and / or data?	●	●	●	●
• learning from local, provincial and national cybersecurity incidents?	●	●	●	●

4. Culture

4.1 Client and Family Centered Care

In your practice environment(s), have midwives implemented strategies to:

	YES	NO	PARTIAL	N/A
a. support and encourage families to escalate quality or safety concerns, including on evenings, nights, and weekends (e.g., family participation in rounds and handovers)?	⬤	⬤	⬤	⬤
b. enable access to interpreter services during all client encounters where needed, and in particular, during any postpartum or discharge instructions?	⬤	⬤	⬤	⬤

In your practice environment(s), have you adopted standardized education, training, and discharge instructions for parents and families (including child welfare case workers, where relevant) that includes signs, symptoms, and specific instructions for seeking care for suspected:

	YES	NO	PARTIAL	N/A
c. • neonatal hypoglycemia?	⬤	⬤	⬤	⬤
• neonatal hyperbilirubinemia?	⬤	⬤	⬤	⬤
• neonatal sepsis or septic shock?	⬤	⬤	⬤	⬤
d. • PPH and hemorrhagic shock?	⬤	⬤	⬤	⬤
• persistent or new onset hypertension and eclampsia?	⬤	⬤	⬤	⬤
• sepsis and septic shock?	⬤	⬤	⬤	⬤

4.2 Safety

Are formal strategies in place to develop and maintain a work environment which supports and expects:

	YES	NO	PARTIAL	N/A
a. interprofessional collaboration and collegiality in all work settings?	⬤	⬤	⬤	⬤
b. naming and proactively addressing racism, discrimination and harassment?	⬤	⬤	⬤	⬤
c. zero tolerance of intra- and inter-disciplinary bullying and intimidation in all work settings?	⬤	⬤	⬤	⬤
d. assertive and respectful questioning and challenging of unsafe practices in all work settings?	⬤	⬤	⬤	⬤
e. assertive and respectful questioning and challenging of cervical ripening, induction and augmentation orders in hospital?	⬤	⬤	⬤	⬤

	YES	NO	PARTIAL	N/A
f. assertive and respectful questioning and challenging of care decisions in order to obtain clarity and / or to advance client safety concerns?	●	●	●	●
g. early response to suspected and actual pregnant person and / or fetal deterioration, including seeking assistance from peers and all resources available in your setting (including rapid response teams, in hospitals where they exist)?	●	●	●	●

In your work environment(s), is there a standardized, formalized, and program-specific chain of command protocol for the rapid escalation of unresolved care concerns or disagreements related to:[10]

	YES	NO	PARTIAL	N/A
h. orders and / or decisions related to FHS during labour?	●	●	●	●
i. cervical ripening, induction, and / or augmentation of labour?	●	●	●	●
j. concerns about questionable client or newborn condition, orders, or care delivery?	●	●	●	●

4.3 Practice management

Have midwives adopted:

	YES	NO	PARTIAL	N/A
a. a formal strategy to embed anti-racism and diversity, equity, inclusion and belonging best practices in all health human resource activities (e.g., recruiting, hiring, compensation, promotion, retention, and career development opportunities for employees and independent contractors)?	●	●	●	●
b. explicit written priorities, goals, values and beliefs statements which prohibit discrimination and harassment in all health human resource, operational and care related activities?[11]	●	●	●	●
c. formal, fair and equitable strategies to manage permanent departures and temporary absences of partners, associates and employees (e.g., distribution of their case load, records management, notice to clients, transfer of clients)?	●	●	●	●
d. a standardized, best practice and legislation compliant (where applicable) protocol for managing terminations of employment as well as ending a contractual relationship with independent contractors?	●	●	●	●
e. a formal contract management process to manage legally binding agreements / contracts across the contract lifecycle?	●	●	●	●

10 For smaller organizations and hospitals, consider the need to include successively higher levels of authority (such as the Chief of Staff, or administration on call or other executive leaders) to ensure a satisfactory resolution is achieved.

11 These priorities should be emphasized during the recruitment and orientation of employees, learners, second attendants, associates and partners to the practice group.

	YES	NO	PARTIAL	N/A
f. best practices for developing and reviewing employment, associate and partner agreements; including ensuring all parties to the agreement are encouraged to obtain independent legal counsel and financial / accounting advice before signing?	●	●	●	●
g. best practices for the retention, storage, and destruction of human resources records?	●	●	●	●

Have midwives implemented:

	YES	NO	PARTIAL	N/A
h. formal strategies to clarify roles, responsibilities and expectations of partners, associates, Indigenous Elders and traditional healers, other independent contractors, learners, and employees for both clinical (e.g., workload, call model, sleep relief protocol) and business / operational accountabilities (e.g., administrative accountabilities, vacations and leaves of absence, purchasing and financial approval and authority processes)?	●	●	●	●
i. formal and legislation compliant (as applicable) strategies to develop and maintain a work environment which fosters and supports:				
• collaboration and collegiality?	●	●	●	●
• professional and effective communication?	●	●	●	●
• assertive and respectful questioning and challenging of unsafe practices and decisions?	●	●	●	●
• zero tolerance of bullying, intimidation and discrimination in the work environment?	●	●	●	●
j. formal strategies to reduce workplace fraud (e.g., payroll fraud, financial statement fraud, embezzlement / misdirection of money from the business to a person or a fictitious vendor, vendor fraud, asset misappropriation, data or intellectual property theft)?	●	●	●	●
k. best practice strategies to reduce the risk of independent contractors being treated as an employees within the practice group?	●	●	●	●

Other business considerations:

	YES	NO	PARTIAL	N/A
l. Is it standard practice to obtain expert legal advice prior to proceeding with a termination of employment or ending a contractual relationship with an independent contractor outside of standard terms? Consider in particular whether the contractor / employee has: • lodged a formal complaint in the past six months; • returned from any leave of absence in the past six months; • been named in a regulatory body investigation; • actual or claimed health issues or may require accommodation.	●	●	●	●
m. Do agreements with associates and partners address, in addition to any other relevant topics:				
• statement fraud, embezzlement / misdirection of money from the business to a person or a fictitious vendor, vendor fraud, asset misappropriation, data or intellectual property theft)?	●	●	●	●
• relationship between the practitioners (e.g., does the agreement explicitly state whether the practitioner is an employee or independent contractor)?	●	●	●	●
• roles, responsibilities and obligations of the practitioner?	●	●	●	●
• decision-making authority for practice group matters?	●	●	●	●
• remuneration (including profit and loss sharing associated with the business, if applicable)?	●	●	●	●
• dispute resolution mechanism?	●	●	●	●
• disability, death and departures?	●	●	●	●
n. Does your practice group or birth centre have adequate and appropriate business insurance (including office / clinic / cyber / practice group) insurance (distinct from professional liability insurance) to respond to legal action arising from business operations?	●	●	●	●

In your practice, has a standardized process or request template been adopted for:

	YES	NO	PARTIAL	N/A
o. the follow-up of laboratory, imaging, or consultation results?	●	●	●	●
p. referrals / consultations during the antenatal and intrapartum period?	●	●	●	●

5. Outcomes

	YES	NO	PARTIAL	N/A
a. In your practice setting(s), do you incorporate learning from local, provincial, and national perinatal safety reviews and data into local protocols as well as staff and client education and training? Consider in particular:				
• neonatal morbidity and mortality incidents (e.g., Coroner reports) and data (e.g., provincial birth registries)	●	●	●	●
• neonatal safety reviews?	●	●	●	●
• prenatal, intrapartum and postpartum safety reviews?	●	●	●	●
• FHS and intrapartum care?	●	●	●	●
• VBAC / TOLAC?	●	●	●	●
• shoulder dystocia?	●	●	●	●
• disparities in outcomes related to systemic discrimination and racism?	●	●	●	●
b. In hospital, do you participate in standardized, interdisciplinary, collaborative and evidence-based quality of care reviews?	●	●	●	●

In your midwifery practice group, have you adopted standardized, interdisciplinary, collaborative and evidence-based protocols for conducting quality of care reviews incorporating systems thinking and human factors concepts into:

	YES	NO	PARTIAL	N/A
c. clinical deterioration of a pregnant, labouring or postpartum client, resulting in harm or death?	●	●	●	●
d. induction and / or augmentation of labour resulting in client harm or death?	●	●	●	●
e. FHS monitoring, classification, and related team communication resulting in client or neonatal harm or death?	●	●	●	●
f. a completed or attempted VBAC resulting in client or neonatal harm or death?	●	●	●	●
g. shoulder dystocia resulting in client or neonatal harm or death?	●	●	●	●
h. neonatal hyperbilirubinemia, hypoglycemia, and / or sepsis and septic shock resulting in harm or death?	●	●	●	●
i. neonatal resuscitation resulting in harm or death?	●	●	●	●

In hospital are you aware of standardized quality indicators for:

	YES	NO	PARTIAL	N/A
j. FHS during labour?	●	●	●	●
k. collaborative care?	●	●	●	●
l. labour induction and augmentation?	●	●	●	●
m. neonatal hyperbilirubinemia, hypoglycemia, sepsis and septic shock?	●	●	●	●
n. neonatal resuscitation?	●	●	●	●
o. shoulder dystocia?	●	●	●	●
p. PPH and hemorrhagic shock?	●	●	●	●
q. severe hypertension?	●	●	●	●
r. VBAC and uterine rupture and the response to uterine rupture?	●	●	●	●

6. Equipment, Supplies and Technology

	YES	NO	PARTIAL	N/A
a. If midwives in your practice use jaundice-related apps (software solution for defined tasks), do the embedded guidelines and tools (e.g., calculator used for the initiation of phototherapy), meet current Canadian evidence-based practice (for example, the AOM Bili-Tool App)?	●	●	●	●
b. Has your practice adopted standardized resuscitation and intubation kits for community based birth and postpartum locations to help ensure familiarity with the equipment, supplies, and setup by all teams?	●	●	●	●
c. Is your practice familiar with hospital resuscitation and intubation carts and kits?	●	●	●	●
d. In your community practice environment(s), have you adopted a principle-based formal strategy to manage and allocate critical drugs (e.g., oxytocin) during shortages?	●	●	●	●

Within your hospital work environment(s), are you aware of formal strategies that have been implemented to:

	YES	NO	PARTIAL	N/A
e. clarify the practice expectations for staff monitoring displays at the central monitoring location (e.g., offer collegial and timely support to the practitioners in the room versus assume they will ask for help if needed)?	●	●	●	●
f. ensure central monitoring is not used as replacement for bedside observations and assessments (where indicated)?	●	●	●	●
g. reduce critical alarm and alert fatigue?	●	●	●	●
h. ensure access to traditional medicines for Indigenous clients?	●	●	●	●

Are standardized preventive maintenance and quality check programs in place for midwifery clinic equipment:

	YES	NO	PARTIAL	N/A
i. bilimeters?	●	●	●	●
j. bili blankets?	●	●	●	●
k. glucometers?	●	●	●	●

Are formal strategies in place to ensure all community based birth locations have:

	YES	NO	PARTIAL	N/A
l. monitoring equipment (e.g., blood pressure cuff) for pregnant persons with larger body sizes available when needed?	●	●	●	●
m. standardized PPH kits?	●	●	●	●

	YES	NO	PARTIAL	N/A
n. resuscitation, ventilation, suction, and intubation equipment and supplies?	⬤	⬤	⬤	⬤
o. access to traditional medicines for Indigenous clients?	⬤	⬤	⬤	⬤

At every birth, does your midwifery group have:

	YES	NO	PARTIAL	N/A
p. neonatal resuscitation equipment set up?	⬤	⬤	⬤	⬤
q. a formal contingency plan for missing or faulty equipment and supplies?	⬤	⬤	⬤	⬤

6.1 Cybersecurity and Privacy

Does your practice group:

	YES	NO	PARTIAL	N/A
a. implement formal strategies to support the use of strong physical security practices for areas housing the organization's (as Health Information Custodian):				
• information systems and technology assets (e.g., laptops, servers, backup storage and computers / laptops with sensitive information)?	⬤	⬤	⬤	⬤
• paper-based confidential and Personal Health Information (PHI) records?	⬤	⬤	⬤	⬤
b. have a standardized, evidence-based and legislation compliant (as applicable) protocol for the use of audio-visual surveillance (e.g., security cameras)?	⬤	⬤	⬤	⬤
c. have an industry standard and legislation compliant incident response protocol to support decision-making following a suspected or actual privacy breach or cyber threat that includes (but not limited to):				
• the immediate response?	⬤	⬤	⬤	⬤
• timely investigation?	⬤	⬤	⬤	⬤
• containment?	⬤	⬤	⬤	⬤
• notifications and disclosures (e.g., clients, provincial / territorial privacy office, professional regulatory body / college and insurer)?	⬤	⬤	⬤	⬤
• incident debrief?	⬤	⬤	⬤	⬤
d. have a current evidence-based and legislation compliant (PHIPA) written privacy policy regarding the collection, use, classification, retention, disclosure and destruction of PHI?	⬤	⬤	⬤	⬤
e. have a designated lead with clearly defined accountability for cybersecurity (e.g., cyber lead) and privacy risk oversight (e.g., privacy officer)?	⬤	⬤	⬤	⬤

	YES	NO	PARTIAL	N/A
f. implement formal strategies to ensure all records, information, reports, recommendations, decisions and decision-making related to privacy breach and cyber threat investigations (internal and external) are maintained, discussed among senior leadership, and retained as per the organization's records retention guidelines?	○	○	○	○
g. limit PHI sharing to the minimum necessary?	○	○	○	○
h. have a standardized, evidence-based and legislation compliant protocol for the use of mobile and virtual care devices (e.g., laptops, USB keys, tablets, and smart phones) about the collection, use, retention, disclosure and destruction of PHI and other confidential information?	○	○	○	○
i. implement legislation compliant strategies to reduce privacy and cybersecurity risks posed by vendors, partners and third-party providers[12] who have access to the organization's PHI and other sensitive data and information technology systems and / or infrastructure?	○	○	○	○

Do contracts between the organization and third party vendors include industry standard and legislation compliant clauses for agreements related to:

	YES	NO	PARTIAL	N/A
j. access to and storage of confidential information and / or PHI?	○	○	○	○
k. the collection and destruction of paper and electronic PHI records?	○	○	○	○

In your practice setting(s), have you implemented or ensured vendors have implemented:

	YES	NO	PARTIAL	N/A
l. standardized, evidence-based and legislation compliant strategies to prevent the unauthorized removal of PHI (both hard and soft copies) from the organization's premises unless authorized and required for the provisions of direct healthcare?	○	○	○	○
m. a role-based access management protocol that supports the safe administration of user accounts (e.g., managing user access to systems, processes, and network drives), including (but not limited to) appropriate password practices and multi-factor authentication?	○	○	○	○
n. administrative and technological solutions to protect the transmission of PHI and other confidential information (e.g., password protection, encryption, secure file transfer protocols)?	○	○	○	○
o. industry standard technical solutions and strategies such as firewalls, antivirus / antimalware solutions, network segmentations?	○	○	○	○

12 Third-party providers could include: cloud storage, web based intake forms or services, messaging services such as Whatsapp, the EMR, your internet and pager service provider, chart archiving service, etc.

	YES	NO	PARTIAL	N/A
p. a protocol to support the timely and safe application of vendor / third-party issued updates and patches while reducing security vulnerabilities and optimizing software and device performance?	●	●	●	●
q. advanced solutions to detect potential system compromise or data theft such as subscribing to a monitoring service from credible vendors to notify staff / organization of potential anomalies?	●	●	●	●
r. robust and well secured data backup procedures and undertake data recovery testing on a regular basis?	●	●	●	●

RESOURCES

Resources developed by the AOM are relevant to many of the mitigation strategies and a few of these key resources are listed below. Following this, resources are grouped with identical headings to the Survey Questions, so that if you identify a group of mitigation strategies your practice group would like to prioritize, you can refer to the corresponding heading here.

AOM Resources

CLINICAL PRACTICE GUIDELINES:

Evidence-based clinical practice guidelines (CPGs) consistent with the midwifery philosophy of care, including informed choice, client as the primary decision-maker, choice of birthplace, and appropriate use of technology. Many include recommendations for communication and documentation of informed choice discussions with clients.

- Hypertensive Disorders of Pregnancy (2023)
- Antepartum, Intrapartum and Postpartum Management of Group B Streptococcus (2022)
- Vaginal Birth After Previous Low-Segment Caesarean Section (2021)
- Management of the Uncomplicated Pregnancy Beyond 41+0 Weeks' Gestation (2021)
- Management of Prelabour Rupture of Membranes at Term (2019)
- Management of Hyperbilirubinemia in Healthy Term and Late Preterm Neonates (2019)
- The Management of High or Low Body Mass Index During Pregnancy (2019)

CLINICAL RECORD FORMS:

(2021) are produced by the AOM in consultation with midwives and are designed to facilitate documentation and communication of newborn resuscitations, out of hospital birth and postpartum.

CLINICAL TREATMENT ALGORITHMS:

including:

- Management of postpartum pain (2022)
- Intrapartum Antibiotic Prophylaxis (IAP) for Group B Streptococcus (GBS) (2022)
- Early-onset GBS Disease (EOGBSD) in Newborns (2022)

MOBILE APPS:

ESW, VBAC, Rx, GBS and more, all provide up to date information and algorithms to assist with clinical decision-making and facilitate informed choice discussions.

TEMPLATE PROTOCOLS:

on various clinical topics, some developed by the AOM, others submitted by midwifery practices from across the province. Those listed here are AOM templates, reviewed by experts and stakeholders.

- Client and Practice Group Commitments to Anti-Racism and Anti-Oppression (2023)
- Clinical Documentation and Record Keeping (2023)
- Cord Blood Gas Collection for Home Births (2023)
- Handover Checklist (2023)
- Infection Prevention and Control: templates include a Clinic Office Cleaning Checklist, and an Environmental Cleaning Protocol, an IPAC policy and more.
- Interpretation
- Management of Laboratory and Diagnostic Imaging Testing and Results (2019)
- Orientation
- Privacy Suite (2020) includes template consents and handouts for clients regarding electronic communications, sample privacy policies, privacy breach policies, privacy and confidentiality agreements for midwives and staff and more.
- Safety Incident Review (2023)

Communication and Documentation

AOM

- Crucial Conversations for Mastering Dialogue is an award-winning program which teaches nine powerful skill sets to turn disagreement into dialogue. Grounded in decades of social science research, the course gives people the skills to step into disagreement—rather than over or around it—improving decision-making, teamwork, safety and engagement. Registration is available free of charge to AOM members until March 31, 2024 and participants will have up to August 1st to complete all modules.
- Documentation
- Ethics and Homebirth After Caesarean Section (2019) When clients choose homebirth after a cesarean section, midwives are in a position with unique responsibilities. This webinar explores these responsibilities within a feminist framework, and further offers information regarding insurance coverage and documentation.
- Professional Liability, eLearning
- The Write Stuff: Everything You Wanted to Know About Documentation and More! (2017)

HIROC

- Strategies for Improving Documentation (2017, PDF, 700 KB)
- Why Documentation Matters

CMO

- Prescribing and Administering Drugs Standard (2019)
- Professional Standards for Midwives (2018)
- Record Keeping Standard for Midwives (2022)

Other stakeholders

Alberta Health Services:

The Trauma Informed Care e-Learning Series consists of seven thirty minute self-study modules focused on enhancing knowledge of trauma-informed care and developing trauma-focused skills for practice, including communication skills.

Healthcare Excellence Canada:
Team STEPPS course is built on an evidence-based framework to optimize team performance across the healthcare delivery system. It consists of five key principles: team structure, communication, leading teams, situation monitoring and mutual support. (En/Fr)

Improving Safety in Maternity Services Toolkit:
Communication (2012, PDF 194 KB) published by the King's Fund reviews various communication and handover strategies with a focus on SBAR.

Neonatal Resuscitation Program:
The NRP course 8th Ed. is typically available through hospital networks and the Michener Institute. The Canadian Pediatric Society houses the program.

Provincial Council Maternal Child Health (PCMCH):

- 2SLGBTQIA Inclusivity in Perinatal Care (2023) Tip sheet and webinars. (En/Fr)
- Disability and Pregnancy (2023) (En/Fr)

University of British Columbia, Continuing Professional Development:
Midwifery Communication and Documentation Course

Care Processes

AOM

- **Emergency Skills Workshops (ESW) and ESW Connect:** The ESW teaches and reviews specialized skills to deal with birth emergencies that occur at home and outside of the hospital. It includes a review of relevant equipment, supplies and skills simulation. ESW Connect is an adaptation of the AOM's ESW program and was developed to support interprofessional collaboration and knowledge exchange between midwives and interprofessional colleagues (such as nurses and physicians) in Northern, rural and/or remote communities across Ontario.
- **Mobile Apps:** ESW, Bili-Tool, GBS and more, all provide up to date information and algorithms to assist with clinical decision-making and facilitate informed choice discussions.

Other stakeholders

The **Clinical Concepts in Obstetrics** podcast reviews current best practice on various clinical topics and emergencies.

Clinical Reasoning: The impact of bias (2023), created by the Canadian Medical Protective Association, explores the impact of cognitive bias on patient safety.

EQUIP Equity Action Kit is designed to help guide organizations in diverse health and social service settings who want to implement equity-oriented care. EQUIP also offers eLearning options for providers interested in trauma and violence informed care. (En/Fr)

Evidence Based Birth offers up to date clinical information regarding common interventions and options for clients.

Fetal Health Surveillance Education Program: online components are offered through UBC CPD; in person workshops are offered through hospital networks and McMaster University and CMNRP.

Healthcare Excellence Canada: Opening ourselves: Understanding unconscious bias and its role in practice (2022) explores the impact of unconscious bias on patient engagement and strategies for promoting trust and safety.

Intelligent Intermittent Auscultation, accredited by the Royal College of Midwives reviews IA in detail.

Melanated Mammary Atlas is an online resource designed to improve care for equity deserving populations by broadening the health professional knowledge base and normalizing how breast conditions manifest on Black and racialized clients.

Neonatal Resuscitation Program, 8th Ed. The course is typically available through hospital networks and the Michener Institute. The Canadian Pediatric Society houses the program.

National Institute for Health and Care Excellence (NICE) Guidelines:

- Caesarean birth (2023)
- Diabetes in pregnancy: management from preconception to the postnatal period (2020)
- Fetal monitoring in labour (2022)
- Inducing labour (2021)

PCMCH:

- Safe Administration of Oxytocin Toolkit (2019)
- Hyperbilirubinemia in Term and Late Pre-Term Infants (> 35 weeks) Clinical Pathway Toolkit: An abridged version of the Clinical Pathway Handbook focusing on the clinical pathway.
- Disability and Pregnancy (2023) (En/Fr)

San'yas Anti Racism and Indigenous Cultural Safety program is an online course designed to strengthen healthcare workers' knowledge, awareness, and skills for working with and providing service to Indigenous people and communities.

UK Sepsis Trust: Sepsis Screening Tool for Community Midwives (PDF 201 KB)

University of British Columbia: Continuing Professional Development: Midwifery Induction and Augmentation of Labour

Team Training

AOM

- Emergency Skills Workshops (ESW) and ESW Connect: the ESW teaches and reviews specialized skills to deal with birth emergencies that occur at home and outside of the hospital. ESW Connect is an adaptation of the AOM's ESW program and was developed to support interprofessional collaboration and knowledge exchange between midwives and interprofessional colleagues (such as nurses and physicians) in Northern, rural and/or remote communities across Ontario.
- IBPOC Peer Review is a pan-Canadian peer review for midwives and midwifery students who identify as Indigenous, Black or racialized. Their goal is to create and maintain a space that prioritizes safety and respect when sharing and learning from one another.
- Indigenous Cultural Safety Resources

CMO

- Jurisprudence Course and Handbook (2018, PDF 733 KB)
- Professional Standards for Midwives (2018)

Other stakeholders

The Clinical Concepts in Obstetrics podcast offers episodes on current best practice regarding team training, debriefs and simulation.

Healthcare Excellence Canada:

- Team STEPPS course is built on an evidence-based framework to optimize team performance across the healthcare delivery system. It consists of five key principles: team structure, communication, leading teams, situation monitoring and mutual support. (En/Fr)
- Opening ourselves: Understanding unconscious bias and its role in practice (2022) explores the impact of unconscious bias on patient engagement and strategies for promoting trust and safety.

Interprofessional team training may be facilitated by hospital networks or clinical education providers. Midwives should advocate for training to be delivered at their facility, and/or to participate. Examples include:

- Acute Care of at-Risk Newborns (ACoRN)
- Advances in Labour and Risk Management (ALARM)
- Advanced Life Support in Obstetrics (ALSO)
- moreOB
- PRactical Obstetric Multi-Professional Training (PROMPT)

National Harm Reduction Coalition's Toolkit: Pregnancy and Substance Use (2023)

Neonatal Resuscitation Program, 8th Ed. The course is typically available through hospital networks and the Michener Institute. The Canadian Pediatric Society houses the program.

PCMCH:

- 2SLGBTQIA Inclusivity in Perinatal Care (2023) Tip sheet and webinars. (En/Fr)
- Disability and Pregnancy (2023) (En/Fr)

University of British Columbia, Continuing Professional Development:

- Gender-Affirming Perinatal Care: Safe, Respectful, and Celebratory
- Perinatal Substance Use

Professional autonomy, scope of practice, and collaborative care in obstetrics (2021) Canadian Medical Protective Association

Culture

AOM

- Bullying Toolkit (2019) provides an overview of bullying and a variety of resources and strategies for approaching it.
- Fraud Prevention (2018) reviews mitigation strategies for midwifery practices and groups.
- Human Resources Toolkit provides a variety of resources and supports, including:
  - » draft partnership and contractor agreements
  - » a questionnaire to help you differentiate between employees and contractors
  - » information regarding a practice's legal obligations
  - » information regarding recruitment and retention.
- Indigenous Cultural Safety Resources
- Racial Equity Toolkit (2023) provides midwives, midwifery practice groups, and midwifery students with various resources and tools to identify, analyze and address individual and systemic racism, discrimination, oppression, and biases. It includes:
  - » Anti-Racism Practice Group and Self Assessment tools;
  - » A sample Client and Practice Group Commitments to Anti-Racism and Anti-Oppression;
  - » Guides related to effective mentorship, recruitment and hiring processes;
  - » Templates: anti-racism policy, workplace harassment and violence policies and procedures.

HIROC

- Healthcare Change Makers Podcast: Episode 13: Building Psychologically Safe Workplaces
- Employee Fraud (2023)

CMO

- Guideline on Managing Personal and Practice Health (2018, PDF 1536 KB)
- Professional Standards for Midwives (2018)

Other stakeholders

Building a Psychologically Safe Workspace, Presenter: Niki Landau, (Ontario West Midwifery Conference, 2023).

Canadian Medical Protective Association:

- Good practice guide: Psychological Safety (2021)
- Good practice guide: Just Culture (2021)
- Speaking Up (2021)

Civility Saves Lives is an organization that believes good teams save lives. Their mission is to promote positive behaviours and share the evidence base around positive and negative behaviours in healthcare.

Healthcare Excellence Canada:

- Creating a Safe Space: Psychological Safety of Healthcare Workers (2020)
- Opening Ourselves: Understanding unconscious bias and its role in practice (2022)
- Team STEPPS course is built on an evidence-based framework to optimize team performance across the healthcare delivery system. It consists of five key principles: team structure, communication, leading teams, situation monitoring and mutual support. (En/Fr)

The Fearless Organization: Creating Psychological Safety in the Workplace for Learning, Innovation, and Growth, by Amy C. Edmondson (2019); available as hardcopy, audiobook and ebook.

Healthcare Excellence Canada: Team STEPPS course is built on an evidence-based framework to optimize team performance across the healthcare delivery system. It consists of five key principles: team structure, communication, leading teams, situation monitoring and mutual support. (En/Fr)

PCMCH:

- 2SLGBTQIA Inclusivity in Perinatal Care (2023) Tip sheet and webinars. (En/Fr)
- Disability and Pregnancy (2023) (En/Fr)

University of British Columbia, Continuing Professional Development:

- Gender-Affirming Perinatal Care: Safe, Respectful, and Celebratory
- Perinatal Substance Use

Workplace Behaviour Toolkit (2021) was developed in collaboration with RCOG, Royal College of Midwives, Civility Saves Lives and Royal College of Surgeons of Edinburgh. It includes eight online modules and introduces tools that support the development of positive workplace culture, strengthening skills and confidence in 'speaking up' and promoting an understanding of what poor workplace behaviour looks like and its impact on individuals, teams, organizations and clients.

Outcomes

AOM

- "A Visualization of Key Data from the Midwifery Regional Report" (PDF, 517 KB). This resource provides a series of graphs that showcase some of the data contained in the Midwifery Regional Report.
- Adverse Events, Critical Incident Reviews and Disclosure
- BORN Information System (BIS) reports for midwives (PDF, 878 KB), on Resources for Midwives Developed by BORN Ontario: This resource provides detailed information about how to run Clinical Reports and what they contain. Clinical reports help monitor and analyze the care provided by individual midwives, and by practice groups as a whole. Clinical reports facilitate the review and comparison of birthing person and infant outcomes at a practice group with provincial midwifery averages.
- Coroner's Report Recommendation Themes
- Midwifery Data Matters: Improving BORN Data Entry

HIROC

- Risk Reference Sheets (2023)

Other stakeholders

Alberta Health Services series of eLearning courses on Disclosure, and how to do it well.

Alliance for Innovation on Maternal Health podcast: This series reviews the intersections of data and equity in quality work and client safety and the critical role that measurement and disaggregated data play in understanding and addressing disparities in perinatal care.

BORN's Regional Network Reports

Canadian Healthcare Network: Where is Canada's data on Black maternal health and mortality? Leah Mpinga discusses the challenges of effective data collection related to the health of Black and racialized people giving birth in Canada. (2022)

Canadian Patient Safety Network: Canadian Incident Analysis Framework (2012, PDF 6.5 MB) is a resource to support those responsible for, or involved in, managing, analyzing and/or learning from patient safety incidents in any healthcare setting with the goal of increasing the effectiveness of analysis in enhancing the safety and quality of patient care.

Government of Canada: Maternal and Infant Health, Canadian Perinatal Surveillance System

Royal Women's Hospital: Clinical Care Debrief: reviewing what went well and what could be better ensuring we all have a shared mental model (2022, PDF 717 KB): review a process for a 5-minute team debrief to share what went well, what could have been better and what else was learned. The focus is on teamwork and systems not individuals.

Equipment, Supplies and Technology

AOM

- Drug shortages: report to AOM OnCall. Watch the Midwifery Memo for alerts.
- Equipment and medication recalls: watch the Midwifery Memo for alerts.
- Emergency Skills Workshops (ESW) discuss equipment, medications and supplies setup.
- Infection Prevention and Control
- Mobile Apps: ESW, Bili-Tool, GBS and more, all provide up to date information and algorithms to assist with clinical decision-making and facilitate informed choice discussions.
- Policy Templates:
  - » Infection Prevention and Control: templates include a Clinic Office Cleaning Checklist, and an Environmental Cleaning Protocol.
  - » Privacy Suite (2020) includes template consents and handouts for clients regarding electronic communications, sample privacy policies, privacy breach policies, privacy and confidentiality agreements for midwives and staff and more.

HIROC and CMO

- Professional Standards for Midwives (2018)
- Video or Closed Circuit TV Surveillance (2017)

Other stakeholders

Public Health Ontario: has eLearning courses that review infection prevention and control for both clinical and non-clinical staff, as well as courses regarding environmental cleaning and device reprocessing.

Cybersecurity and Privacy

AOM

- Cybersecurity
- Fraud Prevention (2018) reviews mitigation strategies for midwifery practices and groups.
- Privacy Policy Suite Template and Social Media Policy (2022) The privacy policy suite includes template consents and handouts for clients regarding electronic communications, sample privacy policies, privacy breach policies, privacy and confidentiality agreements for midwives and staff and more.
- Virtual Care

HIROC

- Cyber Risk Management for Healthcare Providers and Administrators (2017)
- Cybersecurity and Privacy Breach Workshop for Midwifery Subscribers (2022)
- Cybersecurity: Guiding principles and risk management advice (2023)
- Vendor Management and Third Party Risks

CMO

- Guide on Compliance with Personal Health Information Protection Act (PHIPA) (2021, PDF 367KB)
- Guideline for Midwives Using Social Media and Electronic Communications (2018, PDF 2.9MB)
- Let's Talk Privacy with Kate Dewhirst (2023)
- Professional Standards for Midwives (2018)

Other stakeholders

Doctors of BC offers various resources and guides to support secure IT system design and implementation. These include: an IT support selection checklist (DOCx 199 KB, 2023), and an office IT security guide (PDF 2.3 MB, 2018).

University of British Columbia, Continuing Professional Development: Security in Low Doses: Safeguarding Patient Information in Private Practice.

Client Facing

These resources are intended to support clients to make informed decisions and complement the informed choice discussions facilitated by their midwives. Note in your documentation where they are provided and reviewed.

- Alliance for Innovation on Maternal Health: Urgent Maternal Warning Signs Handout (multi-lingual)
- AOM Anti-Violence and Anti-Harassment Poster for use in public clinic spaces.
- AOM Client Handouts support client centered care and informed choice (multi-lingual):
  - Deciding How to Give Birth After a Caesarean Section
  - Group B Streptococcus in Pregnancy
  - Hypertensive Disorders in Pregnancy: What Do I Need To Know?
  - In Due Time: Pregnancy Beyond 40
  - Iron Deficiency Anemia and You
  - Life After Postpartum Hemorrhage
  - Normal Newborn Behaviour
  - PROM at Term
  - What Is Jaundice?
  - When Your Baby Needs Phototherapy
  - When Your Pregnancy Goes Past Your Due Date
- Choice of Birthplace
- College of Midwives of Ontario: What to Expect from Your Midwife
- Evidence Based Birth offers up to date clinical information regarding common interventions and options for clients.
- ISMP: Oxytocin to Start or Advance Labour: 5 Questions to Ask
- PCMCH: Disability and Pregnancy (2023) (En/Fr)
- The Perinatal Harm Reduction Toolkit (2023) includes a birth planning guide, harm reduction resources, a drug interactions chart and other information and tools to help clients discuss options with their healthcare providers.
- Toronto Video Atlas of Surgery: Induction of Labour provides patient education regarding an induction of labour, including basic anatomy, indications, risks, procedures and what to expect.

OPTIONAL EXERCISES

EXERCISE 1:

Escalation Pathways

Identify your hospital's escalation pathway, including Roles, Titles and Paging/Notification Instructions

EXERCISE 2:

Mitigation Strategies

Identify 2-3 mitigation strategies your practice might achieve as 'low hanging fruit'
(See the mitigation strategies within the Risk Reference Sheets on p.41.)

EXERCISE 3:

Safety Challenge

a: Identify one quality or safety challenge in your work environment.

***What** do you want people to do differently?*

*Who needs to do the **what**?*

b: Identify barriers and facilitators to addressing the challenge you named above.

Individual level / Collective (team, organization, etc.) level / Structural/policy/legal level

c: Consider change strategies.

Map these to specific barriers you identified. Consider strategies such as: education, training, modeling, persuading, incentivizing, enabling, environmental restructuring, restricting…

APPENDIX A:
RISK REFERENCE SHEETS[13]

1. Failure to Appreciate Deteriorating Pregnant and Postpartum Persons
2. Failure to Identify/Manage Neonatal Hyperbilirubinemia, Hypoglycemia and/or Sepsis and Septic Shock
3. Mismanagement of Induction and Augmentation of Labour
4. Mismanagement of Intrapartum Fetal Monitoring
5. Mismanagement of Neonatal Resuscitation
6. Mismanagement of Trial of Labour after Caesarean (TOLAC)
7. Management of Shoulder Dystocia
8. Practice Group Disputes and Breach of Contract
9. Cybersecurity and Privacy Breaches

13 See live versions on the HIROC website: https://www.hiroc.com/.

FAILURE TO APPRECIATE DETERIORATING PREGNANT OR POSTPARTUM PERSONS

Recent Canadian studies indicate a severe maternal morbidity rate of 16.1 per 1,000 deliveries for the period of 2012-16 and a maternal death rate of 8-9 per 100,000 for 1990 to 2013 (Ray, et al., 2018) (Dzakpasu, et al., 2019). Both outcome categories are associated with clinical causes that are largely preventable. Organization-level programs such as, interdisciplinary team training and simulation for obstetrical emergencies, early warning and trigger tools, and evidence-based rapid response protocols, are promising interventions to reduce intrapartum and postpartum mortality and morbidity in the hospital and community care settings.

Expected Outcomes

1. Implement standardized evidence-based protocols for the prevention, identification, and management of:
    a. Postpartum hemorrhage (PPH) and hemorrhagic shock;
    b. Sepsis and septic shock;
    c. Non-emergent, severe hypertension, and hypertensive emergencies.
2. Implement formal strategies to provide education and training (including skill drills and simulations) to support and enhance the interdisciplinary team's clinical knowledge, skills (technical and non-technical), and practical experience surrounding the prevention, recognition, and response to intrapartum and postpartum clinical deterioration, PPH, hemorrhagic shock, severe and emergent hypertension, and sepsis and septic shock.
3. Adopt a standardized, interdisciplinary, collaborative, and evidence-based protocol for conducting quality of care reviews involving pregnant, labouring, and postpartum person clinical deterioration resulting in harm or death.

Definitions and Acronyms

Client	includes all persons who receive healthcare and related services including patients, residents and persons in-care
ED	emergency department
BMI	body mass index
DIC	disseminated intravascular coagulation
MRP	most responsible practitioner, often a midwife, nurse practitioner or physician
PPH	postpartum hemorrhage
MTP	massive transfusion protocol also known as massive hemorrhage protocol
OR	operating room
PACU	post anesthesia care unit
Sequential assisted vaginal birth	the sequential or serial use of vacuums and forceps e.g., failed trial of a vacuum birth followed by forceps

Common Claims Themes and Contributing Factors

Organizational

- Lack of interdisciplinary team training and use of simulation programs focused on the identification and management of postpartum hypovolemic and distributive shock.
- Lack of systematic approach to intrapartum and postpartum quality of care reviews.
- Inadequate and outdated:
  - Severe preeclampsia assessment, monitoring, and acute management guidelines;
  - Post anesthesia and surgery (e.g., caesarean) recovery monitoring guidelines;
  - ED policies with insufficient focus on pregnancy and postpartum related complaints and symptoms.
- Clinical protocols (e.g., PPH) not readily available or only online and cumbersome to access.
- Lack of monitoring equipment (e.g., blood pressure cuff) for pregnant persons with high BMI and habitus.

- Delayed access to:
  - Serial laboratory monitoring;
  - PPH kits and trays;
  - Blood and blood products.
- MTPs:
  - Inadequately designed and implemented (e.g., cumbersome, wordy, outdated);
  - Lack of staff awareness (blood bank, laboratory, labour and delivery, postpartum and surgical programs) of the protocol.

Knowledge and Judgement

- Mismanagement of induction and augmentation medications contributing to a protracted period of uterine hyperstimulation.
- Inadequate, inconsistent, and / or infrequent monitoring and documentation of vital signs, level of consciousness, and blood loss for pregnant and postpartum persons.
- Decreased vigilance following admission to the labour / birth unit especially for persons who have had a caesarean, assisted vaginal birth, or shoulder dystocia.
- Mismanaged pharmacologic management of PPH by MRPs (e.g., wrong drugs / wrong dose for uterine atony).
- Excessive time spent on conservative and temporary PPH interventions with postpartum persons with imminent risk of exsanguination.
- Delays accessing interventional radiology where available on site, externally, or after-hours.
- Evaluation of hemodynamically unstable postpartum persons in the interventional radiology suite versus OR where available.
- Failure to follow or lack of awareness of:
  - Postpartum monitoring protocols;
  - PPH;
  - Sepsis protocols.
- Lapse in situational awareness, contributing to delayed recognition of and response to insidious, and rapid clinical deterioration of the pregnant or postpartum person.

- Underestimation of total blood loss and delay MRP notification due to overreliance on the:
  - Pregnant or postpartum person's skin colour as a means of assessing perfusion;
  - Visual estimation of intrapartum and postpartum blood loss.
- Inappropriate discharge without confirmation (and documentation) of current vitals, level of consciousness, or blood loss, including discharges from:
  - PACU to postpartum unit;
  - Postpartum unit to home;
  - Midwifery birth centre to home.
- Lack of sufficient interdisciplinary team familiarity with:
  - Pregnancy-related events such as, intracerebral hemorrhage, severe PPH, hemorrhagic shock, and sepsis and septic shock resulting in sub-optimal care due to ad hoc, frenzied, or chaotic response and inconsistent team communication;
  - MTP.

Communication

- Failure to escalate care concerns in a timely way, or at all (e.g., seek midwife or physician attendance or orders).
- Delayed MRP in-person attendance following notification or report.
- Delayed MRP notification or consultation for:
  - Concerning vitals, level of consciousness, and blood loss;
  - Retained placenta;
  - Perineal wound dehiscence.

Documentation

- Risks factors associated with PPH not documented in care management plans.
- Inconsistent documentation of:
  - Antenatal, intrapartum and postpartum assessments, vitals, and care plans;
  - Perineal tear repair;
  - Placenta assessment;

- Antenatal and postpartum fundus height and tone;
- Blood loss;
- Shared decision making (informed choice - informed consent) discussions surrounding expectant versus active management of the third stage of labour;
- Shared decision making (informed choice - informed consent) declines for routine and recommended care (e.g., consult for tear repair complications) and intrapartum and postpartum monitoring;
- Care plans for at risk pregnant persons who choose expectant management of the third stage of labour;
- Discussions, instructions, and teaching with the person in the postpartum period regarding blood loss, PPH, and infection.

Mitigation Strategies

Care Processes

- Adopt a standardized evidence-based protocol for the prevention, identification, and management of PPHs and hemorrhagic shock (Robinson, Basso, Chan, Duckitt, & Lett, 2022) (PPH CPG Work Group, 2016) (American College of Obstetricians and Gynecologists, 2020a).

Additional Considerations

Examples of elements to address within the PPH and hemorrhagic shock protocol:

- The need for a documented initial and ongoing risk assessment for each pregnant person in all hospital and community birth locations;
- Standardized order set(s);
- Process for the use of emergency-released blood and steps to start the MTP;
- The frequency for surveillance of assessments and vital signs during the intrapartum and immediate postpartum period;
- Criteria for transfer from the PACU to postpartum unit;
- Whom to notify and signs and symptoms that require timely communication to the MRP;
- Use of consistent terminology to describe (and document) the severity of the blood loss and shock;
- A systematic approach to interventions based on blood loss, signs and symptoms, staging, and clinical situation;
- Adopt a 'rapid response' checklist and / or protocol(s) for PPH and hemorrhagic shock;
- A formal contingency plan for weekends, holidays, and after-hours;
- Standardized discharge criteria for persons at risk for primary and secondary PPH;

- Interdisciplinary team and family debriefing following PPHs;
- Defined process for the periodic review of the protocol (from a quality improvement and safety lens) and quality indicators.
- Implement a formal strategy to quantify blood loss during the antepartum, birth (vaginal and caesareans), and postpartum hospital and community based birth locations (Lyndon, et al., 2015) (Robinson, Basso, Chan, Duckitt, & Lett, 2022) (American College of Obstetricians and Gynecologists, 2022).
- Adopt a standardized evidence-based protocol for the prevention, identification, and management of pregnant and postpartum person sepsis and septic shock (Gibbs, et al., 2020) (Saskatchewan Health Authority, 2022) (American College of Obstetricians and Gynecologists, 2020b).

Additional Considerations

Examples of elements to address within the obstetrical sepsis and septic shock protocol:

- The need for a documented initial and ongoing / postpartum screening for sepsis;
- A systematic approach to interventions following a positive screening;
- Standardized order set(s);
- The frequency for surveillance of assessments and vital signs during the intrapartum and immediate postpartum period;
- Who to notify and signs and symptoms that require timely communication to the MRP;
- Adopt a 'rapid response' checklist and / or protocol(s) for sepsis and septic shock;
- A formal contingency plan for weekends, holidays, and after-hours;
- Standardized discharge criteria;
- Interdisciplinary team and family debriefing following pregnant and postpartum person sepsis and septic shock.
- Adopt a standardized evidence-based protocol for the prevention, identification, and management of non-emergent, severe hypertension, and hypertensive emergencies (Magee, et al., 2022) (Association of Ontario Midwives, 2012) (American College of Obstetricians and Gynecologists, 2020c) (Trahan, et al., 2023).

Additional Considerations

Examples of elements to address within the pregnancy and postpartum severe hypertensive protocols:

- The need for documented initial and ongoing risk assessment for each pregnant person in all hospital and community birth locations;
- Standardized definitions for types of hypertension;

- Standardized orders sets;
- The frequency for surveillance of assessments and vital signs during labour and postpartum;
- Who to notify and signs and symptoms that require timely communication to the MRP;
- A systematic approach to first line and second line therapies;
- A 'rapid response' checklist and / or protocol(s) for hypertensive emergencies, eclampsia, and postpartum preeclampsia;
- Standardized discharge criteria for clients with preeclampsia;
- A formal contingency plan for weekends, holidays, and after-hours;
- Interdisciplinary team and family debriefing following severe hypertension and hypertensive emergencies.
- In collaboration with the interdisciplinary team leaders, implement standardized, evidence-based protocols that address the frequency, components, and documentation of pregnant and postpartum person assessments, vital signs monitoring, and trending of values including client-specific criteria for adjustments to frequency of monitoring (Healthcare Excellence, n.d.).
- Adopt or pilot a modified obstetrical early warning system to facilitate the early screening / detection and response to intrapartum and postpartum deterioration (Edwards, Dore, van Schalkwyk, & Armson, 2020) (Umar, Ameh, Muriithi, & Mathai, 2019) (Arnolds, et al., 2022).
- Adopt a formal and standardized:
    - Interfacility transport protocol (Whyte & Jefferies, 2021) (Regional Perinatal Outreach Program of Southwestern Ontario & the Southwestern Ontario Perinatal Partnership, 2008);
    - Community birth setting transfer protocol (Home Birth Summit, n.d.) (Avery, Hunter, & Kantrowitz-Gordon, 2023) (Ontario Medical Association & Association of Ontario Midwives, 2005).
- Implement formal strategies to increase the ready access to clinical protocols and policies (e.g., easy to access algorithms or decision trees to accompany the more comprehensive protocol; key word searches to facilitate searches for policies regardless of the sponsoring domain).

Health Equity

- Where utilized, implement formal strategies to review clinical policies / procedures / guidelines / algorithms and practices that use race as a 'correction factor' (trial of labour after caesarean, hypertension, etc.) (Vyas, Eisenstein, & Jones, 2020) (Kane, Bervell, Zhang, & Tsai, 2022) (Becker, 2021) (Cerdena, Plaisime, & Tsai, 2020).

Safety Culture

- Implement formal strategies to develop and maintain a work environment which supports and expects:
  - » Early response to suspected and actual clinical deterioration, including seeking assistance from peers and other resources (e.g., rapid response teams);
  - » Assertive and respectful questioning and challenging of care decisions (in order to obtain clarity and/or to advance client safety concerns);
  - » Zero tolerance of intra- and inter-disciplinary bullying and intimidation.
- In collaboration with interdisciplinary team leaders, adopt formal strategies to support and maintain interprofessional collaboration (Romijn, De Bruijne, Teunissen, Wagner, & De Groot, 2018).
- Adopt a standardized and formalized chain of command ('escalation') protocol for the rapid escalation of unresolved care disagreements related to concerns about questionable client conditions, orders, or care delivery (Canadian Medical Protective Association, 2021) (Canadian Patient Safety Institute, 2020) (Provincial Council for Maternal and Child Health, 2022); for smaller organizations, consider the need to include successively higher level of authority (e.g., the Chief of Staff, administration on call or other executive leaders) to ensure a satisfactory resolution is achieved.

Communication

- Adopt a standardized and structured communication framework for team (intra- and inter-disciplinary) communication during the intrapartum and postpartum period (e.g., SBAR).
- Implement strategies to facilitate timely communication to the MRP or physician consultant in the presence of pregnant or postpartum person deterioration.
- Adopt a standardized and formalized communication process for handovers and transfer of accountability during the intrapartum and postpartum periods, including (but not limited to) handover and transfer of accountability between:
  - » Labour, postsurgical, and postpartum areas;
  - » Practitioners (e.g., nurse to nurse, midwife to physician).

Equipment, Supplies and Technology

- Implement formal strategies to ensure all intrapartum and postpartum (hospital and community birth locations), caesarean, and surgical recovery areas as well as EDs are consistently stocked with:
  - » Monitoring equipment (e.g., blood pressure cuff) for pregnant persons with larger body sizes;
  - » Standardized and stage-based PPH and hemorrhagic and ED trays, kits, and carts.
- Adopt a principle-based formal strategy to manage and allocate critical drugs (e.g., oxytocin shortage) during shortages (Ontario Ministry of Health & Long-Term Care, 2012) (Health Canada, 2017).

Team Training and Education

- Implement formal strategies to support and enhance the interdisciplinary team's clinical knowledge, skills (technical and non-technical), and practical experience surrounding the prevention, recognition and response to intrapartum and postpartum clinical deterioration, PPH, hemorrhagic shock, severe and emergent hypertension, and sepsis and septic shock, including (but not limited to) scheduled interprofessional and cross-departmental PPH, massive blood transfusion, preeclampsia and eclampsia skill drills and simulations (Robinson, Basso, Chan, Duckitt, & Lett, 2022) (Ontario Regional Blood Coordinating Network, 2020) (Alliance For Innovation on Maternal Health, n.d.) (California Maternal Quality Care Collaborative, n.d.).

- Ensure the scheduled interprofessional and cross-department team training and education strategies consider or involve:

  - Knowledge, skills, and practical experience required for both hospital and community birth and postpartum locations (Association of Ontario Midwives, 2021);
  - Team and practitioner situational awareness ('helicopter view') and human factors (Walshe, et al., 2021);
  - Program areas or sites with limited practical experience with intrapartum and postpartum obstetrical emergencies such as low birth volume sites, EDs, laboratory services, and blood bank;
  - Unregulated care providers (where employed), locums, agency, contracted care providers in addition to regulated health professionals (Petersen, et al., 2019).

Documentation

- Adopt a standardized gross placenta template or dictation tool to trigger the recording of the bedside placenta evaluation (Yetter, 1998).

  Additional Considerations

  Examples of elements to address within the standardized gross placenta evaluation template or dictation aid:

  - Adopt a standardized intrapartum and PPH 'resuscitation' flowsheet or record (Lagrew, et al., 2022).

  Additional Considerations

  Examples of elements to address within the standardized hemorrhage resuscitation flow sheet or record:

  - Amount, colour, consistency, and pattern of bleeding;
  - Blood samples sent to the laboratory including time sent and results received;

- Type, volume, and timing for fluids;
- Vital signs and time of the assessment;
- Type, dose, timing, and sequence for prophylactic and emergency medications and the postpartum person's response;
- Who (team member names) and when assistance was called, and arrival times.
- Ensure complete and timely documentation of the shared decision making (informed choice - informed consent) discussions surrounding the management of the third stage of the labour (Robinson, Basso, Chan, Duckitt, & Lett, 2022) (PPH CPG Work Group, 2016); if an informed consent / decline form is used, ensure it is accompanied by complete and timely documentation in the health record.

Additional Considerations

Example of elements to discuss (and document) surrounding informed choice decision making regarding the management of the third stage of labour:

- The pregnant person's overall and evolving clinical status and risk factors;
- Discussion of national, provincial, and local clinical practice guidelines;
- Potential, known, and foreseeable risks associated with expectant management and active management of the third stage of labour;
- Expected benefits of expectant management and active management of the third stage of labour;
- Potential, known, and foreseeable consequences of declining active management for higher risk persons;
- Client-specific care plan for the expectant management, including (but not limited to) higher risk persons.

Client and Family-Centred Care

- Adopt standardized education, training, and discharge instructions for postpartum persons that includes, signs, symptoms, and specific instructions for seeking care for suspected (Centers for Disease Control and Prevention, 2022) (Association of Ontario Midwives, 2016) (Association of Ontario Midwives, 2017):
  - PPH and hemorrhagic shock;
  - Persistent or new onset hypertension and eclampsia;
  - Sepsis and septic shock.
- Implement strategies to enable access to interpreter services during postpartum person education, training, and discharge instructions when needed.

Monitoring and Measurement

- Adopt a standardized, interdisciplinary, collaborative, and evidence-based protocol for conducting quality of care reviews involving pregnant, labouring, and postpartum person clinical deterioration resulting in harm or death; incorporate system thinking and human factors concepts into the review process (Society of Obstetricians and Gynaecologists of Canada, 2021) (Ray, et al., 2018) (Canadian Institute for Health Information & Canadian Patient Safety Institute, 2016) (Machen, 2023).
- Adopt standardized quality indicators for:
  - PPH and hemorrhagic shock (Canadian Institute for Health Information & Canadian Patient Safety Institute, 2016) (Ontario Regional Blood Coordinating Network, 2020);
  - Severe hypertension (Druzin, et al., 2021) (Trahan, et al., 2023);
  - Sepsis and septic shock (Canadian Institute for Health Information & Canadian Patient Safety Institute, 2021) (Gibbs, et al., 2020);
  - Perinatal health equity (Rochin, et al., 2021).
- Incorporate learning from local, provincial, and national prenatal, intrapartum, and postpartum safety reviews and data into local protocols as well as staff and client education and training.

Additional Considerations

Examples of sources of learning regarding prenatal, intrapartum and postpartum harm incidents:

- Chart audits and trigger tools;
- Coroner reports;
- Critical incident and quality of care committee reviews;
- Data from provincial / territorial birth and perinatal registries;
- Incident reports;
- Medical legal claims;
- Regional perinatal networks;
- Team debriefs.

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FAILURE TO IDENTIFY/MANAGE NEONATAL HYPERBILIRUBINEMIA, HYPOGLYCEMIA AND/OR SEPSIS AND SEPTIC SHOCK

Neonatal hyperbilirubinemia and hypoglycemia are common metabolic issues within the first few days of life. While permanent brain injury in term infants is relatively rare, two causes of such injury are neonatal hyperbilirubinemia and hypoglycemia. For a small percentage of infants with jaundice, their total serum bilirubin (TSB) can reach potentially dangerous levels (severe hyperbilirubinemia), which left untreated may cause adverse sequelae such as kernicterus or acute bilirubin encephalopathy (a rare preventable form of brain damage). The clinical recognition and diagnosis of severe hyperbilirubinemia can be difficult, particularly if visual inspection alone is used to estimate the bilirubin level of an infant with jaundice. Two of the challenges associated with the timely diagnosis and treatment of neonatal hypoglycemia have been the lack of an accepted glucose level which is considered predictive of long-term neurological sequelae, and the presence of confounding non-specific signs and symptoms of hypoglycemia (e.g., irritability, lethargy, inadequate feeding). In 2015, neonatal hyperbilirubinemia and hypoglycemia were recognized as two of Canada's "never events" (defined as "patient safety incidents that result in serious patient harm or death that are preventable using organizational checks and balances" (Canadian Patient Safety Institute & Health Quality Ontario, 2015)). From a medical legal perspective, delayed point of care and laboratory testing, infrequent monitoring of at risk and symptomatic infants, and delayed interventions have contributed to multimillion dollar settlements.

Expected Outcomes

1. Adopt standardized, evidence-based neonatal hyperbilirubinemia, hypoglycemia, sepsis and septic shock, and Group B Streptococcus (GBS) management protocols to ensure a systematic and coordinated approach.

2. Implement formal strategies to provide ongoing and targeted education and training to care teams and families surrounding neonatal hyperbilirubinemia, hypoglycemia, sepsis and septic shock, and GBS.

3. Adopt standardized quality indicators for neonatal hyperbilirubinemia, hypoglycemia, sepsis and septic shock, and GBS.

Definitions and Acronyms

Client	includes all persons who receive healthcare and related services including patients, residents and persons in-care
ED	emergency department
GBS	Group B Streptococcus also known as Group B Strep infection
Medical directive	an indirect order that gives authorization to a care provider or group of care providers (e.g., ED nurses) to implement the order (e.g., ED chest pain for adults) with a predefined client population (e.g., ED patients presenting with symptoms suggestive of cardiac ischemia or cardiovascular symptoms such as discomfort jaw to umbilicus, upper limb discomfort without known injury, chest trauma, etc.)
MRP	most responsible practitioner, often a midwife, nurse practitioner or physician
NICU	neonatal intensive care unit
Situational awareness	deliberate and active scanning and assessing of the situation to maintain a holistic understanding of the environment in which the team is functioning
TcB	transcutaneous bilirubin
TSB	total serum bilirubin

Common Claim Themes and Contributing Factors

Organizational

- Lack of a systematic approach to neonatal quality of care reviews related to (but not limited to) neonatal hyperbilirubinemia, hypoglycemia, sepsis and septic shock, and GBS.
- Inadequate, outdated, or confusing neonatal clinical protocols, medical directives, and order sets in birth, postpartum, NICU and ED care settings.
- Clinical protocols not readily available, or only online and cumbersome to access.
- Lack of accountability and role / responsibility confusion for test results, in particular with results:
  - Pre-printed and pre-ordered by clerical or administrative staff;
  - Initiated via medical directives;
  - Received post-discharge;
  - Available online only.

Knowledge and Judgement

- Decreased vigilance and incomplete assessments for at risk neonates considered asymptomatic (e.g., asymptomatic neonates at risk for hypoglycemia or hyperbilirubinemia).
- Delays in recommending and requesting hospital attendance and / or arranging NICU admission, in particular for neonates with jaundice.
- Practitioners' and parents' reliance on visual inspection to estimate bilirubin levels.
- Inconsistent feeding assessments, in particular during night shifts in ED and postpartum care settings, including relying on parental reports but not observed or assessed feds.
- Failure to or delays notifying the MRP or on-call practitioner of abnormal and borderline screening and diagnostic blood work.
- Delays initiating orders and medical directives for point of care screening, testing, and monitoring resulting in hours to days of pronounced hyperbilirubinemia, hypoglycemia, and sepsis.
- Diagnosis and treatment delays due to the inappropriate reliance in screening tools (e.g., point of care testing) to confirm the diagnosis or severity of neonatal hyperbilirubinemia and neonatal hypoglycemia.
- Failure to evaluate or plot bilirubin levels against age and hour specific nomogram, phototherapy, and exchange transfusion graphs resulting in delayed diagnosis and intervention.
- Lack of awareness or compliance with the program's or evidence-based neonatal:
  - Hypoglycemia testing and management protocols;
  - Hyperbilirubinemia testing and management protocols;
  - Sepsis and septic shock protocols.
- Inconsistent histories, exams, and assessment by ED staff in the presence of neonatal lethargy, inadequate feeding, or jaundice (e.g., not asking about birth weight or not weighing the infant; not inquiring about birth and sibling history; not assessing breastfeeding).
- Normalizing of and early discharge of neonates from birth and postpartum units, and EDs:
  - In the presence of at risk status and / or abnormal laboratory test results;
  - Without consult with pediatrics (where indicated and available);
  - Without repeat bilirubin testing as per organizational policy / protocol;
  - Without confirmation of community support, resources, and / or follow-up appointment;
  - Without providing parents detailed discharge education and instructions regarding follow-up and signs / symptoms of deterioration;
  - Without timely communication to the community / primary care provider.

Equipment

- Inadequate or outdated and malfunctioning equipment (e.g., phototherapy equipment).
- Units / programs without access to bili blankets.

Communication

- Ineffective communications with parents including failure to:
  - Acknowledge or consider parental concerns;
  - Offer / provide translation services where indicated;
  - Offer / provide handouts and discharge training in common languages spoken by pregnant and postpartum persons;
  - Communicate with cultural sensitivity.
- Failure to notify social work and / or child and family services where indicated (e.g., parental decision putting the neonate at risk for serious, foreseeable, and imminent harm).
- Lapse in situational awareness, contributing to delayed recognition of and response to insidious and rapid clinical deterioration of the neonate.
- Failure to escalate care disagreements (e.g., escalating unresolved care disagreements with the MRP) in a timely way, or at all.
- Inconsistent or unreliable communication of critical test results by laboratories.
- Tolerance for informal reports and consults (e.g., hallway chats) which are later disputed by the MRP or physician consultant.
- Lack of team briefings, huddles, and debriefings.

Documentation

- Inconsistent documentation of:
  - Nurse-physician, nurse-midwife, nurse-nurse practitioner, midwife-physician, resident-physician 'reports' and consultations;
  - Newborn assessments, vitals, and feeding assessments;
  - Reasons for not conducting, recommending, or performing immediate / urgent screening, diagnostic testing, or management protocol;

  - » Follow-up plan when discharging infants without reassurance of feeding or in the presence of neonatal jaundice;
  - » Verbal, telephone, text, apps, written information, and / or instructions provided to parents, including details of the advice provided.
- Delayed and late entries for care provided, in particular entries made hours or days after the critical incident or clinical deterioration.
- Inadequate documentation of actions taken in response to abnormal neonatal assessments and critical test results.
- Inconsistent documentation of shared decision making (informed choice - informed consent) discussions surrounding parents:
  - » Declines for screening, testing, and / or follow-up at clinic or hospital particularly newborn screening, neonatal hyperbilirubinemia, and / or neonatal hypoglycemia;
  - » Requests for early discharge in presence of neonatal risk factors or prior to recommended screening or testing.

Pregnant and Postpartum Persons

- Declined routine and recommended care and monitoring in particular for neonatal hyperbilirubinemia and hypoglycemia.
- Common allegations related to informed declines:
  - » Did not remember the conversation or "that" detail;
  - » Perception that MRP, consultant, or team endorsed / encouraged the person's choice to decline the intervention;
  - » Did not understand the impact of their decision on the neonate;
  - » Description of risks did not resonate, particularly risks for the fetus or neonate;
  - » Use of vague medical language and statistics that minimized the consequences, particularly risks for the fetus or neonate;
  - » Confusing, vague, or conflicting handouts and decision aids;
  - » Was not informed of hospital policies, professional association clinical practice guidelines, standards, etc. that 'conflicted' with their choice.

Mitigation Strategies

Care Processes

- Implement a standardized process to ensure all neonates:
  - » In hospital during the 24-72 hours window are assessed, screened, and / or tested for hyperbilirubinemia prior to discharge;
  - » Who are not in hospital (e.g., community birth, early discharge) during the 24-72 hours window have alternate access to assessment / screening / testing outside of the hospital setting;
  - » Receive ongoing and judicious assessments to identify and respond to sudden increase in TSB levels in the immediate days and weeks after birth.
- Implement formal strategies to improve access to screening, testing, and follow-up in hospital and associated labs for community / primary care providers.
- Implement strategies to ensure MRPs conduct an assessment (ideally in person), prior to discharge of neonates:
  - » Visibly jaundiced and / or at higher risk (e.g., ABO incompatibility, positive Coombs test) with pending TcB or TSB test results;
  - » At risk of GBS infection (e.g., incomplete maternal prophylaxis during labour).
- Adopt standardized evidence-based neonatal protocols for the assessment, screening, diagnostic testing, and management of neonates at risk of or presenting signs of:
  - » Hypoglycemia (Narvey & Marks, 2019);
  - » Hyperbilirubinemia (Association of Ontario Midwives, n.d.) (Hyperbilirubinemia CPG Work Group, 2019) (PCMCH & MHLTC, 2018) (Barrington & Sankaran, 2018);
  - » Sepsis and septic shock (Farrell, 2020) (Jefferies, 2017) (Association of Ontario Midwives, 2022a).
- Ensure early onset neonatal GBS protocols clarify the action to be taken for asymptomatic neonates with (Association of Ontario Midwives, 2022a) (Association of Ontario Midwives, 2019a) (Jefferies, 2017) (Ronzoni, et al., 2022):
  - » Incomplete, partial, or no delivery of intrapartum antibiotic prophylaxis;
  - » Pregnant person fever and / or prolonged rupture of membranes greater than 18 hours.
- Adopt a standardized current evidence-based (Association of Ontario Midwives, n.d.) (Barrington & Sankaran, 2018) (Provincial Council for Maternal and Child Health, 2022):
  - » Gestational age hour-specific nomograms for reporting TcB and TSB findings;

- Phototherapy treatment graphs;
- Exchange transfusion graphs (where offered).

- Implement team debriefs and supports following all significant neonatal hyperbilirubinemia, hypoglycemia, sepsis and septic shock, and resuscitation incidents.

- Implement formal strategies to facilitate the timely communication of discharge summaries (e.g., ED or NICU admission for neonatal hyperbilirubinemia) from the hospital to community/primary care provider (College of Physicians and Surgeons of Ontario, 2019) (Health Quality Ontario, 2019) (Robelia, Kashiwagi, Jenkins, Newman, & Sorita, 2017).

Patient and Family-Centred Care

- Adopt standardized education, training, and discharge instructions for parents and families (including child welfare case workers) that includes signs, symptoms, and specific instructions for seeking care for suspected (SIGNS for Kids Consortium, 2022):
  - Neonatal hypoglycemia (Canadian Paediatric Society, 2019);
  - Neonatal hyperbilirubinemia (Hyperbilirubinemia CPG Work Group, 2019) (Association of Ontario Midwives, 2019b) (Canadian Paediatric Society, 2022) (PCMCH & MHLTC, 2018);
  - Neonatal sepsis or septic shock (Association of Ontario Midwives, 2022b).

- Implement formal strategies to support and encourage families to escalate quality or safety concerns, including evenings, nights, and weekends (e.g., participation in rounds and handovers, family activated rapid response process).

Team Training and Education

- Implement formal strategies to support and enhance the teams' clinical knowledge, skills (technical and non-technical), and practical experience surrounding the prevention, recognition, and response to neonatal clinical deterioration, hyperbilirubinemia, hypoglycemia, and sepsis and septic shock, including (but not limited to), scheduled interprofessional and cross-departmental skill drills and simulations.

- Ensure the team training and education strategies consider or involve:
  - Knowledge, skills, and practical experience required for both hospital and community birth and postpartum locations (Association of Ontario Midwives, 2021);
  - Team and practitioner situational awareness ('helicopter view') and human factors;
  - Visual assessment of hyperbilirubinemia in neonates with darker pigments;
  - The limitations of the visual assessment for hyperbilirubinemia (e.g., poor overall accuracy for predicting risk of significant hyperbilirubinemia);

- The limitations of point of care testing for hyperbilirubinemia and hypoglycemia i.e., a screening tool versus a diagnostic tool;
- The limitations of negative universal screening results i.e., does not replace the need for ongoing neonatal assessments for days / weeks after the screening (Barrington & Sankaran, 2018);
- Program areas or sites with limited practical experience with neonatal hyperbilirubinemia, hypoglycemia, or sepsis and septic shock such as EDs, low volume birth sites, and rural sites;
- Unregulated care providers (where employed), locums, travel, agency, contracted care providers in addition to regulated health providers.

Equipment, Supplies and Technology

- Ensure the hospital's / health region's technology replacement and procurement program includes (but is not limited to) neonatal phototherapy equipment and bili blankets.
- Implement standardized preventive maintenance and quality check program (as per manufacturer's guidelines) for:
  - Bili meters, bili blankets, phototherapy equipment, and TcB machines;
  - Glucometers.
- If the use of jaundice-related apps (software solution for defined tasks) is permitted for use by the healthcare team, valid that the embedded guidelines and tools (e.g., calculator used for the initiation of phototherapy), met current Canadian evidence based practice (Harrold, Rose, & Cantin, 2023).

Documentation

- Ensure complete and timely documentation of the shared decision making (informed choice - informed consent) surrounding parental declines for routine and recommended screening, diagnostic testing, and interventions for suspected and at risk neonates, in particular declines related to neonatal hyperbilirubinemia and neonatal hypoglycemia; if an informed consent / decline form is used, ensure it is accompanied by complete and timely documentation in the health record.

Monitoring and Measurement

- Adopt a standardized, interdisciplinary, collaborative and evidence-based protocol for conducting quality of care reviews involving neonatal hyperbilirubinemia, hypoglycemia, and / or sepsis and septic shock resulting in client harm or death (Machen, 2023); incorporate system thinking and human factors concepts into the review process.

- Adopt standardized quality indicators for neonatal (Health Quality Ontario, 2019):
  - » Hyperbilirubinemia;
  - » Hypoglycemia;
  - » Sepsis and septic shock.
- Incorporate learning from local, provincial, and national neonatal safety reviews and data into local protocols as well as staff and client education and training.

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MISMANAGEMENT OF INDUCTION AND AUGMENTATION OF LABOUR

Misoprostol and oxytocin are widely available pharmaceutical agents commonly used for the induction and / or augmentation of labour. The use of oxytocin to augment labour is often associated with significant harm incidents if not managed appropriately. Due to this heightened risk for pregnant persons and for the fetuses, the Institute for Safe Medication Practices classified oxytocin as "high-alert medication" (ISMP, 2018). The initiation of intravenous (IV) oxytocin or its timely discontinuation in the presence of contraindicated clinical circumstances are frequent findings in oxytocin-related Canadian pregnant person and newborn related claims.

Expected Outcomes

1. Implement standardized current evidence-based induction and augmentation of labour management protocol to facilitate a systematic and coordinated approach, including (but not limited to):
    a. Adopting an induction and augmentation of labour safety checklist;
    b. Strategies to support the respectful questioning and challenging of cervical ripening, and induction and augmentation orders.
2. Most responsible practitioners (MRPs) undertake (and document) shared decision making (informed choice-informed consent) discussions with the pregnant persons regarding cervical ripening, and induction and augmentation of labour.
3. Adopt best practices to support psychological safety in the perinatal care settings.

Definitions and Abbreviations

ARM	artificial rupture of membranes
BMI	body mass index
Cervical ripening	the use of pharmacologic or mechanical means to soften, efface, and dilate the cervix prior to induction of labour (IOL) to increase the likelihood of a successful vaginal birth (Robinson, et al., 2023b)
Client	includes all persons who receive healthcare and related services including patients, residents and persons in-care
EFM	electronic fetal monitoring
FHS	fetal health surveillance
HIE	hypoxic ischemic encephalopathy
IV	intravenous
Medical directives	an indirect order that gives authorization to a care provider or group of care providers (e.g., emergency department (ED) nurses) to implement the order (e.g., ED chest pain for adults) with a predefined client population (e.g. ED clients presenting with symptoms suggestive of cardiac ischemia or cardiovascular symptoms such as discomfort jaw to umbilicus, upper limb discomfort without known injury, chest trauma, etc)
MRP	most responsible practitioner, often a midwife, nurse practitioner or physician
NICU	neonatal intensive care unit
OR	operating room

Common Claims Themes and Contributing Factors

Organizational

- Perceived and / or actual tolerance of:
  - Unprofessional practitioner and team behaviours;
  - Unsafe practices surrounding induction and augmentation of labour (including tolerance of verbal orders and informal consultations for induction and augmentation).
- Lack of, unrealistic, or ambiguous:
  - Escalation and chain of command processes;
  - Obstetrical emergency response and codes.

- Inappropriate use of medical directives delegating the decision to induce or augment to nurses.
- Induction and augmentation booked and commenced without appropriate availability of resources (e.g., timely access to an OR and surgical team).
- Lack of standardized and current induction and augmentation protocols including protocols lacking guidance surrounding assessment and monitoring expectations.
- Inconsistent practice expectations surrounding shared decision making (informed choice-informed consent) surrounding the pharmaceutical induction and augmentation of labour.

Knowledge and Judgment

- Gaps in FHS negatively impacting clinical understanding of pregnant person and fetal well-being prior to and during the induction or augmentation.
- Lack of appropriate clinical indication for the induction or augmentation.
- Normalizing and decreased vigilance towards pharmaceutical induction or augmentation.
- Ordering, implementing, continuing, increasing, or resuming oxytocin infusion in the presence of contraindications.
- Accepting or not questioning orders despite concerns about their clinical appropriateness.
- Lack of awareness or compliance with hospital or health region induction and augmentation of labour guidelines.

Communication

- Inadequate communication during healthcare provider handoffs and handovers.
- Hesitancy to escalate concerns about unsafe practitioners and practices, including practitioners in leadership roles, due to work culture and resources challenges.
- Delayed physician notification and consultation in the presence of any pregnant person or fetal contraindications and / or signs of decompensation.

Shared Decision Making (Informed Choice - Informed Consent)

- Inappropriate pharmaceutical induction and / or augmentation of labour based on the assumption that a valid consent had been obtained by another physician or midwife during the antenatal or intrapartum period.

- No / inadequate documentation to demonstrate:
  - The prescribing physician and / or MRP undertook a shared decision making (informed choice - informed consent) discussion with the pregnant person including:
    - Risk and benefits to the fetus / neonate;
    - Alternatives and their associated risks and benefits;
    - The pregnant person was informed of evolving risk factors impacting the initial and ongoing safe administration of the pharmaceutical induction or augmentation;
    - The pregnant person was informed of the evolving availability and access to local specialists (e.g., obstetrician) and resources (e.g., OR for emergency caesarean) in case of an obstetrical emergency such as uterine rupture.
- Inappropriate delegation to and reliance on nurses to obtain and / or validate if a shared decision making (informed choice - informed consent) discussion took place between the ordering practitioner and pregnant person.

Documentation

- Inconsistent documentation surrounding:
  - The clinical rationale for ordering, accepting, or implementing an order, and for increasing or continuing the infusion in the presence of satisfactory uterine contractility, uterine tachysystole, or abnormal FHS pattern;
  - Verbal orders and consultations for induction and augmentation, including orders to continue, increase, or restart oxytocin;
  - Management plan for pregnant persons at higher risk.

Mitigation Strategies

Care Processes

- Implement a standardized current evidence-based induction and augmentation of labour management protocol to facilitate a systematic and coordinated approach (Provincial Council for Maternal and Child Health, 2022), including current evidence-based protocols for:
  - Cervical ripening (Robinson, et al., 2023a) (Robinson, et al., 2023b);
  - Induction and augmentation of labour (Robinson, et al., 2023a) (Robinson, et al., 2023c).

Additional Considerations

Examples of elements to address within the evidence-based induction and augmentation of labour protocol:

- Universal definition of labour dystocia and tachysystole (e.g., SOGC definitions);
- "Hard stop" policies (e.g., department chair or committee approval to schedule induction before 39 weeks without medical indication);
- Requirements before an order for induction or augmentation is implemented (e.g., recent in-person midwife or physician assessment of the pregnant person, a written order and evidence of documented Bishop score, documented indication for the induction and augmentation, and the midwife's or physician's documented IV oxytocin informed consent discussion(s) with the pregnant person);
- Requirements for restarting or increasing the rate of infusion in the presence of pregnant person or fetal contraindications;
- The starting dose and incremental increases, and the defined rate (or range) for resuming oxytocin after discontinuation;
- Standardized 'pre-oxytocin' and 'oxytocin in-use' safety checklists;
- Standardized IV oxytocin order set;
- Monitoring requirements before and during infusion;
- Indications for immediate physician notification and / or consult;
- Indications for immediately stopping or reducing the infusion;
- Adopt a current evidence-based induction and augmentation of labour safety checklist (e.g., pre- and in-use oxytocin safety checklist) (Provincial Council for Maternal and Child Health, 2022) (Robinson, et al., 2023c).
- Discontinue the use of induction and augmentation "standing orders" (College of Nurses of Ontario, 2020) and medical directives.
- Adopt a standardized evidence-based induction booking process and triage protocol (Reproductive Care Program of Nova Scotia, 2012).

Additional Considerations

Examples of elements to address within the standardized evidence-based induction booking and triage protocol:

- Agreed-to standards for determination of gestational age, approved medical indications, and degree of urgency, including chain of command and / or escalation protocol for medical review;

- Requirements for postponing medically indicated inductions (e.g., only postponed when absolutely necessary and accompanied by scheduled or regular fetal and pregnant person assessments) as well as elective inductions;
- The current and foreseeable unit acuity and volumes (including possible transfers from the community labour / birth settings);
- The adequacy of the current and foreseeable staffing levels and mix, and resources to respond to an obstetrical emergency;
- Specific actions to be taken if the unit acuity and volumes change during an induction or augmentation.

Safety Culture

- Implement formal strategies to develop and maintain a work environment which supports and expects:
  - Assertive and respectful questioning and challenging of cervical ripening, induction and augmentation orders (Provincial Council for Maternal and Child Health, 2022) (Agency for Healthcare Research and Quality, 2017).
  - Zero tolerance of intra- and inter-disciplinary bullying and intimidation;
  - Early response to suspected and actual pregnant person and / or fetal deterioration, including seeking assistance from peers and other resources (e.g., rapid response teams where in place).
- Adopt a standardized, formalized, and program-specific chain of command (escalation) protocol for the rapid escalation of unresolved care concerns or disagreements related to orders and / or decisions related to cervical ripening, induction, and / or augmentation of labour (Provincial Council for Maternal and Child Health, 2022) (Agency for Healthcare Research and Quality, 2017).

Shared Decision Making (Informed Choice - Informed Consent)

- Implement a current evidence-based handout / resource to supplement the shared decision making (informed choice-informed consent) conversations between the MRP and the pregnant person regarding cervical ripening, and induction and augmentation of labour (ISMP Canada, 2022a) (ISMP Canada, 2022b) (Provincial Council for Maternal and Child Health, 2022).
- Ensure the handout / resources (and related shared decision making (informed choice-informed consent) conversations) use clear, explicit, and unbiased language when describing the risks, benefits, alternatives, and evidence related to the cervical ripening, induction, and / or augmentation of labour (ACOG Committee on Ethics, 2021); ensure the discussion (and documentation) includes a clear description of the pregnant person and fetus clinical status.
- Implement strategies to enable access to interpreter services during shared decision making (informed choice - informed consent) conversations.

Strategies for Midwives and Physicians

- Ensure complete and timely documentation of the shared decision making (informed choice - informed consent) discussions surrounding:
  - » Cervical ripening and pharmaceutical induction and augmentation of labour (Provincial Council for Maternal and Child Health, 2022) (Robinson, et al., 2023a) (Robinson, et al., 2023c);
  - » Continuous electronic fetal monitoring (EFM) where indicated (use of oxytocin or repeated doses of prostaglandin E1 for induction of labour) (Robinson, et al., 2023b) (Robinson, et al., 2023c).

Additional Considerations

Examples of what should be documented during the shared decision making (informed choice-informed consent) discussions surrounding induction of labour:

- The pregnant person's overall and evolving clinical scenario;
- Why cervical ripening, induction or augmentation is being proposed;
- Benefits and risks associated with the proposed intervention, in particular known, foreseeable, and potential risks and potential consequences to the fetus;
- Alternatives to the proposed cervical ripening, induction, or augmentation, including risks associated with the alternatives;
- Potential, known, and foreseeable risks if the proposed intervention is declined;
- Availability of hospital staff (anesthesiologist, respiratory therapists, obstetricians, midwifery, OR nurses, etc.) and resources (e.g., caesarean ready rooms, NICU) needed to respond to obstetrical emergencies);
- Why EFM is being recommended during the ripening, induction, or augmentation.
- Ensure complete and timely documentation of the informed decline discussion in the health record where the pregnant person declines the following (but not limited to):
- Examples of what should be documented during the shared decision making (informed choice-informed consent) discussions surrounding induction of labour:
  - o EFM before discharge home following prostaglandin E1 or E2 for cervical ripening;
  - o EFM during the induction and / or augmentation of labour;
  - o Pregnant person and fetal assessments during the ripening, induction, or augmentation.
- If a consent / decline form is used, ensure it is accompanied by complete and timely documentation in the health record.

Documentation

- Implement formal strategies to monitor, measure, and improve documentation of the interdisciplinary team ordering, implementing, and caring for pharmaceutically induced or augmented pregnant persons (HIROC, 2017).

Additional Considerations

Examples of areas of improvement when monitoring, measuring and improving clinical documentation related to the induction and augmentation of labour:

- FHS assessments and actions taken (where indicated by current evidence based practice);
- Midwives and physician consultations and orders for induction and augmentation (e.g., name of the ordering or consulting physician; date and time the order or consult took place; the fetal status and risk factors relayed at the time of discussion or consultation; the findings and recommendations; changes to the birth or management plan);
- The clinical rationale for accepting an order, continuing or increasing the rate of infusion in the presence of pregnant person or fetal contraindications ('as per protocol' or 'as per orders' is not appropriate or sufficient).

Monitoring and Measurement

- Adopt a standardized, interdisciplinary, collaborative, and evidence-based protocol for conducting quality of care reviews involving the induction and / or augmentation of labour resulting in client harm or death (Machen, 2023); incorporate system thinking and human factors concepts into the review process.
- Adopt standardized quality indicators for labour induction and augmentation (Calder, et al., 2019) (Health Quality Ontario, n.d.).
- Incorporate learnings from local, provincial, and national neonatal morbidity and mortality incidents (e.g., coroner reports) and data (e.g., provincial birth registries) into local protocols as well as staff and client education and training.

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MISMANAGEMENT OF INTRAPARTUM FETAL MONITORING

Assessment of the fetal heart rate (FHR) response to uterine activity provides insight into the wellbeing of the fetus. The lack of proficiency in performing and classifying intermittent auscultation (IA) and / or electronic fetal monitoring (EFM), in conjunction with high levels of intra- or inter-observer disagreement surrounding EFM classification has contributed to adverse clinical outcomes including intrapartum morbidity and mortality.

In civil actions involving neurologically or physically compromised newborns (where it is alleged that the management of labour, delivery, and / or resuscitation processes contributed to long term harm), the health record is considered the most reliable source of evidence of the care provided to the pregnant person (i.e., the records are frequently regarded as proof of the facts). Inconsistencies and gaps in documentation of FHR assessments makes defending medical-legal claims challenging.

Expected Outcomes

1. Adopt standardized evidence-based protocols to support early detection and response to atypical and abnormal FHR patterns.
2. Implement strategies to support a psychological safety workplace.
3. Implement formal strategies to provide targeted FHS education and training.

Definitions and Acronyms

BMI	body mass index
Client	includes all persons who receive healthcare and related services including patients, residents and persons in-care
EFM	electronic fetal monitoring
Client	includes all persons who receive healthcare and related services including patients, residents and persons in-care
EFM	electronic fetal monitoring
FHR	fetal heart rate
FHS	fetal health surveillance
FSE	fetal spiral electrode
Human factors	"scientific discipline concerned with the understanding of interactions among humans and other elements of a system, and the profession that applies theory, principles, data and methods to design in order to optimize human wellbeing and overall system performance." (International Ergonomics Association, n.d.)
IA	intermittent auscultation
MRP	most responsible practitioner, often a midwife, nurse practitioner or physician
NICU	neonatal intensive care unit
OR	operating room
PRN	Latin abbreviation for "pro re nata" meaning "as needed" or "as necessary"
Situational awareness	deliberate and active scanning and assessing of the situation to maintain a holistic understanding of the environment in which the team is functioning

Common Claim Themes and Contributing Factors

Organizational

- Perceived or actual systematic tolerance of unprofessional or unsafe behaviours.
- Intra-and inter-disciplinary conflicts.

- Lack of, unrealistic, or ambiguous:
  - » Escalation and chain of command process;
  - » Obstetrical emergency response and codes.
- Lack of clarity on how to activate the obstetrical emergency contingency plans when on-call team members fail to respond or attend.
- Insufficient mechanisms to support provider and team proficiency in FHS and awareness of applicable policies / protocols.
- Lack of systematic approach to perinatal-related harm incidents involving FHS during labour.
- Lack of a formal plan to respond to various types of staffing and resource challenges to ensure optimal care during labour and birth.
- Periodic and ongoing delayed attendance to urgent and emergency situations by on call, second on call / contingency practitioners, and surgical teams.

Knowledge and Judgment

- Misidentification of the pregnant person's heart rate as the FHR.
- Failing to modify FHS practices (where clinically indicated) for pregnant persons with additional risks.
- Inadequate response to unremitting uterine tachysystole.
- Infusing IV oxytocin for augmentation of labour in the absence of reliable, interpretable, and normal FHS.
- Normalizing and decreased vigilance over time towards atypical and abnormal FHR findings.
- Assumptions that tracings at the centralized monitoring location was monitored by another practitioner.
- Lapse in team and practitioner situational awareness, contributing to delayed recognition of and response to pregnant person and / or fetal deterioration during labour.
- Inappropriate discharge following triage assessment (e.g., reduced fetal movements), atypical or abnormal non-stress test.
- Delays:
  - » Requesting or applying fetal spiral electrode (FSE) when indicated (e.g., challenges finding or hearing fetal heart sounds; uninterpretable tracing);
  - » Calling for assistance, notifying the most responsible practitioner (MRP) or requesting a physician consult where indicated;
  - » Calling a newborn and / or obstetrical emergency code (code pink and / or resuscitation team).

- FHS not or inadequately performed once an urgent or emergent caesarean is called, including pregnant persons being prepped for and / or in the operating room (OR) awaiting team arrival.
- Improper or incomplete handovers for care transitions between providers, especially changes in MRP.

Pregnant Person

- Does not consent to assessments or recommendations for fetal and pregnant person monitoring, EFM, or obstetrician consult.
- Higher risk factor impacting routine FHS.

Communication

- Hesitancy to escalate concerns about unsafe practitioners and practices, including:
  - Practitioners in leadership roles;
  - Disagreements with leadership regarding further escalation of unresolved concerns.
- Disagreement among the team as to whether a report or consultation for ongoing atypical and / or abnormal FHS took place.
- Significant delays notifying and requesting MRP attendance:
  - Following client arrival at obstetrical triage and / or admission to the labour / delivery unit;
  - Significant changes in health status of the pregnant person;
  - When abnormal FHS is encountered and / or persists (e.g., FHS pattern that does not return to normal) in obstetrical triage, in the labour / delivery suite, following the call for an emergency caesarean, and in the OR or caesarean ready room.

Documentation

- Gaps or inconsistencies in documentation related to:
  - Shared Decision Making (informed choice - informed consent) discussions;
  - FHS assessments;
  - Intrauterine resuscitation measures;
  - All methods and attempts to contact the MRP or consultant.

Mitigation Strategies

Reliable Care Processes

- Adopt a standardized evidence-based protocol to assist in the systematic classification of and response to abnormal IA and atypical and abnormal EFM tracing findings (Dore & Ehman, 2020); ensure the protocol includes considerations regarding access to appropriate resources and infrastructure (intrauterine pressure catheters and FSEs) when providers are challenged to adequately monitor uterine activity and / or FHR.

Psychological Safety

- Implement formal strategies to develop and maintain a work environment which supports and expects:
  - Interprofessional collaboration and collegiality;
  - Zero tolerance of intra- and inter-disciplinary bullying and intimidation;
  - Assertive and respectful questioning and challenging of unsafe practices;
  - Early response to suspected and actual pregnant person and / or fetal deterioration, including seeking assistance from peers and other resources (e.g., rapid response teams where in place) (D'Amour, Ferrada-Videla, San Martin Rodriguez, & Beaulieu, 2005) (Romijn, De Bruijne, Teunissen, Wagner, & De Groot, 2018).
- Adopt a standardized, formalized, and program-specific chain of command protocol for the rapid escalation of unresolved care concerns or disagreements related to orders and / or decisions related to FHS during labour (Provincial Council for Maternal and Child Health, 2022) (Agency for Healthcare Research and Quality, 2017).

Communication

- Implement formal strategies to enable access to interpreter services during the intrapartum period to facilitate shared decision making (informed choice - informed consent) conversations in all birth locations (Le Neveu, Berger, & Gross, 2020).
- Adopt a standardized and structured communication framework for team (intra- and inter-disciplinary) communication during the intrapartum and postpartum period (e.g., SBAR).
- Implement formal strategies to discourage informal reports or consultations (e.g., hallway chats and heads up) with the MRP or physician consultant (Canadian Medical Protective Association, 2019).
- Implement strategies to facilitate timely communication to the MRP or physician consultant:
  - For pregnant persons enroute to the hospital from the community labour / birth setting;

  - Following pregnant person's presentation to the obstetrical triage and / or labour / delivery floor;
  - Following the pregnant person's presentation to the hospital from the community birth location due to ongoing and / or unresolved FHS abnormalities or pregnant person concerns;
  - When continuous EFM, where utilized or ordered, is discontinued;
  - Where fetal monitoring is challenging or unresolved inadequate quality or non-interpretable tracings;
  - When a pregnant person declines some or all fetal assessments during labour (including EFM where indicated by hospital/health region guidelines).

- Adopt a standardized and formalized on-call and second on-call / contingency protocol for the rapid response for when the MRP, physician consultant, resuscitation team, or surgical team does not respond or is unable to respond in a clinically appropriate timeframe; ensure the protocol is updated based on human health resource changes and challenges (Stirk & Kornelsen, 2019).

- Adopt a standardized and formalized communication process for handovers and transfer of accountability during the intrapartum period, including (but not limited to) handover and transfer of accountability between:
  - Triage and labour floor;
  - Labour floor and neonatal intensive care unit (NICU);
  - Practitioners (nurse to nurse during breaks or shift change, midwife to physician during transfer of care, etc.).

- Clarify, in practice and in protocol, the role of midwives after a transfer of primary clinical responsibility to a physician.

Equipment and Technology

- Implement formal strategies to ensure central monitoring is not used as replacement for bedside observations and assessments (where indicated).

- Implement formal strategies to:
  - Clarify the practice expectations for staff monitoring displays at the central monitoring location (e.g., offer collegial and timely support to the practitioners in the room versus assume they will ask for help if needed) (Small, Sidebotham, Fenwick, & Gamble, 2022) (Ona & Greenberg, 2018);
  - Reduce critical alarm and alert fatigue (Kern-Goldberger, Hamm, Raghuraman, & Srinivas, 2022) (Kern-Goldberger, Nicholls, Plastino, & Srinivas, 2023).

- Implement strategies to support adequate and appropriate fetal monitoring supplies such as intrauterine pressure catheters and FSEs.

Strategies for midwives and physicians

- Adopt a standardized request template for referrals / consultations during the antenatal and intrapartum period (College of Physicians and Surgeons of British Columbia, 2022) (College of Midwives of Manitoba, 2020).

Additional Considerations

Examples of elements to address during intrapartum referrals and consults:

- Pregnant person's name, personal health number, and preferred and current contact details;
- Reason for consultation;
- Diagnosis;
- History of complaint;
- Medical history and social information;
- Clinical concerns;
- Special considerations;
- Copies of or summary of significant laboratory investigations, imagings, or other consultant reports;
- Urgency of referral;
- Type of consultation (medical opinion only, treatment, transfer of care, etc.).
- Adopt a standardized process for the follow-up of laboratory, imaging, or consultation results (Canadian Medical Protective Association, 2021a) (Canadian Medical Protective Association, 2020) (Canadian Medical Protective Association, 2021b).

Team Training and Education

- Implement formal strategies to support and enhance the team's (i.e., nurses, midwives and physicians) clinical knowledge, skills (technical and non-technical), and practical experience surrounding FHS during labour including (but not limited to) scheduled interprofessional and cross-department skill drills, simulations, and FHS certification (Canadian Association of Perinatal and Women's Health Nurses, 2018) (Dore & Ehman, 2020).

- Ensure the scheduled interprofessional and cross-department team training and education strategies address or involve:
  - » Knowledge, skills, and practical experience required for both hospital and community birth locations;
  - » Team and practitioner situational awareness ('helicopter view') and human factors;

- Program areas or sites with limited practical experience with FHS such as low birth volume sites, rural sites, and emergency departments;
- Unregulated care providers (where utilized), locums, travel, agency, contracted care providers, community birth partners in addition to regulated health professionals (NHS London, 2019) (Healthcare Safety Investigation Branch, 2020).

Documentation

Strategies for Nurses, Midwives and Physicians

- Implement strategies to ensure contemporaneous and comprehensive documentation of all scheduled and as required FHS assessments in all phases of labour in all labour and birth settings (HIROC, 2017).

Additional Considerations

Examples of elements to document related EFM (all stages of labour, all birth locations):

- Baseline FHR;
- Indicators for initiating EFM;
- Align timing with time on the monitor clock (unless otherwise specified by local policy);
- Description of uterine activity;
- Description of resting tone;
- Description of the contraction;
- Duration of the contractions from beginning to the end;
- Description of variability;
- Presence or absence of acceleration;
- Present and type of decelerations;
- Description of the tracing classification;
- Shared decision making (informed choice - informed consent) regarding method of fetal monitoring;
- Actions taken in response to atypical or abnormal assessment, and the pregnant person's and fetal response to interventions.

Examples of elements to document related to IA (all stages of labour, all birth locations):

- Numerically defined terms (tachycardia, bradycardia);
- Baseline FHR;
- Description of FHR rhythm;

- Description of uterine activity:
  - Resting tone;
  - Contraction intensity;
  - Duration of the contractions from beginning to the end;
- Presence or absence of accelerations or decelerations;
- Classification as normal or abnormal;
- Actions take in response to abnormal assessment, and the pregnant person's and fetal response to interventions;
- Indications for switching from IA to EFM;
- Rationale for not switching to EFM where ordered or indicated by local hospital / health region policy.
- Implement strategies to ensure contemporaneous and comprehensive documentation of the shared decision making (informed choice - informed consent) discussions surrounding method of fetal monitoring, including (but not limited to) where the pregnant person declines:
  - Scheduled and PRN fetal monitoring assessments (some or all of the assessments);
  - EFM where recommended by the MRP or indicated by local hospital / health region policy.

Monitoring and Measurement
(Stirk & Kornelsen, 2019)

- Implement formal strategies to monitor and measure practitioner and team attendance at labours / births (patterns, influences on attendances including when teams are called in from off site, etc.) and resources for intrapartum consults and attendance at birth.
- Adopt a standardized, interdisciplinary, collaborative, and evidence-based protocol for conducting quality of care reviews involving FHS monitoring, classification, and related team communication resulting in client harm or death (Machen, 2023); incorporate system thinking and human factors concepts into the review process.
- Adopt standardized quality indicators for FHS during labour and collaborative care (Calder, et al., 2019) (Health Quality Ontario, n.d.).
- Incorporate learning from local, provincial, and national perinatal related safety reviews and data related to FHS and intrapartum care into local protocols as well as staff and client education and training.

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MISMANAGEMENT OF NEONATAL RESUSCITATION

Neonatal resuscitation after birth has become a significant liability exposure for healthcare organizations, practitioners, and resuscitation teams, particularly in cases where the neonate sustained neurological injury. In some cases, it is unclear whether the injury was sustained during the intrapartum period or during or shortly after the neonatal resuscitation. Accurate and complete documentation of the resuscitation is required to help demonstrate the timeliness and adequacy of the emergency interventions. Neonatal intubation is considered a technically complex and high risk procedure with some neonates experiencing ongoing bradycardia and severe oxygen desaturations despite intubation attempts. Infrequently required, maintaining practitioners' intubation skills remains a challenge.

Expected Outcomes

1. Adopt a standardized evidence-based neonatal resuscitation management protocol.
2. Implement formal strategies to provide ongoing and targeted neonatal resuscitation-related education and training.
3. Adopt standardized quality indicators to monitor and measure neonatal resuscitations.

Definitions and Acronyms

Client	includes all persons who receive healthcare and related services including patients, residents and persons in-care
Code pink	emergency code for an infant in distress
EMS	emergency medical services, also known as ambulance services or paramedic services
ETT	endotracheal tube
HIE	hypoxic ischemic encephalopathy
NICU	neonatal intensive care unit
Situational awareness	deliberate and active scanning and assessing of the situation to maintain a holistic understanding of the environment in which the team is functioning
UVC	umbilical venous catheter

Common Claims Themes and Contributing Factors

Organizational

- Lack of intra- and / or inter-disciplinary team training / simulations focused on the identification and management of deteriorating neonates including neonatal resuscitation (i.e., 8th edition of the neonatal resuscitation program per Canadian Paediatric Society).
- Lack of a systematic approach to neonatal quality of care reviews related to neonatal resuscitation efforts.
- Resource and staffing challenges in responding to neonatal resuscitation i.e., lack of practitioners skilled and / or certified to perform neonatal intubation and endotracheal tube management.

Knowledge and Judgment

- Failure to or delays calling:
  - A code pink, resuscitation or NICU team in the hospital birth setting where clinically indicated;
  - For EMS or neonatal transport teams where clinically indicated.
- Lack of awareness or compliance with the program's or evidence-based neonatal resuscitation protocol.
- Concerns surrounding the performance of neonatal resuscitation efforts, including:
  - Implemented in an unprepared and / or uncoordinated manner (e.g., lacking leadership during the resuscitation);
  - Excessive time spent on an ineffective intervention before moving to the next and / or calling for assistance;
  - Lack of familiarity and / or compliance with recommended interventions and / or the organization's neonatal protocols.
- Failure to or delays performing neonatal intubation, suctioning (where indicated), and / or inserting a laryngeal mask airway due to:
  - Lack of confidence in related skills;
  - Lack of clarity on which team member is expected to and / or will perform the suctioning and / or intubation;
  - Assumption that the arrival of the code pink, resuscitation NICU team, or emergency transport was imminent;
  - Unavailability of or delayed access of suction and / or intubation equipment and supplies.

Communication

- Lapse in situational awareness, contributing to delayed recognition of and response to insidious and rapid clinical deterioration of the neonate.
- Lack of effective team briefings, huddles, and debriefings.

Documentation

- Delayed and late entries for care provided, in particular entries made hours or days after the critical incident or clinical deterioration.
- Lack of documentation surrounding the:
  - » Specific details of the resuscitation efforts;
  - » Call and pages to EMS, code pink, resuscitation, and NICU teams.

Mitigation Strategies

Care Processes

- Adopt a standardized evidence-based neonatal resuscitation protocol to support a systematic and coordinated approach to resuscitation (American Heart Foundation, Canadian Paediatric Society & American Academy of Pediatricians, 2021).
- Adopt strategies to enhance situational awareness during neonatal resuscitation, suctioning, and intubation interventions (Pinheiro, Munshi, & Chowdhry, 2023) (Hatch, et al., 2016).

Additional Considerations

Examples of strategies to enhance situational awareness during neonatal resuscitation:

- "PETT" mnemonic – proactively seek information related to the patient (P), environment (E), task (T) and time (T), assess the information, think ahead and consider 'what if';
- The use of:
  - o Checklists and rapid response algorithms;
  - o Effective handovers and structured communication practices such as SBAR;
  - o Institute for Health Improvement's intubation "timeout tool".
- Conduct a post incident management process for all births with challenging resuscitations or intubations that includes (but is not limited to) conducting team debriefs, arterial and venous blood cord gases analysis, and pathological placental examinations.

Team Training and Education

- Implement formal strategies to support and enhance the teams' clinical knowledge, skills (technical and non-technical), and practical experience surrounding neonatal resuscitation including (but not limited to), scheduled interprofessional and cross-department skill drills and simulations (Lindhard, et al., 2021) (McMullen, Kalaniti, & Campbell, 2016) (Ghoman, et al., 2020) (Yang & Oh, 2022).
- Ensure the team training and education strategies address or involve:
  - » Knowledge, skills, and practical experience required for both hospital and community birth and postpartum locations (Association of Ontario Midwives, 2021);
  - » Team and practitioner situational awareness and human factors;
  - » Program areas or sites with limited practical experience with neonatal resuscitation such as emergency departments, low volume birth sites, and rural sites (Yousef, Moreau, & Soghier, 2022) (Hand, 2022);
  - » Unregulated care providers (where employed), locums, travel agency, contracted care providers in addition to regulated health professionals.

Equipment, Supplies and Technology

- Implement formal strategies to ensure the immediate availability of the required resuscitation, ventilation, suction, and intubation equipment and supplies for all hospital and community birth and postpartum locations; for the hospital birth setting, consider the need for the immediate availability to electrocardiography; for community birth locations, ensure neonatal resuscitation equipment is set up for all births; ensure the process includes a formal contingency plan for missing or faulty equipment and supplies; consider adopting standardized resuscitation and intubation carts or kits for all for all birth and postpartum locations to help ensure familiarity with the equipment, supplies, and setup by all teams (Chan, et al., 2016) (Maul, Latham, & Westgate, 2016) (Milloy & Bubric, 2018).

Documentation

- Adopt a standardized neonatal resuscitation flowsheet / record / dictation aid (Perinatal Services BC, 2022a) (Association of Ontario Midwives, 2021) (Braga, et al., 2015) (Southwestern Ontario Maternal, Newborn, Child and Youth Network, 2016).

Additional Considerations

Elements to consider including in the standardized neonatal resuscitation flowsheet/record/dictation aid:

- Actual time or age in minutes;
- Respiration efforts (e.g., gasping, apneic, or absent respiratory effort);
- Heart rate per minute;
- Oxygen saturation;

- Colour (e.g., pink, mottled / pale, or cyanosed);
- Tone;
- Timing of specific interventions (e.g., ventilation, suctioning, chest compressions, intubation), the response to and / or effectiveness of interventions;
- Type of suctioning;
- ETT and UVC insertion, including tube and catheter size, insertion depth, number of attempts, who inserted, and confirmation method;
- Medications administered including dose, route, and name of person administering;
- Time help called and arrived, and who they were;
- The neonate's post resuscitation condition, and any subsequent transfer of care and ongoing care;
- Signature of the practitioner(s) performing the resuscitation;
- Signature of the designated script (where used).

Monitoring and Measurement

- Adopt a standardized, interdisciplinary, collaborative, and evidence-based protocol for conducting quality of care reviews involving neonatal resuscitation resulting in client harm or death; incorporate system thinking and human factors concepts into the review process (Perinatal Services BC, 2017a) (Perinatal Service BC, 2017b) (The National Center for Fatality Review and Prevention, n.d.) (PMRT development working groups, 2022) (Machen, 2023).
- Adopt standardized quality indicators for neonatal resuscitation (Hill, Clark, Narayanan, Wright, & Vivio, 2014) (Perinatal Services BC, 2022b).
- Incorporate learning from local, provincial, and national neonatal safety reviews and data into local protocols as well as staff and client education and training.

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MISMANAGEMENT OF TRIAL OF LABOUR AFTER CAESAREAN (TOLAC)

Antenatal and intrapartum care for the pregnant person choosing trial of labour after caesarean (TOLAC) requires that the pregnant person is fully informed of the risks, benefits, and alternatives given their evolving clinical circumstances. In instances of negative outcomes associated with TOLAC, shared decision making (informed choice-informed consent), the planning and delivery of care, and responses to the obstetrical emergency are examined. In the absence of good documentation, it is challenging to understand what was considered and to confirm whether the pregnant person was fully informed of the risks, in particular the risks to the fetus / future child. Additionally, the failure to detect signs and symptoms of a uterine rupture and respond promptly is a significant exposure for healthcare providers and organizations.

Expected Outcomes

1. Implement a standardized evidence-based protocol for the management of TOLAC.
2. Adopt a standardized, interdisciplinary, collaborative and evidence-based protocol for conducting quality of care reviews involving TOLAC resulting in client harm or death.
3. Adopt standardized quality indicators for TOLAC.

Definitions

Client	includes all persons who receive healthcare and related services including patients, residents and persons in-care
Community birth settings	births occurring in the community versus in a hospital
EFM	electronic fetal monitoring
ERC	elective repeat caesarean
IA	intermittent auscultation
IV	intravenous
MRP	most responsible practitioner, often a midwife, nurse practitioner or physician
NICU	neonatal intensive care unit
OR	operating room
Situational awareness	deliberate and active scanning and assessing of the situation to maintain a holistic understanding of the environment in which the team is functioning
TOLAC	trial of labour after caesarean also known as vaginal birth after caesarean or VBAC

Common Claims Themes and Contributing Factors

Shared Decision Making (Informed Choice - Informed Consent)

- Assumption that shared decision making (informed choice - informed consent) discussions are not required based on the assumption that the discussions undertook by other practitioners are transferable to the attending practitioners.
- Lack of communication between providers about the details of the consent discussion(s) and clarifying responsibilities for obtaining informed consent.
- Inconsistent and confusing practices for use of consent forms (where utilized).
- Minimizing the risks or withholding pertinent details related to the risks (in particular risks to the fetus) to influence the pregnant person's choice for either an ERC or TOLAC.
- Failure to describe risks to the fetus and pregnant person in language that can be understood by the pregnant person.
- Perceived and actual delegation of the shared decision making (informed choice-informed consent) and completion of consent forms to nurses.
- Perceived and actual organizational pressures to reduce rates of ERC (e.g., alleged coercion or minimizing risks to impact pregnant person decision making).

Induction and Augmentation of Labour

- Normalizing oxytocin induction or augmentation without recognition of increased risk of uterine rupture.
- Failure to obtain or reconfirm informed consent to IV oxytocin augmentation prior to infusion.

Knowledge and Judgement

- Failure to recognize or respond to warning signs of an impending uterine rupture resulting in delayed medical and surgical interventions.
- Failure to identify and respond to signs of fetal deterioration in a timely manner.

Documentation

- Inadequate documentation to demonstrate the risks, benefits, and alternatives (including the risks and benefits associated with the alternatives) was understood by the pregnant person, in particular the risks to the fetus / future child, including options such as:
  - » TOLAC and ERCs;

- Continuous EFM versus IA;
- Oxytocin induction or augmentation.

- Inadequate documentation of the discussions associated with the current availability and access to specialists (e.g., obstetricians) and resources (e.g., OR for an emergency caesarean) in the planned and actual birth location.

- Failure to confirm pregnant person's choices during consultation or transfer of care.

Mitigation Strategies

Care Processes

- Adopt a standardized evidence-based protocol for the management of TOLAC (Guerby, Bujold, & Chaillet, 2022) (Dy, DeMeester, Lipworth, & Barrett, 2019).

Shared Decision Making (Informed Choice - Informed Consent)

- Implement an evidence-based TOLAC pregnant person handout / resource to supplement the shared decision making (informed choice-informed consent) conversations between the MRP and the pregnant person (Association of Ontario Midwives, 2021a) (Miazga, et al., 2020) (Provincial Council for Maternal and Child Health & Health Quality Ontario, 2018).

- Ensure the TOLAC client handout / resources (and related shared decision making (informed choice-informed consent) conversations) use clear, explicit, and unbiased language when describing the risks, benefits, alternatives, and related evidence associated with TOLAC and ERC (Dy, DeMeester, Lipworth, & Barrett, 2019) (Gure, MacDonald, & Minichiello, 2021).

- Implement strategies to enable access to interpreter services during shared decision making (informed choice-informed consent) conversations.

<u>Strategies for Midwives and Physicians</u>

- Ensure complete and timely documentation of the shared decision making (informed choice-informed consent) discussions surrounding TOLAC in the health record (Dy, DeMeester, Lipworth, & Barrett, 2019) (Gure, MacDonald, & Minichiello, 2021); if an informed consent / decline form is used, ensure it is accompanied by complete and timely documentation in the health record.

  Example of elements to discuss and document surrounding the TOLAC shared decision making:

  - The pregnant person's overall and evolving clinical scenario;
  - Risks to the pregnant person and fetus;

- Availability of hospital staff (e.g., anesthesiologist, respiratory therapists, obstetricians, midwives, OR nurses) and resources (e.g., caesarean ready rooms, NICU) needed to respond to obstetrical emergencies;
- Potential consequences of a uterine rupture for both the pregnant person and fetal / neonatal clients;
- Benefits, risks, and alternatives of IV oxytocin augmentation (where utilized);
- Discussion of national, provincial (where in place), and local clinical practice guidelines particularly where the pregnant person declines fetal monitoring, vaginal exams, or continuous EFM where indicated.
- For planned and actual community births, ensure the record of the informed choice discussion include (but is not limited to):
    - Emergency measures available / not available in the community birth setting as well local or privileging hospital;
    - Availability of continuous EFM for labour surveillance;
    - Distance from the community birth location to hospital with caesarean capability;
    - Transport plan;
    - Evidence that the pregnant person met the criteria supporting the informed choice for a community TOLAC (e.g., criteria outlined in the Association of Ontario Midwives' TOLAC clinical practice guidelines);
    - A review of the evidence surrounding community-based TOLAC births including (but not limited to) midwifery clinical practice guidelines (e.g., Association of Ontario Midwives) and any other pertinent clinical practice guidelines (e.g., Society of Obstetricians and Gynecologist of Canada and Ontario's Provincial Council for Maternal and Child Health).
- Obtain / revisit (and document) the pregnant person's informed consent to TOLAC:
    - Upon admission to hospital or midwife-led birth centre;
    - Prior to pharmaceutical induction or augmentation of labour (Dy, DeMeester, Lipworth, & Barrett, 2019) (Provincial Council for Maternal and Child Health, 2020) (Gure, MacDonald, & Minichiello, 2021);
    - Upon acceptance of an interprofessional or intraprofessional transfer of care (Canadian Medical Protective Association, 2021).
- Develop detailed antenatal and labour / birth care management plans for the pregnant persons choosing a TOLAC; ensure the care plan is readily accessible by team members; include all attempts to obtain the prior operative reports from prior caesareans as well as the actions take to assess the person's clinical eligibility in the absence of the reports.

Additional Considerations

Examples of elements to include in the TOLAC antenatal and labour/birth care management plans:

- The pregnant person overall and evolving clinical scenario (i.e., a holistic understanding);
- The pregnant person's risk factors, predictive factors, and contraindications;
- Plans for possible post-dates pregnancy;
- Plans for possible labour dystocia;
- Local privileging hospital's resources (e.g., scheduling an induction of labour, scheduling an elective caesarean and performing an emergency caesarean, physician, nursing, anesthesiology, and pediatric and / or neonatology availability);
- For planned and actual community births:
    - Community birth resources;
    - Transfer plan;
- Antenatal consults (where conducted).

Team Training and Education

- Implement formal strategies to support and enhance the team's clinical knowledge, skills (technical and non-technical), and practical experience surrounding the prevention, recognition, and response to uterine rupture including (but not limited to) scheduled interprofessional and cross-department skill drills and simulations (Agency for Healthcare Research and Quality, 2017).
- Ensure the scheduled interprofessional and cross-department team training and education strategies consider or involve:
    - Knowledge, skills, and practical experience required for both hospital and community birth and postpartum locations (Association of Ontario Midwives, 2021b);
    - Transfers from the community birth setting;
    - Team and practitioner situational awareness ('helicopter view') and human factors;
    - Program areas or sites with limited practical experience with obstetrical emergencies such as low birth volume sites, midwifery led birth centres, emergency departments, laboratory services, and blood bank;
    - Unregulated care providers (where utilized), locums, travel, agency, contracted care providers in addition to regulated health professionals.

Monitoring and Measurement

- Adopt a standardized, interdisciplinary, collaborative, and evidence-based protocol for conducting quality of care reviews involving TOLAC resulting in client harm or death; incorporate system thinking and human factors concepts into the review process (Delpero, Tannenbaum, & Thomas, 2020) (Society of Obstetricians and Gynaecologists of Canada , 2021) (Ray, et al., 2018) (Canadian Institute for Health Information & Canadian Patient Safety Institute, 2021) (Machen, 2023).
- Adopt standardized quality indicators for:
  - TOLAC and uterine rupture (Agency for Healthcare Research and Quality, 2019) (Better Outcomes Registry & Network, 2021) (Provincial Council for Maternal and Child Health & Health Quality Ontario, 2018);
  - Response to uterine rupture.
- Incorporate learning from local, provincial, and national perinatal safety reviews and data related to TOLAC into local protocols as well as staff and client education and training.

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MANAGEMENT OF SHOULDER DYSTOCIA

Shoulder dystocia (SD) is an obstetrical emergency that requires prompt, knowledgeable, and systematic management. While there are a number of factors associated with the increased risk of SD, the factors lack sufficient sensitivity to enable the reliable and accurate prediction of SD; further, some SD occur in the absence of risk factors. A coordinated and prompt response that includes accurate documentation by the care team can minimize harm incidents (including but not limited to neonatal hypoxic-ischemic encephalopathy) and risks of legal action against the clinical team and most responsible practitioner (MRP). Effective management of SD requires antenatal assessments by skilled professionals, intrapartum care pathways, and proactive clinical management. From a medical legal perspective, inadequate documentation of the team's clinical response to the SD emergency is often the driver behind out-of-court settlements and court awarded damages.

Expected Outcomes

1. Adopt a standardized evidence-based SD labour management protocol to ensure a systematic and coordinated approach.

2. Implement formal strategies to provide ongoing and targeted education and training to support the interdisciplinary team's clinical knowledge, skills (technical and non-technical), and practical experience surrounding SD.

3. Adopt standardized quality indicators to review and monitor the collaborative care process involving SD.

Definitions and Acronyms

BMI	body mass index
Client	includes all persons who receive healthcare and related services including patients, residents and persons in-care
MRP	most responsible practitioner, often a midwife, nurse practitioner or physician
SD	shoulder dystocia
Situational awareness	deliberate and active scanning and assessing of the situation to maintain a holistic understanding of the environment in which the team is functioning

Common Claims Themes and Contributing Factors

Organization

- Limited opportunities for midwives, physicians, and teams to acquire and maintain skills and experience in responding to obstetrical emergencies, such as SD.
- Hierarchical culture that does not encourage a team approach to obstetrical emergencies.
- Perceived and actual tolerance of unprofessional, unsafe, and disruptive behaviours as well as inter-/intra-professional conflicts.
- Lack of standardized SD record / dictation aid to support consistent and comprehensive documentation following a SD.

Knowledge and Judgement

- Lack of awareness or compliance with the healthcare organization's SD policies / practices.
- Failure to recognize and act on risk factors for SD in the antenatal period.
- Loss of situational awareness during prolonged labours, unexpected situations and SD.
- Failure to appreciate signs of SD during the second stage of labour and anticipate for the need of additional / specialist attendance at the birth.
- Lack of familiarity or experience with recommended maneuvers to resolve SD.
- Failure to execute recommended SD maneuvers in a timely and coordinated manner.
- Failure to conduct or request recommended cord blood gases and pathological analysis of placenta in response to high risk labours and births or obstetrical emergencies such as SD.

Communication

- Delays notifying the MRP or requesting an obstetrical consult or transfer of care in the presence of prolonged or prodromal labour.
- Failure to communicate SD risk factors to the pregnant person or team members.
- Delays or failure to call for help where SD is anticipated or encountered.

Documentation

- Use of generalized statements in documentation e.g., "...several maneuvers attempted".
- Significant delays in charting or alteration of original health record following a SD.
- Inconsistent documentation of:
  - Antenatal conversations, including (but not limited to) identified risk factors and vaginal birth versus elective Caesarean;
  - Fetal surveillance during the second stage of labour.
  - Management of the SD.

Mitigation Strategies

Care Processes

- Implement a standardized evidence-based SD labour management protocol to ensure a systematic and coordinated approach that includes (but not limited to) the need for a standardized assessment of individuals at risk for SD, early recognition, planned response, equipment, and documentation requirements / templates (Agency for Healthcare Research and Quality, 2018) (American College of Obstetricians and Gynecologists, 2017).
- Implement a current evidence-based protocol for antenatal planning (e.g., personnel, consults with specialist, and equipment that may be required for the birth), and intrapartum and postpartum monitoring for pregnant persons with high BMI (Hope & MacDonald, 2019) (Maxwell, et al., 2019).
- Implement a current evidence-based protocol for diabetes in pregnancy (i.e., pre-gestational diabetes mellitus and gestational diabetes mellitus pregnancies) (Kattini, Hummelen, & Kelly, 2020) (Kehler, MacDonald, & Meuser) (Berger, Gagnon, & Sermer, 2019) (Berger, Gagnon, & Sermer, 2019).
- Adopt a team approach to SD where all members of the care team are expected to:
  - Be knowledgeable of the roles of each team member present and the necessary maneuvers;
  - Communicate concerns surrounding risk factors and / or anticipated SD to the team where indicated (e.g., upon arrival at triage or admission to the unit, team huddles);
  - Immediately call for help once SD is suspected and / or encountered.
- Conduct a post incident management process for all births with challenging resuscitations or intubation that includes (but not limited to) requesting arterial and venous blood cord gases analysis and pathological placental examinations (Dore & Ehman, 2020).

Communication

- Conduct debriefings (interdisciplinary team and family) and offer supports following all births involving SD.

Documentation

Strategies for Midwives and Physicians

- Adopt a standardized SD documentation record or dictation aid to support timely and reliable documentation of SD management for all birth locations (Horspool, n.d.) (Clinical Guidelines For Obstetrical Services, 2022) (Royal College of Obstetricians and Gynaecologists, 2012) (Darthmouth Health, n.d.).

  Additional Considerations

  Examples of elements to address within the standardized SD documentation record or dictation record or dictation aid (hospital and community birth locations):

  - Exact time and how SD was encountered;
  - All personnel called / paged to attend (name, time called, and time arriving);
  - Maneuvers attempted and by whom;
  - Sequence, duration, and number of times each maneuver was attempted;
  - Which fetal shoulder was anterior and which was posterior;
  - Position of the fetal head at delivery;
  - Exact delivery time for head and body;
  - Assessment of the infant (e.g., Apgar scores, cord blood gases, weight, description of injuries and bruising, whether a pediatric consult was requested);
  - Assessment of the postpartum person (e.g., injuries, lacerations, hemorrhage).
  - Ensure complete and timely antenatal care management plans for pregnant persons with risk factors, incorporating pertinent information such as evaluations / interventions recommended, performed, and / or declined (e.g., glucose tolerance), nutritional counselling, referrals, consults and recommendations, and antenatal discussion of SD management.

Team Training and Education

- Implement formal strategies to support and enhance the team's clinical knowledge, skills (technical and non-technical), and practical experience surrounding SD, including (but not limited to) scheduled interprofessional and cross-department skill drills and simulations (Agency for Healthcare Research and Quality, 2018).
- Ensure the scheduled interprofessional and cross-departmental team training and education strategies consider or involve:
  - » Practitioners bias and assumptions towards pregnant persons with a high BMI (Hope & MacDonald, 2019) (Maxwell, et al., 2019);
  - » Team and practitioner situational awareness ('helicopter view') and human factors;
  - » Program areas or sites with limited practical experience with obstetrical emergencies such as low birth volume sites, rural sites and midwifery led birth centres;
  - » Unregulated care providers (where utilized), locums, travel, agency, contracted care providers in addition to regulated health providers.

Monitoring and Measurement

- Adopt a standardized, interdisciplinary, collaborative, and evidence-based protocol for conducting quality of care reviews involving SD resulting in client harm or death; incorporate system thinking and human factors concepts into the review process (Society of Obstetricians and Gynaecologists of Canada, 2021) (Machen, 2023).
- Adopt standardized quality indicators for SD (Calder, et al., 2019) (Coroneos, et al., 2016).
- Incorporate learning from local, provincial, and national SD-related safety reviews and data into local protocols as well as staff and client education and training (Agency for Healthcare Research and Quality, 2018).

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PRACTICE GROUP DISPUTES AND BREACH OF CONTRACT

In some Canadian jurisdictions, health care practitioners, such as physicians, midwives and nurse practitioners, practice as independent contractors, organized into sole or multi-member practice groups or health teams. Despite their independent contractor status, claims for wrongful dismissal, breach of contract and human rights complaints from terminated practitioners may arise. The lack of clearly written contracts, protocols and transparent conflict resolution practices can negatively impact the understanding of each party's roles and responsibilities. Ambiguities about the relationship may lead to over-reliance on complaints to professional regulatory bodies and / or avoidable litigation to resolve practice group disputes.

The professional standards of some regulatory bodies explicitly impose an obligation on practice partners to maintain a professional environment that fosters compliance with applicable legislation and standards, quality improvement and safety objectives, in addition to the well-being of all individuals involved in client care. Clear protocols and business practices facilitate constructive professional communication, minimize the risk of practice group disputes and promote the delivery of high quality client care.

Expected Outcomes

1. Promote and uphold anti-racist, culturally safe, and responsive practices that prioritize diversity, equity, inclusion, and belonging (DEIB).

2. Adopt best practices for developing and reviewing employment, associate, and partner agreements.

3. Implement formal strategies to reduce workplace fraud.

Definitions and Acronyms

Client	includes all persons who receive healthcare and related services including patients, residents and persons in-care
Conflict of interest (practitioners)	a circumstance in which a practitioner's personal interest(s) are, or could reasonably appear to be, in conflict with another individual's interests to whom they owe a duty of good faith to put that individual's interests above their own. Such situations have the potential to impact the practitioner's judgement, decision-making and / or conduct with personal bias in the exercise of their professional responsibilities. Examples include: undisclosed financial interests and, personal or family relationships
DEIB	diversity, equity, inclusion, and belonging: an approach to organizational and societal change that seeks to create more diverse, equitable, and inclusive environments where everyone feels a sense of belonging (Deloitte, n.d.). It involves actively addressing the systemic and individual barriers that prevent individuals from different backgrounds from fully participating and contributing to society (Schellhardt & James, 2020)
Just culture	"A just culture recognizes that individual healthcare providers should not be held accountable for system failings over which they have no control. A just culture recognizes many individual or "active" errors represent predictable interactions between human operators and the systems in which they work. However... a just culture does not tolerate conscious disregard of clear risks to patients or gross misconduct (e.g., falsifying a record, performing professional duties while intoxicated)." (HIROC, 2017)

Common Claims Themes and Contributing Factors

Contract Management

- The absence of a comprehensive written partnership or associate agreement, or the presence of inadequately-drafted agreement(s).
- Inadequate review and renewal of agreements which do not reflect changes in work arrangements on a timely basis.
- Non-compliance with the terms of the partnership or associate agreement.

Organizational / Practice Group

- Unclear processes for moving from associate to partner.
- Unclear or non-existent practice group protocols clarifying expectations regarding compensation, remuneration, workload, and conflict resolution.
- Unclear or non-existent practice group protocols for inter- and intra-professional communication and clinical practices.

- Perceived or actual systemic tolerance for unprofessional or unsafe behaviours by partners, associates and / or employees.
- Perceived or actual conflict of interest scenarios involving practice group partners with leadership roles at privileging / credentialing hospitals (e.g., a decision made with the potential for personal or financial gain).
- Overreliance on professional regulatory bodies to resolve ongoing practice group disputes, personnel issues and intra-professional conflicts.
- Inadequate administrative supports leading to overreliance on practice group associates and / or partners for non-clinical / administrative tasks.

Communications in the Workplace

- Inadequate peer feedback and follow up.
- Failure to provide peer feedback in a proactive and just culture manner.
- Inadequately managed and unresolved disputes between practitioners.
- Performance information not disclosed to the practice group member that may negatively impact their ability to obtain privileges or change practice groups.

Knowledge and Judgement Deficits

- Practitioners not complying with recommendations resulting from a peer and / or performance-related reviews.
- Failure to meet professional supervisory accountabilities such as, mandatory reporting of practice deficits ascertained through supervision or mentorship.
- Inconsistent knowledge and skills in practices for professional communication, business practices and conflict resolution.

Mitigation Strategies

Health Human Resource Activities

- Adopt a formal practice group strategy to embed anti-racism and DEIB evidence-based / best practices in all health human resource activities (e.g., recruiting, hiring, compensation, promotion, retention, and career development opportunities for employees and independent contractors).

- Adopt explicit written priorities, goals, values and beliefs statements for the practice group which prohibit discrimination and harassment in all health human resource, operational and care related activities. Ensure these are emphasized during the recruitment and orientation of employees, learners, second attendants, associates and partners to the practice group.

- Implement best practices strategies to reduce the risk of the practice group being treated as an employer of independent contractors (Government of Canada, 2023) (Association of Ontario Midwives, n.d.).

- Implement a formal conflict of interest protocol.

- Implement formal strategies to clarify roles, responsibilities and expectations of partners, associates, other independent contractors, learners, and employees for both clinical (e.g., workload, call model, sleep relief protocol) and business / operational accountabilities (e.g., administrative accountabilities, vacations and leaves of absence, purchasing and financial approval and authority processes); consider assigning a practice group partner as a mentor for all new partners and associates to facilitate successful integration into the practice group.

- Adopt formal, fair and equitable strategies to manage permanent departures and temporary absences of partners, associates and employees (e.g., distribution of their case load, records management, notice to clients, transfer of clients).

- Adopt a standardized, best practice and legislation compliant (where applicable) protocol for managing terminations of employment as well as ending a contractual relationship with independent contractors.

- Obtain expert legal advise prior to proceeding with a termination of employment or ending a contractual relationship with an independent contractor if the person has:
  - Lodged a formal complaint in the past six months;
  - Returned from any leave of absence in the past six months;
  - Been involved in a workplace investigation in the past six months;
  - Been named in a regulatory body investigation;
  - Been named in civil or criminal litigation;
  - Actual or claimed health issues or may require accommodation.

- Adopt best practices for the retention, storage, and destruction of human resources records (Ontario Hospital Association, 2022) (Alberta Health Services, 2022).

Psychological Safety

- Implement formal and legislation compliant (as applicable) strategies to develop and maintain a work environment which fosters and supports:
  - » Collaboration and collegiality;
  - » Professional and effective communication;
  - » Assertive and respectful questioning and challenging of unsafe practices and decisions;
  - » Zero tolerance of bullying, intimidation and discrimination in the work environment (American College of Nurse-Midwives, n.d.) (Canadian Medical Association, 2021) (Health Quality Council of Alberta, 2013) (Association of Ontario Midwives, n.d.).

Additional Considerations

Examples of strategies to support collaboration, collegiality and psychological safety in the workplace:

- Engagement surveys to measure engagement, support and coaching for career path and growth, promoting transparency, etc. (American Medical Association, 2022);
- Consistently promoting the practice group's priorities, goals, values and beliefs statements;
- Scheduling regular partner, associate and employee meetings;
- Sharing terms of reference (where used), agendas and minutes with attendees;
- Actively seeking ideas and suggestions for improving quality of the workplace from all team members;
- Adoption of a clear and formal processes to identify and manage conflicts;
- Adoption of a clear and formal process to support, respond and investigate racism and discriminatory incidents and behaviours impacting partners, associates, employees, learners, clients and families (Garran & Rasmussen, 2019).

Contract Management

- Adopt best practices for developing and reviewing employment, associate and partner agreements; ensure all parties to the agreement are encouraged to obtain independent legal counsel and financial / accounting advise before signing (Association of Ontario Midwives, n.d.) (Canadian Medical Protective Association, 2013).
- Ensure agreements with associates and partners address (but not limited to):
  - » Relationship between the practitioners (e.g., does the agreement explicitly state whether the practitioner is an employee or independent contractor);
  - » Roles, responsibilities and obligations of the practitioner;

- Decision-making authority for practice group matters;
- Remuneration (profit and loss sharing associated with the business);
- Dispute resolution mechanism;
- Disability, death and departures (Association of Ontario Midwives, n.d.).

- Adopt a formal contract management process to manage legally binding agreements / contracts across the contract lifecycle (HIROC, 2017).

Additional Considerations

Several software solutions and apps are available to help smaller businesses streamline and reduce administrative efforts (e.g., automated workflows for signatures, renewals) associated contract management. Consider consulting your financial manager / consultant to determine which platforms / apps may work best.

- If not in place, purchase adequate and appropriate office / clinic / practice group insurance (distinct from professional liability insurance) to respond to legal action arising from the practice group's business operations.

Fraud Prevention

- Implement formal strategies to reduce workplace fraud (e.g., payroll fraud, financial statement fraud, embezzlement / misdirection of money from the business to a person or a fictitious vendor, vendor fraud, asset misappropriation, data or intellectual property theft).

Additional Considerations

Examples of Strategies to Reduce Workplace Fraud:

- Segregation of duties to separate procurement, authorization, and payment approval processes;
- Segregation of duties for financial approvals, accounting and reconciliation, asset custody, and database administration;
- Adopting a code of conduct for employees, associates and partners (e.g., honesty, integrity, zero tolerance for fraud);
- Formal checking and approval process for when vendor banking information / direct deposit information is changed;
- Conducting annual and random audits of internal controls in line with industry best practices;
- Anonymous, confidential reporting (e.g., whistleblower hotline) of potentially fraudulent or 'suspicious' behaviour;
- Adopting strategies to detect and investigate early signs / red flags of fraud in the workplace;

- Adopting a fraud response and management protocol which ensures an immediate and coordinated response for the timely investigation, containment, and remediation of the fraud (Salsbery, 2022) (Carrington & Rebasmen, n.d.) (Deloitte, 2009).
- Where electronic payment is in place, ensure there is an approval process in place, as well as use of encryption, authentication, and firewalls to secure information. Consider use of electronic fraud detection systems (e.g., email monitoring).

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CYBER SECURITY AND PRIVACY BREACHES

As a custodian of personal health information (PHI) healthcare organizations and regulated health professionals acting as health information custodians, have a legal duty to ensure that PHI is kept private and is protected against unauthorized access, use, disclosure, duplication, modification, removal, or disposal. Negative consequences arising from a privacy breach can be far-reaching including lawsuits, provincial or territorial privacy commissioner investigations, reputational damage, and financial losses. Cyber security breaches can lead to privacy breaches as well as loss of access to critical information and clinical systems that may result in potential safety issues.

Expected Outcomes

1. Implement formal strategies to protect the organization's / HIC's PHI and other sensitive data and information technology systems and / or infrastructure.

2. Implement a standardized, industry standard and legislation compliant privacy and cyber security program/practices.

3. Incorporate learnings from internal privacy and cyber security metrics and key performance indicators, as well as local, provincial and national cybersecurity incidents and data into local protocols as well as staff training.

Definitions and Acronyms

Assets (of the organization / HIC)	includes portable and mobile end-user devices, data and information collected, applications and software used by the organization / practitioners, and systems, networks and hardware that support the organization's / HIC's information technology infrastructure
Client	includes all persons who receive healthcare and related services including patients, residents and persons in-care
Cross site scripting attack	the attacker injects malicious executable scripts into the code of a trusted application or website
Cyberattack	broader than a data or privacy breach, is a deliberate breach of confidential information by a third party; involves the use of malicious software to seize and encrypt sensitive data; not all cyberattacks involve a data breach
Cyber incident response plan	a formal written plan that directs how organizations are to respond to a cyberattack; plans are often categorized into phases – preparation (cyber resilience); detection and analysis; containment, eradication (response); and recovery (what went well; what can be improved upon)
Cyber resilience	the ability of an organization to respond to and recover from the effects of a cyberattack. An effective cyber resilience strategy relies on several operational activities: business continuity (BC), disaster recovery (DR), incident response and cybersecurity plans

RISK REFERENCE SHEET

Healthcare organization	organizations engaged in providing, financing, improving, supervising, evaluating, or other healthcare-related activity
HIC	health information custodians; are typically are institutions, facilities and regulated health professions in private practice (e.g., registered dieticians in private practice; optometry clinics; midwifery practice groups)
Malware	software that is specifically designed to disrupt, damage, or gain unauthorized access to a computer system
Patch management	process of identifying, acquiring, testing and installing software to adjust performance issues and errors (bugs) while keeping the software updated
PHI	personal health information; legislation defined personal health information
Phishing	a type of social engineering where an attacker sends a fraudulent message designed to trick a person into revealing sensitive information to the attacker or to deploy malicious software on the victim's infrastructure like ransomware.
PIA	privacy impact assessment; a process used to determine how a program or service could affect the privacy of an individual or a group of individuals
Privacy breach	unauthenticated access to and / or disclosure confidential information including (but not limited to) breach of personal health information
Ransomware	a type of malicious software designed to block access to a computer system until a sum of money is paid
Service level agreements	is a plain language agreement between the customer / purchaser and vendor / supplier that defines the level of and type of service expected by the consumer / purchaser, the responsiveness that will be provided (technical issues, etc.), and how performance of the vendor / supplier will be measured; such agreements also codify ownership of the data (e.g., essential for personal health information), the vendor / suppliers security standards (e.g., do they meet Canadian standards?) as well as discover recovery expectations for breaches, cyberattacks, etc.
Social engineering tests	tests designed to evaluate staff, volunteers, leadership and Board's susceptibility to remote attacks, such as phone / text and email attacks; the test attempts to manipulate, influence or deceive the user in order to gain control over the computer system
System downtime	the organization's or practitioner's computer or informational technology system (e.g., payroll, electronic health records) is unavailable, offline or not operational due to cyberattack or investigation efforts
Trojan program	a type of malware that downloads onto a computer disguised as a legitimate program
USB	universal serial bus; also known as flash memory drives and thumb sticks; connects computers with peripheral devices

Common Claims Themes and Contributing Factors

Cyber Threats and Breaches

- Cyber threats
  - Attackers making repeated attempts on the same organization, particularly if they were successful on their first attack;
  - Phishing attacks resulting in stolen credentials, misdirected funds, virus / malware downloads and comprised PHI;
  - Ransomware, virus / malware, hacking and data breaches negatively impacting care delivery for extended periods of time;
  - Cross-site scripting attacks that inject malicious code on the organization's website;
  - Website hack resulting in breach of past and current client / customer information.
- Breaches uncovered by:
  - Anonymous and third-party notification (e.g., universities, clients and families);
  - Random and scheduled audits.

Organizations and Hics

- Lack of priority given to privacy and cyber security practices.
- Lack of access to internal and / or external privacy and information security expertise.
- Perceived and / or actual lack of human and financial resources to implement privacy and cyber risk management solutions.
- Outdated practices for passwords and encryption of confidential and PHI.
- Inadequate contracts, and services agreements and data access / sharing agreements.
- Cumbersome, inadequately designed and / or outdated:
  - Information security practices (e.g., such as unpatched system enabling hackers to exploit information system vulnerabilities, use of unsupported or unlicensed tools and applications with security vulnerabilities, inadequate data backup strategy resulting in an inability to restore data and lack of consistent server and operating system security patching and upgrading practices);
  - Identification and access management protocol;

- Cyber security protocol / program;
- Cyber incident response processes.

- Insufficient and / or inadequate privacy and cyber security:
  - Audits;
  - Staff training and education.
- Cyber threats / attacks on third party vendors negatively impacting the organization's / HIC's business operations and care delivery.
- Inadequately executed privacy and / or cyber incident responses, such as:
  - Delayed containment and internal / external notifications;
  - Reliance on third-party vendors, with limited technical or practical expertise, to respond to cyber threats;
  - Cyber incident responses that lack focus on client and staff safety (e.g., how or access laboratory test results), care delivery (e.g., unexpected system downtime) and clinical outcomes (e.g., no client census data).
- Privacy breaches involving surveillance / security cameras:
  - Inappropriately installed or maintained surveillance cameras by the organization or a third party enabling unauthorized persons to access to camera footage (both audio and video footage);
  - Installation of surveillance cameras in exam rooms (e.g., pre-operative rooms, exam rooms, operating room) for non-clinical purposes and / or without client consent;
  - Lack of visible signage regarding the collection of audio-visual recordings.
- Insufficient or inadequate:
  - Technological safeguards to restrict access to PHI retained within electronic records and online portals / dashboards (e.g., clients able to view test results for other clients);
  - Audit logging capabilities (user and access audits);
  - Encryption and storage controls including (but not limited to) laptops, mobile phones, and USB keys.

Privacy Breaches

- Inconsistent and inadequate approaches to de-identifying collected PHI for a secondary purpose such as research or teaching.

- Unauthorized access and / or removal of PHI by employees and staff e.g.,
  - » Snooping (family, friends and celebrities);
  - » Narcotic diversion;
  - » Theft and financial gain.

Office / Clinic Based Practice

- Lack of and / or informal controls and oversight for PHI and cyber security.
- Sharing of passwords with clerical / administrative support workers, including enabling unauthorized access to clinic / hospital / health region-controlled PHI.
- Unsafe cloud computer practices for PHI.
- Inadequate training of staff regarding their roles / responsibility for privacy and cyber security.

Mitigation Strategies

Facility Design, Space and Security

- Implement formal strategies to support the use of strong physical security practices for areas housing the organization's / HIC's:
  - » Information systems and technology assets (e.g., laptops, servers, backup storage and computers / laptops with sensitive information);
  - » Paper-based confidential and PHI records.

Additional Considerations

Examples of strong physical security practices:

- Video surveillance;
- Access logs;
- Access cards;
- Regular verification and review of physical access audits (e.g., irregular pattern of access);
- Stringent process following staff member termination and leaves.

Procurement and Contract Management

- Implement industry standard and legislation compliant strategies to reduce privacy and cyber security risks posed by vendors, partners and third-party providers who have access to the organization's / HIC's PHI and other sensitive data and information technology systems and / or infrastructure (HIROC, 2017).

Additional Considerations

Examples of strategies to reduce privacy and cyber security risks posed by vendors, partners and third-party providers:

- Ensure the vendor's security practices are strong and meet acceptable information / cyber security standards (e.g., NIST, ISO 27001, SOC 2);
- Contractually obligate the vendor to continue to maintain accepted security standards and to provide at their expense an applicable security report or evidence prepared by an independent, reputable firm each term (for a specified consecutive defined period);
- Contractually obligate the vendor to notify the organization / HIC of all security breaches and data breaches within a specified time period from the occurrence date;
- Ensure the vendor's breach response plans are inclusive and meet the acceptable standards for healthcare organizations / HICs;
- Contractually obligate the vendor to comply with all privacy legislation / regulations;
- Contractually negotiate the right to conduct an on-site visit and conduct other inspections such as review of log files, policies / procedures, etc. to confirm security controls (note: this right is more likely to be exercised with small vendors who do not meet required cyber security standards);
- Where feasible, periodically or annually evaluate vendor agreements to ensure they are appropriate and relevant (HIROC, 2017).
- Adopt an industry standard and legislation compliant protocol for the de-identification of PHI where required (Information and Privacy Commissioner of Ontario, 2016) (Information and Privacy Commissioner of Ontario, 2018).
- Adopt industry standard and legislation compliant clauses for contracts / agreements related to:
    - Data sharing;
    - Access to confidential and / or PHI;
    - Agents and vendors engaged in information technology or providing services;
    - Agents and vendors engaged in the collection and destruction of paper and electronic PHI records.

- Adopt industry standard and legislation compliant practices if using and / or purchasing third party-managed cloud services to store PHI; consider involving information technology and legal experts in the decision to use clouds services as well as in the review of the service contracts and service level agreements (HIROC, 2017) (Information and Privacy Commissioner of Ontario, 2016).

Additional Considerations

Examples of questions healthcare organizations'/HICS' should ask a potential cloud services provider:

- Who is the owner of the data being stored with the cloud service provider?
- How would the cloud service provider detect, contain and remediate cyber breaches?
- How is the data stored, transferred and processed?
- Is the data stored or processed outside of Canada and, if so, where?
- How will the vendor support your repatriation of data upon organization's strategic direction change, termination of contracts or if the cloud service provider goes out of business, is acquired, or is absorbed?
- If the cloud service provider is taken over by another provider, who has rights to the data? What are the terms and conditions?
- What protections (encryption, access control, etc.) are in place to protect the information?
- What is the data destruction schedule and process?
- Are backups of the system or data conducted? If so, understand where the backups are stored, how often the backups are generated and destruction details.
- Does the service provider support single tenant architecture? If only multitenant architecture is supported, how will the organization's / HIC's data be protected against unauthorized access?
- What sort of data migration support will be provided if the healthcare organization / HIC wants to migrate to another cloud provider or internal system?
- What type of auditing and logging capabilities are in place and how can they be accessed by the healthcare organization / HIC of the cloud service provider? What cyber and privacy breach incident management protocols are in place?
- Understand the breach notification process and timeframe; healthcare organizations / HICs should be notified of breaches as soon as reasonably possible (HIROC, 2017).

Privacy Program

- Adopt a current evidence-based and legislation compliant (as applicable) written privacy policy regarding the collection, use, classification (where indicated), retention, disclosure and destruction of PHI policy (Beamish & Barrette, 2019) (Office of the Privacy Commissioner of Canada, 2018) (Ontario Hospital Association and Information and Privacy Commissioner of Ontario, 2013) (Center for Internet Security, 2016).

  Additional Considerations

  Examples of privacy considerations to address within the PHI policy:

  - Internal data integration, planning and analysis;
  - External data-based sharing, links and analysis (Beamish & Barrette, 2019) (Office of the Saskatchewan Information and Privacy Commissioner, n.d.) (HIROC, 2018) (Government of Newfoundland and Labrador, 2015)
  - Internal and external student / learner education (e.g., lectures, rounds, workshops, presentations);
  - Peer review;
  - Research;
  - Consequence of non-compliance with privacy practices;
  - Mandatory reporting / disclosures;
  - Permissive reporting / disclosures.
  - Undertake privacy impact assessments (as necessary) when implementing new solutions, technology or processes involving PHI to reduce / mitigate risks, reduce the need for redesign and to help demonstrate due diligence in the event of a privacy / security breach, complaint or investigation (Beamish & Barrette, 2019)(Office of the Information and Privacy Commissioner of Alberta, n.d.).
  - Adopt a standardized, evidence-based and legislation compliant (as applicable) protocol for the use of mobile and virtual care devices (e.g., laptops, USB keys, tablets, and smart phones) for the collection, use, retention, disclosure and destruction of PHI and other confidential information (Information and Privacy Commissioner of Ontario, 2007); (Office of the Saskatchewan Information and Privacy Commissioner, n.d.) (Office of the Saskatchewan Information and Privacy Commissioner, 2018).
  - Implement standardized, evidence-based and legislation compliant (as applicable) strategies to prevent the unauthorized removal of PHI (both hard and soft copies) from the organization's / HIC's premises unless authorized and required for the provisions of direct healthcare while under the guise of the organization / HIC (Ontario Hospital Association and Information and Privacy Commissioner of Ontario, 2013) (Office of the Privacy Commissioner of Canada, 2018).

- Adopt a standardized, evidence-based and legislation compliant (as applicable) protocol for the use of audio-visual surveillance for clinical and non-clinical (e.g., security) purposes ((Information and Privacy Commissioner of Ontario, 2018) (Information and Privacy Commissioner of Ontario, 2015).

Cyber Program and Technical Controls / Solutions

- Implement a standardized, industry standard and legislation compliant (as applicable) role-based access management protocol that supports the safe administration of user accounts (e.g., granting, revoking, and managing user access to systems, processes, and network drives), including (but not limited to), appropriate password practices and multi-factor authentication (National Institute of Standards and Technology, 2022) (Center for Internet Security, 2016).

- Implement (and regularly update) industry standard technical solutions and strategies such as firewalls, antivirus / antimalware solutions, network segmentations.

- Adopt administrative and technological solutions to protect the transmission of PHI and other confidential information (e.g., password protection, encryption, secure file transfer protocols) (HIROC, 2017).

- Implement advanced solutions to detect potential system compromise or data theft; consider subscribing to a monitoring service from credible vendors to notify staff/organization of potential anomalies (e.g., intrusion detection, endpoint detection and response)(Center for Internet Security, 2016).

- Undertake risk identification exercises such as penetration testing, continuous vulnerability management, red hat activities, etc. that can help identify potential vulnerabilities early on (ISO, 2022) (Center for Internet Security, 2016) (HITRUST, 2023).

- Implement industry standard and legislation compliant (as applicable) cyber security program that includes (but not limited to) clearly defined accountability for cyber security risk oversight (governance) and operations (management) (Dixit, Quaglietta, Nathan, Dias, & Nguyen, 2023) (HIROC, 2017).

- Adopt a patch management protocol to support the timely and safe application of vendor / third-party issued updates and patches while reducing security vulnerabilities and optimizing software and device performance (Dixit, Quaglietta, Nathan, Dias, & Nguyen, 2023); consider contracting with a credible third party/vendor if internal support and expertise is not available.

- Implement robust and well secured data backup procedures and undertake data recovery tests on a regular basis (i.e., on a quarterly basis).

Incident / Emergency Response

- Adopt an industry standard and legislation compliant incident response protocol to support decision making following a suspected or actual privacy breach or cyber threat that includes (but not limited to) the immediate response, timely investigation, containment, notifications and disclosures (e.g., clients, provincial / territorial privacy office, professional regulatory body/college and insurer) and incident debrief (Information and Privacy Commissioner of Ontario, 2018) (Dixit, Quaglietta, Nathan, Dias, & Nguyen, 2023) (HIROC, 2021).

- Implement formal strategies to ensure all records, information, reports, recommendations and / or decisions and decision making related to privacy breach and cyber threat investigations (internal and external) are maintained, reported to senior leadership / executive, and retained as per the organization's / HIC's records retention guidelines.

Team Training and Education

- Implement formal multifaceted and targeted current industry standard strategies to support and enhance organization-wide (e.g., Boards, volunteers, employees, independent contractors and learners) awareness and compliance with privacy and cyber security incident prevention and loss control strategies.

  Additional Considerations

  Examples of elements to be included in targeted training education:

  - Duties and obligations related to the collection, use, classification (where indicated), retention, disclosure and destruction of PHI and other confidential information;
  - Consequences associated with non-compliance with internal practices and policies;
  - Appropriate use of social media.
  - Ensure the privacy and cyber security training and education program considers and / or involves:
    - The need to customize the training / education (where indicated) based on the department' / user's role, responsibilities and access to sensitive information and / or data;
    - Mandatory participation in training / education upon hire or appointment and annually thereafter;
    - Privacy and cyber threat simulations and / or tabletop exercises;
    - Social engineering tests / emails to identify vulnerable users and the effectiveness of training program (Dixit, Quaglietta, Nathan, Dias, & Nguyen, 2023).

Monitoring and Measuring

- Incorporate learning from local, provincial / territorial and national cybersecurity incidents into local protocols as well as staff training.
- Adopt standardized industry standard privacy and cyber security metrics and key performance indicators (HIROC, 2021) (Moore, 2021).

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