

Leveraging Quality Improvement and Change-Management Tools to Change the Scope of Practice

Tirer profit d'outils d'amélioration de la qualité et de gestion du changement pour modifier le champ de pratique à Trillium Health Partners

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ABSTRACT

In October of 2019 the College of Midwives of Ontario amended the Standard on Prescribing and Administering Drugs to remove the limitation that restricted midwives from administering oxytocin in the intrapartum period on their own authority. Trillium Health Partners uses ADKAR, a standardized change management tool for large scale change. As part of the implementation plan related to this change in scope of practice, the Midwifery Division at Trillium Health Partners, used ADKAR and a quality improvement framework to review outcomes pre and post implementation, to ensure the quality of care midwifery clients received remained consistent through the change of practice. Outcome, process and balancing measures remained consistent in the post implementation phase and the results were reported out to the whole Women's Health team. This article is a reflection on the value of using a quality improvement framework as part of the change management process, as a helpful tool in the expansion of scope of practice.

KEYWORDS

change management, quality improvement, scope of practice, oxytocin

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RÉSUMÉ

En octobre 2019, l'Ordre des sages-femmes de l'Ontario a modifié la norme sur la prescription et l'administration de médicaments pour enlever la limite qui empêchait les sages-femmes d'administrer de l'ocytocine de leur propre chef durant la période intrapartum. Trillium Health Partners recourt à ADKAR, un outil de changement normalisé pour les modifications de grande envergure. Dans le cadre du plan de mise en œuvre de ce changement du champ d'activité, la Division de la pratique sage-femme de Trillium Health Partners a utilisé ADKAR et un cadre d'amélioration de la qualité afin d'examiner les issues avant et après l'instauration de la nouvelle approche pour assurer le maintien de la qualité des soins offerts à la clientèle à la suite de la modification de la pratique. Les données fournies par les indicateurs relatifs aux issues et au processus et par les indicateurs de pondération sont demeurées constantes après la mise en œuvre. Les résultats ont été communiqués à toute l'équipe des services de santé des femmes. Le présent article témoigne de l'utilité de l'emploi d'un cadre d'amélioration de la qualité dans le contexte du processus de gestion du changement comme outil d'élargissement du champ de pratique.

MOTS-CLÉS

gestion du changement, amélioration de la qualité, champ de pratique, ocytocine

Cet article a été évalué par un comité de lecture.

INTRODUCTION

In health care, changes in practice occur as evidence is developed through research publications, as regulatory changes are implemented, or as new technology becomes available. New protocols and ways of providing clinical care are created in response to new information and technology. Protocols and policies are updated, and new

procedures are put into effect. In many health care environments, when a change is brought about, there is no mechanism to evaluate its impact and determine if the change has resulted in an improvement, a decrease, or the maintenance of the quality of care. All improvement stems from change, but not all change results in improvement.¹ Using a quality improvement framework to evaluate

the impact of changes and using a standardized change-management strategy can help ensure the smooth integration of a practice change, embed that change in routine practice, and reassure team members of its benefits.²

Trillium Health Partners is a large suburban hospital in Mississauga, Ontario. The hospital includes a large Women's Health Program comprising 24 registered midwives, 20 obstetricians, and a small group of family practice-obstetrical care providers. A multisite, level II acute care community hospital (births happening at Mississauga Hospital and Credit Valley Hospital sites), has approximately 8,500 infants born annually. The leadership structure includes a Chief of Women's and Children's Health, a Director of Women's Health, a Medical Director of Women's Health, a Head of the Division of Midwifery, and unit managers. As part of the leadership team, this group attends twice-yearly Leadership Development Institutes—full-day continuing education sessions intended to provide the leadership team members with tools to perform their roles successfully. One such tool is ADKAR (Awareness, Desire, Knowledge, Ability and Reinforcement), the standardized hospital-wide tool for helping teams navigate change management.³ There are many change-management tools that organizations may use to help them navigate the natural resistance or apprehension that stems from shifting processes. They generally include elements to engender buy-in and motivate participants to commit to the change, practical resources to support the change, and mechanisms for measuring and sustaining the change. ADKAR involves building awareness among the team of the need for change, creating the desire for change within the team, providing team members with the knowledge and ability to navigate the change, and reinforcing the change to ensure it sticks.

Since 1994, when midwifery was first regulated, midwives at Trillium Health Partners have independently managed oxytocin in the intrapartum period to augment or induce labour, following consultation with an obstetrician to obtain an order for its administration. The College of Midwives of Ontario *Consultation and Transfer of Care Standard*, which is the document that details when midwives must consult with or transfer care to physician

colleagues, did not require a consult for labour dystocia. However, the *Standard on Prescribing and Administering Drugs* included a restriction on prescribing intrapartum oxytocin, which meant that midwives were required to consult with a physician to intervene pharmacologically if labour was progressing slowly.

In October of 2019, the College of Midwives of Ontario amended the *Standard*, permitting midwives to administer oxytocin on their own authority. The College made this change with the expectation (based on Ontario-specific midwifery research that indicated reassuring outcomes of midwifery-led oxytocin inductions and augmentations)⁴ that it would be of benefit to the public, would result in increased continuity of care and reduced transfers, and would support clients as primary decision makers.⁵ This change was consistent with the Ontario Ministry of Health's stated goals to streamline care pathways to make connections easier in the system, improve access to minor and routine care in the community, and increase patients' choices of where to obtain health care services.⁶

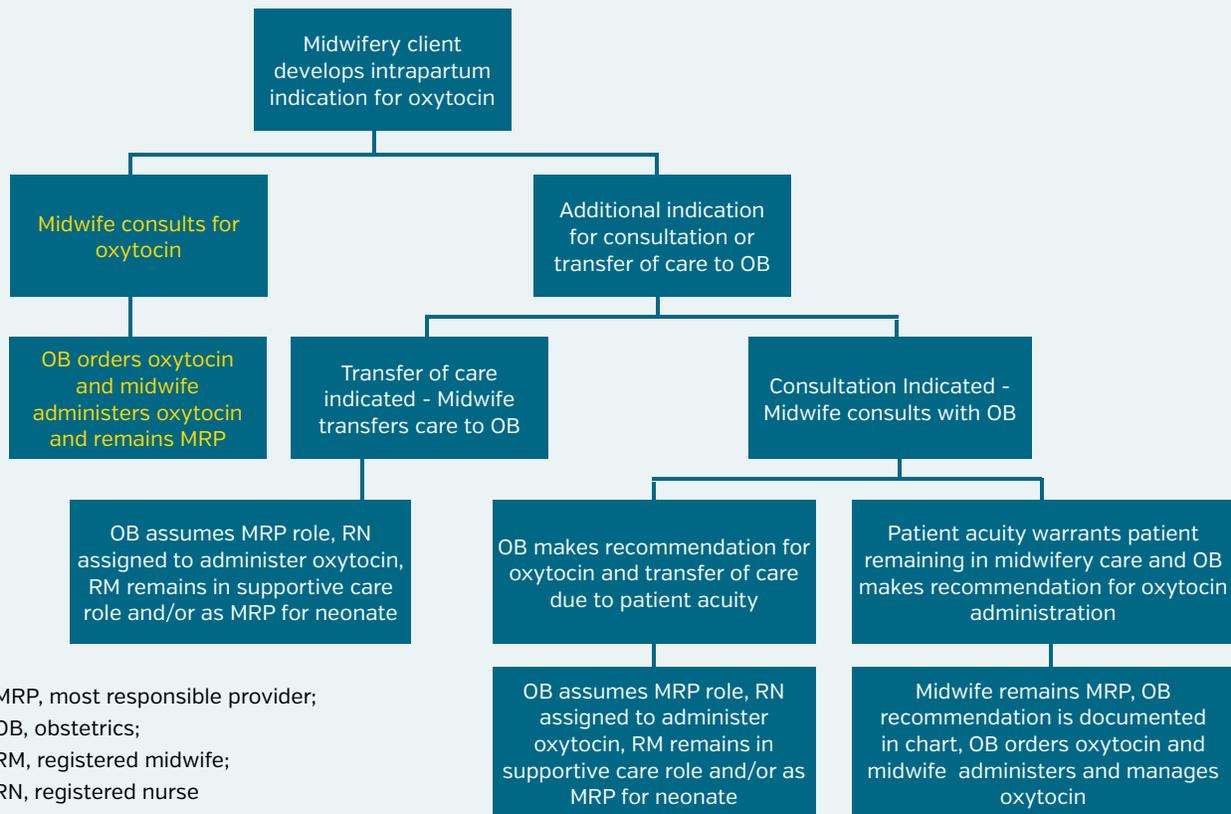
After the restriction on ordering intrapartum oxytocin was removed, the leadership of the Women's Health Program developed a plan to enable the practice change within the Division of Midwifery, applying the ADKAR framework to implement the change.

THE ADKAR APPROACH TO MANAGING CHANGE

Awareness and Desire

Members of the Division of Midwifery had a 24-year history of identifying when oxytocin augmentation or induction was indicated and requesting the order by consultation. During this time, midwives independently managed the augmentation and induction of oxytocin in their clients and consulted further when oxytocin was ineffective or concerns about maternal or fetal well-being arose. Members of the Division of Midwifery were made aware of the changes and were supportive of removing unnecessary consultations and streamlining workflow in the hospital. Members of the Department of Obstetrics, who had previously been required to order oxytocin for midwifery clients, were briefed about the impending change

Figure 1. Pre-implementation Workflow for Prescription and Administration of Intrapartum Oxytocin by Midwives at Trillium Health Partners



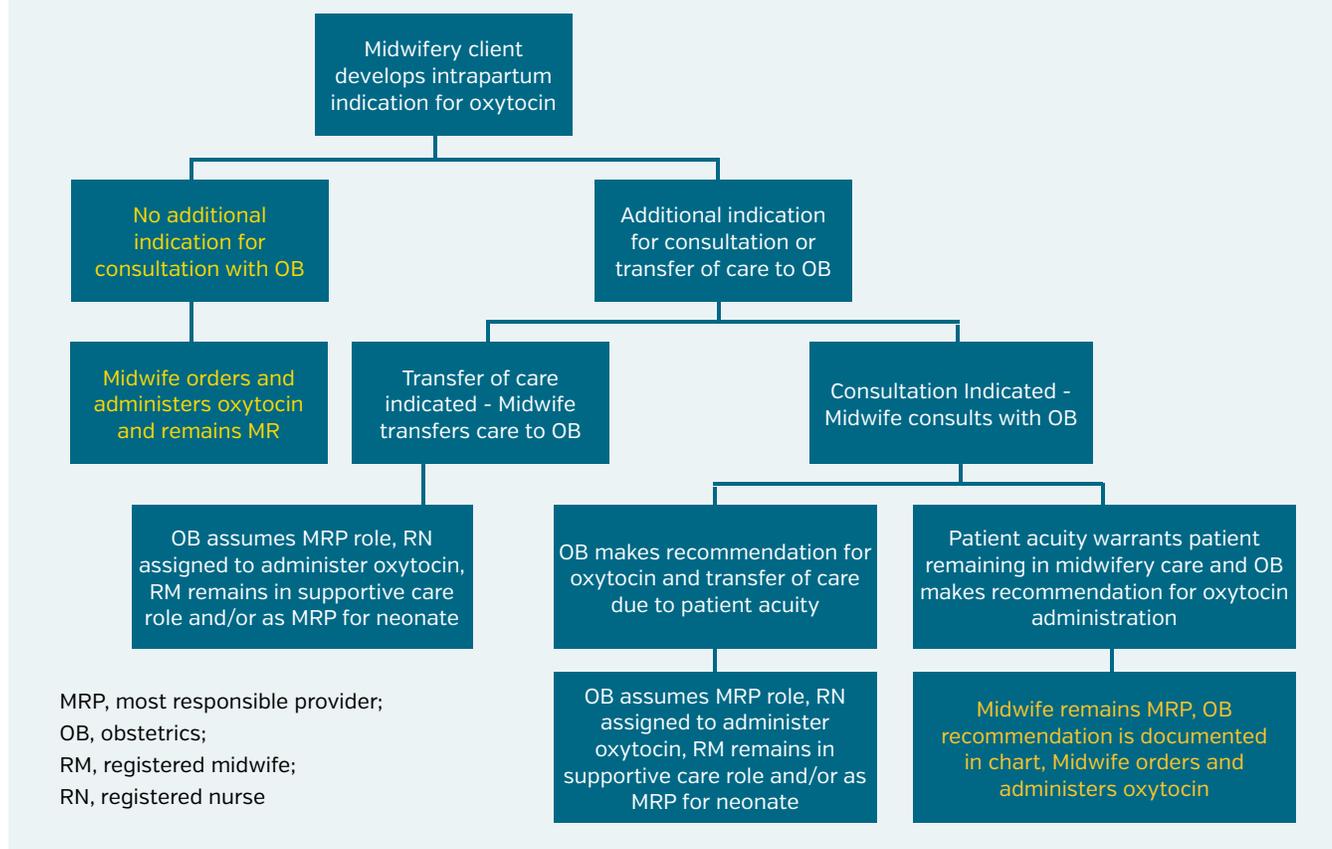
at their monthly business meeting. The purpose of the briefings was to socialize the change and to share the plan for implementation. Members of the Department supported the change with the view that it would help to further clarify roles and responsibilities across and within the different disciplines and would reduce unnecessary demand on the obstetrical team. Procedurally, the change required the approval of the Medical Advisory Committee [MAC], which holds responsibility for defining the care that professional staff are credentialed to provide in the hospital. The change in practice required briefing the MAC's Pharmacy and Therapeutics Committee, which informed and advised MAC on which changes to support. The briefing included information about the regulatory changes, which were anticipated to improve both care and clarity around care. The change was consistent with Ministry of Health priorities, and—most important—members of the Division of

Midwifery and the Department of Obstetrics were aware of and supportive of the practice change. The collaboration of the leadership of the Women's Health Program and the hospital's professional staff leadership structure allowed MAC to approve the change in practice, effective mid-December 2019.

Knowledge and Ability

The Division of Midwifery comprises two different midwifery practice groups: Midwives of Mississauga, and East Mississauga Midwives. Each group functions independently in the community and is funded by the Ministry of Health to provide midwifery services in Mississauga and surrounding areas. Within the hospital, however, all midwives function as members of the Division of Midwifery. Members operate within the scope of midwifery as defined by the *Midwifery Act* and use standardized protocols developed by the Division and informed by evidence-based guidelines and midwifery

Figure 2. Post-implementation Workflow for Prescription and Administration of Intrapartum Oxytocin by Midwives at Trillium Health Partners



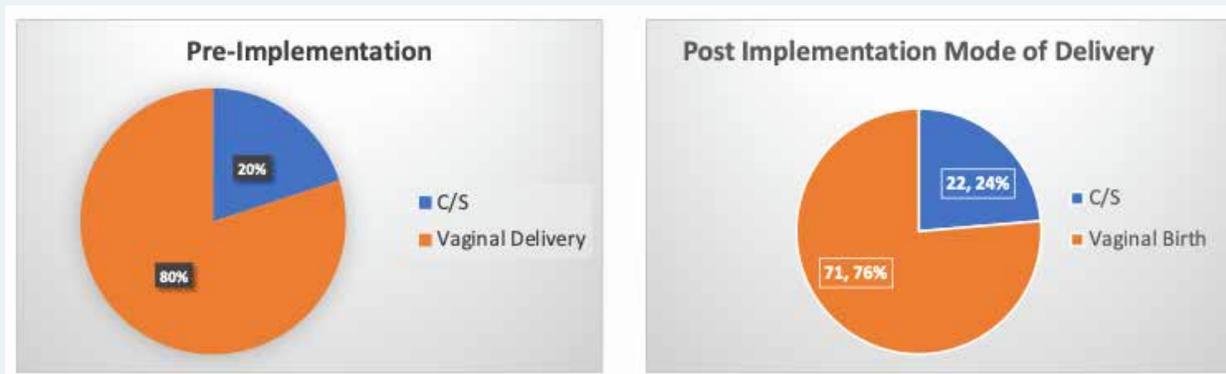
context. The decision to practice based on evidence and consensus within the Division is aimed at using standardization and simplification to ensure that the Division’s quality of care is consistent and high.⁷ The creation of knowledge among the team involved re-mapping the workflows for the initiation of oxytocin—workflows that had been in place for the previous 24 years. Workflows were developed and introduced to members of both the Department of Obstetrics and the Division of Midwives to clearly demonstrate how oxytocin was initiated by midwives before implementation and how that would change post implementation (Figures 1 and 2). This helped clarify for all parties exactly what the workflow would look like post implementation. To support midwives through the change, members of the Division agreed to support and coach more junior members when needed, and all members agreed to use the Provincial Council for Maternal Child Health *Safe Administration of Oxytocin Report*

guidelines and tools as the standard to guide best practice.⁸

Reinforcement

Recognizing that the impacts of change are often left unmeasured, the Division agreed that selected outcomes would be tracked using a quality-improvement framework for the first 6 months post implementation and compared to the same outcomes for the year prior to the change. The purpose of this measurement was to determine the impact of the change on the quality of care provided by the Division. The Division agreed to track outcome measures that were reflective of the impact on client health and well-being, process measures that were reflective of whether the change was implemented as planned, and use balancing measures to determine if there were unintended negative consequences of the change. The Division agreed to use mode of delivery, admission to a

Figure 3. Pre- and Post-implementation Outcome Measure for Intrapartum Oxytocin of Midwifery Clients at Trillium Health Partners, by Mode of Delivery



C/S, cesarean section

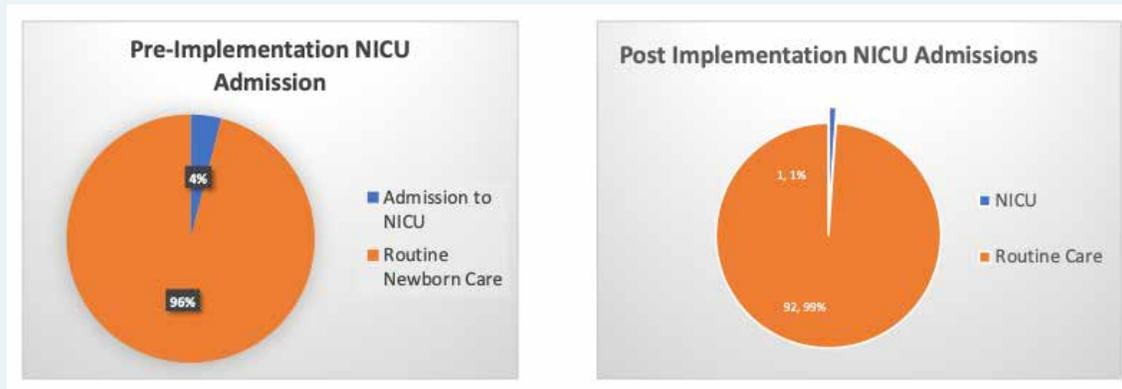
neonatal intensive care unit (NICU), and adverse drug reaction as outcome measures; compliance with best practice, as indicated by documentation of the use of the *Safe Administration of Oxytocin* pre-use and in-use checklist, as a process measure;⁷ and the overall utilization rate for oxytocin as a balancing measure. Unlike measurement for research, measurement in quality improvement is done to help bring knowledge into daily practice, to stabilize variability in results that can happen during a period of adjustment when new practices are executed, and to gather just enough data to ensure that the desired improvement is taking place.⁹ The outcomes that most closely represented the agreed-to measures for post-implementation monitoring were pulled from the Better Outcomes Registry and Network [BORN] for the 12 months prior to the start of the practice change, for comparison.¹⁰ A 12-month period was used for the pre-implementation baseline because the data were easily accessible through BORN, which is Ontario's maternal, newborn, and child registry. BORN collects and provides reporting and analysis of high-quality data on childbirth in the province. Adverse drug reaction became a mandatory requirement in December 2019, just prior to the initiation of this practice change.¹¹ As such, despite there being no available data on the rate of adverse drug reaction secondary to oxytocin use in the pre-implementation period, adverse drug reaction was

judged to meet the criteria for a patient-important outcome and to require monitoring in the post-implementation period. In order to support the principles of quality improvement around gathering “just enough” data, it was decided that for 6 months from the launch date [December 17, 2019, to June 17, 2020] every midwifery case that involved the initiation of oxytocin would be reviewed by the head of the Division, and the quality-improvement measures would be tracked to ensure that the outcomes of the change were stable. Monthly updates were also sent to midwives in the Division to help bring knowledge into the daily practice changes, related to process measures, to reinforce standardization and best practices.

RESULTS AND DISCUSSION

Midwives cared for 836 clients at Trillium Health Partners in the 12 months prior to the practice change. These clients included those whose care was transferred to obstetrical colleagues prenatally or during labour. The comparison of measures with the post-implementation period is not exact, as it includes both those clients whose care would have been managed exclusively by midwives and those who were managed by obstetricians with midwives present as supportive care. In the 6 months post implementation, midwives cared for 377 clients. Of those, 93 received oxytocin augmentation or induction ordered and administered under the care

Figure 4. Pre- and Post-implementation Outcome Measure for Intrapartum Oxytocin of Midwifery Clients at Trillium Health Partners, by Admission to Neonatal Intensive Care Unit



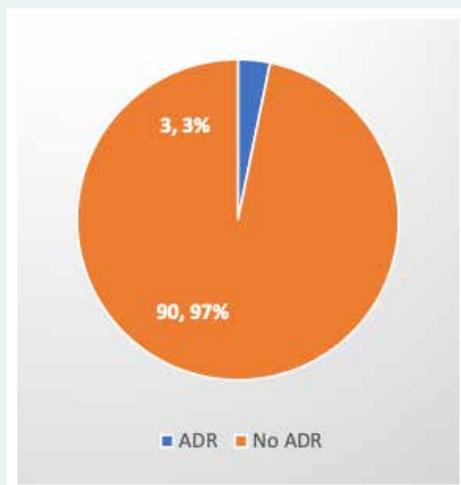
NICU, neonatal intensive care unit

Admissions to NICU were included only if they were associated with neonatal status related to labour and birth. For example, admissions for phototherapy, fetal anomalies, or preterm status which would not be attributable to the use of oxytocin were excluded.

of a midwife. A comprehensive chart audit was done on 92 of those 93 cases to pull out the data required to calculate the measures selected. (One patient's ID was incorrectly transcribed; despite all efforts, the patient could not be identified for inclusion in the chart review.) A direct pre-post-analysis is not possible, as the data for the 12 months before implementation include the data of any midwifery client who received oxytocin, even if they were admitted to hospital as an obstetrical patient. As a result, the population of patients being managed in the post-implementation period by midwives would include a lower-risk population than in the pre-implementation period. Notwithstanding the above, the existing outcome measures—mode of delivery and NICU admission—showed only small differences between the post-implementation period and the pre-implementation period (Figures 2 and 3). The rate of cesarean delivery for midwifery clients who received oxytocin was 20% before implementation and 24% post implementation. The rate of admission to NICU was 4% before implementation and 1% post implementation. Mandatory reporting of adverse drug reactions was amended during the pre-implementation period, such that there were no reliable pre-implementation data for comparison. However, the rate of incidents of adverse drug reaction post implementation was still very low

[3%] and primarily related to an unexpected change in mode of delivery increasing length of stay (Figure 4). The assumption that the rate of cesarean section might decrease in the post-implementation period would be reasonable, given that midwifery clients who would receive oxytocin induction or augmentation without physician involvement would be those with the least complicated pregnancies and labours. It is difficult to know whether the small increase in the rate of cesarean section [4%] represents a common-cause variation (the random variation that exists within all stable processes) or a special-cause variation (the result of a deviation rather than a random occurrence). In this instance, the practice-management change was not resourced with a data manager to monitor outcomes using a run chart, which would have looked at the trends in the results over time and better helped answer this specific question. Instead, the focus of this quality improvement exercise was on making the quick uptake of the new practice easy, minimally labour intensive, and agile. There is, however, an opportunity to continue tracking the results of our outcome measures (i.e., mode of delivery and admission to NICU) to understand if there is more room for improvement and to determine whether the variance seen represents a significant change in the cesarean section rate and NICU admission

Figure 5. Post-implementation Outcome Measure for Intrapartum Oxytocin of Midwifery Clients at Trillium Health Partners, by Adverse Drug Reaction



Health Canada reporting criteria for ADRs changed in early 2020 to include unintended responses to medication that included lengthened hospital stay or medical intervention to prevent death, threat to life, disability, or lengthened stay. Prior to this change ADRs were reported differently. As such there is no pre-implementation data to compare to. There were three instances of abnormal FHR resulting in urgent cesarean of the 93 cases managed by midwives.

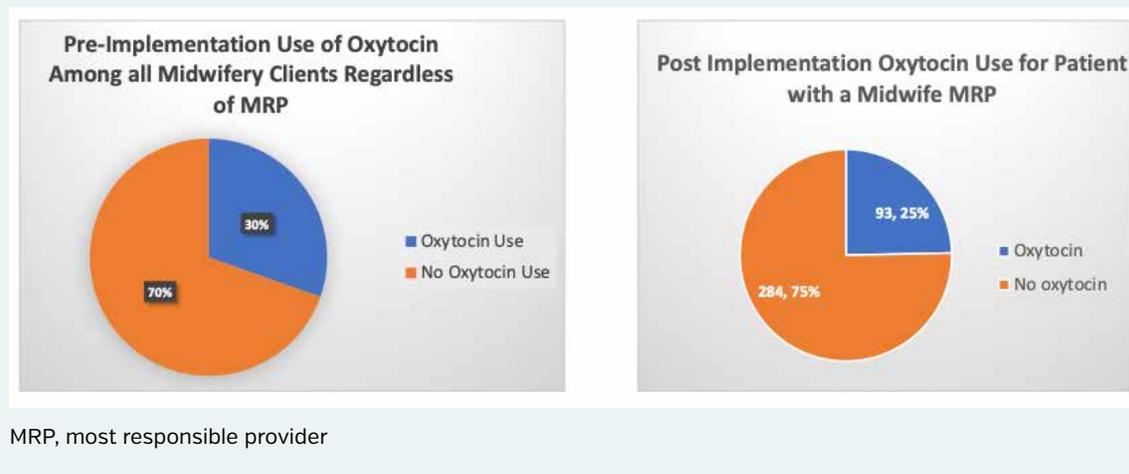
ADR, adverse drug reaction;
FHR, fetal heart rate

or is simply a naturally occurring random variation. That the practice change was relatively painless for the providers facilitated buy-in and acceptance and did not result in onerous demands on the clinicians, which supported acceptance and commitment to the change among the team.

There was excellent adherence to the use of the pre-use and in-use oxytocin checklist recommended by the Provincial Council for Maternal and Child Health, which suggests that midwives were diligent in their selection of appropriate candidates for oxytocin and their ongoing management of oxytocin. The use of oxytocin for induction and augmentation among midwifery clients dropped from 30% in the pre-launch period to 25% in the post-implementation period (Figure 5). The higher pre-launch rate of oxytocin use is likely because the data reported in BORN in the pre-implementation period would have included *all* midwifery patients who received oxytocin, including those who were admitted to hospital with an obstetrician as their most responsible provider. Clients who started as midwifery clients but were transferred to obstetricians either prenatally or in labour would be more clinically complicated and therefore expected to be more likely to require induction or augmentation. However, because of the way clients are registered in BORN, clients would be included in the number of midwifery clients who

would have received oxytocin in the intrapartum period. During the post-implementation period, the cases reported would only include the smaller subset of clients whose oxytocin was ordered and administered by midwives. Since this would be expected to represent less complex clients, one would expect the rate of oxytocin use to be lower. The midwifery rate of oxytocin use [25%] in the post-implementation period was compared to the overall hospital rate of oxytocin use for induction and augmentation [39%] for the same period of time, as reported in BORN.⁸ One would expect the overall hospital rate to be higher, given that it would include patients with higher acuity and therefore more indications for oxytocin use. Consultation and transfer of care continued as was appropriate and indicated in the post-implementation period. Of the 92 cases analyzed, 40 were deliveries requiring no consultation or transfer of care. Of the remaining cases, 9 included a consult for cervical ripening as part of the induction process, after which ongoing management of care (and ordering of oxytocin) returned to the midwife. An additional 13 cases included a consult either in advance of oxytocin being initiated or during the progress of labour. Indications for consultation included intrauterine growth restriction, hypertension, a history of previous cesarean section, maternal fever, oligohydramnios, postpartum hemorrhage, and

Figure 6. Pre- and Post-implementation Balancing Measure for Intrapartum Oxytocin of Midwifery Clients at Trillium Health Partners, by Utilization Rate of Intrapartum Oxytocin Among Midwives' Clients



retained placenta. Of the 13 consults that resulted in a recommendation to initiate oxytocin, 11 were for deliveries by the midwife as most responsible provider. Thirty-three of the cases resulted in transfer of care related to mode of delivery (i.e., assisted vaginal delivery or cesarean section). Indications for these transfers included abnormal or atypical fetal heart rate, nonprogressive labour or labour dystocia, maternal fatigue, maternal fever, and a prolonged second stage.

CONCLUSIONS

At Trillium Health Partners, the practice change that related to the amendment of midwifery scope of practice was smooth and resulted in good uptake and sustainability of the new workflow. In addition to a group of outcomes that did not result in a decrease in quality of care comparable to the pre-implementation period, the practice change had the added benefit of clarifying the role of the most responsible provider, improving continuity, and requiring no additional or unnecessary consultation, thus reducing the demands on the obstetrical team. Information about the outcomes and the success of the implementation process were shared with all team members to help verify to all the participants that the quality of care remained stable post implementation. Anecdotally, the reduced demand on the

obstetrical team and resulting clarity regarding consultations, roles, and responsibilities have enhanced interactions within the team. The use of a formal change-management tool helped to guide a large multidisciplinary team through a practice change with clarity and motivation and with a focus on sustaining the change. The use of quality improvement techniques permits the measurement of the change to evaluate its effectiveness and validate the change. Resourcing the team with corporate quality improvement (QI) supports for data management would further strengthen the use of quality-improvement methods to support the practice change.

In summary, the use of a formal change-management tool in conjunction with quality-improvement techniques can be leveraged by midwives in interdisciplinary institutional settings to introduce and implement practice changes, particularly those related to expansion of scope.

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