**Wicked Problems and Solutions in Healthcare Project: Part A**

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**Title of the Project:**
Inadequate prenatal care for women with low and medium risk pregnancies in Kamloops, British Columbia (BC).

## **Group Members:**

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## **1. Wicked Problem:**

Within the past two years, Kamloops has faced an increasing shortage of prenatal care for women with low-risk and medium-risk pregnancies. Previously, these women received care from local midwives, independent general practitioners (GPs), or through the Thompson Regional Family Obstetrics Clinic (TRFO). Kamloops, specifically Royal Inland Hospital (RIH), is the regional hub for maternity care services (Kamloops Obstetrics, n.d.), yet a shortage of GPs, declining interest in obstetrical care, midwife shortages, and uneven service distribution have created access gaps. According to RIH labor and delivery patient-care-coordinator M. Redmond, who has kept statistics on the issue, while women with high-risk pregnancies are usually cared for by obstetricians, women with low- or moderate-risk pregnancies may be left without care (personal communication, September 9, 2025). Women in rural or Indigenous communities may face additional challenges due to transportation and limited culturally safe options.

To address this gap, the First Steps Clinic was developed by a group of local midwives. First Steps uses a nurse practitioner (NP) and 1–2 midwives to care for pregnant women during their first and second trimesters (First Steps, n.d.). Women are then referred to TRFO for the remainder of their pregnancy care and delivery (First Steps, n.d.). However, TRFO has limited capacity; 10–20 women have been declined care by TRFO each month during the past year and have often not received care during their third trimester (M. Redmond, personal communication, September 9, 2025). These women are instructed to receive care from their primary care provider (GP or NP); however, 40% of Kamloops’ population lacks a primary care provider (Shoults, 2022). All other women are instructed to present to the labor and delivery unit at RIH if they have concerns or when labour commences, where their delivery will be attended to by an on-call physician (M. Redmond, personal communication, September 9, 2025). An average of 10 women per month have presented to RIH over the past year with no prenatal care or only partial care (M. Redmond, personal communication, September 9, 2025). As of September 2025, TRFO is no longer accepting referrals and is providing limited care due to a lack of physician coverage (Interior Health Authority [IHA], personal communication, 2025).

The lack of prenatal care is a wicked problem because it is dynamic, multifaceted, and resistant to simple solutions (Williams & Hof, 2016). Multiple system factors interact including workforce shortages, fragmented funding models, provider role limitations, and geographical challenges presenting complex challenges. No single intervention can resolve the issue without engagement from multiple stakeholders including the health authority, professional colleges, providers, and patients. The wicked nature lies in the problem’s persistence despite past efforts, its interdependence on other systemic issues, and the lack of consensus on the “best” solution.

## **2. Population:**

The population affected by the inadequate access to prenatal care is women in Kamloops and surrounding areas with low-risk and medium-risk pregnancies. This problem particularly affects women experiencing their first pregnancy (a lack of connection to a care provider during previous pregnancies) (M. Redmond, personal communication, September 9, 2025), and women in the reproductive age range, generally 15–35 years, as advanced maternal age is associated with higher-risk pregnancies (Society of Obstetricians and Gynaecologists of Canada [SOGC], 2019). The affected population spans a diverse range of socioeconomic and cultural backgrounds; however, Kamloops has a growing immigrant population (Statistics Canada, 2021), and newer immigrants are often underserved due to system inexperience and language barriers (Khanlou et al., 2017). Women with lower socioeconomic status may face additional barriers, such as limited transportation options, inability to take time off work, or difficulty affording associated costs of travel and care. Additionally, this includes women from outside of Kamloops (e.g., Chase, Merritt, Clinton) who must travel significant distances for prenatal appointments, creating barriers to care.

Kamloops and the surrounding area include Indigenous and Métis populations who have historically faced systemic inequities in maternal healthcare, including a lack of culturally safe care. Factors such as colonization, intergenerational trauma, and mistrust in the healthcare system exacerbate disparities and outcomes (Baccliani et al., 2023). The lack of timely and consistent prenatal care increases stress and anxiety. Furthermore, missed pregnancy screenings as well as prenatal checkups, particularly during the third trimester, may lead to undetected complications and thus worsened maternal and infant health outcomes (Heaman et al., 2019).

## **3. Context:**

1,200 women deliver at RIH each year, with 60% classified as low- to moderate-risk (Kamloops Obstetrics, n.d.). Given that RIH serves a large catchment area of 45,000 square kilometres (Thompson-Nicola Regional District [TNRD], n.d.), women travel great distances to receive care and deliver in this hospital. As the regional population has grown by 2.1%, from approximately 130,000 to 159,000 (BC Stats, 2024), workforce distribution and service design have not kept pace. Culturally, the region includes Indigenous and immigrant populations who often face additional barriers to care due to systemic inequities, mistrust, or language barriers, which further complicates service deliveries
(Bacciaglia et al., 2023).

Historically, BC’s healthcare system relies heavily on fee-for-service physician models, which disincentivize collaborative or nurse-led care. GP interest in providing obstetrical care is waning, while midwifery remains underfunded with limited local capacity. Resources include motivated and dedicated local providers, practitioners interested in utilizing their entire scope of practice, and emerging telehealth capacity. Constraints include provider shortages, traditional funding models, and a lack of integrated service planning between hospital and community settings.

## **4. Three Solutions:**

***Solution 1: Group-Based Prenatal Care***

Student name: Jane Haywood-Farmer

Group-based prenatal care involves pregnant women receiving their care in a peer group of 8-12 other women. Women meet in facilitated groups with two healthcare providers that may include NPs, RNs, midwives and physicians. The sessions include a typical medical check-up, but also education and peer-support (Centering Healthcare Institute, n.d). Developed in 1994 in the United States under the name Centering Pregnancy, this model has since been adopted in other parts of BC, Alberta and Ontario (Government of Canada, 2023). The model has consistently led to equivalent birth outcomes as traditional care, with an increased rate of breastfeeding and patient satisfaction (Liu et al., 2021; Moyett et al., 2023; Sadiku et al., 2023). In addition to traditional pregnancy-related medical care, the groups also add social support and knowledge sharing, potentially increasing emotional well-being of pregnant women (Sadiku et al., 2023). Groups can potentially be adapted to provide culturally safe care within Indigenous communities, led by Indigenous health teams.

Fewer one-on-one appointments are needed for routine low-risk concerns, alleviating time of NPs, physicians and midwives (McNeil et al., 2013). Group care also distributes care responsibilities; RNs complete some of the medical exams, thus reducing reliance of scarce physicians and midwives (McNeil et al., 2013).

This solution does not come without challenges. It requires dedicated space, coordinating schedules and provider buy-in. Physicians, NPs and midwives will need to become adept at running groups and interprofessional collaboration. It will also include hiring and training RNs, not typically involved in prenatal care and assessments. Another challenge is patients preferring traditional prenatal care due to privacy concerns and scheduling conflict.

***Solution 2:******NP-Led Antenatal and Postnatal Clinics***
Student name: Megan Lowe

NPs provide continuity of care for low- to medium-risk pregnancies, working alongside multidisciplinary team members such as midwives, RNs, and OB-GYNs. An NP-led clinic would help relieve the burden on TRFO and address the critical gaps facing Kamloops and the surrounding communities, while reducing pressure on burned-out physicians.

NP-led antenatal and postnatal programs have been shown to improve access to care and enhance the health outcomes for both the mothers and newborns (Kneller et al., 2023). One review found that NP-led models of postnatal care decreased infant mortality rates and improved the management of women with Gestational Diabetes Mellitus, leading to better outcomes for their neonates (Kneller et al., 2023). With physician shortages and limited accessibility, NPs represent a sustainable and evidence-based solution to this crisis.

NPs play a crucial role in collaborative, tiered models of care, while working alongside physicians, obstetricians, and midwives (Kneller et al., 2023). In these models, NPs provide care for low-to medium-risk pregnancies, freeing obstetricians and family physicians to focus on high-risk and complex cases (Kneller et al., 2023). Another benefit is that NPs often provide longer appointment times, which strengthens therapeutic relationships and ensures that patients and families questions are all answered (Kneller et al., 2023).

Beyond direct care, NP-led clinics can offer antenatal group support, which improves postnatal social networks and can even prevent post-partum depression (Tessema et al., 2025). With their advanced training, NPs are well positioned to lead psychoeducational programs, ensuring mothers receive education, counselling, and consistent support throughout antenatal and postnatal period (Tessema et al., 2025). The World Health Organization also emphasizes the importance of positive postnatal experiences for strengthening maternal-newborn bonds and improving outcomes, an NP-led model directly supports this vision (Wojcieszek et al., 2023).

NPs are therefore critical for enhancing antenatal and postnatal care, especially given the severe physician shortage that we are currently facing in healthcare. However, barriers remain to this solution. Communication with the Interior health NP Director confirmed that funding is currently being prioritized for primary care NPs and not maternal health. Systemic barriers such as fragmented services, administrative delays, and lack of dedicated funding for maternity care remain significant challenges to implementing this model.

***Solution 3: Hybrid Telehealth Model***
Student name: Brianna Grayson

A hybrid prenatal care delivery model would combine the convenience of telehealth with the continued assurance of essential in-person visits. Rather than replacing in-person care, this solution would streamline visits so that only clinically necessary appointments occur in person. For example, physical exams, fetal heart rate measuring, fundal height measuring, and checking fetal positioning would remain in person, while the remainder of appointments would shift to telehealth visits. Additionally, these in-person clinic visits could be managed by an RN while connecting virtually with an obstetric care provider. These RNs would also provide education, routine monitoring, and ongoing support virtually when necessary. This approach integrates the best parts of both systems, ensuring continuity and safety, while recognizing the lack of prenatal care providers in the Kamloops area. Telehealth systems would enable a group of physicians, NPs, and midwives to work remotely and schedule in person visits as required. Telehealth expands the reach of these practitioners, allowing them to monitor more women while delegating in person visits to local RNs. Adding a telehealth prenatal service to the existing TFRO clinic, managed by an RN, would be an ideal solution.

Hybrid models represent a modern, patient-centred approach to prenatal care that reduces systemic pressures while simultaneously improving access. Telehealth has been shown to reduce the need for travel, time off work, and childcare arrangements, while also helping to address ongoing provider shortages (Mohamed et al., 2025). Telehealth models for delivering prenatal care acknowledge that pregnancy requires essential in-person assessments but leverages virtual platforms to fill gaps, prevent delays in patient care, and expand the reach of providers that may not be located in the area (Lekshmi et al., 2025). For the Kamloops region, where prenatal care shortages and geographic barriers continue to create access inequities, a hybrid model offers a practical and adaptable solution.

Challenges to this solution remain, including training RNs for consistent prenatal assessments, adjusting funding models, and recruiting providers who are open to delivering care within this hybrid framework. However, this solution is scalable and evidence informed. It addresses current gaps, ensuring that women in Kamloops and the surrounding communities receive safe and continuous prenatal care.

**References**

Bacciaglia, M., Tait Neufeld, H., Neiterman, E., Krishnan, A., Johnston, S., & Wright, K. (2023). Indigenous maternal health and health services within Canada: A scoping review. *BMC Pregnancy and Childbirth, 23*(327), 1–14. <https://doi.org/10.1186/s12884-023-05645-y>

Centering Healthcare Institute. (n.d.). *CenteringPregnancy*. <https://www.centeringhealthcare.org/what-we-do/centering-pregnancy>

First Steps. (n.d.). *First Steps early pregnancy triage clinic*. <https://earlypregnancy.ca/>

Government of Canada. (2023). *Family-centred maternity and newborn care: National guidelines*. <https://www.canada.ca/en/public-health/services/maternity-newborn-care-guidelines.html>

Heaman, M., Martens, P., Brownell, M., Chartier, M., Kirskey, S., & Helewa, M. (2019). The association of inadequate and intensive prenatal care with maternal, fetal, and infant outcomes: A population-based study in Manitoba, Canada. *Journal of Obstetrics and Gynaecology Canada, 41*(7), 947–959. <https://doi.org/10.1016/j.jogc.2018.09.014>

Kamloops Obstetrics. (n.d.). *Royal Inland Hospital: Obstetrics*. <https://www.kamloopsmedicine.com/obstetrics>

Khanlou, N., Haque, N., Skinner, A., Mantini, A., & Kurtz Landy, C. (2017). Scoping review on maternal health among immigrant and refugee women in Canada: Prenatal, intrapartum, and postnatal care. *Journal of Pregnancy, 2017*, Article 8783294. <https://doi.org/10.1155/2017/8783294>

Kneller, M., Pituskin, E., Tegg, N. L., & Norris, C. M. (2023). Rural prenatal care by nurse practitioners: A narrative review. *Women’s Health Reports, 4*(1), 262–270. <https://doi.org/10.1089/whr.2023.0011>

Lekshmi, D., Nader, S., Rorberts-Barry, J., Baecher Lind, L. E., Charles, A. S., Werner, E. F., & Ramos, S. Z. (2025). Perinatal Outcomes Among Patients Using OB Teleflex, A Hybrid Prenatal Telemedicine Program. *Journal of Obstetrics and Gynaecology Canada*. <https://doi.org/10.1016/j.jogc.2025.102911>

Liu, Y., Wang, Y., Wu, Y., Chen, X., & Bai, J. (2021). Effectiveness of the CenteringPregnancy program on maternal and birth outcomes: A systematic review and meta-analysis. *International Journal of Nursing Studies, 120*, 103981. <https://doi.org/10.1016/j.ijnurstu.2021.103981>

McNeil, D. A., Vekved, M., Dolan, S. M., Siever, J., Horn, S., & Tough, S. C. (2013). A qualitative study of the experience of CenteringPregnancy group prenatal care for physicians. *BMC Pregnancy and Childbirth, 13*(Suppl 1), S6. <https://doi.org/10.1186/1471-2393-13-S1-S6>

Mohamed, H., Ismail, A., Sutan, R., Abd Rahman, R., & Juval, K. (2025). A scoping review of digital technologies in antenatal care: Recent progress and applications of digital technologies. *BMC Pregnancy and Childbirth, 25*(153), 1–14. <https://doi.org/10.1186/s12884-025-07209-8>

Moyett, J. M., Ramey-Collier, K., Zambrano Guevara, L. M., Macdonald, A., Kuller, J. A., Wheeler, S. M., & Dotters-Katz, S. K. (2023). CenteringPregnancy: A review of implementation and outcomes. *Obstetrical and Gynecological Survey, 78*(8), 490–499. <https://doi.org/10.1097/OGX.0000000000001169>

Perinatal Services BC; Vancouver Division of Family Practice. (2018). *Early prenatal care summary and checklist for primary care providers* [PDF]. [https://www.perinatalservicesbc.ca/Documents/Resources/Checklists/PSBC\_Prenatal\_Checklist.pdf](https://www.perinatalservicesbc.ca/Documents/Resources/Checklists/PSBC_Prenatal_Checklist.pdf?utm_source=chatgpt.com)

Province of British Columbia. (2024). *Population estimates, 2011–2024*. <https://www2.gov.bc.ca/gov/content/data/statistics/people-population-community/population/population-estimates>

Sadiku, F., Bucinca, H., Talrich, F., Molliqaj, V., Selmani, E., McCourt, C., Rijnders, M., Little, G., Goodman, D. C., Schindler Rising, S., & Hoxha, I. (2023). Maternal satisfaction with group care: A systematic review. *Advances in Global and Regional Health, 100*(301). <https://doi.org/10.1016/j.xagr.2023.100301>

Shoults, T. (2022). *Thompson Region | Divisions of Family Practice*. <https://divisionsbc.ca/thompson-region>

Society of Obstetricians and Gynaecologists of Canada. (2019). *High-risk pregnancies and special populations*. <https://sogc.org/en/en/rise/Events/event-display.aspx?EventKey=CVDHGRSK>

Statistics Canada. (2021). *Kamloops: Census metropolitan area*. <https://www12.statcan.gc.ca/census-recensement/2021/as-sa/fogs-spg/page.cfm?lang=E&topic=9&dguid=2021S0503925>

Tessema, M., Abera, M., & Birhanu, Z. (2025). Improving postnatal social support using antenatal group-based psychoeducation: A cluster randomized controlled trial. *Frontiers in Global Women’s Health, 6*, 1510725. <https://doi.org/10.3389/fgwh.2025.1510725>

Thompson-Nicola Regional District. (n.d.). *About the TNRD*. <https://www.tnrd.ca/about-us/about-the-tnrd/>

Thompson Region Family Obstetrics. (n.d.). *TRFO clinic*. <https://www.trfoclinic.com/>

Williams, B., & van ’t Hof, S. (2016). *Wicked solutions: A systems approach to complex problems* (2nd ed.). Lulu.com.

Wojcieszek, A. M., Bonet, M., Portela, A., Althabe, F., Bahl, R., Chowdhary, N., Dua, T., Edmond, K., Gupta, S., Rogers, L. M., Souza, J. P., & Oladapo, O. T. (2023). WHO recommendations on maternal and newborn care for a positive postnatal experience: Strengthening the maternal and newborn care continuum. *BMJ Global Health, 8*(Suppl 2), e010992. <https://doi.org/10.1136/bmjgh-2022-010992>