Supporting Rural Maternity Services Through Telehealth

An Integrated, Systems Perspective

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Jude Kornelsen, PhD, does not have any conflicts of interest to disclose.

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Objectives

1) To reflect on the context of rural maternity services in BC, including the challenge of access to specialist services;

2) To present the MOBILE Maternity project background, rationale and implementation;

3) To consider the efficacy of tele-obstetrical care from a systems perspective.
Rural Maternity Care: The Challenge of Distance

• In Canada, 18% of births occur to women who live in rural and remote areas (CIHI 2013).

• Over 40% of those women must travel more than one hour to access generalist services (compared to less than 2% of urban women traveling over an hour).

• **One in six rural women** (3% of total Canadian parturient women; 41,408 women from 2007/08-2011/12) had to travel more than two hours to reach a hospital for intrapartum care (CIHI 2013).
Rural Maternity Care: The Challenge of Distance

International data demonstrates unequivocally that greater distance to care puts mothers and their infants at greater risk of poorer outcomes:

• independent of many of the other causal mechanisms known to be involved in pregnancy outcomes, including social determinants, health behaviors and prenatal care;
• has a positive gradient effect – as distance increases, so does risk of adverse outcomes.
The Challenge of Distance: Specialist Care

• Challenge of specialty practice in low-volume environments:
  • less than 4% of OBGYN’s practice in communities with populations less than 25,000;
  • Higher volume practice found in larger centres allows less demanding on-call schedules and the attendant lifestyle implications (more balance between work and leisure)
• In addition, rural women also have trouble accessing specialist-based gynaecological screening (=higher risk for complications such as cervical cancer due to a lack of appropriate early screening).
Larimore and Davis, 2005

- Larimore and Davis (2005) modeled the impact of service availability: the loss of an OB-GYN would account for 9.6% increase in infant mortality.
- The model presumes a greater volume of deliveries for OB-GYN, and is derived in a context where OB-GYN’s are the primary leads in delivery but only 4% of the state’s providers practice rurally.
- Found that 17.6% of the variation in Florida’s infant mortality rate could be attributed to service availability.
- Similar to the 14.4% found by Allen and Kamradt (1991) in Indiana.
Satisfaction with Rural Practice: Importance of Specialist ‘Safety Net’

Rural providers had lower satisfaction with access to specialist support, access to technology, recruiting and retaining allied health professionals (Heneghan et al 2005).

Barriers to rural practice include lack of contact with colleagues, difficulty accessing consultants and specialists in emergencies, poor locum coverage, long on-call hours, distant Continued Medical Education (CME) (Baker 2006). Retention of rural providers influenced by on-call arrangements, followed by professional support (Humphreys et al 2002).
The MOBILE Maternity Project (MOM)

The MOM project is:
• A pilot initiative to increase primary health care capacity and improve patient and population outcomes by providing a specialist obstetrics telehealth service;
• Allows the patient to “meet” with her out-of-town specialist using a computer monitor, video camera and microphone;
• Facilitates 3-way conversation between specialist, GP and patient/family
• ‘MOMI Rounds’ (distributed, synchronous CME)
The MOBILE Maternity Project (MOM)

• Consultations range from booked, elective tele-video appointments to urgent bed-side assessments in hospital, clinic or at home.
• Improved shared care of high-risk pregnancies to reduce patient travel to see a specialist, and, in less common situations, support for precipitous deliveries in communities without a local maternity care program.
The MOBILE Maternity Project (MOM)

- Started in April 2016;
- Communities include Christina Lake, Grand Forks, Kaslo, Nakusp, Nelson, New Denver/Slocan, Creston, Grey Creek, Trail, Greenwood;
- Expanded to Campbell River, Port Hardy, Port McNeill (Fall, 2017)
- Funded by the Specialist Services Committee, Doctors of BC

Dr. Shiraz Moola, OB-GYN, Kootenay Lake Hospital, Nelson BC
The MObile Maternity Project (MOM)

• Have completed 22 consults to date (out of a potential 125 out of town consults: 64 maternity, 69 GYN in a 1-year period)
• Lower than anticipated uptake
• Theory-to-Practice Gap (‘Why do we not have a higher rate of telehealth consults?’)

Need for Obstetrical Consult for women in W Kootenays catchment

Lower than expected volume of tele-health consults
Why did we have a lower than expected number of consults?

Hypotheses:
• Desire for in-person consultations
• Lack of awareness of the project
• Need for a larger ‘paradigm shift’
• Over-estimation of need
• Reorientation to shared model of care
• Need to revisit ‘out reach’ visits versus telehealth

• OBGYN outreach from Nelson to Nakusp (NITAOP)
• Trail outreach → Grand Forks (NITAOP)
Low Resource Services: 3 Specialist Pathways

- Clinical Challenge dealt with locally
- Patient transferred to referral centre
- Clinical support/remain in community
The Geography of Telehealth
Importance of Health Service Delivery Networks

(Current) importance of Geographical proximity:
• Should urgent care be necessary
• For transfer and follow up
• For system efficiency and organization
Geographic vs Virtual referral patterns

Need to resolve historical referral patterns versus patient or rural provider-initiated referral preferences.
Joint Position Paper on Rural Surgery and Operative Delivery

Our professional organizations have prepared this paper as part of an integrated, multidisciplinary plan to ensure the availability of well-trained practitioner teams to sustain safe, effective and high-quality rural surgical and operative delivery services. Without these robust local (or nearby) surgical services, sustaining rural maternity care is much more difficult. This paper describes the "network model" as a health human resources solution to meet the surgical needs, including operative delivery, of...
Moving Forward

Importance of evaluation of:
’Fit’ of obstetrical scenario’s with telehealth capability (which procedures can be done with support at a distance?)

- Synchronous consults
- Asynchronous consults

<4 hours
<12 hours
<24 hours
Telehealth

- VBAC Consult
- History of pre-eclampsia
- IUGR for surveillance
- ECV
- Current medical conditions that may affect pregnancy or are exacerbated due to pregnancy
- Family history of genetic disorders, hereditary disease or significant congenital anomalies
- History of cervical cerclage
- History of three or more first-trimester Spontaneous abortions
- History of more than one second-trimester spontaneous abortion

Transfer

- Pre-term labour (potentially)
- Severe pre-eclampsia
- Cardiac or renal disease with failure
- Multiple pregnancy (other than twins)
- Severe pre-eclampsia12, eclampsia or HELLP syndrome
- Symptomatic placental abruption or previa

ON A SPECTRUM
Questions to Consider

How much ‘transfer avoidance’ is a result of an obstetrical telehealth safety net?

What is minimal volume to demonstrate cost-effectiveness of telehealth services?

Are there system constraints to the fulsome uptake of telehealth technologies?