



Editorial

Postpartum Cardiovascular Prevention: The Need for a National Health Systems-Based Strategy

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See article by Gladstone et al., pages 761–769 of this issue.

After the recognition of common pregnancy-related complications (ie, the hypertensive disorders of pregnancy [HDP], gestational diabetes [GDM], preterm birth, etc) as independent sex-specific cardiovascular (CV) risk factors,¹ several international CV societies have recommended screening for and treatment of traditional atherosclerotic risk factors (ie, hypertension, dyslipidemia, and dysglycemia) in these women at high risk of premature CV disease (CVD).^{2,3} CV risk factors emerge in the first 1–10 years postpartum, with CV events occurring generally after 10 years.^{1,4} Recently, a study showed that only 9 women needed to be screened for hypertension to identify 1 woman meeting guideline-recommended treatment thresholds for the initiation of pharmacotherapy.⁵ Thus, although postpartum CV risk factor screening seems justified, there remains a paucity of evidence to guide clinicians on the optimal timing of CV risk factor screening, and optimal thresholds for initiation of pharmacotherapy and treatment targets in this young population.¹

To generate this important evidence base to support postpartum CV prevention, Dr Smith and team developed the first Canadian postpartum CV prevention clinic, the Maternal Health Clinic (MHC) in Kingston, Ontario.⁶ As outlined in their article in this issue of the *Canadian Journal of Cardiology*, entitled “Referral to Cardiology Following Postpartum Cardiovascular Risk Screening at the MHC in Kingston, Ontario” by Gladstone et al.,⁷ the MHC is a highly organized interdisciplinary obstetrician-led clinic offering postpartum women with common pregnancy complications counselling on their future CV health risks and advice regarding CV risk reduction through simple lifestyle changes.⁶ Because of the absence of CV prevention resources specifically tailored for

postpartum women in the surrounding community, the MHC team directs women to medical specialists and cardiac rehabilitation programs for further CV risk management. Despite their comprehensive approach, only half of the 97 women (17.4% of the MHC cohort) referred to cardiology actually scheduled an appointment and their median wait time was 12 months. Furthermore, although 28 (60%) women assessed by cardiology met criteria for referral to cardiac rehabilitation, only 5 (17.9%) women attended the cardiac rehabilitation program.⁸

This low attendance of women in follow-up care after complicated pregnancies represents a lost opportunity for CV prevention in a population among the highest risk for premature CVD. Thus, innovative and comprehensive strategies are urgently needed to address clinical care gaps to improve the CV health of these young women.

Current State and Gaps in Postpartum CV Preventive Care in Canada

A 2017 survey of interdisciplinary health care providers indicated that only 50%–60% were aware of the future CV health risks associated with common pregnancy complications.⁹ This result was surprisingly similar to findings reported by Smith and colleagues 10 years earlier, in which approximately 50% of physicians reported referring women after HDP for follow-up care.¹⁰ However, other studies have shown that only 20% of women reported having been counselled on their risks of future CVD.¹⁰ These alarming findings show gaps in clinical care that might be addressed through 2 types of knowledge translation interventions: the first, targeting health care physicians, and the second, directly targeting women with pregnancy complications to educate and empower them to engage in CV preventive care.

Healthcare providers’ knowledge gaps might partly stem from the lack of guidance by current Canadian CV guidelines on the screening, prevention, and management of CV risk factors in young women after a complicated pregnancy. Unlike in The Netherlands³ and the United States,² where comprehensive women-specific CV prevention guidelines are

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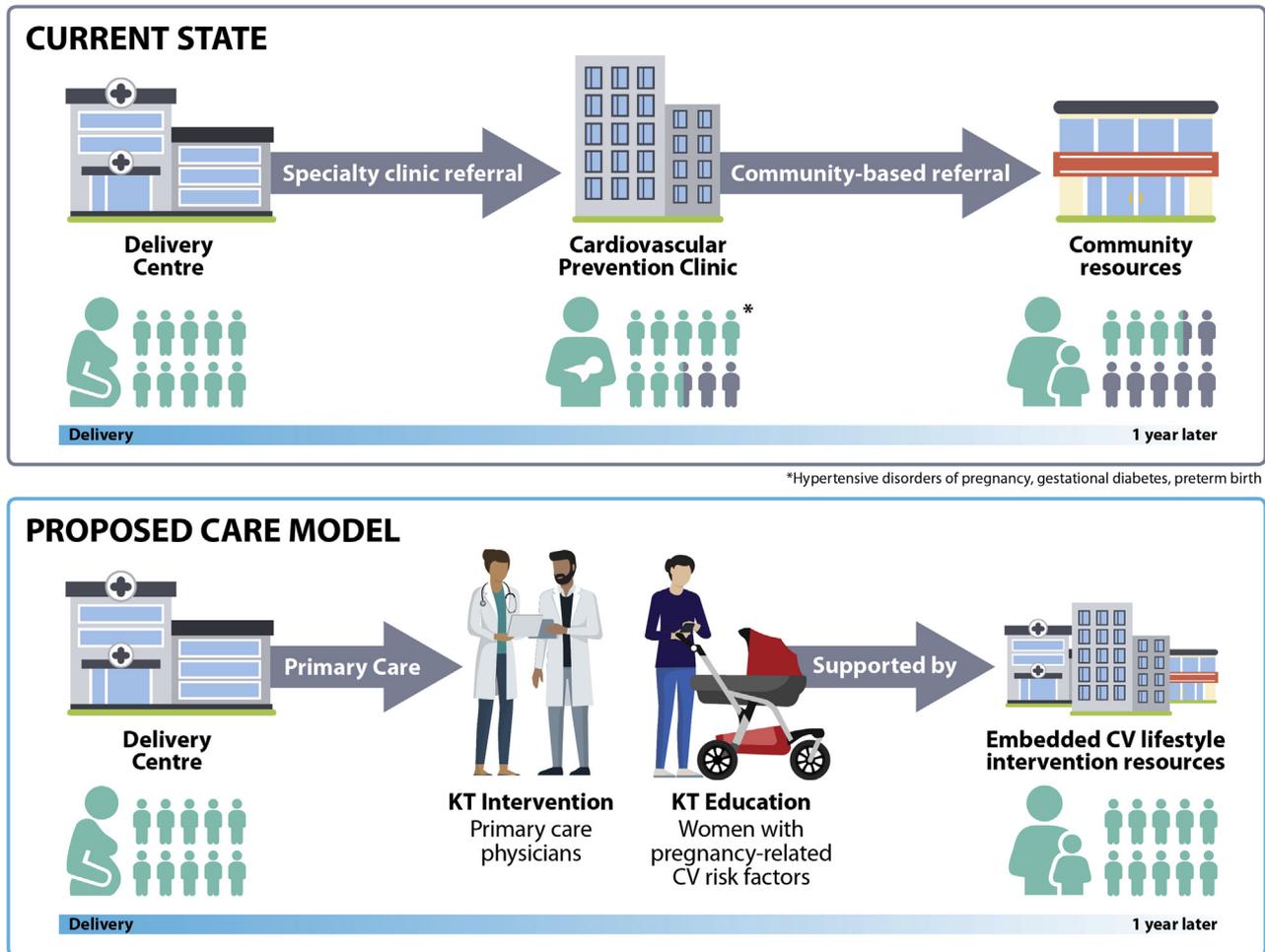


Figure 1. Current and proposed models of postpartum cardiovascular preventive care. CV, cardiovascular; KT, knowledge translation.

available, Canadian clinicians must refer to numerous individual CV risk factor guidelines (ie, the Canadian Cardiovascular Society's 2016 lipid guideline, which now includes screening for dyslipidemia after HDP¹¹; Diabetes Canada's 2018 guideline for screening and prevention of dysglycemia after GDM¹²; Hypertension Canada,¹³ and the Society of Obstetricians and Gynecologists of Canada's Guidelines¹⁴). Furthermore, many Canadian health care providers were not aware of the existence of these pregnancy-related guidelines.⁹ Thus, general awareness among front-line physicians could be improved if recommendations were consolidated in a single document summarizing the highest quality evidence for CV risk factor screening, prevention, and treatment after pregnancy complications.

Currently, 17 centres in 13 Canadian cities have specialized postpartum CV prevention clinics modelled after the MHC for women who experienced HDP, GDM, preterm birth, and other common pregnancy complications. These clinics represent a broad range of models of care in terms of setting (rural vs urban), physician specialty, and follow-up (single consultation vs longitudinal). Each clinic has different interdisciplinary team support in accordance with local resources and expertise (ie, nursing, nutrition, pharmacy, kinesiology, and mental health specialists) and most are challenged by a lack of public health resources to support

lifestyle interventions. A recent clinical research collaboration among these 17 clinics (Canadian Post-pregnancy Clinical Network) will enable an evaluation of the effects of these different postpartum models of care and best clinical practices on CV-related health outcomes and patient-centred outcomes (quality of life and satisfaction).

Although these specialized postpartum CV prevention clinics appear to be a promising solution to clinical care gaps, they share challenges similar to those identified in the study by Gladstone et al., namely attrition of women over the first year postpartum. Comparable nonattendance rates (25%-50%) have been reported at other Canadian centres.¹⁵ Thus, despite a general recognition that the first year postpartum is an ideal "window of opportunity" to implement healthy lifestyle programs,¹⁶ engagement of women in such programs during this time has been challenging.¹⁵ Patient-centred strategies, (eg, childcare and inclusion of partners) might offer solutions to enhance participation in postpartum CV prevention programs.¹⁷

Need for a National Health Systems Strategy for Postpartum CV Prevention

A principal care gap for postpartum women centres around the paucity of resources available to integrate CV

prevention into existing models of follow-up care (Fig. 1).⁹ Primary care is the logical setting for postpartum CV preventive care because of its focus on well-woman care across the lifespan.¹⁸ Primary care also offers the added opportunity for paired visits with the infant for well-baby exams, which might increase a woman's participation in her own follow-up care, thereby shortening the time to CV risk counselling as noted by Gladstone et al.⁷ Finally, recent evidence shows that the partners of women with pregnancy complications¹⁹ and their offspring²⁰ are also more likely to either have or develop CV risk factors. Thus, the primary care setting has the benefit of identifying and managing not only a woman with pregnancy-related CV risk factors but also her family members.

However, Canadian health care providers, including those in primary care, report a lack of time and resources for lifestyle interventions.⁹ Thus, primary care physicians require the support of effective and widely available community CV preventive resources tailored for the unique needs of this young population. Supportive interventions requiring further study in this population include health coaching, nursing-led community interventions, Internet-based health promotion platforms, and telehealth interventions for women living in remote regions.

Integration of these lifestyle interventions within existing regional or provincial public health programs offers dual support for primary care clinicians and women with lived experience. Many Canadian women already access local public health resources when taking their infants to public health centres for immunization and/or other public health services, or for home visits by a public health nurse (breastfeeding and newborn supports). These existing programs could be rapidly tailored to initiate early follow-up programs for pregnancy-related CV risk factors to ensure more women receive simple, evidence-based education on future CV risks and prevention. Furthermore, existing public health lifestyle programs could be adapted to meet the unique needs of postpartum women through the addition of breastfeeding support, mental health support, group sessions for peer support, and counselling on established interventions to reduce the risks of complications in subsequent pregnancies. These enhanced public health interventions, however, will require a comprehensive evaluation of their clinical and cost-effectiveness as well as effect on patient satisfaction and quality of life.

Next Steps for a Canadian Postpartum CV Prevention Strategy

Kingston's MHC study identified important gaps in the follow-up care of women with pregnancy-related CV risk factors. These findings, enhanced by the evidence generated by the collaboration of specialized postpartum clinics through the Canadian Post-pregnancy Clinical Network will inform effective best clinical practices and models of follow-up care for this population. However, to comprehensively address these care gaps and improve health outcomes for thousands of Canadian women, a systems-level approach to CV preventive care involving local, provincial, and national public health systems is urgently needed.

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