Maternity Care for British Columbia (MC4BC)
Evaluation Report

Prepared for the Maternity Care Working Group of the General Practice Services Committee

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Acknowledgements

This evaluation was designed, implemented and reported by the consulting team of Dr. Vicki Foerster, James Murtagh and Paul Chaulk with input from the GPSC Maternity Working Group composed of:

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Acronyms and Abbreviations

BC	British Columbia
BCMA	British Columbia Medical Association
CMPA	Canadian Medical Protective Association
CPSBC	College of Physicians and Surgeons of BC
FP	Family physician
GP	General Practitioner
GPSC	General Practice Services Committee
HA	Health authority
MC4BC	Maternity Care for BC Program
MOH	Ministry of Health
ROS	Return of service

Executive Summary

Background

For several decades, family physicians (FPs) in British Columbia (BC) have been dropping their obstetrical privileges or choosing not to incorporate obstetrics into new practices– only about 13% now deliver babies. In an effort to stem the tide, in 2008, BC's General Practice Services Committee (GPSC) developed the Maternity Care for BC (MC4BC) program. Our evaluation assessed whether the program has performed with respect to its goals and objectives, and identified strengths and weaknesses.

MC4BC program overview

Program objectives were: (a) to support practicing FPs who had dropped obstetrical privileges but wanted to refresh these skills, and (b) to support graduating FP residents who wished to perform deliveries. GPSC allocated $2.5 million to cover participants' costs for income loss (up to $32,788 at $820 per delivery for a maximum of 40 deliveries); professional liability insurance top-up (maximum of $604); additional education requirements (maximum of $1,000), travel and accommodation during training (maximum of $9,500), and preceptor compensation ($100 per delivery in addition to fee-for-service billing). Available funding per participant was just under $48,000. Program staff recommended applicants to GPSC and successful applicants (all who applied were accepted) were required to start the training program within 6 months and complete it within the following year. In turn, FPs agreed to obligations such as return-of-service (eight deliveries in 18 months post-program) and maintenance of a full service family practice or locum coverage in BC.

Evaluation methods

Data and information sources included program documents and web-based materials; Ministry of Health and MC4BC program administrative data; telephone interviews of participating FPs (n=15); an on-line survey of participating FPs (56 respondents; a 76% response rate); telephone interviews of recent FP grads doing obstetrics who did not apply to MC4BC (n=6 including several currently completing the FP residency); and telephone interviews of a cross-section of stakeholders (n=12).

Observations from program data

- MC4BC enrolled 74 participants from 2008 to 2013; of these, 54 have completed the program (73%), 19 are in progress (26%) and 1 has withdrawn (1%). Excluding 2013, in which a limited number of participants was accepted, the mean number of participants enrolled per year was 14.
- In the first year, 33% of participants were recent residency graduates (defined as entering MC4BC within 2 years of completing an FP residency) but this proportion climbed to 67% by 2011.
- The total budget was $2.5 million but only $1.6 million has been spent to date (some costs for currently enrolled participants are still pending).
- The program will fund up to 40 mentored deliveries but 35% of program graduates performed less than half that number.

- Although training occurred in 25 hospitals, four collectively hosted more than 50% of trainees and accounted for 66% of the deliveries completed by program graduates. Surrey Memorial Hospital hosted the largest share of participants and contributed the largest number of deliveries.

Interviews with participating FPs

Fifteen participants were interviewed by telephone. All wished to gain more confidence in obstetrics, some specifically in rural settings without immediate specialist support. The program's flexibility was appreciated by participants. The number of planned deliveries, mentorship location(s) and experiences varied widely depending on individuals' needs and limitations. About half arranged for mentorship in their practice communities whereas others relocated to an extremely busy FP obstetrical setting, in part to gain experience with procedures such as vacuum extraction and repair of perineal tears.

With respect to future plans, about three quarters plan to continue providing deliveries in their practices or locums, most stating they plan to do so for at least 10 years. Half stated that MC4BC was critical to their choice to perform deliveries in their practices, i.e., without the program they would definitely NOT have done so. The reasons given were lack of confidence and experience plus lack of opportunity to gain experience without adequate compensation – or to travel away from family and practice demands. Interviewees were universally positive about the program, often expressing gratitude for the opportunity to increase their skills and confidence while being well compensated and given flexibility in making the program work for them.

Additional interviews

GPSC / BCMA: Four people were interviewed, primarily to describe the program's background and the early thinking that had gone into its development and design. The GPSC co-chairs noted that the program got off the ground fairly quickly and was deemed to be successful but by 2012/13 questions arose related to program budgeting and continuation.

Preceptors: Both preceptors interviewed were very experienced FPs from the lower mainland. One had limited exposure, mentoring an MC4BC participant for a weekend on-call and, over a longer period of time, mentoring a new partner in the practice. The second preceptor noted the increase in confidence experienced by the MC4BC participant and also commented that the program allowed an opportunity to learn 'practice norms' in the local community. She observed the level of confidence for participants grew dramatically over the training period, including management of complications.

Representatives of FP Divisions: The objective in contacting Divisions of FP was to learn what their perceptions were with respect to MC4BC and FP obstetrics in general. Two were aware of the MC4BC program and one was not. One interviewee noted that many residents feel they need more obstetrical training, even when their residency experience had been quite busy. She observed that new residents seem to be less confident than what she and her cohort were at the same stage. Collaborative on-call groups were seen as essential to attract new graduates who usually desire this model.

UBC residency program: One of three interviewees was aware of the program; disappointment was expressed that they had not been involved in MC4BC program design.

Non-participating FPs: In general, lack of participation was due to lack of awareness about the program or 'logistical' reasons such as a move out of province for personal reasons. Two who were aware but chose not to participate felt quite comfortable with their obstetrical competence due to experience with 75-100+ deliveries in several settings including some longitudinal care.

Survey of participating FPs

An on-line survey was e-mailed to the 74 MC4BC participants in early May 2013; 56 responded (76% response rate). The majority (71%) completed an FP residency in BC and 70% were new graduates who started MC4BC within 2 years of residency completion. Lack of confidence in deliveries was a major concern for respondents; 54% reported inadequate training by the end of residency. Of those who felt they did have sufficient training and experience, many were anxious about rural and remote settings or needed more development of specific skills.

Respondents indicated that the most important factors in their decision to participate in MC4BC included (a) gaining experience by working with a preceptor and (b) compensating for a time gap where they did not perform deliveries or performed too few, e.g., due to gaps or insufficient residency experience, locums or practice with low volume obstetrics, and maternity leave / family commitments.

At the time of the survey, 95% of respondents who had completed the program were practicing in BC. Most (89%) reported holding active or locum medical staff appointments with obstetrical privileges. For the others, reasons for not continuing obstetrics involved (a) changes in personal circumstances and (b) obstetrical care no longer needed in their practice. Of the respondents still enrolled in the program, 100% indicated they intended to continue performing deliveries.

MC4BC was rated as an important factor in the decision to do deliveries; 71% indicated the program was important or very important while 20% indicated it was somewhat important. Survey respondents were also asked the hypothetical question, "Would you have performed obstetrical deliveries without the support of MC4BC?" Just over one-quarter (29%) said yes, 21% said no and 50% said 'maybe' or 'not sure.' Close to 100% of participants agreed that the program increased their confidence, is an important support to FPs, and that they would recommend the program. The survey asked participants to rate the importance of various program aspects; 90% chose support of a preceptor and training stipend as important.

Discussion

The core focus of MC4BC is skills development in FP obstetrics with a goal of increasing the pool of BC FPs participating in obstetrical deliveries. FP interviewees and survey respondents were enthusiastic supporters of the program and saw considerable value in the training received. They emphasized the need to enhance skills. For returning FPs, the skills deficit was due to time away from the labour and delivery suite, whereas for new graduates it was the product, real or perceived, of insufficient exposure to deliveries in training. Although new residency graduates now dominate the group of program participants, the current mixed group seems reasonable since the program's goals and objectives do not differentiate between the relative needs of established versus new FPs.

In designing the program in 2007/08 it was determined that up to 40 proctored deliveries would be funded but interviews revealed that there is no consensus as to what constitutes sufficient experience. It was commonly suggested that 80-100 deliveries are necessary to reach a comfort level – yet this level of experience is almost never achieved in residency training.

Choice of training site appears to have influenced the ability of participants to achieve their objectives. Some training centres take very structured approaches to facilitating trainees while others are more *ad hoc*. It is also clear that some sites suffer from an abundance of learners.

Over time, administration of the program has improved and is, in general terms, adequate. The current administrator has systematized the tracking of some program details but assembling budget data required considerable effort and remains incomplete. The program budget of $2.5 million was sufficient to fund 52 participants had each participant spent the maximum allowable funding; under-spending on deliveries (34%) and expenses (85%) relative to what was allotted has permitted the program to enroll significantly more participants. This is positive; however, the program remains significantly underspent – a situation that might have been avoided with more program promotion.

Conclusions

The following conclusions were developed, based on the evaluation findings:

- The MC4BC program was implemented essentially as intended with 74 participants involved from 2008 to date (a mean of 14 a year entering over the 5 years from 2008 to 2012).
- Although the program initially focussed on enticing practicing FPs who desired retraining in obstetrics to gain skills without significantly sacrificing income, the program was expanded to include recent FP residency graduates; the latter group now dominates the participant pool.
- The program increased the skills and confidence of participants and was an important support to participating FPs; most of those surveyed who had completed the program (84%) continued to practice obstetrical care in BC at the time of the evaluation.
- The program achieved its desired impact of increasing the number of FPs doing deliveries, although the number of program participants / graduates is small compared to BC FP numbers.
- Program strengths included flexibility in location, timelines, and scheduling; meeting individual FPs' needs; hands-on experience with preceptor support; and attractive compensation.
- Suggestions for program improvements were to support prenatal /postnatal care (reduce the focus on deliveries alone), assist with matching to preceptors, formalize expectations and clarify role, and more actively promote the program.

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1. Introduction

General Practice Services Committee

This evaluation was commissioned and overseen by the General Practice Services Committee (GPSC), a tripartite committee of representatives of the British Columbia Medical Association (BCMA), BC Ministry of Health (MOH), and health authorities (HAs). Since 2003 the key role of the GPSC has been to 'encourage and enhance' full-service family practice to benefit patients. It also offers an expanded role for BC doctors in determining the future direction of health care through initiatives focussing on quality patient care and system-wide improvements. When GPSC was formed, the first step was to develop new incentive payments for full-service family practitioners (FPs).[1] Province-wide consultations were held with over 1000 FPs to listen to concerns, identify areas of family medicine needing support, and gather recommendations on how to do so. GPSC now offers a number of programs to improve the care patients receive and the way in which FPs deliver it.

Background to MC4BC

Obstetrical care provided by FPs is an essential and valued service; however, recent provincial trends indicate FPs are either dropping their obstetrical privileges or choosing not to incorporate obstetrics into their practices. In 1983, about 68% of FPs in Canada reported attending deliveries, but two decades later, surveys reported this had dropped dramatically to 13%.[2] Cited reasons for this trend include little recognition of, or compensation for, the disruption to personal lives and regular practice schedules; demographic factors (an aging workforce); and lack of uptake of obstetrics by new graduates. GPSC has been working to reverse this trend and encourage FPs to include obstetrical services as part of their practices. One initiative, called Maternity Care for BC (MC4BC), was first offered in 2008 and is the subject of this program evaluation.[3]

Evaluation Rationale and Purpose

MC4BC has been in operation for more than five years and is in need of a formal evaluation to inform future directions. The purpose of the MC4BC program evaluation is to identify program strengths and weaknesses and to assist in GPSC decisions about the program's future.

[1] The terms family physician (FP) and general practitioner (GP) are used interchangeably in this document.

[2] Dines G. MC4BC: Supporting family physicians' return to obstetrics. BCMJ. 2008 May; 50(4):218.

[3] No new program participants have been accepted since March 31, 2013.

2. Program Description

Program Overview

The objectives of the MC4BC program have been: (a) to support FPs who have dropped their obstetrical privileges to refresh and regain obstetrical skills, and (b) to support additional training for graduating FP residents who want to incorporate obstetrics into their practices.

The target groups of physicians for enrollment are listed as:

- FPs who wish to incorporate obstetrics into their practice
- New FP medical graduates who have just completed residency

GPSC allocated a total of $2.5 million since the program's inception in 2008 to support training for rural and urban FPs wanting to update their obstetrical skills. Funding covered the costs of income loss, preceptor stipend, professional liability insurance, and additional education requirements (e.g. the Neonatal Resuscitation Program [NRP]), as well as travel and accommodation during the training period. FPs must not receive funding for training from another funding source and the program was not meant to act as a replacement to curricula offered through other training programs. FPs are however eligible for the General Practitioner Obstetrical Premium and the Maternity Care Network Initiative.[4]

Hospitals have differing requirements for the granting of permanent obstetrical privileges. Participants need to determine training requirements, in partnership with the hospital(s), in order to obtain obstetrical privileges. A qualifying FP has been eligible for maximum funding of up to $47,892 including:

a) Training Stipend of up to $32,788: Participants could bill two General Practitioner (GP) sessions[5, 6] per birth up to a maximum of 40 births in lieu of income loss. Participants could not bill any fee-for-service (FFS) rates associated with a birth they attended as part of their obstetrical re-training. (Preparation time was not applicable.)

b) Preceptor Stipend of up to $4,000: Preceptors received $100 per delivery up to a maximum of 40 births in addition to their regular FFS billings associated with a birth.

c) Travel Allowance of up to $9,500: A maximum of $9,500 was available for travel and accommodation during the training period. BCMA rates apply for all expenses.

d) Canadian Medical Protective Association (CMPA) obstetrical insurance of up to $604: A maximum of $604 was available to the physician for the difference in the upgrade[7] to CMPA

[4] According to the GPSC Annual Report 2011/12:

- In place since 2003, the General Practitioner Obstetrical Premium provides a 50% bonus on four delivery fee items. In 2011/12, 743 GPs participated, providing maternity care to 12,348 women (2011/12 expenditures: $3.4 million).
- In place since 2004, the maternity care network payment helps support group/network activities for shared care of obstetric patients. It provides $2,100 per quarter to each GP participating in a formal group practice approach to maternity care provision. As of March 31, 2012 there were 643 GPs registered (2011/12 expenditures: $4.9 million).

[5] A GP session (based on current rates as of April 1, 2011) is equivalent to $409.85 x 2 sessions = $819.70 per birth

[6] Salaried physicians are not entitled to charge sessional fees.

[7] Cost of insurance with obstetrics is $399/month versus $97/month without obstetrics. The difference is $302/month or $75.50 per week. MC4BC will pay the additional insurance for 8 weeks ($75.50 X 8 weeks = $604).

obstetrical insurance costs for the course of the training period (8 weeks). FPs were responsible for the additional cost of obstetrical insurance post-training.

e) Additional education requirements of up to $1,000: Up to $1,000 in funding was available upon submission of receipts.

Selection process and follow-up steps: Each year an application deadline was set but the application process noted that no further funding would occur once the funding envelope had been allocated, i.e., the number of training positions was limited by available funding. Program staff reviewed applications and made recommendations to GPSC regarding successful applicants.[8] Applications were reviewed in order of receipt to the program administrator. GPSC had the ultimate discretion and authority to review all requests and to make exceptions to decisions coming forth from program staff. Following selection, successful applicants received a letter of approval and signed the MC4BC Program Agreement. Successful applicants were required to commence the training program within 6 months of the date of the program administrator's approval letter and complete the training program within 1 year. When training was complete, participants were to notify the program administrator at the BCMA in writing.

Deferral, extension, and failure or inability to commence or complete the Program: It was possible to request a deferral or extension with the request submitted in writing to the GPSC prior to the commencement of the proposed changes, providing an explanation, e.g., serious family illness. Requests were adjudicated by the GPSC and decisions communicated in writing to the participant. If a participant failed to commence the training program as required in the Agreement, he or she was to receive no further funding and the GPSC could seek to recover payments (with interest). If a participant had started the training but failed to complete it as per the written agreement between parties, he or she could be required to repay all funds already provided. It was possible to be released from repayment in special circumstances.

FP obligations:

- Adhere to the FP's training plan in accordance with the program's policies and guidelines.
- Perform a minimum of eight deliveries[9] in BC over the 18 months following program completion (the time could be extended if both parties agreed), as a return-of-service (ROS).
- Perform other activities if specified by the FP's training hospital and agreed upon by the FP.
- Maintain an active Full Service Family Practice or provide locum coverage in BC.
- Maintain hospital privileges to practice obstetrics where required, for the training period and the entire ROS period, except where the HA does not renew these privileges due to HA physician need.
- Maintain full licensure to practice with the College of Physicians and Surgeons of BC (CPSBC) and membership in the CMPA.

A dispute resolution process is described in the ROS Agreement including arbitration if the dispute could not be otherwise settled.

[8] To date all applicants have been accepted into the program.

[9] Deliveries include emergency C-sections.

Eligibility

An FP was eligible to be considered if he or she:

- Completed all required application documentation
- Had full registration and licensure from the CPSBC to practice family medicine in BC
- Mets hospital(s) privilege requirement(s) to complete obstetrical training
- Intended to practice obstetrics in BC after obstetrical training

Program Governance

The program has been administered by the BCMA with the support of an MC4BC Working Group. Program and policy guidance and program oversight has been the responsibility of the GPSC.

Stakeholders

The program's key stakeholders include:

- BC women of child-bearing age who may require maternity care, and their families
- MOH, BCMA and HA officials involved in maternity care and /or family practice
- Participating physicians, preceptors and sponsoring hospitals
- FPs in BC

Resources

The program resources include the budget for funding of participating FPs and preceptors. In-kind resources include the time, support and oversight of the GPSC members and MC4BC Working Group plus administrative supports and office space / equipment provided by the BCMA.

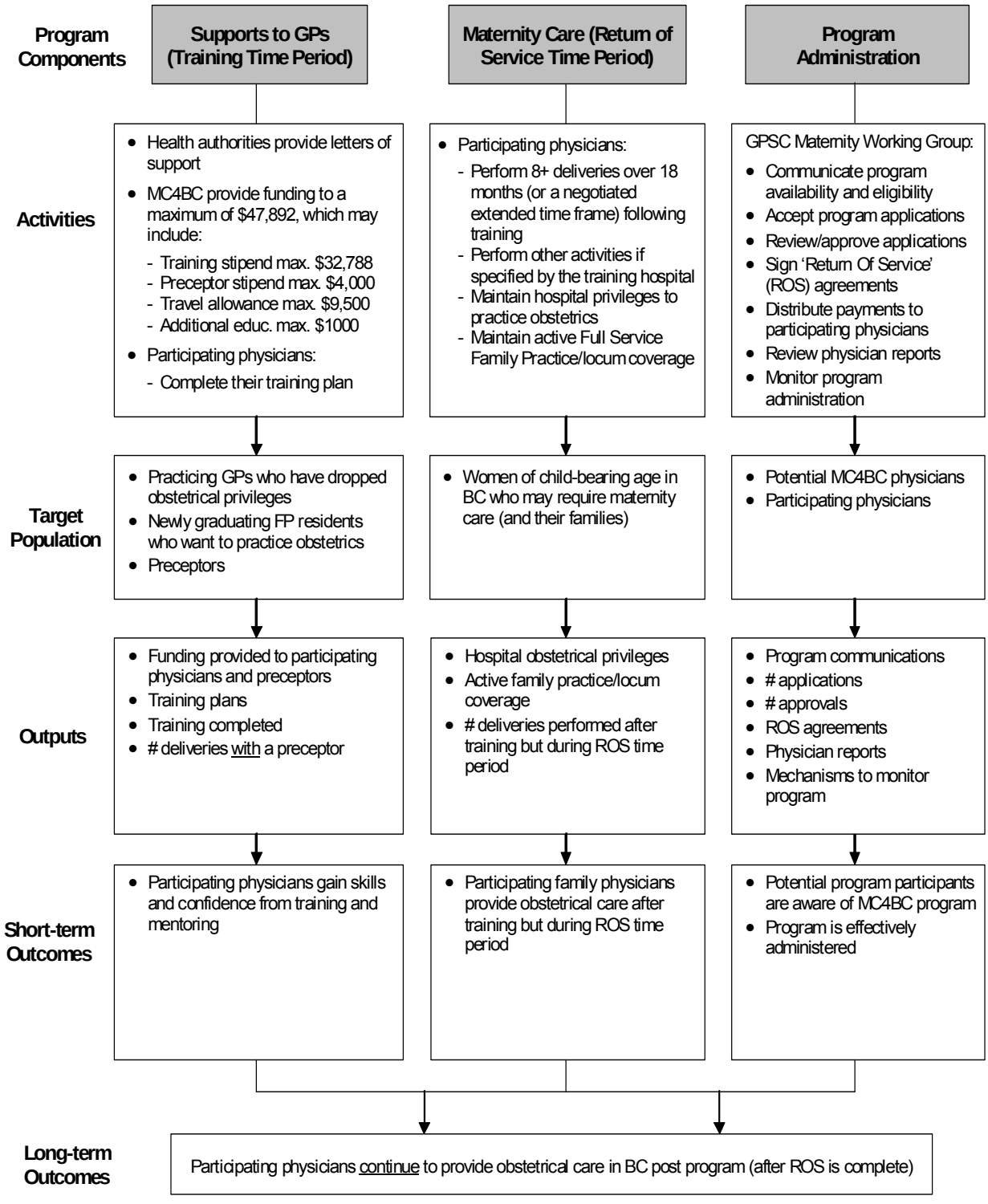
Reporting Requirements

Information was provided to the GPSC for inclusion in its annual report which is reviewed by the MOH and BCMA. The program has also responded to information requests from the MOH on an *ad hoc* basis.

Program Logic Model

The program logic model is presented on the following page. MC4BC is divided conceptually into three 'components' focussed on supports to FPs, provision of maternity care during the ROS, and program administration. The provision of training and mentoring is intended to support ongoing obstetrical practice by participating FPs.

Maternity Care for BC (MC4BC) – Program Logic Mode



3. Evaluation Approach and Methods

Type of Evaluation

This evaluation was primarily formative (aimed at assessing how the program is implemented and administered and how it can be improved or further developed) with some summative elements (assessing outcomes from the perspective of participating physicians and program stakeholders).

Overall Approach

A participatory approach was taken to ensure that the evaluation approach was consistent with the planning and decision-making needs of the GPSC and that the evaluation findings are relevant and useable. The evaluation consultants worked with the GPSC Maternity Working Group to design and implement the evaluation.

Scope of Evaluation

The evaluation scope included the administration of MC4BC (including program eligibility and relevance) and the impact of the program on participating FPs and the maternity care they have provided during and after the completion of the ROS agreement. It did not include a review of FP residency training.

Evaluation Audiences

The primary audience for the evaluation findings and report is the GPSC.

Secondary audiences for the evaluation report include:

- Other program stakeholders:
  - Other MOH officials involved in maternity care and/or family practice
  - Other BCMA officials involved in maternity care and/or family practice
  - Other HA officials involved in maternity care and/or family practice
  - FP residency programs in BC
- Participating physicians and preceptors

Evaluation Goals and Objectives

Goals

The evaluation goals were to:

- Assess the extent to which the program has been achieving its desired impact of increasing the level of obstetrical care delivered by FPs in BC.
- Review the process of implementing the program including identifying any potential improvements

Objectives

The evaluation objectives were to:

- Document program uptake by BC FPs.
- Provide a profile of FPs participating currently or in the past in the MC4BC program including relevant subgroups such as very recent FP residency graduates and FPs who had been practicing without obstetrical privileges and who wished to add obstetrical care to their practices, and their motivations for participation.
- Explore why some very recent residency graduates have participated in the program and, if feasible, why other recent graduates did not (depends on availability of data and the ability to reach the latter physicians).
- Assess the impact of the program on provision of obstetrical care by participating FPs.
- Identify strengths, weaknesses, and potential improvements in the MC4BC program.
- Identify the relative importance of various aspects of the program to participation by eligible and interested FPs.

The evaluation report does not include recommendations but will support the GPSC to develop these.

Evaluation Issues

The evaluation addressed both process and outcomes of MC4BC. The detailed evaluation questions are outlined in the evaluation framework found in the Appendix.

Data Sources

A number of data sources were used to address the evaluation questions contained in the framework including secondary (existing) data routinely collected and reported by the program or health system as well as primary (new) data collected specifically for this evaluation during April and May 2013:

- Review of program documents and web-based materials.
- Review of MOH and MC4BC program administrative data.

- Telephone interviews and on-line survey of participating FPs.
- Telephone interviews of recent FP graduates doing obstetrics who did not apply to MC4BC.
- Telephone interviews of stakeholders (GPSC, BCMA, preceptors, University of BC [UBC] residency program and FP Divisions).

Document review

Program documents were reviewed to provide information on program administration.

Administrative data

Administrative data were requested from two sources including the BCMA program administrator (for participant-specific information) and the MOH (for aggregate data related to FPs and deliveries in BC):

(a) *Participant-specific information*:

- Name and contact information.
- Whether a recent residency graduate (within 2 years of MC4BC program commencement).
- MC4BC program start and end date.
- Training location (hospital) and whether specific training was required to obtain obstetrical privileges, e.g., NRP and ALARM courses.
- Number of intended deliveries and number actually performed (number to date for those still enrolled in the program).
- Confirmation of ROS (8 deliveries over 18 months post-program) for those who have completed the program.
- Payment, including sessions (for deliveries) and expenses (for travel and education).

(b) *MOH aggregate data on FPs and obstetrics per year for each of the past four fiscal years (2008/09 to 2011/12), reported per HA or all FPs billing for deliveries*:

- Number of unique FPs billing for deliveries
- Number of deliveries for which they billed
- Paid amounts for deliveries
- Median number of deliveries per FP

Participating FP interviews

Fifteen participating FPs were interviewed by telephone to provide feedback on program administration and program outcomes. The interviews were also used to support the development of the participating FP survey instrument that was subsequently administered to all MC4BC participants.

Participating FP survey

The online participating FP survey was administered to the 74 program FPs. The survey covered demographic information, pre-program intentions to practice obstetrical care, how they heard about the program, motivations for program participation, program experience, suggestions for program improvement, and program outcomes (impact on their skills, confidence and obstetrical practice). A total of 56 surveys were completed over a 14-day period in May 2013 for a response rate of 76%.

Non-participating FP interviews

Working Group members identified several recent FP residency graduates who had not chosen to participate in MC4BC and who consented to being interviewed. These FPs contacted colleagues who were in the same situation (including current residents), expanding the interview pool to six FPs who were interviewed via semi-structured telephone calls.

Stakeholder interviews

Twelve stakeholders were interviewed or otherwise contacted to provide feedback on program implementation, factors affecting program uptake, perceptions of trends, and the broader context in which the program operates. Stakeholders interviewed included:

- GPSC and the BCMA representatives (n=4)
- MC4BC preceptors (n=2)
- Division of FP [10] representatives (n=3)
- UBC FP residency program representatives (n=3)

Data Analysis

Qualitative or textual information from stakeholder interviews and open-ended survey questions was analyzed according to standard qualitative criteria (Krueger, 1994)[11] in order to determine the major themes, for example:

- Language - the type of words that people use to express their views and/or experiences
- Context - the issues and/or situations that seem to stimulate a particular view or comment
- Consistency and/or diversity - whether the comments are generally consistent or diverse
- Specificity - connecting views and comments to specific individual experiences
- Frequency - how often a particular view or comment was expressed
- Intensity - how strong the particular point of view was made

[10] Note: The commencement of the MC4BC program (2008) pre-dated development of the Divisions of Family Practice.

[11] Krueger RA (1994). Focus Groups: A Practical Guide for Applied Research. Thousand Oaks, CA: Sage Publications.

Numerical (quantitative) information from forced-choice survey questions was analyzed using descriptive statistics (e.g., proportions) and presented in table/chart format, where appropriate. In addition to formal statistics, the results were examined to ensure consistency of findings and to determine whether an explanation for the findings could be derived.

Numerical (quantitative) information from administrative data was extracted from an Excel spreadsheet provided by the program administrator and electronic reports prepared by the MOH. Data related to FP obstetrical practice in BC, program uptake, program spending, delivery volumes, and training sites were assembled and summarized in tabular form. Descriptive statistics were incorporated where possible and appropriate.

Limitations of the Evaluation

- The timeline for the project was quite short as a decision about program continuation was pending.
- For the first several years of the program, information about participants was not rigorously captured, leading to gaps in data.
- Ideally, more detail from preceptors would have been useful but contacting preceptors was difficult (they had not given consent to participate in an evaluation) and few of those contacted by the program administrator responded (ultimately only two of 19 contacted).
- The consultants strove to understand how BC physician administrators and leaders viewed the program and the impact of its participants on FP obstetrics but this was limited in several ways: (a) many had not heard of the program and could therefore not comment on either the program or its impact and (b) communication was limited both by the timeline and lack of response to invitations for interviews.
- It was not possible to access all relevant FP billing data at an individual level due to privacy restrictions; therefore, all comparisons made are to the total pool of FPs.
- The survey responses represent 76% of the participating FPs and cannot necessarily be generalized to the 24% of participants who did not complete the survey.
- Some survey questions were based on recall (e.g., number of deliveries during residency) and may have resulted in numbers that were approximate.
- One survey question asked respondents still in the program about whether they intended to continue performing deliveries so it did not capture actual practice behavior.

4. Findings

Administrative Data

FP provision of obstetrical services in BC

FPs play a central role in the delivery of low-risk maternity services in BC. However, the total number of FPs billing maternity fee items declined over the 4 years from 2008/09 to 2011/12 (Table 1).

TABLE 1: FP PROVISION OF OBSTETRICAL SERVICES IN BC (MOH DATA)

	2008/09		2009/10		2010/11		2011/12	
HA	**Total FP OBS Billers**	**Median Services Billed**	**Total FP OBS Billers**	**Median Services Billed**	**Total FP OBS Billers**	**Median Services Billed**	**Total FP OBS Billers**	**Median Services Billed**
IHA	188	19	187	18	187	17	172	18
FHA	166	40	160	41	164	39	158	38
VCHA	173	22	150	21	154	21	140	22
VIHA	130	20	134	19	125	20	128	20
NHA	144	13	140	13	139	13	136	13
TOTAL	***801***		***771***		***769***		***734***	

MC4BC program uptake

Table 2 summarizes MC4BC program uptake by year and the status of participants in terms of program completion. Of 74 participants approved to date, one withdrew or otherwise left the program, 19 remain in progress and 54 have completed or graduated from the program.

TABLE 2: MC4BC PARTICIPANTS AND COMPLETION STATUS BY YEAR OF ENTRY

Year	Participants	Withdrawals	In progress	Graduated[12]
2008	10	0	0	10
2009	11	0	0	11
2010	9	0	0	9
2011	18	0	0	18
2012	23	1	16	6
2013	3	0	3	0
TOTALS	*74*	***1***	***19***	***54***

[12] Graduated = 12 months from entry date and/or 40 MC4BC deliveries.

As shown in Table 3, the type of participant entering the program has changed over time. Initially participation favoured established FPs but this gradually and emphatically changed in favour of relatively recent FP residency graduates.

TABLE 3: PROPORTION OF MC4BC PARTICIPANTS WHO WERE RECENT GRADUATES

YEAR	Number starting that calendar year	Recent FP residency grad (within 2 years)			Percent of MC4BC participants who were recent residency grads (of those whose status is known)
		YES	NO	UNKNOWN	
2008	10	3	6	1	33 %
2009	11	5	4	2	56 %
2010	9	5	4	--	56 %
2011	18	12	6	--	67 %
2012	23	17	5	1	74 %
2013	3	2	1	--	67 %
TOTALS	*74*	*44*	*26*	*4*	*Mean over the program = 63%*

MC4BC program spending

The MC4BC program has paid out approximately $1.6 million to program participants (Table 4). This amount excludes payments to preceptors which, theoretically, could be in the order of $186,000 but is believed to be much lower. Also not reflected is the inherent commitment associated with the balance of training for the 19 participants (26%) still in progress.

TABLE 4: MC4BC PROGRAM SPENDING BY YEAR OF ENTRY (AS OF MAY 2013)[13]

Year	Graduates		In Progress		Totals
	Sessional Payments	Expenses	Sessional Payments	Expenses	
2008	$149,204	$13,172			$162,376
2009	$288,115	$25,607			$313,722
2010	$189,962	$14,778			$204,740
2011	$369,069	$23,327			$392,396
2012	$150,825	$14,507	$304,109	$16,816	$486,257
2013			$33,608	$1,604	$35,212
TOTALS	*$1,146,635*	*$91,391*	*$337,717*	*$18,420*	***$1,594,703***

[13] Excludes payments to preceptors (details were not readily available).

Table 5 provides further detail regarding program spending to date as it relates to those participants who have graduated from the program. Information includes mean payments for program-related deliveries and claimed expenses. In both instances these are well below the maximum permitted under the MC4BC program ($32,788 for sessions and $11,104 combined for expenses / education / CMPA).

TABLE 5: DELIVERIES & PAYMENTS FOR PROGRAM GRADUATES BY YEAR OF ENTRY

Year	Number of MC4BC Graduates	Deliveries		Sessional Payments (maximum billable in 2012 = $32,788)		Expenses (Maximum billable in 2012 = $11,104)	
		Range	Mean	Range	Mean	Range	Mean
2008	10	0 - 40	19	$0 - $31,360	$14,920	$0 - $2,955	$1,317
2009	11	3 - 40	33	$2,352 - $32,365	$26,192	$0 - $9,472	$2,328
2010	9	3 - 40	26	$2,427 - $32,527	$21,107	$0 - $4,227	$1,642
2011	18	5 - 41	27	$3,185 - $33,420	$20,504	$196 - $6,565	$1,296
2012	6	14 - 40	31	$11,476 - $32,788	$25,137	$604 - $5,145	$2,418

MC4BC program-related deliveries and training sites

Although the program will fund up to 40 mentored deliveries, a significant proportion (35%) of program graduates performed less than half that number. An equal proportion performed 40 or more with the balance falling in between (Table 6).

TABLE 6: MC4BC DELIVERY VOLUME DISTRIBUTION FOR PROGRAM GRADUATES

Delivery Range	Actual Deliveries	% of Total Deliveries	Graduates in Range	% of Graduates
0-9	45	3%	10	19%
10-19	132	9%	9	17%
20-29	91	6%	4	7%
30-39	426	29%	12	22%
≥40	761	52%	19	35%
TOTALS	*1,455*		*54*	

Although training occurs in 25 hospitals, four hospitals have collectively hosted more than 50% of MC4BC trainees and Surrey Memorial Hospital (SMH) has alone hosted 33%. Four hospitals also account for 66% of the deliveries completed by program graduates with SMH accounting for almost 50% of those deliveries. In general, program graduates who trained at these sites more frequently completed the targeted number of mentored deliveries identified in their training plans (Tables 7 and 8).

TABLE 7: DISTRIBUTION OF MC4BC PARTICIPANTS BY TRAINING SITE

Hospital	Number of MC4BC Participants	Cumulative % of Participants
Surrey Memorial	26	33%
Chilliwack General	6	41%
Abbottsford Regional	5	47%
Burnaby General	4	52%
Kootenay Boundary Regional	4	57%
Lions Gate	4	62%
Nanaimo Regional	3	66%
Others (n=18)	27	100%
TOTAL	*79* [14]	

TABLE 8: TRAINING SITE CONTRIBUTION TO PROGRAM GRADUATE DELIVERIES & PROPORTION OF GRADUATES ACHIEVING INTENDED DELIVERY VOLUME

Hospital	Number of MC4BC Deliveries	% of Graduate Deliveries	% of Graduates Doing Intended Delivery Volume
Surrey Memorial	684	47%	89%
Chilliwack General	97	7%	0%
Burnaby Hospital	104	7%	66%
Lions Gate	118	8%	100%
Other (n=13)	298	20%	27%
Not allocated[15]	153	11%	N/A
TOTAL	*1,454*		

[14] The number exceeds 74 as some participants worked at more than one training site.

[15] These deliveries are associated with MC4BC graduates who listed more than one training site.

Participating Physician Interviews

Early in the evaluation process, 14 participating FPs were interviewed by telephone for about 30 minutes by one or two of the consultants using a semi-structured format. The selected interviewees were suggested by the program's administrator who selected a cross-section of recent versus established FPs in urban versus rural settings. An additional participant was interviewed due to her request for follow-up after the on-line survey was completed, bringing the total to 15 participant interviewees.

Participant characteristics

The group had the following characteristics:

- 13 of 15 interviewees were women (87%).
- 12 had completed the program (80%) and 3 were still enrolled (20%).
- Upon entry into the MC4BC program, 9 were recent residency graduates (60%) versus 6 who were more established and returning to obstetrics (40%).
- 6 (40%) were working in urban lower mainland or Vancouver Island settings versus 9 (60%) who were in semi-urban (e.g., Nanaimo, Chilliwack) or rural settings (e.g., Gibson's Landing, Salmo).

Motivations for participation

Participants universally wanted to gain more confidence and competence in obstetrics, some specifically in more rural settings without immediate specialist support. For more established FPs, long time gaps sometimes existed (e.g., 16 years) and there was a need to retrain both to increase skills and to be granted obstetrical privileges at the local hospital. For recent residents, often their obstetrical experience was early in their R1 year and in some cases the number of deliveries handled as most responsible physician was very low, e.g., < 10; this resulted in a real lack of confidence in obstetrical skills as they left the residency. Several interviewees saw the program as a way to integrate into a new medical community by working closely with existing FPs as mentors.

Program promotion, awareness and uptake

Most participants learned about MC4BC from colleagues. For new graduates this was often from residents the year or two ahead of them in the UBC residency program. In a few cases, senior physicians who wanted to use participant's locum services urged them to enroll in the program. Several interviewees recalled learning about MC4BC at a conference or via BCMA materials (website, newsletters). Awareness of the program seemed to generally be low although this is less evident in communities where a number of MC4BC trainees have been mentored, e.g., Surrey, Chilliwack, and Nanaimo. A few interviewees noted that the program had a profile among the physicians in the FP obstetrical community (although this was not always the case).

Participant experience with program

Choice of number of planned deliveries, mentorship location(s) and experiences varied widely depending on the needs and limitations of each participant. The program's flexibility allowed for great variation and this was generally appreciated. Choice of practice location fell broadly into the following categories:

- *Arranged for the program within the community of practice*: About half the interviewees arranged for mentorship in their practice communities. These were generally small-to-midsized centers with adequate though not busy obstetrical volumes (e.g., Chilliwack, Nanaimo, Trail). Reasons included: impractical to relocate even briefly (e.g., young family, existing practice); desire to integrate into the FP obstetrical community they would be practicing in, including rural experience; and a need to complete a number of deliveries in the home community before being granted obstetrical privileges.
- *Arranged for the program at a high-volume site*: Several interviewees arranged for all or part of the experience to be in an extremely busy FP obstetrical setting (named were Surrey, Langley and Royal Columbian) aiming to complete the planned deliveries over a short time – sometimes several weekends or one week – and also to gain experience with procedures such as vacuum extraction and repair of perineal tears.

Intentions with respect to ongoing obstetrical care

About three quarters of interviewees plan to continue providing deliveries in their practices or locums – most stating they plan to do so indefinitely or for at least 10 years. Their current volumes ranged from about 20 to over 100 deliveries per year.

The remaining four FPs were uncertain for reasons such as: 'doing a variety of clinics and other services and it is not clear how to integrate obstetrics as well'; lack of an arrangement to relieve 24/7 on-call that is not viable due to on-call demands of the spouse; and unhappy with the disruption to lifestyle.

Impact of MC4BC on providing obstetrical care

Half of the interviewees stated that MC4BC was critical to their choice to perform deliveries in their practices, i.e., without the program they would definitely NOT have done so. The reasons given were lack of confidence and experience plus lack of opportunity to gain experience without adequate compensation (including paying a locum and management of significant debt) or to travel away from family and practice demands.

Of the remainder, two participants would have gone ahead and offered obstetrical services anyway but enrolled in MC4BC to enhance skills and due to the financial attractiveness of the experience. The remaining four were uncertain about what their actions would have been and appreciated the opportunity to gain experience and increase confidence.

Strengths of the program

- Interviewees were universally positive about the program, often expressing gratitude for the opportunity to increase their skills and confidence while being well compensated and being given flexibility in making the program work for them.
- Funding of continuing medical education (CME) was appreciated.
- Compensation of mentors was also seen as a positive aspect of the program and several interviewees felt their enrollment in a formal program made it easier to get the support of mentors.
- The 'logistics' / paperwork were found to be quick and straight-forward.

Weaknesses and gaps including potential improvements

- *Expand beyond a focus on deliveries only*: This was a common comment – interviewees would like to see funding for obstetrics-related activities like antenatal clinics, postpartum care, operating room experience, IUD insertion, and preterm labour.
- *Consider adding a formal mentorship program extending beyond MC4BC*, i.e., mentor does not have to be present at the delivery but available to give advice by phone.
- *Experiences in large teaching hospitals*: Too many learners, difficult to fit shifts in the case room into a busy practice life, and difficult to travel from home community.
- *Hospital privileging*: Can be difficult and time-consuming to arrange privileges at hospitals for the training experience. A related comment was the difficulty obtaining a letter of support from the hospital and a request for a form letter.
- *Need clarity around the 'end goals'*: It should be number of deliveries or a calendar date but cannot be both (the participant was cut off and had to reapply) at the 1-year mark despite fact she had not done the deliveries she wanted to do.
- *Number of deliveries compensated*: One interviewee noted that the program should consider reviewing how many deliveries are funded, i.e., 'there is a point where this is about making money and double billing for these deliveries not necessarily good for the health system.'
- *More coverage of conferences and CME*
- *Greater communication to promote the program*

Participating Physician Survey

Program promotion, awareness and uptake

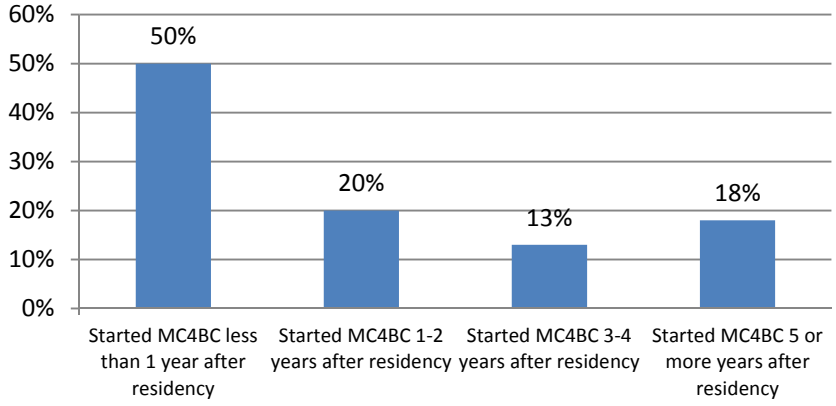
The 56 participating physician survey respondents indicated they had heard about MC4BC:[16]

- From an FP in the MC4BC program (43% of respondents)
- From another practicing physician (29%)
- Via BCMA communications (23%)
- Through the FP residency program (20%)
- From an FP resident (18%)
- Other (2%)

Participant characteristics

The program included 74 participants at the time of this evaluation. Participating FP survey responses provided a profile of the physicians taking part in the program for those 56 participating FPs that completed the survey. Half of the survey respondents had completed medical school in BC while the remainder completed medical school in another Canadian province (32%) or another country (18%). The majority (71%) completed their FP residency in BC and the remainder (29%) completed it elsewhere. A majority (70%) of respondents were new graduates who started MC4BC within 2 years of completion of FP residency (Figure 1).

FIGURE 1: TIME BETWEEN FP RESIDENCY AND MC4BC



[16] Note: Respondents could choose multiple sources – the proportions do not add to 100%.

Participating FP respondents had completed a median of 27.5 obstetrical deliveries as part of their required obstetrical rotation during their residency, ranging from 8 to 100 deliveries. Most (84%) respondents had completed additional deliveries during residency (outside their required obstetrical rotation) – with a median of 20 additional deliveries (range 4-50). In total, respondents had performed a median of 45 deliveries at any time during residency (range 10-130).

There was always a gap, short or long, between the end of residency and the beginning of the MC4BC program. For those who started MC4BC within a year of completing residency, 43% did some deliveries during this gap. For those who started MC4BC more than a year after completing residency, 50% did some deliveries during the gap.

Motivations for participation

Just less than one-half of respondents (46%) indicated they had sufficient training and experience during FP residency to perform deliveries when they started family practice; 54% reported that they did not. Of those who indicated they did have sufficient training and experience, a number noted that the training was sufficient when obstetrician backup was available but not for rural and remote deliveries and a number noted they needed extra training for Caesarian sections, high-risk deliveries, etc. Verbatim comments from participants illustrate these themes:

> *"Only because I made it a point to be available for deliveries outside my OB rotation and took extra electives to accomplish this. Experience only from the OB rotation would not be sufficient."*

> *"… I sometimes worked in rural areas where there was general surgeon back-up but no OB to help with clinical decision-making and I felt I needed additional skills and experience."*

> *"I did my medical school training in a more community/rural setting and did a number of OB electives in medical school - as a result I had done about 40 deliveries in medical school - this in combination with my residency training helped me to feel more ready when I finished. However, I still did not feel confident delivering in places where OB backup was not readily available. I also did not feel confident with specific skills such as vacuum deliveries, complicated perineal tear repairs, and neonatal resuscitation."*

Many respondents who indicated they did not have sufficient training and experience also noted the issue of rural/remote deliveries, the need for specific skills such as Caesarian sections, perineal suturing, etc., or the need to 'refine' their skills further. Verbatim comments from participants illustrate these themes:

> *"I think I would have been ok in an urban facility with peds and OB backup but not rurally."*

> *"Obstetrical care is so much about confidence. While I had done many deliveries and sought out additional training, my confidence was still low. I was unlucky during my core rotation as it was very 'slow' for deliveries. In other rotations, there was often more than one learner which made it challenging to get experience. I was also involved in a delivery as a resident where the baby died which affected my confidence…"*

Respondents indicated that the most important factors in their decision to participate in MC4BC included (a) gaining obstetrical delivery experience by working with a preceptor and (b) a gap in time where they did not perform deliveries or performed a limited number, as shown in Table 9.

TABLE 9: FACTORS AFFECTING DECISION TO PARTICIPATE IN MC4BC [17]

Factor	Important	Very important	Total (important + very important)
I wanted to gain obstetrical delivery experience by working with a preceptor	14%	70%	**84%**
I wanted financial support to do additional training	29%	48%	**77%**
There was a gap in time where I did not perform obstetrical deliveries or performed a limited number	20%	54%	**74%**
I did not perform enough deliveries during residency	11%	39%	**50%**
The volume of deliveries in my practice was too low respondents were (only those in practice for more than 1 year)	7%	20%	**27%**
I wanted to get the required number of deliveries to apply for obstetrical hospital privileges	2%	11%	**13%**

In an open-ended survey question, respondents indicated that reasons for gaps in practice[18] included:

- Insufficient experience or gap during residency, e.g., required rotation was completed early in residency (23% of respondents)
- Locum did not include obstetrics or a significant volume of obstetrics (23%)
- Rural family practice had a low volume of obstetrics (16%)
- Practice did not include obstetrics or a significant volume of obstetrics (11%)
- Maternity leave or having young children (11%)
- Establishing a new practice (4%)
- Did not practice obstetrical deliveries due to frequent call schedule (4%)
- Other (7%)

[17] Respondents were asked to rate whether each factor was not important, somewhat important, important, very important or not sure/not applicable.

[18] Note: Respondents could choose multiple reasons.

Via an open-ended survey question, respondents provided additional reasons for their decision to participate in MC4BC:

- To acquire specific skills and/or advanced training
- To update skills
- Community needed obstetrical providers or was in danger of losing obstetrical providers if FPs didn't 'step up to the plate'
- To learn different styles of practice
- To gain more rural experience
- To gain confidence generally or in specific skills

Participant experience with the program

At the time of the evaluation, most participants surveyed had completed their training program, deliveries with a preceptor, and their ROS, as detailed in Table 10.

- Of those who had performed deliveries, 42% were in the same location as their regular practice, 39% in a different location and 19% in both.
- Reasons for non-completion of training were that specific courses requested were not covered under the program.
- Reasons for non-completion of deliveries with a preceptor/as part of ROS included a change in personal circumstances that was not conducive to obstetrical call, obstetrical services no longer being required in community/call group, or having left regular family practice.

TABLE 10: PROGRESS IN COMPLETION OF PROGRAM ELEMENTS

Program element	Have not started	In progress	Completed	Will not complete	Total[19]
Training courses (as per training plan)	0%	14%	84%	2%	**100%**
Deliveries with a preceptor	0%	14%	79%	7%	**100%**
Deliveries on your own as part of your return of service agreement	14%	14%	64%	7%	**100%**

[19] Not all totals add to 100% due to rounding error.

Strengths of the program

Via an open-ended survey, respondents were asked to identify three program strengths. As these topics were volunteered by respondents in their own words, the proportions are the proportion of those who volunteered the comment and do not equate to the proportion of all respondents who may agree with each strength if it was presented to them in a forced-choice question.

Strengths identified by survey respondents:

- Flexibility in location, timelines, scheduling and/or meeting individual physician needs (66%)
- Support of preceptors (both financial support of preceptor role and the individual preceptors supporting participants) (43%)
- Funding/compensation generally (43%)
- Provision of hands-on experience or a concentrated or high volume of deliveries (29%)
- Financial support for training (23%)
- Ease of program application process (13%)
- Ease of administration/paperwork (9%)
- Increased confidence to perform deliveries (7%)
- Reasonable timeline/duration for completion of deliveries, especially in rural areas with lower volume (7%)
- Accessibility (4%)
- Portability across BC (flexibility as to location of deliveries) (4%)
- Financial support for CMPA coverage during training period (4%)
- Program is supportive (4%)
- Other (20%)

The survey asked participating FPs to rate their agreement with three statements about program administration and delivery. Close to 100% of participants agreed that the program was flexible and the paperwork was reasonable, as shown in Table 11.

TABLE 11: AGREEMENT WITH STATEMENTS ABOUT MC4BC PROGRAM ADMINISTRATION AND DELIVERY

Aspect of program	Agree	Strongly agree	Total agreement
The program was flexible in terms of timelines	29%	70%	**98%**
The paperwork required by the program was reasonable	23%	73%	**96%**
The program was flexible in terms of location of deliveries	25%	68%	**93%**

Weaknesses and gaps

While there was no specific survey question on weaknesses or gaps, the issue can be assessed to some degree by the suggested improvements below. By inference, weaknesses/gaps included lack of support for prenatal and/or postnatal care, insufficient program promotion, difficulties finding preceptors, and, in some instances, lack of role clarity.

Potential improvements

Via an open-ended survey, respondents were asked to identify three program improvements. As these topics were not rated by all respondents but were volunteered by respondents in their own words, the proportions are the proportion of those who volunteered the comment and do not equate to the proportion of all respondents who may agree with each improvement if it was presented to them in a forced-choice question.

Top suggestions for improvement:

- Provide support for prenatal and/or postnatal care (27% of respondents)
- Provide additional program promotion (18%)
- Provide assistance with matching to preceptors (14%)
- Provide guidelines, role clarification, pamphlets for participants and/or preceptors (14%)
- Change payment administration in various ways such as on-line claim submission, faster payment, or a single form per preceptor per shift which may include multiple deliveries (7%)
- Identify a single preceptor to serve as a mentor (5%)
- Provide a list of available/suggested courses (5%)
- Provide financial support for additional courses (5%)
- Switch to payment for training time/shift length instead of number of deliveries (4%)
- Continue to fund program (4%)
- Allow more deliveries (4%)
- Provide documentation for CME purposes (4%)
- Provide a standard letter of support or a standard form (4%)
- Provide assistance with finding FP obstetrical locums after program completion (4%)
- Other (23%)

The survey asked participating FPs to rate their agreement with two statements about the program administration and delivery (based on suggested improvements noted in the interviews completed prior to the survey). Most participants (86%) agreed there should be more program promotion and 71% agreed there should be support for prenatal and postnatal care in addition to deliveries (Table 12).

TABLE 12: AGREEMENT WITH STATEMENTS ABOUT MC4BC PROGRAM ADMINISTRATION AND DELIVERY

Aspect of program	Agree	Strongly agree	Total agreement
There should be more promotion of the program to potential participants	27%	59%	**86%**
The program should include more support and mentoring for prenatal and postnatal care	36%	34%	**71%**

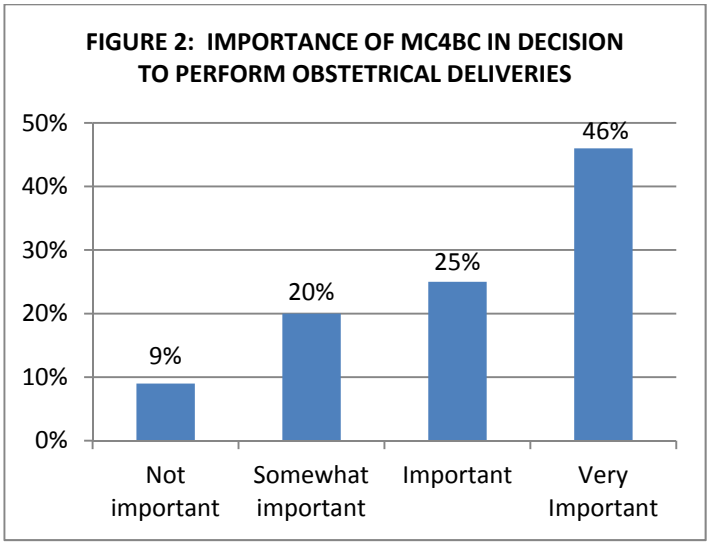
Program outcomes (overall and by subgroup)

At the time of the survey 95% of respondents who had completed the program were practicing in BC as FPs (including locums) while 5% had moved out of province. BC practice locations (by HA) were: Fraser (25%), Interior (14%), Vancouver Coastal (18%), Northern (11%), Vancouver Island (11%), Provincial Health Services Authority (7%), multiple HAs (11%), and not specified (2%).

Most program graduates (89%) reported holding an active or locum medical staff appointment with obstetrical privileges (of which 5% were in another province); while others were no longer performing obstetrics (9%), or were on leave (2%). Reasons for not continuing obstetrics involved (a) changes in personal circumstances and (b) obstetrical care no longer needed in their practice. Of the respondents still in the program, 100% indicated they intended to continue performing deliveries.

MC4BC was rated as an important factor in the obstetrical practice of respondents. Just over two-thirds of respondents (71%) indicated the program was important or very important to their decision to perform deliveries while a further 20% indicated it was somewhat important (Figure 2).

FIGURE 2: IMPORTANCE OF MC4BC IN DECISION TO PERFORM OBSTETRICAL DELIVERIES



Survey respondents were also asked the hypothetical question, “Would you have performed obstetrical deliveries without the support of MC4BC?” Just over one-quarter (29%) indicated they would have, 21% indicated they would not have and 50% indicated ‘maybe’ or ‘not sure.’ Among those who answered

'yes,' some indicated they were required to perform deliveries and many noted that the program increased their confidence. A participant who responded 'yes' noted that, "*I would have performed deliveries without MC4BC but I would have been less confident, and I might have stopped doing them at some point due to stress/low confidence.*" One participant who responded 'no' noted that, "*I would not have performed any deliveries without the support of this program; hugely valuable at improving my skills, having an opportunity to ask questions and gaining confidence.*" One participant who responded 'not sure' noted that, "*I benefitted a lot from the program. I probably wouldn't be in a call group if it wasn't for the preceptors I got to know through the program.*"

The survey asked participating FPs to rate their agreement with statements about the program. Close to 100% of participants agreed that the program increased their confidence, is an important support to FPs, and that they would recommend the program, as shown in the Table 13.

TABLE 13: AGREEMENT WITH STATEMENTS ABOUT MC4BC

Statement	Agree	Strongly agree	Total agreement [20]
I would recommend that other family physicians interested in obstetrical practice participate in MC4BC	8%	89%	**97%**
MC4BC is an important support to FPs who want to establish or re-establish obstetrical practice	9%	88%	**96%**
Participation in MC4BC increased my confidence to perform obstetrical deliveries	16%	79%	**95%**

[20] Not all figures add exactly to total due to rounding error.

Key program elements supporting outcomes

The survey asked participating FPs to rate the importance of various aspects of the program. Most frequently rated as important (by almost 90% of respondents) were the support of a preceptor and the training stipend (Table 14).

TABLE 14: RATING OF IMPORTANCE OF VARIOUS PROGRAM ELEMENTS

Program element	Important	Very Important	Total (important + very important) [21]	Did not receive
Training stipend	18%	71%	**89%**	0%
Support of a preceptor	9%	80%	**89%**	4%
Funding to upgrade CMPA obstetrical insurance during training period	13%	43%	**55%**	7%
Travel allowance	7%	29%	**36%**	29%

Unintended outcomes

Survey respondents were asked for any other comments about the program or obstetrical practice in BC via a final, open-ended question. The most frequent themes are provided below with selected verbatim comments included under each theme.

- Wonderful, excellent, great, valuable or worthwhile program (21% of respondents)

  "I hope the program continues as I think it is very valuable and would help support more physicians to include obstetrics as part of their practice."

  "I think this is a great program and feel I have already benefitted greatly from it. I sincerely hope it will be available for my colleagues who are interested in providing maternity care."

- MC4BC supported my confidence to perform deliveries or supported my obstetrical practice (20%)

  "It is a large part of the reason I now feel confident to do obstetrics and it is one of the parts of family practice that I love most."

  "When I participated myself, I was already keen to do OB and have to admit I was largely attracted to the remuneration… That said, it did greatly enhance my confidence and skill level and I am a much better provider today as a result."

[21] Not all figures add exactly to total due to rounding error.

- Grateful for or appreciative of the opportunity to participate in MC4BC (11%)

  "I am grateful that the program exists and I am part of it. I would have not incorporated OB in my practice if I haven't had the additional experience."

- Other comments (21%)

  "Family practice maternity care is becoming a highly specialized area of FP due to the variety of skills and knowledge required to update regularly, e.g., NRP, alarm, shoulder dystocia, new SOGC guidelines. As such, some new grads are choosing to pursue this as their sole focus of practice in urban settings. This should be supported."

  "Maternity groups and call groups are the way of the future. Many older docs who do OB are not actually overly welcoming of new young docs and are not open to new concepts in the provision of OB care. The old way of working 24/7 and being there for all of your patients just does not work for most new grads and this attitude is much more prevalent in GPs that do OB. Despite the perceived shortage of GPs doing OB it is actually somewhat of a challenge to break into some of these older groups, particularly in the city."

  "The main reason why family doctors are not doing obstetrics is the low pay. We are paid less than half of what a midwife is paid for the same course of care, despite being more highly trained. … Half of family doctors who were doing obstetrics quit when midwifes started because of this pay inequity. It would also be nice to be paid for being on-call for obstetrics (for your own patients or for your group)."

Non-participating Physician Interviews

Six non-participants (all women) were interviewed: four were recent residency graduates (summer 2012) providing obstetrical services via medical practice or locums and two were R2 residents hoping to participate in MC4BC if the program is available.

Program promotion, awareness and uptake

Four interviewees were aware of MC4BC and the other two were not (the latter two did residencies in other provinces).

Reasons for non-participation

Two who were aware but chose not to participate felt quite comfortable with their obstetrical competence due to experience with 75-100+ deliveries in several settings including some longitudinal care. This broad experience was due to their efforts to increase obstetrical exposure by doing electives in obstetrics and choosing busy (non-academic) maternity settings. In part, both women chose not to participate in MC4BC for 'logistical' reasons, e.g., moving out of province after residency. One doubts she will actually offer obstetrics in her practice due to lifestyle issues and the stress of being the main decision-maker, i.e., performing unsupervised deliveries. The two current residents are very keen to participate in the program to increase their confidence.

The two non-participants who were not aware of the MC4BC program are providing obstetrical services in the lower mainland currently, one as a locum and the other as a full-service FP. Both completed their FP residencies in other provinces (Alberta and Saskatchewan) so were unaware of MC4BC and neither one knew of a similar program elsewhere. Both intend to do deliveries for at least the next 10 to 15 years, one hoping to perform about 100 deliveries / year. Both sought additional obstetrical experience during residency with one estimating she had done 50-60 deliveries and the other estimating 100+ deliveries during training.

Additional comments

- FP obstetrics is well established in Calgary but less so in Vancouver, in part because Alberta funding is more favourable with government-funded FP maternity clinics (through FP networks) and higher physician payment due to lots of 'add-ons', e.g., reading non-stress tests and phone calls.
- Many people train in Vancouver and don't get a chance to practice semi-autonomously plus there is too much competition with too many learners at academic centers, an FP resident may be 'low man' with respect to other learners. Some residents actively sought community settings (though this required flexibility in timing and location).
- Why would recent residency grads NOT participate to increase their confidence and competence?

Stakeholder Interviews

Twelve stakeholders were interviewed by telephone during April and May to provide feedback in areas like program implementation, factors affecting program uptake, perceptions of trends, and the broader context in which the program operates, including: GPSC and BCMA contacts (n=4); MC4BC preceptors (n=2); Division of FP reps (n=3); and UBC FP residency program reps (n=3).

GPSC and BCMA contacts

The FP maternity focus at GPSC began in 2003 due to a persistent decline in the numbers of FPs doing deliveries and uptake of these deliveries by obstetricians and registered midwives (RMs). Following an increase FPs' delivery fees, the decline levelled out but new FPs were not offering obstetrical services and the average age of FPs providing the services was increasing.

The MC4BC program was developed initially to target established FPs with a goal to boost maternity care in smaller communities, particularly those without any maternity care providers, including RMs. Several years into the program, after requests for access to the program from new residency graduates, these FPs were also considered eligible. (At this point, GPSC members started to wonder about the adequacy of training in the UBC FP residency.)

The choice of 40 deliveries as a maximum funded by MC4BC was based on input from community FPs who were required to demonstrate recent delivery experience to get obstetrical privileges. The number

varied but 40 was the maximum. There was no expectation that most MC4BC participants would request the full 40 deliveries.[22]

The GPSC co-chairs noted that the program got off the ground fairly quickly and was deemed to be successful but by 2012/13 questions arose related to program budgeting and continuation. Of concern to GPSC is the FP obstetrical model they wish to support and the relative importance of FP obstetrics among their competing priorities.

MC4BC preceptors

MC4BC preceptors were viewed as a very desirable information source but unfortunately only two were available for interview (of 19 contacted by the program's administrator). Both were very experienced FPs who were involved in obstetrics for many years; both practice in the lower mainland area.

- One preceptor had limited exposure, mentoring an MC4BC participant for a weekend on-call while covering a colleague and, over a longer period of time, mentoring a new partner in the practice. With respect to the second participant, the preceptor noted the increase in confidence experienced by the MC4BC participant and also commented that the program allowed an opportunity to learn 'practice norms' in the local community. The preceptor noted the dramatic decline in FPs offering deliveries in the community (five of the seven are age 55+) and was thrilled to see interest on the part of newer graduates, thus supporting any initiatives aiming to encourage this interest.
- The second preceptor has been very involved in the program since its inception and has taken on responsibility for scheduling both FP residents and MC4BC trainees at the local hospital. An observation is that the level of confidence for MC4BC participants grows dramatically over the training period, including management of some complications. A suggestion was made that there should be higher expectations of the MC4BC trainees including formal requirements such as attending educational rounds, following up patients, etc. (as is expected of R1 and R2 residents training at this hospital).

Division of FP representatives

The objective in contacting Divisions of FP was to learn what the perceptions of FP leaders were with respect to MC4BC and FP obstetrics in general. Three FP leaders were interviewed covering Vancouver, central Vancouver Island and the central Okanagan. In these communities about 10-15% of FPs do deliveries with the mean number of deliveries being roughly 30. Few are new graduates. Two were aware of the MC4BC program and one was not, although there have been MC4BC participants in all three communities. Collaborative on-call groups exist in all three cases and this was seen as essential to attract new graduates who are most comfortable with this model (versus the traditional paradigm where FPs delivered their own patients).

[22] There is a suggestion that the maximum should be dropped to 25 to match the number eligible for a Medical Services Plan 50% bonus.

Observations:

- Numbers of pregnant patients seeking care from an FP is somewhat dependent on the willingness of local obstetricians to care for low risk women, i.e., if the local obstetricians do not provide this care, more patients enter the pool of women cared for by the local FPs.
- In all three communities, FPs in the group providing maternity care are interested in increasing their patient numbers so there is capacity to provide FP care for more pregnant women.
- There is a gradual move to local maternity clinics (some are financially supported by the local HA and some are not) with 'hard call' or 'soft call' rules;[23] however, although this model is most appealing to recent graduates, it may not be easy to implement due to reluctance on the part of senior FPs and other logistical issues.
- One interviewee noted that many residents feel they need more obstetrical training, even when their residency experience had been quite busy. She observed that new residents seem to be less confident than what she and her cohort were at the same stage – and thinks lifestyle is the main deterrent. Her thought is that the approach must be to design new systems to entice new graduates that reduce the demands on their time, e.g., maternity clinics with shared call.

UBC residency program reps

Interviewees included the UBC residency director and associate director as well as the manager of the R3 program. The UBC residency program covers 16 sites in 11 geographical locations; residents generally spend the 2 years in one location. The program accepts about 125 FP residents per year (~60% UBC grads) and most stay in BC after residency.

A 'typical' obstetrical rotation for an FP grad varies depending on the site, i.e., larger urban sites include 8 weeks in the case room whereas at small rural sites obstetrics may not be a specific number of weeks but rather experience integrated into practice (following patients throughout pregnancy including their deliveries). All take the NRP + ALSO or ALARM courses plus, at the end of residency, a written exam including obstetrical questions and an oral exam that could include obstetrical questions. Licensure to practice as an FP in BC requires successful completion of the FP residency plus certification by the Canadian College of Family Practice (CCFP). The latter requires 'competence in low risk OBS' which is not specifically defined.[24]

The 'Enhanced Skills' / 'R3' program covers a number of FP specialty areas in addition to extra obstetrical training, e.g., emergency, anesthesia, HIV, addictions, palliative care. Eighteen 52-week R3 positions are funded each year over all training areas. Two models are included in the R3 for FP obstetrics: (a) for rural MDs who wish to do more advanced procedures (Caesarians, D & Cs, etc.), a program run out of Surrey Memorial Hospital, and (b) low risk obstetrics at Women's Hospital. The

[23] Hard call refers to an understanding that the FP on call will deliver ALL patients requiring this care, i.e., a participating FP cannot choose to deliver some of his / her own patients. Soft call is not this rigid.

[24] This was defined by one source as 25 deliveries but assessment is moving away from a definition based on numbers and is being redefined based on competence as observed by a preceptor. An observation was that residents feel comfortable at closer to 100 deliveries.

latter is generally 3 months long with two to four participants / year. Some R3s are recent graduates and others are returning for additional skills. R3s work just like R1 and R2 residents including shifts, teaching, academia, etc. and participate in a formal program including objectives. They are paid a salary of ~$60,000 / year + benefits for a system cost of $70,000 - $80,000 / year / R3 resident.[25]

A 2012 survey exploring the practices of 2010 residency graduates after 2 years in practice provides interesting information (43 / 112 respondents; 38% response rate):

Concerning obstetrical care, which of the following best describes your involvement?

Obstetrical care is not part of practice	30%
Provide prenatal and neonatal care only	21%
Provide pre and postnatal care, but don't do deliveries	30%
In addition to the above, provide intrapartum care, or deliveries	14%
Provide most or all of high-risk obstetrical care	2%

With respect to the MC4BC program, only one of the three UBC resources had heard about it. The residency program does not promote it and an observation was that communication must be by word of mouth. With respect to why MC4BC would appeal to new graduates, ideas were that a significant number of residency grads are undecided about doing obstetrics due to lack of confidence and competence stemming from low numbers of deliveries and the obstetrical rotation being situated in the R1 year with a long gap until end of residency. A comment was made that trainees who do rotations in small rural communities could be less inclined to seek the additional support as they have more immersion in obstetrics (if they are working with a preceptor who does deliveries).

What could encourage new graduates to consider obstetrics?

- Ongoing FP leadership and mentoring from both FP trainers and case room nurses in an environment conducive to seeking help and information.
- Collaborative on-call groups / community of practice, e.g., the new maternity clinic model, although there are a number of issues with call groups getting too large, inter-generational expectations, soft versus hard call arrangements, HA versus privately funded clinics, etc.
- New initiatives involving consultation with the UBC residency leaders, looking at properly designing programs with a high likelihood of success.

[25] This is significantly less lucrative than the MC4BC remuneration where a participant could earn $40,000+ in addition to his / her regular locum or practice work.

5. Discussion

Program Context

Many sources document declining participation by FPs in the performance of obstetrical deliveries in Canada. BC MOH data show that, between 2008/2009 and 2011/2012, the number of FPs billing for deliveries dropped by 8% from 801 to 734 with the sharpest declines occurring in the Interior (9%) and Vancouver Coastal (19%) HAs. CPSBC data suggest there are roughly 5,700 FPs in active practice in BC but MOH data indicate only 13% billed for deliveries in 2011/2012. A recent UBC survey capturing information from graduates 2 years post-UBC-residency found only 16% were actually performing deliveries; however, roughly 25% of respondents who were not providing obstetrics services expressed an interest in providing such services.

Target Audience

With respect to MC4BC, stakeholders offered contrasting opinions as to the program's target audience. Some suggested the original target was established FPs who wished to refresh their obstetrical knowledge but that this changed over the years to include recent graduates from FP residency programs; others suggested both groups have always been included as targets. Program data suggest both populations have been present from the outset but proportions shifted significantly in favor of new graduates midway through the program. At the outset, new graduates represented 33% of participants but this quickly rose to 50% and for the last several years has exceeded 66%.

The core focus of the program is skills development. Nothing in the program goals or objectives offers a basis for differentiating the relative needs of established versus new FPs so the mixed group of participants seems reasonable. However, the current high numbers of recent residency graduates has sparked discussions regarding the adequacy of preparation in BC's FP residency program. It might actually be argued that an emphasis on new graduates is critical as increasing the participation rate of new graduates going forward represents a more permanent solution than efforts to entice established FPs to return to performing deliveries. The latter strategy ultimately depends on the notion that FPs leave intrapartum care somewhat involuntarily and that the motivations for leaving subsequently disappear. The massive exodus of FPs from intrapartum care over the past several decades suggests more fundamental issues are at play and the likelihood that these will disappear is slim.

Program Focus

The core focus of the program is obstetrical skills development and the removal of impediments to refreshing or obtaining the skills necessary to perform deliveries. To the extent that obstetrical skills and confidence are central issues in declining FP participation in deliveries, this focus is reasonable. Interviewees and survey respondents emphasized the need to enhance skills but, for returning FPs, skills deficit was generally due to time away from performing deliveries whereas for new graduates it was the product, real or perceived, of insufficient exposure to deliveries in training. The focus on skills thus facilitates the return of some FPs and addresses why others do not offer services in the first place.

Most FP interviewees and survey respondents were enthusiastic supporters of the program and saw considerable value in the training received. However, the program does not completely address the reasons many FPs cease to perform deliveries. Many participants described deliveries as the most stressful part of clinical practice; a number spoke of challenges joining call groups (a system required to allow for some control over lifestyle), and newer collaborative models of obstetrical care that significantly reduce on-call obligations although these are not widely available.

Participant Motivation

The motivations for pursuing enrollment in the program revolved around experience with deliveries (the absolute number) and gaps in practice as characterized by time away from practice or volume of recent deliveries. With regard to gaps, some were personal in nature while others were structural. The most common personal reason was an FP's own maternity leave. Structural contributors were the gap between obstetrical training in residency and entry to practice as well as the gap between entry to practice and the development of a steady obstetrical practice with deliveries.

Delivery Volumes

In designing the program in 2007/08 it was determined that up to 40 proctored deliveries would be funded but interviews revealed that there is no consensus as to what constitutes sufficient experience. Respondents and educators commonly suggested that 80-100 deliveries is necessary to reach a comfort level. This level of experience is almost never achieved in residency training, a fact that has important implications in the overall effort to engage FPs in deliveries and in considering the future of MC4BC.

Although funding was available for up to 40 deliveries, most participants did not achieve 40 deliveries and many did not achieve their targeted number of deliveries as proposed on program enrollment. In the absence of evidence to suggest a 'gold standard' number of deliveries a practitioner needs to achieve to be competent and confident it is difficult to interpret this variance.[26]

It remains the program's position that participants should not do more deliveries than they feel are necessary and some respondents themselves suggest the funded volume is set too high. Nonetheless, almost 20% of participants did nine or fewer deliveries under the auspices of the program. In at least some instances, it appears likely enrollment in the program had less to do with skills development than it did in meeting volume requirements imposed by hospitals in granting obstetrical privileges, e.g., at least one recent graduate was required by the hospital in which she did her residency to provide evidence of delivery experience outside her residency in order to gain privileges. Overall, it seems reasonable to suggest some formal guidance be developed as to how many deliveries would be funded under what circumstances.

[26] Stakeholder interviewees from the UBC residency program explained that the emphasis in training is moving away from absolute numbers to a system focussing on 'competencies' as determined by preceptors.

Choice of training site also appears to have influenced the ability of participants to achieve their objectives. Some training centres take very structured approaches to facilitating trainees while others are much more *ad hoc*. It is also clear that some sites suffer from an abundance of learners although ironically these are not the sites hosting most of the MC4BC trainees. The impact of training site on trainee and program success is key.

Program Promotion

Most participants learned about MC4BC from colleagues, either MC4BC program participants or other practicing FPs, while a few heard about it from BCMA materials or the FP residency program. In general, program awareness seemed relatively low (non-existent in some quarters). Word-of-mouth played a critical role in the spike in participation by recent graduates and some communities were 'hot beds' for spreading the word regarding the program. Were the program to continue and the involvement of recent graduates be further encouraged, closer links with the UBC residency program would be ideal.

Program Administration and Budget

Over time, administration of the program has improved and is, in general terms, adequate. The current administrator has systematized the tracking of some program details but assembling budget data required considerable effort and remains incomplete (e.g., many gaps in information from the early years and lack of linkage to payments to preceptors). In addition, payments have sometimes been made to participants for deliveries beyond their targeted deliveries or, in one instance, beyond the 40 delivery maximum.

In the case of deliveries beyond targeted volumes it seems likely these were approved although documentation confirming this was not provided. The chief issue here relates to the basis for funding extra deliveries and is linked to the general lack of precision around what volumes are justified. The program budget was sufficient to fund 52 participants had each participant spent the maximum allowable funding. Under-spending on deliveries (34%) and expenses (85%) relative to what was allotted permitted the program to enroll significantly more participants. This is positive; however, the program remains significantly underspent – a situation perhaps avoided with more promotion.

Program Impact

Given the reliance the health system places on FPs for performing deliveries and the context of declining participation by FPs, the MC4BC program constitutes a worthwhile and reasonably low cost way to increase FP participation. Most program participants who responded to the survey indicated an intention to continue deliveries (84% of those who have finished the program; 100% of those still enrolled); program attrition is about 14%. However, 29% of participants indicated they would have performed deliveries regardless of the existence of MC4BC.

6. Conclusions

The following conclusions were developed, based on the evaluation findings:

- The MC4BC program was implemented essentially as intended with 74 participants involved from 2008 to date (a mean of 14 a year entering over the 5 years from 2008 to 2012).
- Although the program initially focussed on enticing practicing FPs who desired retraining in obstetrics to gain skills without significantly sacrificing income, the program was expanded to include recent FP residency graduates; the latter group now dominates the participant pool.
- The program increased the skills and confidence of participants and was an important support to participating FPs; most of those surveyed who had completed the program (84%) continued to practice obstetrical care in BC at the time of the evaluation.
- The program achieved its desired impact of increasing the number of FPs doing deliveries, although the number of program participants / graduates is small compared to BC FP numbers.
- Program strengths included flexibility in location, timelines, and scheduling; meeting individual FPs' needs; hands-on experience with preceptor support; and attractive compensation.
- Suggestions for program improvements were to support prenatal /postnatal care (reduce the focus on deliveries alone), assist with matching to preceptors, formalize expectations and clarify role, and more actively promote the program.

Appendix: Evaluation Framework

The evaluation matrix (evaluation questions, indicators, and data sources) follows. Note: All primary data were collected in April and May 2013.

MC4BC Evaluation Matrix			
Level of logic model	**Evaluation Questions**	**Indicators**	**Data Sources / Collection Method**
Activities	1. How was the program promoted and administered up to March 2013?	• Communicated program availability and eligibility • Accepted program applications • Reviewed and approved program applications • Signed 'Return Of Service' (ROS) agreements • Distributed payments to participating FPs • Reviewed FP reports • Monitored program administration	• Program document review • Administrative data
	2. What were the factors affecting program awareness and uptake?	• Formal promotion of program by GPSC and partners • Informal promotion by HAs & physician groups • Word of mouth among FP residency programs and practicing MDs physicians	• Non-participating FP interviews • Participating FP interviews • Stakeholder interviews • Participating FP survey
	3. What is the participant experience with various aspects of the program?	• Extent to which FPs completed program requirements • Qualitative perspective of program administration	• Administrative data • Participating FP interviews • Participating FP survey
	4. What are the strengths, weaknesses, gaps and potential improvements of the program?	• Perceived strengths, weaknesses, gaps and potential program improvements in: – Program promotion – Program eligibility – Program administration & supports – Program mentoring – Other aspects of program	• Non-participating FP interviews • Participating FP interviews • Stakeholder interviews • Participating FP survey

	5. What other health system or training program factors or events affected the implementation and administration of the program?	• Description of other factors or events outside MC4BC that affected program administration and uptake	• Non-participating FP interviews • Participating FP interviews • Stakeholder interviews
Target population	6. What was the level of uptake in the program?	• Participants by year • Participants by HA • Any clustering of program participants by hospital, Division of FP, etc. • Uptake in rural areas	• Administrative data • Participating FP survey
	7. What are the characteristics of the participants of the program?	• # of new and practicing FPs • Demographic characteristics (including FP residency program) • Practice characteristics	• Administrative data • Participating FP survey
	8. What were the motivations of physicians to participate in MC4BC	• Self-reported motivations for participation • Self-reported pre-program intentions to practice obstetrics • Self-reported support needs in order to practice obstetrics (skills, confidence, perceptions of risk, transition to unsupervised practice, etc.) • Aspects of the program that were most important to participation	• Participating FP interviews • Participating FP survey
	9. What were the reasons why other <u>eligible</u> physicians did NOT participate?	• Stakeholder perceptions of reasons for non-participation • Non-participating physician reasons for non-participation	• Stakeholder interviews • Non-participating physician interview
Outputs	10. What are the key outputs produced by the program?	• Funding provided to participating FPs and preceptors (sessional fees versus expenses) • Program communications • # applications • # approvals • ROS agreements • Physician reports • Mechanisms to monitor program	• Program document review • Administrative data

Outcomes	11. What were the outcomes of the MC4BC program during and after program participation?	• Participating FPs gain skills and confidence from training and mentoring
		• Participating FPs provide obstetrical care during program
		  – # deliveries with preceptors
		  – # deliveries after training but during ROS time period
		• Participating physicians continue to provide obstetrical care in BC post-program (after ROS is complete)
		  – self-reported # deliveries after completion of ROS (for those who have completed program)
			• Participating FP interviews
			• Stakeholder interviews
			• Participating FP survey

	12. How did the impact of the program vary?	• Impact on rural versus urban maternity care • Impact on new graduates versus practicing FPs	• Administrative data • Participating FP survey
	13. What elements of the program or other factors are most critical in achieving these outcomes?	• Perceptions of critical elements/factors	• Participating FP interviews • Stakeholder interviews • Participating FP survey
	14. What are the unintended outcomes of the program (either positive or negative)?	• Description of unintended outcomes • Perceptions of reasons for unintended outcomes	• Participating FP interviews • Stakeholder interviews • Participating FP survey