Mission Division of Family Practice
A GPSC initiative

GPSC
General Practice Services Committee

Case Study:
Mission Division of Family Practice

Converting to Population Based Funding: Development and Transition Stages

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Alternate Payment Plan	Description	% of total APPs in Canada	Provinces
Block Funding	Used by specialty groups in academic centres	22%	Ontario and Nova Scotia
Blended	Typically Salary plus FFS	16%	Predominantly in Quebec
Capitation	Predominantly in PCP practices	16%	Concentrated in Ontario
On-Call	On-call stipends in addition to FFS	12%	Common in most Provinces
Salary	Predominantly in rural areas	11%	Newfoundland and Labrador and Northwest Territories
Contract	Service contract related payments	11%	Concentrated in British Columbia
Sessional	Hourly payment for community physicians who work part time	8%	Most Provinces
Northern incentives	Working in rural northern communities	4%	Concentrated in Ontario and British Columbia

FFS, Fee for service; *PCP*, primary care physicians; *APP*, alternative payment plan.

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ABBREVIATIONS AND ACRONYMS

BC	British Columbia
CFPC	College of Family Physicians of Canada
EMR	Electronic Medical Records
FFS	Fee for Service
FTE	Full-time equivalent
GP	General Practitioner
GPSC	General Practice Services Committee
HA	Health Authority
IHI	Institute for Healthcare Improvement
LPN	Licensed Practical Nurse
MOA	Medical Office Assistant
MMSE	Mini-mental state examination
MoH	Ministry of Health
PBF	Population Based Funding
PCN	Primary Care Networks
PMH	Patient Medical Home
PSP	Practice Support Program
RN	Registered Nurse

EXECUTIVE SUMMARY

This report presents findings from a case study evaluation of the transition phase for the Mission Oaks family practice clinic's conversion from a fee-for-service (FFS) compensation model to population-based funding (PBF), which launched in August 2017. This report summarizes the factors influencing the conversion, and the lessons learned during the initial stages. Its primary purpose is to provide information to the General Practice Services Committee (GPSC) and to physicians who may be considering converting to a PBF model in the future.

Mission Oaks PBF Clinic

The PBF model is an initiative that aligns with the PMH model's goal of creating an enhanced, integrated system of care. Mission Oaks, consisting of eight GPs, is the first clinic in BC to transition from a FFS to a PBF model in over a decade. The PBF model at Mission Oaks involves sharing payments across a group of providers who are accountable for managing the care of a defined patient panel within a specific geographic catchment area. The PBF model at Mission Oaks is a blended funding model, with block payment for a basket of core and extended services.

The implementation of the PBF model at the Mission Oaks clinic was accompanied by the implementation of a nurse-in-practice model to facilitate team-based care.

The Evaluation

The evaluation of the Mission Oaks PBF clinic used a case study design to report on the transition phase of the initiative as well as some early findings related to the first-year outcomes.

Figure 1. Mission PBF Case Study Timeline

The following questions directed the evaluation:

- How has the Mission PBF program (including the nurse-in-practice component) been implemented?
- What practical and contextual factors have facilitated success or challenged progress to the development and transition of the PBF model at the Mission Oaks clinic?
- To what extent are the intended outcomes of the Mission PBF program being achieved?
- What lessons have emerged through the implementation of the Mission PBF program?

To answer these questions, the evaluation team worked closely with the Mission Division of Family Practice, the physician lead, GPSC, and Ministry of Health to ensure that the findings are valuable for both local and provincial stakeholders.

The evaluation collected both quantitative and qualitative data to provide information about the preparation and launch of the PBF model at Mission Oaks. Methods included key informant interviews (n=31), as well as a review of project documents and relevant literature.

Summary of Findings

Planning and Preparation

Transition to the PBF model at Mission Oaks was initiated and led by a physician who engaged his physician partners to adopt the model. The group of physicians worked with the Ministry of Health to guide them through the FFS to PBF conversion process. Although the initiative was undertaken primarily by the physician lead and his physician partners, the Mission Division of Family Practice has provided ongoing support and played a role in sharing early learnings.

Prior to the launch of PBF at Mission Oaks, both the clinic and the MOH had to plan and prepare for the conversion, including: discussions with the MoH and existing PBF clinics; a review of financial forecasts and templates for internal allocation of funding between physician partners; and the development of privacy and secure data sharing strategies. Additionally, the GPSC Practice Support Program (PSP) provided a consultant specializing in PBF to support team members at the clinic. The consultant supported the transition process by holding a series of meetings around details of the PBF model (such as encounter coding), assisting with panel clean up and management, and liaising with the clinic's electronic medical record (EMR) vendor, *Wolf*. Panel management and clean-up were essential, forming the cornerstone of the PBF model. Having an accurate patient panel allowed the MOH to create patient complexity and panel size baselines, from which the PBF compensation model at Mission Oaks was built. Prior to launch, the clinic also hired two nurses and additional Medical Office Assistant (MOA) staff. They moved to a new location at the Mission Community Health Centre (CHC) in order to be co-located with other services. Finally, they created and deployed patient education materials informing patients of changes to how they access and receive medical care.

Implementation and Operations

The PBF model launched at Mission Oaks in August 2017. Under the model, each physician maintains a register of patients, which is updated on a monthly basis. Although physicians are not submitting fee codes for each patient visit under the PBF model, they submit encounter codes for services they deliver and record diagnostic codes (ICD-9 codes) for each patient. This process aids in determining the complexity of their patient population, and subsequently their quarterly payments. When there are outflows from the clinic, such as when a patient accesses care from a walk-in clinic or the ED for a primary care issue, the physician's billings are reduced accordingly.

The conversion to PBF was accompanied by the creation of multiple teams at the clinic. Currently, teams consist of two to four physicians and two MOAs. In the new model physicians now delegate more tasks to MOAs, tasks that would previously been completed by physicians in the FFS model. In tandem with the conversion process an online 'patient portal' has been developed, allowing patients to book appointments, view test results and communicate directly with their family physician. During the first year of implementation, nurses at the clinic performed a variety tasks including patient intake and assessments, health promotion and outreach, chronic disease management, treatments and exams, and injections and immunizations.

Preliminary Outcomes

The evaluation captured preliminary outcomes after the first year of implementation for patients, physicians, and clinic staff.

<table>
<tr><td>Benefits for Patients</td><td>Increased access to primary care – Patients can access next day appointments for urgent care and have the convenience of communicating with their family physician through the patient portal.
An enhanced experience of care, including improved continuity and comprehensiveness of care – Family physicians have more freedom to choose the “best approach to care for patients”.
Increased attachment – The clinic has been able to take on new patients since converting to PBF.</td></tr>
<tr><td>Impact on Physicians</td><td>Improved predictability and security of physician income – Physicians focus on providing care for patients without worrying about activities that generate income.
Physicians are now able to participate in initiatives outside of the clinic.
Improved teamwork and communication between physicians and staff.
Improved integration of care between family physicians and community providers as a result of co-location.
Improved flexibility within the clinic to expand services and absorb new patients.
All physician interview respondents reported being satisfied with PBF and indicated that they would most likely not go back to practicing in FFS.</td></tr>
<tr><td>Impact on Clinic Staff</td><td>Increased responsibility and autonomy
Increased job satisfaction for nurses as a result of increased autonomy and improved ability to work to their full scope of practice</td></tr>
</table>

Challenges

- Reviving the PBF onboarding process after 10 years led to miscommunication with MoH around inconsistent information, unclear guidelines around income estimates, timelines, and billing information.
- Onboarding and training nurses and staff were difficult. There was a lack of training and clear communication around expectations for nurses and staff, which resulted in nurses being under-utilized and high staff turnover during the conversion process.
- Ongoing challenges with the clinic's EMR, *Wolf*, and its PBF functionality.
- Initial challenges (later resolved) with billing adjustments due to outflows, such as visits to the Emergency Department (ED) and specialist services being categorized as an outflow even if they were appropriate. (Note: Mission family physicians work in the ED and provide specialist services, potentially leading to this issue.)

Enablers of success

The following contributed to the success of the model within the first year:

- Physicians' previous experience with alternate payment plans and the nurse in practice model
- Leadership and mentorship of the physician lead
- Transition funding provided by the Fraser Health Authority to co-locate to the CHC and hire staff
- Practice support and training provided by PSP
- Panel cleanup and management
- Co-location with other health services at the CHC
- Alignment of PBF with current governmental priorities

Next Steps

Below are recommendations directed to decision makers at the levels of the clinic, Division, and Province. They are aimed at improving the process of transitioning to the PBF model. As the Mission Oaks clinic continues to operate under a PBF model, these recommendations may be useful to enhance their processes and procedures. They may also be valuable for other Divisions or clinics interested in transitioning to a PBF model. Expanded versions of all the recommendations are included in the full case study.

Clinic Level Recommendations

- Facilitating discussions with the entire clinic team before converting to a PBF model
- Ensuring diagnostic coding is accurate and up to date before converting to PBF
- Establishing clear expectations regarding the roles and responsibilities of nurse-in-practice
- Enhancing patient education regarding expectations of care within PBF model
- Providing education to allied health providers and specialists who support the clinic around practice changes and expectations under PBF

Division Level Recommendations

- Facilitating the synthesis and distribution of learnings from the PBF model
- Integrating the PBF model within the larger visions of PMH and PCN

Province Level Recommendations

- Improving communication with clinics during the planning and preparation phase
- Enhancing support and training for clinics during the planning and preparation phase
- Providing practice support during the first year of implementation
- Timely MOH patient registration recommendations
- Creating a promotional package for potential clinics considering converting to PBF

Case Study:

Mission Division of Family Practice

Converting to Population Based Funding: Development and Transition Stages

INTRODUCTION

This report is the first case study evaluation of the transition phase for the Mission Oaks family practice clinic's conversion of physician compensation models from fee-for-service (FFS) to population-based funding (PBF). This report summarizes the factors influencing the conversion and lessons learned during the clinic's initial stages of implementing PBF. Its primary purpose is to provide information to the General Practice Services Committee (GPSC)[1] and to physicians who may be considering converting to PBF in the future.

With support from the GPSC PSP, Mission Division of Family Practice, the MOH, and the Fraser Health Authority, the Mission Oaks family practice clinic implemented a PBF approach to health care service delivery, one of multiple alternate payment models. The model at Mission Oaks is administratively and financially supported by the MoH and is one of nine PBF clinics in BC. In addition, as part of the conversion to PBF, the clinic also introduced a Nurse-in-Practice model to enhance team-based care. The clinic began operating under PBF in August 2017.

Mission Division of Family Practice

The Mission Division of Family Practice (MDFP) was incorporated in 2010 and represents 38 of the 41 GPs (93%) practicing in the region. These GPs practice in nine different clinics and have an average panel size of approximately 1700 patients. The goal of the Division is to provide a collaborative and innovative approach to patient-based care with a strong and transparent relationship between the Division, the GPSC, Fraser Health Authority, and the MoH.

Mission GPs are supporting increasingly complex patients in the region. According to the MoH Health System Matrix data (2016/2017), approximately 20% of Mission residents (over 1000 people) within the Mission Local Health Area (LHA) are unattached to a family practice[2]. The number of residents who are 65 and older is expected to grow over the next decade to make up 19% of the local population by 2025[3]. This translates to an additional 3,384 individuals aged 65 and over in Mission[2]. Even though Mission's population of those aged 65 and older is a lower proportion than that of the province, it has a higher proportion of people living with illness, chronic conditions, or those who are towards the end of their life as compared to the overall BC population (46% versus 43%).

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[1] The GPSC is a collaboration between the government of British Columbia (BC) and Doctors of BC.

[2] B.C. Ministry of Health. *Fraser Health Authority Health System Matrix User Tool*. 2016/2017.

[3] B.C. Ministry of Health, Health Sector Information Analysis and Reporting Division. *Primary and Community Care Profile: Your Community*. March 2017

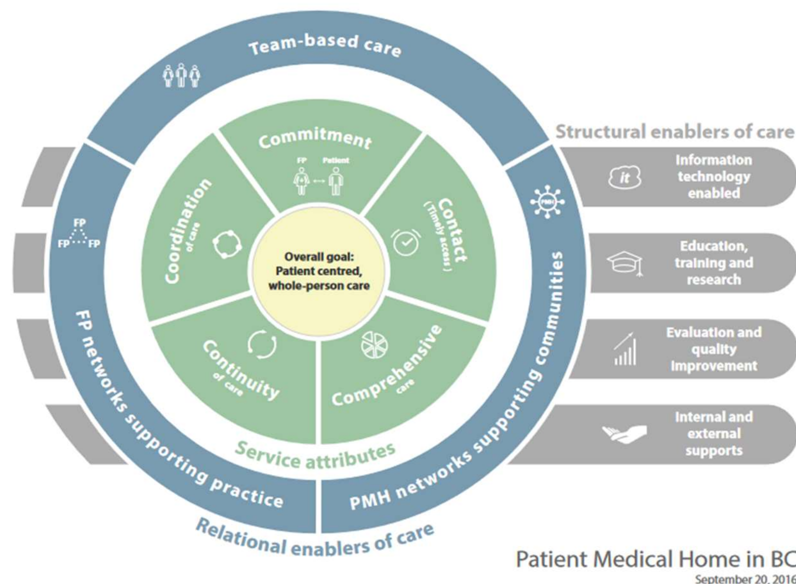
About the Patient Medical Home and the PBF

Driven by the GPSC and the Divisions of Family Practice (“Divisions”), PMH is a new model of care that aims to transform the way that primary care is delivered in BC.

To guide local and provincial transitions to PMH, the GPSC has defined the following four overarching goals:

- Increase patient access to appropriate, comprehensive, quality primary health care for each community;
- Improve support for patients, particularly vulnerable patients, through enhanced and simplified linkages between providers;
- Contribute to a more effective, efficient, and sustainable health care system that will increase capacity and meet future patient needs;
- Retain and attract family doctors and teams working with them in healthy and vibrant work environments.

Figure 2. The PMH Model of Care in BC



The GPSC has also established twelve key attributes to align its vision and goals for PMH and advance the successful development of an integrated, collaborative, patient-centered system of healthcare (Figure 2).

Characterized by three areas of focus, including “relational enablers of care,” the PMH model strives to increase the capacity of providers by converging and coordinating the delivery efforts of a multidisciplinary group of health professionals (Slusser et al., forthcoming). Through teamwork and shared responsibility, team-based care, which is a core relational enabler of care, will help facilitate a greater range of services to patients, as well as increased access, reduced wait times, and improved population health outcomes. Moreover, it is expected to contribute positively to the patient and provider experience, the quality of care, and help to reduce per capita costs over time.

PBF, as it exists in BC and now at Mission Oaks, is an initiative that aligns with the PMH model's potential role of a system-level change agent that contributes to an enhanced integrated system of care. Mission Oaks is the first clinic in BC to transition from a fee-for-service (FFS) to a PBF model in over a decade.

Evidence in the literature suggests that there are both benefits and drawbacks to using alternative payment models and, specifically, PBF in primary care (see Appendix A for the literature review). PBF allows for allied-health professionals to deliver care in a team-based setting which may ultimately increase practice capacity to accept more patients (Frayne, 2012; Cohen, 2014). Additionally, the PBF model has been shown to improve the experience of care for patients (Pearson *et al*, 2013; Esmaeili *et al*, 2014) and physicians (Frayne, 2015; UBC Family Practice, 2016), as well as increase the quality of care provided (Esmaeili *et al*, 2014).

Interview data from 4 of 8 existing PBF clinics in BC highlight some of the positive impacts of the model on patient and physician experiences of care, such as:

- Patients and physicians alike reportedly enjoy higher quality of care by providing enhanced and comprehensive services such as: longer visits to patients to deal with more than one aspect of their health; being able to focus on more preventative rather than just episodic care.
- Physicians who practice in this model have more stable incomes over time and gain some peace of mind from not "being on the hamster wheel" through trying to optimize their FFS billings, and the model is preferred by the physicians as they are able to optimize their scope of practice and provide what is perceived as more 'patient-centered' care.
- Patient care is enhanced through the addition of other interprofessional healthcare professionals, most commonly nurses (NP, RN, LPN) but some clinics also have others such as a psychiatrists and dietitian.

The Benefits of a PBF Model from the Perspective of Physicians Practicing in PBF Clinics in BC

"PBF is the best way to practice true full-service family practice, where the patient is at the center and you are supporting a community which includes other providers, family of the patient, care givers, allied health staff as you are funded to take care of the patient based on their complexity."
– *PBF Physician Respondent*

"Without this blended funding model, we would probably be a disillusioned cynical bunch… but instead we work together as a complete clinic"
– *PBF Physician Respondent*

See Appendix B for vignettes highlighting two of the other existing PBF clinics in BC.

This feedback shared by existing PBF clinics in the province was echoed in initial impact findings from the current evaluation. Evaluation data suggests that the PBF model has improved the experience of care for patients, as physicians are able to spend more time with each patient addressing their health issues more comprehensively, access to care has increased, and the patient-physician relationship has been strengthened. Furthermore, evaluation data suggests that there have been positive impacts for physicians and clinic staff as a result of the conversion to PBF. Physicians reported having more income stability with PBF compared to FFS, and that team-based care at the clinic has been enhanced, which has consequently resulted in improved communication between providers. Clinic staff, including nursing staff, reported having more autonomy to work to their full scope of practice in the model.

About the Mission Oaks Clinic PBF Program

The Mission Oaks Clinic is a group family practice consisting of eight GPs. According to the physician lead, at the end of the first year of implementation of PBF, there were approximately 9500 patients attached to the clinic (8000 of whom were registered PBF patients).

PBF in BC started in 1999 with 17 sites as pilots and a dedicated MoH team to manage their transitions. Of these original sites, only eight have remained until the Mission Division of Family Practice along with Dr. Peter Barnsdale and his physician colleagues at the Mission Oaks Clinic advocated and applied for the opportunity to transition Mission Oaks to a PBF model. The PBF model at Mission Oaks involves sharing payments across a group of providers who are accountable for managing the care of a defined patient panel within a specific geographic catchment area. The PBF model at Mission Oaks is a blended funding model with block payment for a basket of:

- **Core services ->** MSP fee items most commonly provided by GP, and can only be claimed by physicians
- **Extended services ->** Designed to reflect work conducted by providers within a PBF model, such as case conference and telephone follow-ups with patients. Extended services can be claimed by physicians and non-physician providers (e.g. RN).

These core and extended services account for 90% of all claims submitted by physicians. The other 10% of services, such as maternity and palliative care, are not covered under the PBF program and are billed as FFS.

The implementation of the PBF model at the Mission Oaks clinic was accompanied by the implementation of a Nurse-in-Practice model to facilitate team-based care. Nurse-in-Practice is a provincial model to introduce nurses into primary care and expand the capacity of physician-run practices as part of the greater vision for a PMH. As physician salaries in a PBF model are not dependent on the number of patients they see, this allows for the integration of nurses into the clinic to work as a member of the primary care team.

PBF, as well as the Nurse-in-Practice model, launched at Mission Oaks in August 2017. Preparation for the launch began approximately 18 months before this.

About the Evaluation

As part of efforts to implement PMH in BC, the GPSC Provincial Evaluation Team approached Divisions with the offer to study one of their key PMH initiatives. The Mission Division has chosen the Mission Oaks Clinic's PBF conversion as their project. Reichert and Associates, a Vancouver-based program evaluation and research firm, was engaged in February 2018 to explore the processes of preparation, orientation, and staff integration, involved in Mission Oak's transition from FFS to a blended PBF model of physician compensation and care delivery.

The evaluation conducted by Reichert and Associates was adapted from the provincial case study evaluation framework (Figure 3). It is covering the 'Transition' phase of the timeline.

Figure 3. Mission PBF Case Study Timeline

The current evaluation is examining the transition phase, as well as some preliminary outcomes based on first-year operations.

Approach

The evaluation was designed to report on the early learnings and impacts of Mission Oaks Clinic's transition to PBF. It sought to gather both qualitative and quantitative data to provide information about the local program, including processes of preparation, orientation, and integration. The findings are framed and examined in the context of the PMH's goals, the provincial PMH Evaluation Framework, and the priorities of the 'Quadruple Aim'[4] (Bodenheimer & Sinsky, 2014).

Additionally, to encourage the initiative's success, the evaluation was designed to be a collaborative effort. The evaluation team worked closely with the Mission Oaks Clinic, Mission Division, GPSC, MoH staff, Fraser Health Authority staff, and participating physicians and clinic staff to better understand the implementation of practice changes and to ensure that the findings are valuable for local and provincial stakeholders.

Objective

The objective of the case study was to gain a greater understanding of:

- The processes of transition of the Mission Oaks Clinic work to PBF, such as readiness and enablers
- Strengths/benefits, challenges, and areas of opportunity during implementation that could be used to improve transitions locally and be shared as lessons learned to other Divisions
- The experience of the nurse in practice as part of the PBF model
- The historical and current context of PBF in BC
- The initial impacts of the model on physicians, clinic staff and patients

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[4] The Quadruple Aim goals are to improve the physician and patient experience of care, enhance the health of the population, and reduce per capita costs.

Key Questions

The following questions guide the evaluation objectives of this specific case study:

- How has the Mission PBF program (including the nurse-in-practice component) been implemented?
- What practical and contextual factors have facilitated success or challenged progress to the development and transition of the PBF model at the Mission Oaks clinic?
- To what extent are the intended outcomes of the Mission PBF program being achieved?
- What lessons have emerged through the implementation of the Mission PBF program?

Key Stakeholders

The following key stakeholders were identified:

- Team members at the Mission Oaks Clinic:
  - Participating physicians
  - Clinic staff (MOAs, office managers)
  - Nurses
- Patients
- PSP
- Representatives from other PBF clinics
- Mission Division of Family Practice
- Fraser Health Authority (e.g., Fraser Health Public Health, Home Health etc.)
- Local health care providers (e.g. community physicians, pharmacists)
- Doctors of BC
- GPSC
- BC's MoH

Evaluation Methods

The following data collection methods were used to address the objectives and key questions:

Key Informant Interviews

In-depth semi-structured interviews with key stakeholders at both the provincial and local level were conducted to form the basis of the evaluation (see evaluation tools in Appendix C). Among the interviewees were key stakeholders involved in the Mission Oaks Clinic's conversion to PBF to capture transition experiences of physicians, clinic staff, and other partners, as well as their expectations for the future (See Table 1 for a list of interviewees).

The interviews allowed for the collection of similar information from a variety of perspectives and experiences within the initiative to enable triangulation of the findings. Additional interviews were conducted with representatives from other PBF clinics operating in BC to provide additional context and understanding of shared learnings across the practices.

In total, 31 stakeholders were interviewed (Table 1). Most of the interviews (23 of 31) were conducted in-person and eight were completed over the telephone. All interviews were audio-recorded and transcribed for analysis.

Table 1: Breakdown of unique interviewees by their primary stakeholder category

STAKEHOLDER CATEGORY	SAMPLE SIZE, N = 31 UNIQUE INTERVIEWEES
Mission Oaks' GPs	7
Mission Oaks' Staff	4
Fraser Health Staff[5]	3
Ministry of Health Staff	6
GPSC, PSP, and Division staff and consultants	5
Representatives from other PBF clinics in BC	6 (representing 4 of 8 PBF Family Practice Clinics)

Document and Literature Review

The evaluation reviewed on an on-going basis all relevant file information such as stakeholder agreements, planning documents, and background literature. This included a review of published and/or grey literature regarding population-based funding models. The literature review (see Appendix A) was conducted to examine the following themes:

Defining Population-Based Funding	Provides a working definition of PBF, as well as case examples of PBF implementation in Canada and world-wide.
Implementing Processes and Structures	Identification of processes and structures that have been found to enable the successful transition to alternative funding models.
Identifying Potential Outcomes	Potential outcomes of transitioning to PBF, with respect to patient and provider experience of care, quality of care and health outcomes, and cost to the system.

Limitations

One limitation associated with survey and interview methods is the potential for response bias, such as social desirability bias and recall bias. To mitigate this, a variety of stakeholders were asked similar questions to ensure the inclusion of an array of perspectives in the response data. Moreover, the evaluation combined qualitative and quantitative data to provide multiple lines of evidence and increase the validity of findings with richer data triangulation.

[5] This category does not include any GPSC-funded PSP staff or consultant positions administered through the Health Authority which are captured under the heading of "GPSC, PSP, and Division Staff and Consultants"

Evaluation Findings | Planning and Preparation

The following section details the conversion to PBF at the Mission Oaks Clinic, preparatory work completed prior to the implementation of the model.

Motivations for Converting to PBF

Transition to the PBF model at Mission Oaks was driven by the physician lead who *“felt that there would be advantages to do something that was more around a panel of patients, a population if you like, where you are managing a group rather than being paid for individual interactions.”* This physician followed the progress of other PBF clinics in BC and seeing the benefits of the model as described in the section above, persuaded his partners of the value of the concept, and advocated to the MoH to re-visit the idea of converting FFS clinics to the model.

Physicians interviewed for this evaluation reported having mixed interests in converting the Mission Oaks Clinic to a PBF model. As noted by the physician lead, five of the eight physician partners practiced in the United Kingdom (UK) within the capitation system, which has many similarities to PBF, and were therefore very willing to switch to a different payment model. While the other physicians reported being hesitant about converting to a new payment model, mainly due to initial uncertainty around salary estimates, they trusted the guidance of the physician lead.

Involvement of the Mission Division of Family Practice

Although the initiative has primarily been undertaken by the physician lead and his physician partners, the Mission Division of Family Practice has provided ongoing support. The PBF model fits within the scope of the Division’s larger PMH vision. The Division has also played a role in supporting the physician lead with sharing early learnings from the conversion process with other family physicians in the community of Mission.

Additionally, one Fraser Health Authority interviewee mentioned that they believe the health authority has a good working relationship with the Division, which helped to support the conversion process. They perceive the Division to share Fraser Health’s vision and goals for what they want to achieve in the community, and that throughout the planning, preparation and implementation of the PBF model, they have had ongoing and open communication with the Division.

Readiness for Change

Practice/Physician Readiness

Planning and preparation for the conversion to PBF at the Mission Oaks Clinic commenced approximately 18 months before “going live” in August 2017. Physician interviewees commented that much of the planning and preparation occurred prior to the launch of PBF at the clinic. According to interview data, physician readiness to practice in the PBF model varied.

"6 months prior to going live in August last year, we were having all of these discussions. We were meeting with people form the Ministry who were explaining how it was going to work, what we need to do, what are the success rates of other clinics who have adopted this model. We actually went to Fort Langley to see how they were doing things and had a chat with them…So we had several meetings amongst ourselves and with the Ministry prior to going live."

– Physician Respondent

The following steps were taken by the clinic to develop the model, and plan and prepare for the conversion to PBF.

- Discussions with the MoH and support with planning and preparation

The PBF model at Mission Oaks is a blended funding model with block payment for a basket of core and extended services (90%) and FFS payment for other services, such as maternity and palliative care (10%). Each physician at the clinic has a register of patients that was initially determined by the MoH's patient attachment algorithm (see Appendix D for more details regarding the attachment algorithm). Patients at the Mission Oaks clinic can be either registered or de-registered under the PBF model, and this is recorded within the clinic's EMR system, *Wolf*.

The specific model implemented at the Mission Oaks clinic was developed through discussions between the MoH and the physician partners at the clinic. According to interview data, physicians and two clinic management staff, attended a series of meetings with the MoH to discuss how the model has worked in the other eight clinics and their successes to date, as well as what would need to be considered before the model was implemented at Mission Oaks. For example, as one interviewee noted, physician partners at the clinic needed to determine how they would allocate funding internally, how to take into consideration hours worked by each physician, how to adjust for the complexity of each physician's patient panel, and coverage of other physician's patients. The PSP [6]consultant provided support in determining a strategy for the internal allocation of funding based on a template used by existing PBF clinics (see Appendix E). The physicians involved believed the financial allocation was fair and equitable.

Additionally, the MoH and clinic physicians worked collaboratively to develop financial forecasts of income within the PBF model. The clinic was provided with salary estimates based on the complexity or illness burden of the physicians' patient panels over a 12-month period in FFS. The MoH used the John Hopkins Adjusted Clinical Group (ACG) Case Mix Software to determine the "illness burden" or "complexity of care" of each patient panel. Under this system, ICD-9 diagnostic codes are grouped based on severity and likelihood of persistence of the condition and are then mapped to 32 ACGs. The ACG of a patient, along with their age and gender are then used to assign them to one of 82 ACGs. ACGs are updated quarterly, according to a rolling 12-month window of diagnoses. These estimates were reviewed with the support of the PSP consultant. In order to proceed with the clinic's transition, physicians were provided a one-year "practice guarantee" from the Ministry, where they would be remunerated by the MoH if their annual income during the first year of implementation was lower than the previous year under FFS.

Although outside of their normal scope of practice, MoH representative interviewees indicated that they also liaised with *Wolf* to support Mission Oaks' understanding and training of *Wolf's* PBF functionality. A MoH interviewee noted that this was challenging, as they do not have expertise in EMR functionality.

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[6] Note: The GPSC Practice Support Program (PSP) hired a consultant with experience with PBF. The consultant worked closely with the practice, along with the PSP Coach in the region. While PSP can and does support the foundational aspects necessary for conversion (e.g. panel management), the more detailed, clinic-specific tasks of moving a practice from FFS to PBF is well beyond the usual scope of PSP. Physicians interested in converting to PBF should contact their local PSP and Health Authority staff.

- The PSP- funded consultant provided practice support to the clinic

The PSP-funded consultant held a series of topic-based meetings with physicians at the clinic, approximately six months before the launch, to promote a greater understanding of certain aspects of the PBF model, including how to complete the financial reporting and an overview of the process dates for payments. These meetings provided physicians with the opportunity to ask questions and discuss various aspects of the model. Sessional payments were provided to physicians from Fraser Health to attend these meetings. According to the PSP consultant and physician interviewees, discussions from these meetings revealed that there was some confusion and misunderstandings about PBF and how it would be implemented at the clinic amongst physicians.

> "The PSP [funded] consultant provided practice support during the months prior to launch including: liaising between the EMR vendor (Wolf) and the practice; planning for clinic workflow changes, reviewing potential internal compensation structures, providing training and education regarding encounter coding; and supporting the practice with problems that arose. This support was provided through structured- sessions as well as ad hoc throughout the planning process."
>
> *– Physician Respondent*

In the six months leading up to the launch of PBF, the PSP-funded consultant also acted as a liaison between the EMR vendor, *Wolf*, and the clinic, reviewed potential compensation structures (as described above), provided training and education around encounter coding and panel management (see below), and provided ad hoc support as needed as problems arose. Physician interviewees commented that the support for the PSP-funded consultant was very helpful in enhancing their understanding of the model and preparing the clinic for the conversion process.

- Physician panels were cleaned to determine patient population and complexity

Before the conversion to PBF, physicians at Mission Oaks went through the process of panel clean-up and management with support from the PSP Consultant. This step was integral to helping physicians understand the complexity of their patient panel. It also helped to create a "baseline" of patient complexity and panel size from which the PBF compensation model at Mission Oaks was built.

Since income in the PBF model is based on the complexity of the physician's patient panel from the previous year, it was important that physicians had correctly noted ICD-9 codes for their patients to ensure they would be adequately compensated. In the FFS model, physicians can document up to three diagnostic codes per visit but are only required to document one for payment purposes even if they discuss more than one problem with a patient during a single visit. In preparation for PBF, physicians reviewed their coding to identify errors and ensure they had accurately represented their patient population. Physician interview respondents noted that this process commenced approximately one year before PBF was implemented.

Through this process, the top 50 codes used at Mission Oaks were identified and were compared to codes at other existing PBF practices to optimize diagnostic coding at Mission Oaks.

- Connections were made with other PBF clinics across the province

Mission Oaks physicians visited a PBF clinic in Langley to see first-hand how they were operating and to discuss with them their conversion to PBF. Physicians interviewees commented that the visit was very helpful in helping them understand how the model worked and provided reassurance that the model could work in their practice.

- Privacy agreements and secure file sharing strategies were developed

According to interviewees, a great amount of time was spent during the planning and preparation process to develop privacy agreements with the legal team and Privacy Commissioner to allow the sharing of patient data between the practices and the MoH. A privacy impact assessment (PIA) and an Information Sharing Agreement (ISA) were developed.

- The physician lead and two physician partners conducted background work to prepare

According to interview data, the physician lead and two other physician partners at the practice conducted much of the background work to plan and prepare for the launch of PBF. These physicians met separately about ten times (1.5 hours per meeting) during the preparation and planning phase.

Challenges with Practice/Physician Readiness

Physician interviewees noted that they felt ready for the launch of PBF as a result of the preparatory work conducted before implementation. However, they also identified challenges that arose throughout the planning and preparation processes.

Interview data indicates that some of the training that physicians received was not as effective as it could have been because there was a lack of knowledge on the part of the MoH regarding specifics about the model. Two physician interviewees noted that often there were discrepancies between the information they received in training sessions or discussions with the MoH and other information they received by email from the MoH.

One interviewee noted that this could have been due to the fact that there was a lack of "corporate memory" since the last launch of PBF in the province. Many of the MoH staff who had previously been involved in the implementation of PBF in other clinics had left their positions. Therefore, new staff had difficulty supporting implementation and it was "a little bit of finding your way as you go," which was frustrating for the physicians at Mission Oaks.

Additionally, interview data indicates that there was a lack of training and updated resources available for physicians to utilize. The manuals developed by both the MoH and the EMR vendor, *Wolf*, were outdated, which made it difficult for the MoH and PSP to support physicians in transitioning to the model and facilitate training without the appropriate resources. Also, training with *Wolf* was complicated by the fact that the physicians could not even see an example of the PBF functionality until it was time to go live, rendering it difficult to become comfortable with the system's functionality before beginning to use it in practice.

Physician interviewees (n=4) identified that before the launch of PBF at the Mission Oaks Clinic, the MoH did not provide information regarding billing formulas and ICD-9 codes. Estimates of physician income were provided to the clinic quite late and this delayed the launch, as physicians were hesitant to convert to a new funding model without a clear idea of how their income would be impacted. The delay created resistance amongst some physicians around working in a new model without a clear expectation of their potential income, and consequently delayed the launch of the model.

Finally, since the privacy legislation had changed since the last implementation of PBF approximately ten years ago, there were challenges developing data sharing agreements with the MoH.

PBF was originally scheduled to launch in the Fall of 2016 but was delayed to August 2017 due to these challenges.

"Sometimes ministry people didn't know the answers to our questions, and it took them a long time to come back. This caused a delay in it starting. Some of these were big make or break questions."

– Physician Respondent

"Some of that [change management] was helpful, some felt a little bit like the blind leading the blind because things have changed since when it has last been rolled out. So there were a few occasions where we were told one thing in a session but then told later in an email, no that's not true. It wasn't quite clear. We would have an hour-long discussion and then find out that that wasn't actually accurate."

– Physician Respondent

Nurse Readiness

Before the launch of PBF, Mission Oaks, had a part-time Licensed Practical Nurse (LPN) at their practice for approximately 15 years. According to the physician lead, the nurse provided vaccinations and focused on chronic disease management.

As described below on (*p. 18*), two nurses were hired before the implementation of the PBF model. Staff interview respondents indicated that there was a lack of training and clear communication of expectations around roles and responsibilities, which made it difficult for the nurses to work within the PBF model. As noted by the physician lead, bringing nurses into family practice from different practice settings is an interesting challenge for many practices around the province. See (*p.18-20*) for further discussion regarding the onboarding of nurses.

For about a year before the launch of PBF, these nurses were doing complex care management in the practice, and according to the physician lead, as a result the practice was starting to see positive outcomes, such as improvement in diabetes management.

Patient Readiness

In preparation for the conversion to PBF, the Mission Oaks Clinic also educated patients about the changes. Patients were sent letters and/or were spoken to in person explaining changes to their experience of care and what services would be provided at the clinic, such as how they did not need to come into the clinic as often because routine care could be provided remotely (e.g. prescription refills, communicating with physicians and reviewing test results through the patient portal, described below on (*p.21-22*). They also explained the importance of receiving continuous care from their family physician instead of seeking care from a walk-in clinic.

According to physician interviewees, patient education at the clinic has been an ongoing process as the conversion to PBF has signified a culture shift around how to access and receive primary care.

Hiring additional clinicians and clinic staff

In the later planning stages before the launch of PBF, the physician lead submitted a proposal for bringing funding from Fraser Health to hire additional staff and co-locate the practice in the Mission Community Health Centre (CHC), with Mental Health, Public Health, and the Mission Primary Care Clinic. Co-location of the clinic with these other services was expected to improve collaboration and coordination of care. This funding was provided as a one-time arrangement 18 months prior to PBF "going live", with the understanding that the clinic would work to attain a certain level of attachment to offset the cost of the additional staff. With this funding, a nurse and MOA staff were hired through a funding agreement with Fraser Health in Fall 2016, around the time of the original anticipated launch date for PBF.

In Fall 2016, there were a total of three nurses at the clinic: a part-time Registered Nurse (RN), a full time Licensed Practical Nurse (LPN) who had been at the clinic for several years, and the new full-time RN through Fraser Health. One of these nurses resigned before August 2017, meaning that there was a total of 2 at the time of the PBF launch.

As illustrated in Table 2 below in the Implementation and Operations Section (*p.15-17*), the nurses in practice at the Mission Oaks Clinic performed a variety of tasks.

Evaluation Findings | Implementation and Operations

The following section details the implementation and operation of PBF as well as having nurses integrated into the clinic. Key steps at this stage include operations of the PBF model in the clinic within the first year of implementation, the orientation and onboarding of the nurses and staff, and changes to physicians' practices.

Billing in PBF

Maintaining a register of patients

The MoH sends recommendations on a monthly basis (on the fifth day of the month) to register or de-register patients along with their reasoning, such as if a patient has sought 50% of their care from outside the practice (see Appendix D for more information regarding reasons to recommend registering or de-registering a patient). The clinic then has ten days to respond, and either accept the MoH's recommendations or choose to override them. The MoH then finalizes their version of the register based on the communication from the clinic, and the clinic must send a current registered patient list from their EMR to ensure the MoH and the clinic registrars are synchronized. Physicians are also able to register and de-register patients on a daily basis through their EMR.

> "I think [a patient register] would allow us to assess our population and see how often people are going elsewhere. Because it also doesn't allow you to improve your services if you don't know. If it's a 3 or 4% outflow, you think great, we're not doing badly. But you can see where the outflows are. If they're all Sunday evening when we're not open, then that's fair enough, but if they're on a Friday afternoon, why are they going somewhere else when we're open? So, it would be handy to know. "
>
> *– Physician Respondent*

Encounter and Diagnostic Codes

In the PBF model, physicians are not submitting fee codes for each patient visit, but they still submit encounter claims for the core and extended services delivered under PBF, that are recorded as a zero-dollar value. The practice will report who provided the service and are able to report up to five practitioners per encounter code, with the physician listed as the 1st practitioner. Although encounter coding for each patient visit is encouraged, it is somewhat up to the discretion of the clinic. For example, clinics may choose not to record certain services, such as services in Teleplan by allied health providers, or their own phone calls with patients or for consultations

The practice must also record and send ICD-9 codes for each patient visit. They are able to send one to three codes per patient visit, with the first code representing the primary reason for the visit. Encounter coding and diagnostic coding allows the physicians to keep up-to-date records of their patient population's complexity, a critical factor in determining a population base funded physicians' quarterly payments.

One MoH interview respondent noted that as the Mission Oaks Clinic uses a blended funding model and patient registration status can change, it is especially important for physicians to record services through encounters for those patients as the system will switch payments between PBF and FFS as the patient's status changes.

Outflows and billing

In the PBF model, physicians' payments are reduced due to outflows from the clinic, such as when a patient accesses care from a walk-in clinic or the ED for a primary care issue. According to physician interview respondents, each month, they receive a report from the MoH reporting outflows from the clinic and recommendations regarding registering patients who have accessed more then 50% of their care elsewhere. The objective of adjusting payments in this way is to encourage continuity of care and access to care. However, it

requires that patients are well-educated on the importance of not seeking care elsewhere, and it requires that physicians are available to provide care either remotely through the patient portal or in-person at the clinic.

According to interview data, throughout the first year of implementation, the Mission Oaks Clinic identified issues with billing relating to clinic outflows. First, if patients were seen by another doctor at the clinic, this was also regarded as an outflow because the patient was not seeking care from their regular FP. However, at Mission Oaks, to prevent patients from visiting a walk-in clinic, the clinic employs a 'Doctor of the Day' system. If patients need urgent care but are unable to make a same day appointment with their FP, they can see the 'Doctor of the Day' physician at the clinic. To work around this challenge, the physicians at Mission Oaks developed an internal mechanism to ensure physicians are appropriately compensated and there is now a nominal fee associated with seeing each other's patients, which was decided on by all physicians.

Second, patients who visited the Emergency Department (ED) in Mission were regarded as outflows because the ED is staffed by FPs. As one physician interview respondent noted, if a patient is visiting the ED for an acute health problem, it is not an inappropriate use of the system. Once flagged to the MoH by the physicians at Mission Oaks, an Outflow Working Group chaired by the MoH was created. This group consists of stakeholders involved in PBF across the province from Prince George, Fort St. John and Langley and allows for discussion around issues such as this. Since the formation of the working group, the outflow billings due to attendance at Mission Hospital ED have been modified for patients registered at Mission Oaks to reduce the impact on the clinic's compensation[7].

Third, as identified by one physician interviewee, in addition to FPs working in the ED, some also provide specialist care in clinics in the community that run shadow billing under GP codes. For example, at the Breast Clinic in the Abbotsford Hospital, there are FPs who receive a sessional fee but shadow bill using billing fee codes. Therefore, if a patient receives specialist care from that FP, it is counted as an outflow from the Mission Oaks Clinic. As noted by this interviewee, patients can be referred to the clinic, but many women with abnormal breast screenings are automatically booked into the clinic for follow-up exams; therefore, the patient's FP has no control over whether their patient visits the clinic and sees an FP to receive specialized care. According to this interviewee, this issue has not been addressed to date.

The latter two challenges identified by the clinic are the result of complexities related to the structure of the health system in a smaller community such as Mission. Physician interview respondents (n=7) indicated being frustrated with these issues and highlighted that these were issues that arose through the implementation process. They were not known issues during the planning process, but the MoH has been very responsive in addressing the issues once they were identified.

Onboarding and Orientation to PBF and Team-Based Care

Working with MOAs

[7] While the whole penalty was not removed, it was reduced to 10% of the original penalty value.

The conversion of funding model at the Mission Oaks Clinic was accompanied by a change in the model of practice for both physicians and staff (nurses and MOAs). Teams or “pods” were created in the clinic consisting of two MOAs and two to four physicians, with the intention that MOAs and physicians would work as teams. MOAs were also physically located near their physicians’ offices, so they could be easily accessible when needed. One physician interviewee commented that this structure of having dedicated MOAs for a group of physicians has been beneficial. However, another physician interviewee noted that although this structure works well, some MOAs work different times and some teams of physicians consequently end up with more MOA hours than others. To ensure all physicians have equal access to administrative support within the dedicated team model, MOAs who have additional time during their working hours are asked to complete some common work for all physicians.

“I think the new arrangement works really well because if I’m seeing patients and need something, they’re [the MOA] right there. Before with the old clinic, you never quite knew who was in the office because you couldn’t see them, so you weren’t sure who to send messages to. They get to know our patients a bit more. So they’ll know Mr. So and so is terminally ill with cancer, and if his wife calls, that’s important and they’ll try and get us in between patients. They can judge a little bit better who really needs a response quickly, so I think that makes a difference. They’ve learned to start thinking a little bit more for themselves and actually dealing with some things.”

Within the PBF model, physicians are able to delegate more tasks to their MOAs that they would have completed themselves in the FFS model, such as sending requisition and referral forms, and other administrative work. For example, one physician respondent explained how when a patient needs to provide a stool sample for colon screening, the physician sends their MOA the requisition form with their name on it, then the MOA can print it off, fax it to the lab and call the patient to tell them the form is waiting for them at the lab. Previously, the physician would have needed to see the patient in the clinic to provide them with the requisition form to bring to the lab. This physician also noted that the ability to work as a team with their MOAs has been facilitated by their proximity. Therefore, when the physician is seeing a patient, they can simply open their door and ask the MOA to complete a specific task, instead of trying to figure out which MOA is in the clinic that day and then communicating by email.

As a result of working in a dedicated team model, MOAs have more autonomy and are empowered to communicate directly with patients. According to interview data, MOAs have developed better knowledge of their physicians’ patients and are able to deal with issues that arise in a timely manner without consultation from the physician, benefitting both the physician and the patient. One physician interviewee noted that when MOAs have a better understanding of the patient panel, they are better able to judge which concerns require the immediate attention of the physician, thereby facilitating the physician’s work

According to interview data, physicians have been using MOAs to different extents. Some physicians appreciate being able to delegate tasks and have struggled to delegate tasks out of habit of completing administrative work themselves in the FFS model. One physician interviewee noted that working within the team model with their MOAs has been a learning process, but that it has been very beneficial to have the support.

Challenges to MOAs working differently in the PBF model

Although interview respondents spoke positively of the dedicated team structure within the PBF model, they also identified challenges for MOAs working in this model. One physician respondent noted that their MOA's workload increased due to an increase in daily tasks related to PBF as well as an increase it their patient panel size. One staff member echoed this comment and indicated that their workload has increased due to new responsibilities related to PBF. Interview data also suggested that it was challenging for some staff to adopt a new way of working in the PBF model, especially those who had worked within the FFS model for a longer time. This resulted in staff turnover during implementation. Staff interview respondents (n=2) commented that the transition was in part challenging due to a limited training and orientation to the PBF model (see above), as well as a lack of clear and common expectations from each physician as to how the MOA can best support them in the PBF model. Two staff interviewees indicated that different physicians worked differently within the model and they needed to learn the specific expectations of each physician.

> "The work patterns have changed. Some people have made better use of it than others; it depends on how happy you are to delegate things to other people and how possessive you are of patients, and how comfortable you are with dealing with things."
>
> *– Physician Respondent*

Nurse in Practice Model

According to interview data, nurses completed a variety of tasks in the PBF model, shown in Table 2. These tasks were comparable before and after the conversion to PBF. Physicians had initially planned to expand the depth and breadth of tasks completed by the nurse(s) during the transition process, but as discussed below, there were challenges in effectively integrating and utilizing the nursing roles.

TABLE 2. TASKS OF MISSION OAKS NURSE-IN-PRACTICE

Patient intakes and senior health assessment: vitals, height/weight, including the administration of driver physicals and eye tests
Health promotion and outreach: patient education, follow-up phone calls
Chronic disease management: care planning, medication reviews, referrals, promoting self-management with COPD, HTN, HF, Arthritis patients
Treatments and exams: wound care, sutures, footcare, PAP tests, blood pressure checks, ear syringing, 'well baby' visits, glucose and urinalysis
Immunizations and injections: flu vaccines, baby immunizations and allergy shots

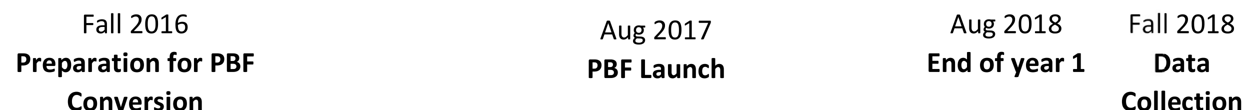
In Fall 2016, there were a total of three nurses at the clinic: a part-time Registered Nurse (RN) who has been at the clinic for several years, and two new full-time nurses who were hired as part of the planning and preparation process for the PBF launch (Figure 4). One of these nurses resigned before August 2017, and a second nurse left the practice in August 2018. At the time of data collection in October 2018, only the one part-time nurse was employed at the clinic.

Figure 4. Timeline of nurse employment at the Mission Oaks clinic.

Nurse 1 (PT): Has been in employed at the clinic for several years

Nurse 2 (FT): Onboarded in preparation for PBF

Nurse 3 (FT): Onboarded in preparation for PBF



The clinic faced some challenges with the nurse in practice model, including recruitment, retention, and utilization. It was difficult to recruit new nurses to the practice because the compensation package offered to nurses in this initiative was not competitive with other packages offered by the Health Authority in other nursing settings.

Additionally, both physician and staff respondents (n=9) indicated that nurses were not as well utilized during the first year of implementation as they could have been. Physicians had initially planned for nurses to be incorporated into dedicated FP/MOA teams and focus part of the nurse's practice on disease-specific populations.

> Physicians had varying degrees of experience in knowing how to effectively utilize a nurse in family practice: "I don't think she [the nurse] was as well utilized as we could have done. Some of us used her more than others. I think that's something that there isn't any clear guideline or precedent for how to use nurses in primary care. We're going off our experience in the UK, but I think different people have different ideas of how you can use a nurse. But it's at our expense of course, so if it's felt that it's not work, the money then that doesn't carry on."
>
> *– Physician Respondent*

However, not every physician in Mission Oaks was experienced in working with a nurse in family practice setting. For example, physicians with more experience working with a nurse thought that nurses could support disease-specific patient groups, such as chronic disease management. This team approach proved challenging to implement during the conversion process. Logistically, it was difficult to simultaneously go through the complex PBF conversion process and allocate the time necessary to create the nurse in practice policies and procedures, along with the disease-specific patient groups.

Despite the challenges described above, physicians in the clinic believe that the PBF model will allow for better integration of nurses in a primary care setting once the conversion process is completed. Unlike in FFS, where nurses require the supervision and sign-off of physicians to perform a task for billing purposes, this is not the

case in PBF and a nurse can perform tasks on their own, such as removing sutures and using ear syringes. This is convenient for both the nursing staff and the FP, as it is more efficient in terms of time and resources and provides the nurse with more autonomy and opportunity to utilize their training and experience.

> "Even if they come in for something that I am totally capable of doing, [in FFS] they still need to see the doctor and that takes time out of the doctor's schedule. Whereas, under PBF, I can see them, I can deal with whatever: sutures out, numerous things that I can do, like, ear syringes, so now they don't have to see the doctor for that. I can use my training and my expertise, and they don't need to see the doctor for that."
>
> *– Nurse Respondent*

Establishment of Additional Tools to Support the PBF Model

Part of the onboarding process also included beginning to use clinic tools in a different way, such as the EMR, or implement new tools, like the Patient Portal.

As explained above in the Planning and Preparation section (*p.8-13*), *Wolf* has PBF functionality and physicians and staff at the clinic were supported by the MoH and the PSP consultant in learning how to use the system. The MoH team also worked to ensure the system was working properly before the launch.

At the time of data collection in October 2018, the Mission Oaks Clinic still faced challenges with the Wolf PBF functionality. During the planning and preparation process, users detected that Wolf did not compute some of the nuances of the PBF model and was confusing the "short codes" used within its own software and ICD-9 codes. This created coding issues for the physicians, which had the potential to negatively impact their income. This challenge was addressed with the support of the PSP consultant and Doctors Technology Office (DTO). It was also identified by physicians at the Mission Oaks Clinic that there were some discrepancies between patient data (ICD-9 codes) being entered by physicians and the output data being provided to the clinic by the MoH. According to interview respondents (n=3), with the Wolf system there is no way to verify the data that is being sent to the MoH; therefore, it has been difficult for physicians and clinic management to determine whether physicians' payments reflect the true complexity of their patient population.

Additionally, in Wolf, patients are identified as 'registered' as a PBF patient or 'de-registered', indicating that the physician will bill under the FFS model. However, interview respondents (n=6) indicated that patients are not always accurately identified as 'registered' or 'deregistered'. When a patient's status is updated, there is a lag and the patient's actual current registration status is not reflected in the system. There is also no override functionality to manually change a patient's status. To address some of the challenges related to *Wolf*, in January 2018, mid-way through the first year of implementation, the MoH approached the Doctors of BC Digital Technology Office (DTO) to engage the vendor. This included facilitating a Webex session with Wolf and the clinic, and the issues began to be resolved in August 2018.

Based on the lessons learned with the Mission Oaks clinic, three interview respondents recommended that if other clinics are interested in transitioning to PBF in the future, it may be worth the vendor investing in improving their PBF functionality and being more engaged in the process. Furthermore, a MoH interview respondent noted that for future clinics transitioning, it may be valuable to engage DTO earlier in the process to prevent some of the frustration experienced by physicians and staff at Mission Oaks.

"It's not clear who is a registered patient and who isn't. So that can cause quite a bit of confusion. There's a lag between when a patient is a deregistered and you deregister them, there's a lag on the system. And that's a real hassle because you can't rely on the data that's right in front of you."

– Physician Respondent

Patient Portal

At the Mission Oaks Clinic, physicians and patients communicate via a 'patient portal'. According to interview data, through the portal, patients are able to book appointments, view test results and communicate directly with their family physician. In the portal, physicians also have the ability to verify whether or not a patient has viewed their message.

Physician interview respondents (n=5) indicated that they, as well as patients are satisfied with their ability to communicate through the patient portal (*see Program Outcomes section below*). Physician interview respondents indicated that this mode of communication is convenient for both them and the patient and it enables physicians to provide care remotely, preventing unnecessary visits. This ability to provide care remotely through the portal is enabled by the fact that in the PBF model, physicians do not need to physically see a patient to bill for their services. One physician respondent commented that the patient portal has facilitated the success of the PBF model at the clinic as it allows physicians to practice to the model's full potential.

"The PBF system really became to it's full potential combining it with the patient portal. With this thing, you're not using half of it if you can't communicate with patients through the portal. It can't be a mutually exclusive thing. This thing works because of the portal, because I can share information with my patient, I can share communication a dialogue, I can cut out unnecessary things. The fact that I can message them and communicate with them is why it works."

– Physician Respondent

Another physician respondent noted that the patient portal provides a platform for those patients who may be anxious about discussing certain topics with the family doctor in their office to discuss their health issues. For example, for patients with mental health concerns, it may be easier for them to communicate in writing, and then come into the clinic to address their concerns in person if necessary.

As highlighted by a physician respondent, the introduction of the patient portal also must be accompanied by patient education around how to access it, how to use it appropriately to communicate with their family physician, and what to expect in terms of timeliness of physician replies. This physician respondent commented that some of their patients expect an immediate response when they send a message through the portal, which is not always possible despite physicians' best efforts to respond to messages as soon as possible.

Evaluation Findings | Preliminary Outcomes

The present evaluation sought to highlight preliminary outcomes of the PBF model after one year of implementation. As the program progresses, longer term outcomes of the model will be evaluated. Interview data suggests that after one year of implementation, the conversion to PBF at the Mission Oaks clinic has positively impacted patients, physicians and clinic staff.

Benefits for Patients

All Mission Oaks physician and staff interview respondents (n=11) reported that the PBF model has positively impacted patients at the clinic.

> "It really works well for the patients. Patients are mostly working class who work from 9-5 and they have to leave their jobs and take time off work to come here to the clinic for prescriptions. So I think that's really working great for that particular patient population. And really for the elderly as well. They don't have to come in unless they need to come in. It's not like MSP where they have to come in for a prescription every three months. If they need something, it's an ongoing prescription, they can just contact their pharmacy and we can fax it back."
>
> *– Physician Respondent*

According to interview data, patients have benefited from an enhanced experience of care, including improved continuity and comprehensiveness of care, and increased access to care. With the PBF model, physicians are provided with various mechanisms to provide care, including the ability to deal with minor issues and refill prescriptions remotely, and communicate with patients through the patient portal. This is not only convenient for patients as they do not have to visit the clinic unnecessarily, but also allows physicians to spend more time with patients when they do come to the clinic, address more of their complex care needs and provide more holistic care. One physician interviewee noted that this is especially beneficial for patients with complex mental health concerns. Additionally, another physician interviewee commented that in the PBF model, they feel as though they are free to choose the "best approach to care for patients" without worrying about focusing on the activities that generate income. This includes spending more time with patients who require it and employing the support of allied health providers and other services as needed.

Additionally, the ability of physicians to provide care remotely has allowed them to take on new patients since the conversion to PBF. Another physician interviewee indicated that after the launch of PBF, the group inherited patients from a retiring physician in the community, which was only possible because of the PBF model. According to the physician lead, after one year of operation under PBF the clinic took on a net total of approximately 600 patients. Under the FFS model, this would not have been possible; however, PBF allows physicians the flexibility to organize the clinic in a more efficient way, thereby increasing their ability to absorb additional patients as needed.

> "I have been able to look at how I provide my appointments and I give myself longer appointments and I make a lot of availability in short order which is part of the goals of accessibility… you can book with me on the morning or online the night before and I will have space for you… I don't have patients waiting any time to see me…I am more accessible than I have ever been."
>
> *– Physician Respondent*

> "So, I actually recently took over a couple hundred patients of a retiring physician in Mission. And I think that if we were not PBF, I would not have been able to take those patients."
>
> *– Physician Respondent*

Interviewees (n=3) also reported that patients now have enhanced access to their family physician. A clinic staff interview commented that patients now have access to next day appointments for urgent care, something that was not possible under the FFS model.

Physician and staff interview respondents (n=7) indicated that the majority of patients are very satisfied with their experience of care in the PBF model. It is convenient for patients to receive care and have their prescriptions refilled remotely, especially for older patients who need to make transportation arrangements to visit the clinic for appointments and for patients on continuous medications. All physician interviewees (n=7) also noted that they, as well as their patients appreciate being able to communicate with their physician through the patient portal. The patient portal provides patients with the convenience of communicating directly with their physician, as well as provides them a more comfortable means of communicating their health concerns and can facilitate the development of a stronger patient-to-physician relationship (n=2).

Physician respondents regarding the patient portal:

"Patient portal where people can message us and we can message back with simple questions, tests results, appointment, query. The younger patients who are quite computer literate and use their phones a lot more have found that really useful. We post info on there, they can see results on there, they can book appointments online. We have been able to drive that more with PBF because we we're not required to see patient physically to make a billing. I think it has been extremely convenient for patients. Patients have given us positive feedback."

"I have a lot of younger female patients. They can message and I'll message back, and I feel that improves your communication with them. If you've messaged a few times, you build a relationship."

Impact on Physicians

Similarly, physicians reported positive impacts of the PBF model on their practice and experience of providing care. Four of Seven physician interview respondents spoke to the predictability of their income in the PBF model compared to practicing in FFS. As previously mentioned, in the PBF model physicians are able to focus less of their attention on billing and activities that generate income, and in turn are able to care for their patients the best way they see fit, including spending more time with patients and utilizing the support of other health professionals as needed. This also provides physicians with a sense of security that they will not lose any income if they are ill or go on vacation. One physician respondent noted that practicing in the PBF model has allowed them to take their first vacation in many years without worrying about a loss of income, and that, to them, is a large selling point of the model.

Physician respondents regarding income stability and predictability as a result of the PBF model:

“So, that’s, that’s good for the patients and I, you know, I feel better working in this system because I know, just the simple thing in the fee-for-service world, if I take a week off and go on vacation, I’m not earning anything…It’s psychological; you feel like you’re away from your work. But here, you have a steady income..."

“…the reason that it [PBF] works better than the FFS model in particular is that essentially you get bundles payments so you have a predictable income… you can pretty much say that I know exactly what my income is going to be over the next 12 months – if I miss a couple of days (e.g., break my clavicle), I will maintain my income and my practice will continue.”

Interview respondents (n=2) also suggested that having a more predictable income not based on patient encounters and being able to provide care to patients remotely, provides physicians the time to participate in initiatives outside of the clinic, such as working as a physician leader alongside health authority leadership. This not only benefits physicians by providing them the opportunity to participate in work outside of their clinic and build partnerships but ensures that the physician perspective is represented in health system initiatives.

Interview data also suggests that conversion to the PBF model has changed the way in which physicians in the clinic practice. Interviewees noted that in the new model they work more as a team with staff and can delegate work. Interview respondents (n=5) indicated that this change in work patterns and increase in team-based care has resulted in improved communication between physicians and staff. One physician interview respondent noted that as there is more collaboration and physicians are delegating more tasks to staff, good communication has become imperative.

"We communicate more now than we used to, especially in the PBF model. You try to allocate a lot of things to team members, so it makes communication more important.”

– Physician Respondent

Additionally, interview respondents (n=4) commented that the conversion to PBF and co-location of the Mission Oaks Clinic with the CHC has resulted in improved integration of care between physicians at the clinic and other community providers. Three interviewees commented on the connection between the clinic and Fraser Health programs and services. As Mission Oaks is located in the same building as Home Health, Mental Health and Public Health, the opportunity exists for physicians to connect face-to-face with these services. These interviewees noted that while this integration of care still needs to be further improved, they hope that these face-to-face connections will result in more team-based care and collaboration. One physician interview respondent indicated that their liaising with community pharmacists has improved with the PBF model.

Overall, all physician interview respondents reported being satisfied with the PBF as a whole and all indicated that would most likely not go back to practicing in FFS.

Impact on Clinic Staff

Interview data suggests that there have been some positive impacts for clinic staff as a result of the conversion to PBF. Physician interview respondents (n=5) indicated that because their MOAs are taking on more responsibility, they are empowered to communicate more with patients and get the opportunity to form relationships with patients and their families. One staff interviewee commented that they have appreciated this opportunity to take on more responsibility and learn new skills. However, interview data also suggests that some staff who have been working within the FFS model, have had more difficulty with the transition to PBF and changes to their practice.

> "The MOAs have been empowered to communicate more with patients; we try to keep teams here. They get to know the patients better and provide more personal care."
>
> – *Physician respondent*

Furthermore, although nurses may not have been utilized as well as they could have been, interview data suggests that the PBF model had some positive impacts on the practice of nurses in the clinic. As described in the *Implementation and Operations Section (p.14-20)*, in the PBF model, nurses are given more autonomy to care for patients, which in turn can result in increase job satisfaction as they are able to work to their full scope of practice.

Discussion

Enablers of PBF Implementation and Operations

Interview respondents identified several enablers that have contributed to the success of the implementation and operation of the program within the first year (Table 3).

Table 3. Enablers of implementation and operations of the Mission Oaks Clinic PBF conversion.

Previous Experience with Alternate Payment Plans and Nurse-in-Practice Models
At Mission Oaks, many of the physicians are familiar with alternative payment models; 5 of the 8 partners had trained in the UK with a similar capitation model. Similarly, the practice had a long history of employing a nurse in their practice and therefore had a good understanding of what responsibilities and tasks could be delegated to nurses in a team-based care model.

Physician Leadership and Mentorship
Mission Oaks had a clear champion for the PBF model in their physician lead, one of the longstanding physician partners in the practice. Interview respondents (n=5) noted that his passion for the model is a necessity in bringing his physician partners along as well as his ability to effectively work with leaders in Fraser Health and the Ministry of Health as key to the success of the transition. He also closely followed and linked with other physicians who were part of the existing PBF clinics in BC to learn from the experiences of those physicians and get their guidance.

> "…having a physician that has influence and credibility within his practice and in the health authority was critical, and without that, it would not have happened because it was; it's not a well-marked path to make this transition because only a few practices have done it... So, it's an uphill battle. And because not all physicians are equally enamored by population-based funding... So, it took a lot for Peter to have the tenacity and endurance to see it through, so that was really important."
>
> – *Fraser Health Authority Respondent*

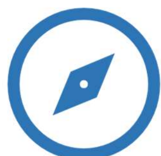
Transition Funding and Practice Support / Training
In the case of Mission Oaks, the Minister of Health at the time as well as top-level executives articulated their support for the conversion of the clinic to PBF. Fraser Health offered 18 months worth of transition funding to support change management and additional staffing (MOAs and RNs). GPSC and PSP supported and funded the hiring of a consultant to assist the clinic with their change management pre-launch.

Accurate Panel and Billing Data
Early in the transition process, the evaluation found that the practice was enabled by the ongoing support of PSP to manage panels. This included reviewing diagnostic coding (ICD-9) for patients on their panels. Because PBF uses these diagnostic codes, rather than the MSP billing codes to determine the physician's compensation, the accuracy of these is more important than in the FFS model and needs careful reviewing prior to the transition to ensure fair compensation.

Co-location with other Health Services
The conversion of the clinic coincided with a renovation of Health Authority services, and, through ongoing collaboration, the Mission Oaks Clinic is now co-located within the Mission Community Health Centre (CHC). This allows for a more seamless transition between the practice services and services such as home health care and public health. Respondents spoke about how the health authority nurses can work closely with the PBF nurse-in-practice and improve efficiencies.

> "…we ended up bringing Mission Oaks clinic into our community health centre. We think that they [should be] there with the hope of creating a bit more of an integrated healthcare delivery and have a stronger delivery with primary care..., if we are within a 5-minutes walk of where we are, we can pop over and look at it in conjunction with the physician… They've brought us into that consultation in real time to be able to support the client's needs in a way that is more efficient, whereas they may have in the past just put in a home health referral and it goes through the process, and we might see the client once, and then discharge them, which is not an efficient process…"
>
> *– Fraser Health Authority Respondent*

One interviewee noted that co-location can allow for consultations to happen in "real-time", strengthen relationships between providers, and increase access to FH services for patients. Patients can get the appropriate care the need while they are already in the building, preventing the need for further visits.



Alignment with Governmental Priorities
All partners pointed to the fact that primary care is currently a government priority and that the PBF model is well placed to meet some of the expressed needs such as aligning with the 12 attributes of the Patient Medical Home and the current direction to provide integrated services across communities through Primary Care Networks. For example, the PBF model has core values including team-based care and optimizing patient access to care.

> "…you can relate it [PBF] to the 12 attributes of the PMH, it actually is a really good way of allowing that to take place… [it] is the accessible mechanism by which you could start down that road in BC without developing a whole new structure"
>
> *– Physician Respondent*

Sustainability

Alignment with the Quadruple Aim

The perceived impacts of the PBF model at the Mission Oaks Clinic on patients, physicians and clinic staff, as described in the current report, indicate progress towards the Quadruple Aim goals[8]. All physician interview

[8] Improved physician experience of care, improved patient experience of care, improved population health and decrease in per capita costs

respondents (n=7) reported being satisfied with the PBF as a whole and all indicated that they would most likely not go back to practicing in FFS. They reported that within the PBF model they have more income stability, they are better able to work as a team with clinic staff, and they are better able to provide comprehensive and continuous care to their patients, even at a distance using the patient portal.

Furthermore, all physician interview respondents also indicated that they perceive the majority of their patients to be satisfied with the experience of care within the PBF model. Physicians reported that their patients appreciate being able to communicate with their family physician and view test results through the patient portal, as this increases their access to care and provides them with a way to communicate their concerns that they may feel more comfortable with. As well, physicians noted that they are able to spend more time with patients when they do come to the clinic, address more of their complex care needs and provide more holistic care.

Additionally, three interview respondents also indicated that diagnostic coding in the PBF model results in better data for research purposes as the diagnostic codes being recorded are more accurate than in the FFS model. In the FFS model, physicians can record up to three diagnostic codes per patient visit; however, as the codes do not directly affect their income and payments are based on fee codes only (of which only one can be recorded per visit), many physicians simply record one diagnostic code per visit even if they addressed several concerns. Consequently, the data from family practices currently used for research may not accurately represent the population. More accurate data for research and to inform decisions regarding health services and resources can positively impact the health of the population.

An analysis of the per capita healthcare costs associated with the PBF was outside of the scope of this report; however, existing literature suggests that the PBF model is potentially cost saving for the healthcare system (Frayne, 2012). As PBF aligns funding with prospective patient needs rather than the number of services provided, there is no incentive to provide unnecessary services and physicians are encouraged to provide potentially more cost-effective services (Frayne, 2012; UBC Family Practice Centre, 2016). Additionally, one physician interview respondent indicated that the PBF model has the potential to decrease ED usage, which could be cost saving. If patient care is integrated between the family physician and community services, health issues can be identified sooner, potentially preventing acute health problems. For example, if an elderly patient has a good relationship with their family physician and their Home Health Case Manager, when an issue is identified, the two providers can work together to provide the patient the supports they need at home or in the community.

Alignment with the PMH Attributes

Evaluation findings indicate that the way in which physicians' practice in the PBF model promotes patient-centered whole person care and is in line with a number of the 12 PMH attributes (Table 4). One of these interviewees noted that once a practice has established a structure that allows them to deliver clinical services in an efficient way, the possibility of working with other providers and services in the community to integrate care increases.

> "It [PBF] makes up the attributes for achieving the PMH – looking for those goals this model supports it better than FFS… From a system point of view, if you were trying to look at how you would like physicians to be engaged in practice, this model is a more satisfactory one to put physicians into… it discourages high volume, low intensity practice. Better for patient care and easier to define who is being looked after and who is attached…"
>
> *– Physician Respondent*

Table 4. Alignment of the PBF model at the Mission Oaks Clinic with the PMH.

Commitment	The PBF model at Mission Oaks encourages patients to visit their family physician as a first point of contact for all their healthcare needs, and facilitates this process, by providing the opportunity for patients and physicians to interact remotely through the patient portal. As part of the conversion process to PBF, patients were educated on the importance of visiting the family physician to whom they are attached. One physician interviewee reported that as a result of practicing in a PBF model, they were able to more easily take on patients they inherited from a retiring physician in the community.
Contact (timely access)	As noted above, through the PBF model at Mission Oaks, patients have enhanced access to their family physician through the patient portal. They are able to communicate remotely with their physician, potentially preventing unnecessary visits to the clinic. As well, as noted by a clinic staff interviewee, patients now have access to same day or next day appointments for urgent care, something that was not possible under the FFS model. Additionally, physician interviewees (n=2) indicated that as a result of the panel clean-up process completed in preparation for the conversion to PBF, as well as the need to continuously monitor registered and deregistered patients, they have a better understanding of their patient panel. These physician respondents noted that because they receive data regarding patients who have accessed care elsewhere (e.g. a walk-in clinic), they are better able to evaluate whether they are providing reasonable accessibility and then make appropriate changes.
Comprehensive	According to evaluation findings, within the PBF model, physicians are able to spend more time with patients at each appointment, address more of their complex care needs and consequently provide more holistic care. One physicians interview respondent noted that they are able to take the “best approach to care”, as they are not concerned about the number of services provided to a patient at each visit. Interview data also suggests that if a nurse-in-practice is utilized appropriately, this will potentially increase the practice’s ability to provide additional specialized services, such as chronic disease management.
Continuity of care	The PBF model can potentially facilitate the development and sustainability of a long-term relationship between a physician and their patients. The patient portal at Mission Oaks allows for two-way communication between a physician and a patient, which allows patients to receive the most appropriate care in a timely manner. Five interview respondents (physicians and staff at Mission Oaks) noted that the relationship between physicians and patients has improved as a result of the clinic’s conversion to PBF.

Coordination	According to evaluation findings, the clinic's relocation to the Mission CHC in conjunction with the conversion to PBF has allowed for better coordination of care. As the clinic is now co-located with Public Health, Mental Health and Home Health, as well as the Mission Division of Family attachment and maternity clinics, consults and referrals can occur in real-time, patients can access more resources and services at each visit to the clinic, and providers can form better relationships with one another. As well, the patient portal provides patients with an opportunity to become more engaged in their care. They can access test results through the portal and can communicate directly with their family physician to determine whether or not their issue warrants an in-person visit to the clinic.
Team-based care	Although interview data suggests that the nurse-in-practice model was not implemented as effectively as it could have been, the data do suggest that the physicians and staff at the clinic have been able to work more in teams as a result of the conversion to PBF. Interview data also suggests that through the implementation of PBF, physicians' working relationships have improved.
Information technology enabled	The patient portal provides patients with access to remote care options. Additionally, the PBF model allows physicians to participate more in telephone consults and other forms of care, which may increase their efficiency in care delivery.

Upcoming Considerations and Challenges

Interviewees identified upcoming considerations and challenges that they expect as the PBF model progresses:

- Physicians at the Mission Oaks clinic will need to review their patient panel and diagnostic codes on an annual basis to ensure they receive the appropriate compensation. This information will be submitted to the MoH.

- At the time of interviews, it was identified that there remained some challenges with the clinic's EMR vendor that would need to be resolved. More specifically, there were challenges with *Wolf* accurately recording registered and deregistered patients. As one physician interviewee stated, the system will indicate if a patient is registered or unregistered with PBF, but there are occasional glitches in the system, and it is sometimes unclear or patients are not categorized correctly.

  Interviewees (n=2) recommended that *Wolf* could consider investing in improving their PBF functionality and enhancing training for clinics to appropriately utilize it, especially if the vendor would like to work with other clinics practicing within a PBF model. During the preparation and planning phase of the Mission Oaks transition to PBF, the MoH and the PSP consultant supported the clinic in training to be able to use *Wolf's* PBF functionality. However, *Wolf* representatives were not aware of how the functionality worked as it had been nearly a decade since it had been used and the clinic was not able to see an example of what it looked like until going live, which made training difficult.

There is also a need for clinics transitioning to PBF to be able to train with the system and see examples of what the PBF functionality looks like before going live and using the system in practice.

- Patients will need to be continuously educated regarding the importance of utilizing their family physician as a first point of access for care instead of seeking care at a walk-in clinic, the advantages of continuous care, and how to effectively utilize the patient portal.

- The clinic will need to consider the financial viability and sustainability of a nurse-in-practice model and how nurses can be more effectively integrated into the clinic. Physician interviewees (n=7) recognize that the onboarding of the nurses was not done as well as it could have, as well as the fact that physicians in the clinic may have a different appetite for and/or capacity to work collaboratively with nursing staff. One physician interviewee commented that for physicians to fund the nursing role themselves, they would really need to see the benefit of the role and be willing to utilize the nurse more effectively than was done during the first year of implementation. This physician noted that ideally in the PBF model, the physician would not have to see each patient who is receiving services from the nurse. If the physician was still doing so, there would be no advantage to integrating the nurse into the practice team. The first step to ensuring the nursing role is effectively integrated into the practice would be to develop more guidelines around the nurses' role and responsibilities. See the Recommendations section below (*p.31-34*).

  After the first year of implementation, the physician lead hired a Nurse Practitioner (NP) who had previously worked in the clinic as a practicum student, as a way to facilitate team-based care and enhance their capacity. The financial viability of the NP-in-practice should be evaluated in the next stage of the PBF case study.

Laying the Groundwork for the Conversion of Other Clinics to a PBF Model

Evaluation data indicates that the Mission Oaks Clinic conversion process has helped the Division, MOH, PSP, and GPSC to further develop the infrastructure need to support the challenges faced by the clinic associated with the planning, preparation, implementation and operations of the PBF model.

> "I need to tell you that this past practice is not what's going to work for the future sites because they've worked through—Mission Oaks is really good at being able to help the whole system get woken up again… some of the elements that we had challenges with the Mission Oaks transition are kind of one-time experiences and the next site, even, will almost be a first site again because it will be utilizing the new systems that are built."
>
> *– Fraser Health Authority Respondent*

Recommendations

Clinic Level

Based on the experience of physicians and clinic staff at the Mission Oaks clinic, the following recommendations are designed to support new clinics that are considering converting to a PBF funding model and integrating a nurse-in-practice

1) Facilitating discussions with the entire clinic team before converting to a PBF model

Although clinic staff reported that they received some information and/or training around their roles and responsibilities within the PBF model, interview data suggests that this could happen earlier in the planning and preparation process. More specifically, four interviewees indicated that they would have liked to have seen more facilitated discussions with the entire clinic team, including nurses and MOAs before implementing changes in the way team members practice. This could include an explanation of the model and how it functions, an explanation the impact of the model on workflow as well as tasks and responsibilities, and a discussion around the expectations of each physician for their staff. Staff interviewees (n=2) indicated that because each physician practices differently, their roles often shift depending on who they are supporting, which can create confusion. These facilitated discussions could help to improve role clarity of staff to ensure staff understand what is expected of them and by whom, and how their overall work will change.

Interviewees suggested that these discussions could be facilitated by the PSP funded consultant during the planning and preparation phase.

Additionally, a staff interviewee at Mission Oaks recommended that if several clinics are transitioning to PBF at once, they could hold facilitated discussions and staff training sessions together. This would require developing a more standard way of working within the model, while considering small differences that may be present at each participating clinic.

2) Ensuring diagnostic coding is accurate and up to date before converting to PBF

As previously discussed, physicians at Mission Oaks started the panel management process approximately a year before the launch of PBF. Physician respondents emphasized the importance of ensuring ICD-9 diagnostic codes are accurate and up to date to ensure the MoH can provide appropriate income estimates based on the complexity of each physician's patient panel.

3) Correctly sequencing the PBF conversion process and the nurse integration process

The process of converting from FFS to PBF is complex and time consuming. For Mission Oaks, it was challenging to transition to a new payment plan while managing a parallel process of adding nurses to the clinic and figuring out how to integrate them effectively into the work flow. In assisting with the change management process, it may be helpful for clinics to offset the payment plan conversion process and the development and integration of nurses into the clinic.

4) Clearly defining the roles and responsibilities of nurses in a primary care PBF setting

The role of a nurse in primary care is very different than in other settings. Given the unique setting, physicians and clinic staff indicated that the nurses in practice could have been more effectively utilized and integrated into the clinic by having clearer definition around nurses' roles and responsibilities. One staff interviewee suggested

it would be helpful for nurses if the clinic developed guidelines for the role, as well as a manual delineating their scope of practice and encounter and diagnostic codes for reference.

Moreover, a physician interviewee recommended that there needs to be more training in general for nurses working specifically in primary care, as it is different from practicing in a hospital or other community setting. This physician noted that it is very valuable for nurses working in a primary care clinic to understand how they can support family physicians. Once guidelines are established and training is provided, nurses can support family physicians in a more proactive way, as they will be able to anticipate the kind of medical they can provide in a given situation, rather than waiting to be asked or assigned a specific task.

5) Enhancing patient education regarding expectations of care within PBF model

Interview respondents (n=4) recommended that there be more education for patients regarding:

- Changes to accessibility at the clinic as a result of the conversion to PBF, such as improved availability of same day or next day appointments, and new walk-in hours at the clinic and weekend access.
- The importance of visiting their family physician, or the clinic, as a first point of contact for all care, instead of visiting a walk-in clinic or the ED for primary care issues.
- Expectations around the role of nurses-in-practice and the services they can provide. One interviewee noted that some patients visit the clinic expecting to see their family physician and may be confused and or frustrated to only see a nurse. It can take time for the patient to build a relationship with the nurse and develop a sense of trust, but more education around the types of care nurses can provide without the physician, can facilitate this process.

6) Providing education to allied health providers and specialists who support the clinic around practice changes and expectations under PBF

In addition to enhancing education for patients, a physician interview respondent recommended providing education to allied health care providers and specialists who support the clinic regarding how the PBF model may affect their practice. For example, this respondent noted that during the implementation of PBF at Mission Oaks, there was approximately a 6-month learning curve with the local pharmacists around faxing prescriptions and providing prescription renewals to patients without requiring. The pharmacists were not made aware of this, which caused confusion, as the clinic previously did not allow for prescriptions to be faxed and required patients to see the physician for all prescription renewals.

Additionally, this same respondent noted that specialists who receive referrals from the clinic should be made aware of any changes to the referral process or the way in which family physicians communicate with patients, to ensure that both the family physician and the patient receives all necessary information and documentation.

Division Level

7) Facilitating the synthesis and distribution of learnings from the model

Evaluation data suggests that the Division can play an integral role in synthesizing and distributing the learnings of the PBF model with other physicians and clinics in the community. Although the PBF conversion at Mission Oaks was mostly undertaken by the physician lead and they have taken it upon themselves to actively promote the model to other Division members, the Division has supported this process and provided opportunities for discussion amongst members.

One interview specifically suggested that the Division could also play a role in preparing other clinics in the community who may be interested in working within a PBF model, through the sharing of evaluation learnings.

8) Integrating the PBF model within the larger visions of PMH and PCN

Two interview respondents recommended that the Division place PBF within the broader visions of PMH and PCN. As discussed within the *Outcomes Section,* the PBF model aligns with the provincial vision for the PMH, creating an opportunity for Division to include the conversion of Mission Oaks to their PBF model in their greater plans for PMH and PCN. As a MoH interviewee noted, they would like to see PBF clinics integrated into PCN initiatives because *"they [PBF clinics] are really supporting that method of team-based care that we want to see and that alternate method of payment that allows doctors to really be providing comprehensive care".*

As the PMH and PCN initiatives progress, the PMH model should continue to be integrated into the work and be considered as a potential model to facilitate team-based care in primacy care clinics across Mission.

Governance Level

9) Improving communication with clinics during the planning and preparation phase

Physician interview respondents (n=5) recommended that for the conversion of other clinics to a PBF model, there should be more transparent communication from the MoH, specifically around diagnostic coding, what is included with the PBF "basket of services" and income estimates. As noted previously, prior to the conversion to PBF, physicians at Mission Oaks received unclear and somewhat contradictory information from the MoH, which made them more hesitant to switch to an alternate payment model, consequently delaying the launch of PBF. These physician interviews commented that they went into the launch "blind", not knowing exactly how their practice or income would be affected. Moving forward with other clinics, this process will need to be more transparent in the future. As one physician interviewee noted, "*I think it will be a tough sell to other clinics without that [transparency]. We took a huge leap of faith in going down the route and sort of watching".*

10) Enhancing support and training for clinics during the planning and preparation phase

Evaluation findings suggest that support and training for clinics during the planning and preparation phase for the conversion to PBF be enhanced. Interviews noted that for future clinics converting to PBF, they would like to see more training and support regarding culture shifts associated with PBF that need to occur within the clinic, potential challenges that may arise and how to navigate them. This training could be coordinated by PSP.

Additionally, interviewees recommended conducting more robust hands-on training that covers practical aspects of PBF, including outflows, de-registration and compensation. A PSP consultant commented that they also highly recommend conducting scenario-based training with clinics. Another interviewee, a physician at Mission Oaks suggested that hands-on training could be conducted at existing PBF clinics, such as Mission Oaks. Physicians could visit the clinic, observe physicians and the way they practice to learn from their experience and

gain valuable insight from those who are working within a PBF model. This physician re-iterated that visiting a PBF clinic in Langley was a useful exercise for them in preparing for the launch of PBF at Mission Oaks.

> "…you could almost have something like this clinic, the equivalent areas, functioning like training practice. That they come see how it's being done in real time and they can go away from that with some meaningful experience, rather than some theoretical lectures. I think that would make a huge difference. Actually, we went to the practice in Langley quite a few times and they were really helpful."
>
> *– Physician Respondent*

Along with enhanced training, interviewee data suggests that there is a need to update the PBF manual provided to clinics by the MoH, as it has not been updated in nearly a decade.

Furthermore, a Fraser Health Authority interviewee recommended that the health authority could "work alongside" clinics more collaboratively to provide support and resources for change management. The health authority possesses the expertise to potentially contribute to the conversion process in a more meaningful way than simply providing funding to implement practice changes for a finite amount of time.

11) Providing practice support during the first year of implementation

Physicians and clinic staff at Mission Oaks, as well as a PSP consultant, expressed that in addition to MoH support during the planning and preparation phase of the conversion to PBF, it would be beneficial for future converting practices to also receive practice support during the first year of implementation. One interviewee specifically suggested that there could be weekly telephone meetings between the clinic and the MoH during the first three months of implementation.

As previously discussed in the current report, interview data indicate that there were a number of issues that arose during the first year of implementation at Mission Oaks that required trouble shooting, such as the categorization of ED visits as outflows flagged by physicians at the clinic. Weekly telephone meetings could address these challenges earlier and potentially identify challenges before they even arise.

11) Timely MOH patient registration recommendations

While the MOH sends recommendations to the clinic to register or de-register patients, physician interviewees (n=3) noted that it would be helpful to be notified after the first time a patient has visited a walk-in to prevent this from occurring in the future. The lag time between a patient non-clinic visit and receipt of an alert is quite long. By the time the clinic has received notification, the patient has accessed care elsewhere too many times to continue as a registered patient. It would also be helpful for the clinic to know more details about the outflows. For example, are they all occurring on Sunday evenings when the clinic is closed or, are they occurring during the clinic's operating hours? This would allow physicians to have meaningful conversations with their patients and educate them about the importance of seeking care from the clinic as opposed to going to a walk-in clinic. Without this information, there is no opportunity to improve or make changes until it is too late to do so.

12) Creating a promotional package for potential clinics considering converting to PBF

Interviewees (n=2) recommended that the MoH develop a promotional package for potential clinics considering converting to PBF, which could include:

- An evaluation of the physician experience at Mission Oaks and lessons learned. As a physician noted, physicians want to learn about the real-life experiences of other physicians before transitioning to a new payment model.
- A developed business case illustrating the financial viability of the PBF model, with income projections.
- Information around support for the conversion process.

This package could be provided to clinics, along with a physician advocate who is knowledgeable about PBF to provide additional support, training and mentorship. Interviewees also noted that the model would need to be actively promoted across the province to gain buy-in from other physicians and clinics. One interviewee suggested conducting focus groups with other clinics in the community and the province to pique their interest in the model.

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Appendix A: Literature Review

This review of the literature intends to support the development and implementation of the General Practice Services Committee (GPSC) and the Mission Division of Family Practice's (MDFP) evaluation of a family practice clinic's transition from fee-for-service (FFS) to a population-based funding (PBF) model.

Context

With the support of the Ministry of Health (MoH) and the Fraser Health Authority (FH), Mission Oaks Medical Centre has implemented a Population Based Funding (PBF) health care service delivery approach, a change from the previous fee-for-service (FFS) physician remuneration model. The clinic launched the PBF model in August 2017, after approximately 18 months of preparation. In addition to the payment scheme changes, the clinic is also expanding its nurse in practice model.

The PBF model at Mission Oaks is a blended funding model with block payment for a core basket of services and the payment of non-core services through FFS. PBF started in BC in 1999 with 17 sites as pilots and a dedicated MoH team to manage the transition. Of these original sites, only 8 remained until the Mission Division of Family Practice advocated and applied for the opportunity to transition to a PBF model with the physicians at the Mission Oaks Clinic. Population-based Funding at Mission Oaks involves sharing payments across a group of providers who assume accountability for managing the care of a defined population of patients in their panel and within a specific geographic catchment area. Among its objectives, PBF promotes relational continuity of patient care and better access to care.

This review provides a definition of population-based funding, examines factors regarding its successful implementation, identifies potential outcomes, and highlights considerations to be made for evaluation planning. The following report is divided into three overall themes:

Defining Population-Based Funding	Provides a working definition of PBF, as well as case examples of PBF implementation in Canada and world-wide.
Implementing Processes and Structures	Identification of processes and structures that have been found to enable the successful transition to alternative funding models.
Identifying Potential Outcomes	Potential outcomes of transitioning to PBF, with respect to patient and provider experience of care, quality of care and health outcomes, and cost to the system.

Defining Population-Based Funding

Population-based funding[9] (PBF), a type of capitation model, is a method of physician remuneration that is based upon patients and their individual illness burden, rather than by individual services provided by physicians (Doctors of BC, 2018; BC Health Services, 2004; Cohen, 2014; Frayne 2012). In PBF clinics, family physicians (FPs) are remunerated a base amount per patient for a defined "basket" of primary care services. The amount reimbursed per patient is determined by several factors including, but not

[9] Alternative names for PBF include risk-adjusted capitation and population needs-based funding.

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limited to, age, sex, and the patient's illness burden (Frayne, 2012). Patients are categorized into different risk-adjusted clinic groups (ACGs), each of which have a set level of funding. FPs are remunerated based upon the number of patients that they roster from each ACG. In PBF clinics, a FP's patient budget is reduced when one of their registered patients choose to use services from other primary care providers or emergency departments outside of the clinic to which they are attached. In BC, PBF is part of a blended model of payment including risk-adjusted capitation and limited fee-for-service billing options. Several combination and models of Alternative Payment Plans currently exist in BC and Canada (Table A1).

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Table A1. Alternate Payment Plans in Canada

While the predominant form of physician remuneration in British Columbia is based upon the fee-for-service (FFS) model, there are nine PBF clinics operating in the province, including Mission Oaks. These clinics share some common characteristics, including multidisciplinary care teams, blended funding (capitation and Fee for Service), and risk-adjusted physician remuneration. Limited information is available on the transition of these clinics to PBF.

Nationally, population-based funding and its variants have been used within a variety of different blended funding models (Wranik and Durier-Copp, 2011). In Ontario, Family Health Networks—team-based primary care organisations—use a blended capitation scheme to remunerate FPs, nurses and allied care providers. FPs working within the Family Health Networks are remunerated a monthly amount per number of registered patients for a basket of primary care services. The monthly amount is adjusted according to patients' age and sex. Services that fall o[illegible] through FFS payments.

Source: Rudmik et al, 2014 & CIHI, 2012

Alberta has followed Ontario's example by recently announcing a move towards a similar blended capitation model in an effort to control the province's growing health expenditures (AHS, 2017; Zhong, 2017). Starting at the end of 2017, the province intends to launch five blended-capitation clinics for an 18-month demonstration and evaluation project. According to Alberta Health Services (2017), the clinics' capitation formula will be based upon an age, sex, and risk-adjusted health service utilization.

Capitation is also an internationally recognized physician remuneration model. In the Netherlands, the majority of primary care physicians are remunerated through risk-adjusted capitation (Klazinga, 2008). GPs who work within the United Kingdom are also remunerated through a capitated system. On average, 75% of a FPs total income is from capitation payments made through the UK's National Health Services (NHS), while the remaining 25% are based upon "pay-for-performance" fees, which are incentives paid to GPs for meeting certain quality benchmarks (Roland *et al.*, 2017; Doctors of BC, 2018). In New Zealand, GPs' practices belong to one of 32 primary health organisations (PHOs), non-profit organisations which are funded through capitation by the Government of New Zealand (New Zealand Government, 2017). Patients, who must enroll to join a PHO, are assigned a certain budget based upon their demographic characteristics (e.g. age and sex) and whether they are "high" or "low" users of health services.

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Recommendations: Defining PBF

For evaluation

- Since PBF can have a variety of applications, it will be critical to pay attention to the working definition of PBF and the context it is being applied.
- Having a clear understanding of the goals of converting to Population Based Funding (i.e., increased preventative care, increased team-based care, increased patient panel size, etc.)

For implementation

- Clearly define the model being implemented, including:
    - How patient rosters are defined
    - What factors will influence remuneration (i.e., age, sex, complexity, etc.)
    - What "basket of services" are included
    - Which care professionals (FPs, NPs, RNs, etc.) will participate in the model

Structure and Processes

The following factors have been identified within the literature as structural and process-related enablers for the successful implementation of alternative funding models, such as PBF.

According to Laschober *et al* (2015), the first step involved in reforming provider compensation is to broadly conceptualize the new system and then progress to implementation supports. For example, sponsoring organizations might face a range of operational complexities such as the need to phase in implementation; design reliable, meaningful, and fair measures and performance reports; build financial systems to make or receive new types of provider payments; and develop innovative avenues for provider engagement, training, technical assistance, and shared peer-to-peer learning opportunities. At the policymaker level, three primary recommendations to consider are:

- Additional payments to primary care providers can promote promising change;
- Change requires work redesign support as well as financial resources; and,
- Measurement of primary care's essential characteristics should be improved.

Building Trust and Communication

Transitioning to new models of care can be fraught with tension and competing priorities between stakeholder groups. Lessons learned from the implementation of the Adirondacks Accountable Care Oragnization[10] (USA) indicate that understanding the challenges faced by each stakeholder, co-development and transparency in how transformation would occur, and trust in a shared mission/vision of the model were factors enabling success (Schrag *et al*., 2017). The early effort put into engaging with

[10] Huynh et al (2014) describe Accountable Care Organizations as *"where physicians, hospitals and other provider organizations jointly assume accountability for the overall costs and quality of care for a defined population."* They conclude that ACO type models are a potentially valuable vehicle for aligning physician and hospital interests in improving quality and reducing cost.

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and aligning the goals of each organization were reported to be key to developing this trust, and consistent communication was a factor in maintaining trust and commitment to the transformation.

Wranik and Durier-Copp (2009) also identify ongoing and strong communication with clinic stakeholders as a key consideration. The authors suggest the development of transparent communication regarding the roles and expectations of all team members, as well as a plan to disseminate the PBF clinics' progress in terms of patient outcomes and budgets.

Physician Leadership

According to Kolbuch (2001), the acceptance of alternative remuneration methods, such as PBF, requires concrete physician buy-in to enable its success. A 2014 Canadian Foundation for Health Care Improvement report ("*Exploring Accountable Care in Canada*") also identified that physician leadership is a critical element of implementing effective models of care. Within the clinic setting, the identification of physician leadership is also key to driving buy-in from other clinic physicians, nurses, allied health and support staff.

Enabling Collaboration / Team-Based Care

A noted benefit of PBF is the ability to hire non-physician care providers, because funding is not tied to individual services provided by physicians (Frayne 2015). The value of adding allied health and other non-physician care providers to the care team within a clinic is gaining recognition and is included as a cornerstone of BC's Patient Medical Home model. In the *Overview of Physicians Services* (2014), the BC Auditor General noted that team-based care has been "shown to improve patient satisfaction, access, and equity" (Office of the Auditor General of British Columbia, 2014, p. 28). Clelland (2015) also notes that employing allied health providers may allow clinics to expand their practice's capacity, since these providers can perform time-consuming non-medical services.

To support collaboration and team-based care, the literature points to the value of clearly defining the roles and expectations of all team members in a PBF clinic, from physicians, to other care providers (NPs, RNs, and allied health) through to support and administrative staff. To facilitate this, it is recommended that prospective PBF practices consider including clear contract deliverables, benchmarks, and practice guidelines in their agreement with clinics (Wranik and Durier-Copp, 2009).

Information-Technology Enabled

PBF is a funding model that necessitates the parallel development and implementation of robust information technology, including administration systems, telehealth connectivity, and electronic medical records (EMR) (Wranik and Durier-Copp, 2009; 2011). To maintain fair and accurate payment to FPs, track patient registration, and track patient health service utilization outside of the practice to which they are attached, PBF practices require the use of optimized EMRs. In addition, having integrated data systems helps to achieve goals of care coordination in a multidisciplinary team (Schrag *et al*, 2017).

Risk-Adjusted Patient Roster

A successful PBF clinic that enhances the quality of care for its patients while reducing overall health system costs adjusts for patient morbidities and risk of using care (Frayne, 2012). For example, older patients with chronic conditions would confer larger budgets than younger patients. Evidence from other models that *do not* adjust for patient risk and morbidities within the capitation formula found these clinics to be more likely to attach healthier and low-cost patients onto their patient rosters than

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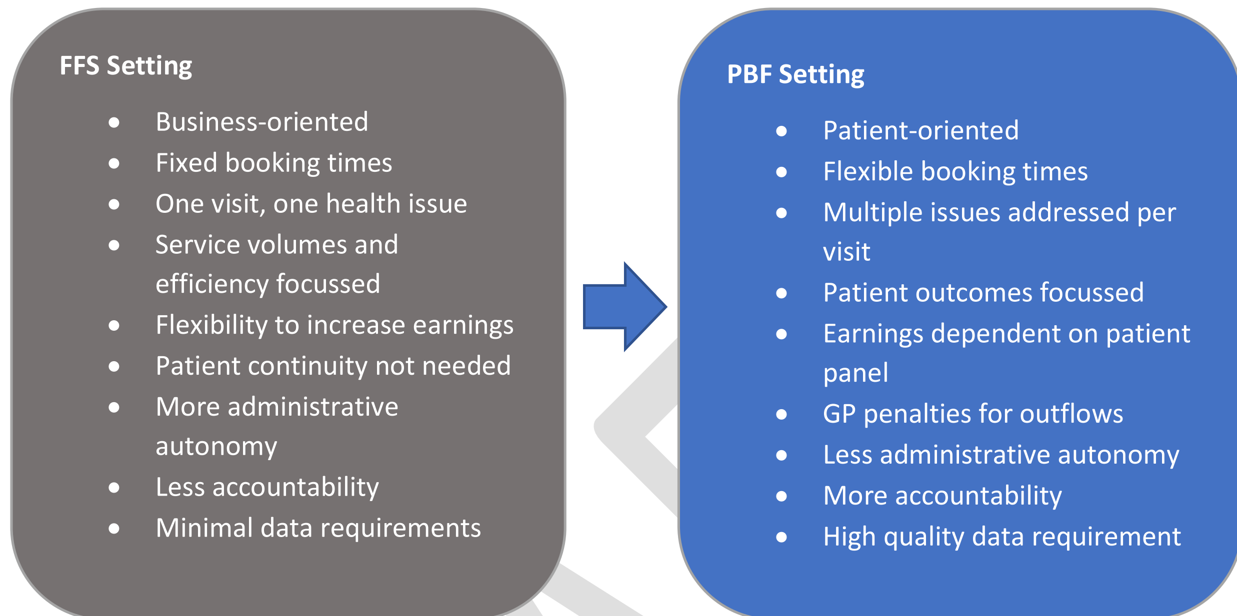
high complexity patients (Rudoler *et al*, 2015). These practices were also less likely to roster patients with chronic conditions (Glazier *et al*, 2012).

Figure 1A. Transition into the PBF model



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Recommendations: Structure and Processes

For evaluation

- Create a process evaluation framework, with clear reporting timelines back to the implementation team on evidence of progress
- Create tools to assess team functioning and communication

For implementation

- Ensure physician leadership is in place; Empower/support physicians to take leadership roles
- Create clear roles/expectations for all team members, including documentation and process for reviewing these roles to identify changes in role/expectations as the transition occurs
- Develop a communication plan
- Ensure the clinic's IT needs are identified, and the EMR system is designed to decrease administrative burden
- "Clean-up" the EMR to accurately identify the patient panel/roster

The literature regarding PBF identifies several advantages relating to health outcomes, provider satisfaction, and health system sustainability.

here are advantages and disadvantages to all physician remuneration methods. In theory, with regard to disadvantages, fee-for-service (FFS) is the most likely to result in overuse of services and capitation is the most likely to lead to 'cream skimming' of healthier patients and unnecessary referrals (Wranik, 2012). The incentive effects can be balanced via a blending of methods, such as the PBF model used in BC.

Patient Experience of Care

PBF family practices have been found to enhance patients' experience of care and, as a result, they are more likely to adhere to one family practice over time. **Patients are more likely to receive health education from physicians remunerated by capitation** than from physicians funded by FFS models (Pearson *et al*, 2013; Esmaeili *et al*, 2014). Pearson *et al* (2013) suggest that this may be due to a feature of capitation wherein physicians are incentivized to reduce costs over time. Frayne (2015) noted that the rate of patient outflow at his clinic steadily decreased since his clinic adopted a PBF funding model. This is, according to Frayne, indicative of patient satisfaction with the practice's services.

Provider Experience of Care

PBF family practices have been shown to improve the provider experience of care provision. According to the UBC Family Practice Centre, a PBF family practice in Vancouver, **physicians experience a higher level of job satisfaction** than physicians remunerated by other funding models (Frayne, 2015; UBC Family Practice)

Cost

PBF aligns funding with prospective patient needs rather than with the number of services provided. This shift **removes the incentive for FPs to deliver unnecessary services**. The reduction of these services may translate into cost savings for the health system (Frayne, 2012), which adheres to the General Practice Service Committee's Triple Aim Framework (Frayne, 2015).

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In addition, because PBF removes the incentive to provide traditional office visits to facilitate FP and patient interaction, FPs are encouraged to provide less costly forms of care such as phone consultations. These types of services have been shown to **improve continuity of care for patients** (UBC Family Practice Centre, 2016).

Quality of Care

Sarma *et al* (2010) found that physicians who were remunerated through non-FFS models, including PBF, devoted approximately 66% more hours to indirect patient care activities than FFS physicians. According to Sarma *et al* (2010), these activities, which include the coordination of care, attaining CME credits, and conducting research, suggest that non-FFS physicians are more engaged in improving the quality of care they provide to patients. Sarma *et al*'s (2010) study corroborates the notion that physicians are more cognisant of a patient's overall health status than one specific condition or health issue. Esmaeili *et al* (2014) found that physicians felt more responsible for a patient's overall health in return for receiving a capitated payment. Physicians were concerned with patients' follow-up treatments and indicated that they were more likely to invest more time with patients to address the "root problem" of their patients' health issues.

Recommendations: Identifying Potential Outcomes

For evaluation

- Develop indicators that align with the potential outcomes identified in the literature. Examples include:
  - Patient and provider experience of care to assess satisfaction with the model, including access and quality of care
  - Patient outflow data and ER usage rates to assess continuity of care
  - Service utilization (decrease in unnecessary testing / procedures)
- Identify potential long-term outcomes for population health, to establish baseline data for future evaluation of this model.

For implementation

- Clearly define the model being implemented, within the local context, including goals of implementation.

Conclusion

This review outlines current, published literature related to the transition of clinics to alternative payment models, with a focus on population-based funding. Recommendations are provided related to the definition of the model being implemented, enabling process/structures, and the identification of potential outcomes. These will help inform the implementation of PBF models, as well as the development of evaluation plans to aid in understanding the process of change, as well as the impact on patients, providers and our health care system.

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Appendix B: PBF Clinic Vignette

Figure 1B. Summary of operations of the PBF model at the Vancouver Family Practice Centre, as well as key accomplishments and recommendations.

Vancouver (formerly UBC) Family Practice Centre

Vancouver Family Practice Centre is located at 750 West Broadway. It has approximately 8000 patients registered to the clinic. They converted to a blended PBF funding model in 2000 as part of a Federal Initiative administered through BC's provincial health authorities.

Physicians and Staffing: nine *physicians (8 FTE) are partners in this practice.* The practice employs one full-time Registered Dietitian, one full-time Office Manager, six full-time MOAs. Two full time Nurse Practitioners funded by the BC Cancer Agency practice at the centre and also provide some care to clinic patients. Until last year, there was a dedicated psychiatrist for the clinic's patients, seconded from Provincial Health Services Authority.

Key Accomplishments:

- Providing exceptional patient quality of care – including, increased access to care through their advanced access options that include ten open visit slots per day for same-day appointments and a 'Doctor of the Day' program to provide 24/7 access when needed, more options for patients to receive care over the phone to prevent unnecessary visits, and improved continuity of care due to continuity in the clinic's physician population.
- Focussing on preventive medicine – as the physicians are able to "practice as they want to practice", they can spend the time they need with the patient and ensure that all aspects of patient's health are tended to (from preventative education to urgent care).
- Keeping patient outflow rates low – through strategies such as patient education, the clinic currently has a outflow rate of only 4%, which is lower than the provincial average of 7-8%.

Recommendations:

- Investing time into patient education and accessibility options allows physicians to maximize their compensation for their panels.
- Having a clinic manager who can maximize and attend to issues of registering and deregistering patients to the practice, assists with practice efficiency and minimizes burden on physicians.
- A Nurse Practitioner (NP) can maintain a small independent panel of patient (e.g., 200) while also assisting physicians to enhance continuity and comprehensiveness of patient care.
- Financial and/or in-kind support from external sources such as the health authorities provide PBF clinics with more options to hire nurses or allied health care providers to enhance care.
- Strong partnerships may allow clinics the opportunity to allocate more time to teaching, as has been the case with this clinic.

Appendix C: Evaluation Tools

Mission Oaks Clinic Population-Based Funding (PBF) Interview Guide for GPs | Conversion Experience

Physicians

1. **To start us off, what was your understanding of the PBF model before and after initial conversion in your clinic?**
    a) What was the rational for converting to PBF?
    b) What hesitations did you have, if any? Have these been overcome?

2. **In what ways have you been involved in developing and implementing the PBF model?**
    a) How did the practice prepare for the implementation of PBF?

3. **To date, what factors have supported the conversion of your clinic from FFS to PBF?**
    a) To what extent did you feel prepared to begin the switch to PBF? What, if anything, would have made you feel more prepared?
    b) How has the relationship with IH and the MoH evolved and impacted the process?

4. **What challenges have been faced converting your clinic from FFS to PBF?**
    a) How have these been resolved?

5. **Is the model currently operating how you expected it to? Why or why not?**
    a) If you were to start over, is there anything you would do differently?
    b) What further improvements could be made?

6. **What initial impacts are you seeing as a result of converting to PBF?**
    a) Do you have any examples of how this impacts on your work?
    b) How do you think this has impacted patient care?

7. **How did the practice hire and implement a nurse within this new model?**
    a) What additional impacts are you seeing or do you hope to see from your nurse in practice model?

8. **Have you learned anything else that you think would be beneficial to know if converting a practice to PBF (for the MoH, HA, GPs)?**

Nurses

1. **How did you become involved in working at this clinic?**

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   a) How long have you been an employee?

2. **To what extent is your role as a nurse in a GP clinic meeting your expectations?**
   a) Were you involved in developing the role? If yes, in what capacity?
   b) Did your previous training you received adequately prepare you for the role? What, if anything, would have made you more prepared?
   c) Are your responsibilities clear? What are these responsibilities?
   d) Do you feel that you are working to your full scope of practice as a nurse?

3. **What does a typical day look like for you at the clinic?**

4. **How ready was the practice for you to start?**

5. **What other factors have supported your transition into working in a GP clinic?**

6. **What challenges have you faced during your transition into working in a GP clinic?**
   a) Any specific challenges associated with working within a PBF model?
   b) If you were to start over, is there anything you would do differently?

7. **What initial impacts are you seeing as a result of participating in this initiative?**
   a) Is there a gap in care that you're filling? If yes, please explain.
   b) Do you think that this project has impacted *patient care*
   c) Are there any unintended or unexpected effects?
   d) Are there additional impacts you expect to see as the model matures?

8. **If you could make any recommendations to someone seeking to develop Nurse in Practice in their own area, what would they be?**

9. **Is there anything else you think would be valuable to share with the evaluation team at this time?**

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MOAs/Other Staff

1. **Can you tell me about how you came to work for this clinic?**
   a) How long have you been an employee?

2. **In what ways were you involved in or made aware of the transition to a PBF model?**

3. **Has the transition to PBF had an impact on your work? If so, how?**
   a) Has your role changed with the conversion from FFS to PBF?
   a) Do you have any examples of how this is having an impact on your work?
   b) Did the training/support you received adequately prepare you for the transition to a PBF model? What, if anything, would have made you more prepared?
   c) What challenges have been faced converting to PBF?
   d) What factors supported the conversion to PBF?

4. **Is the model currently operating how you expected it to? Why or why not?**
   a) Are there any changes you would recommend to improve how the clinic is operating?
   b) If you were to start over, is there anything you would do differently?

5. **What initial impacts are you seeing as a result of converting to PBF and hiring a nurse?**
   a) Do you think that this project has impacted *patient care*? If yes, in what ways? Do you have any examples?
   b) Are there any unintended or unexpected effects?
   c) Are there additional impacts you expect to see as the model matures?

6. **Is there anything else you think would be valuable to share with the evaluation team at this time?**

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PBF Clinic Reps in BC

9. **What, if any, has been your role in the conversion from FFS to PBF of the Mission Oaks?**
   a) What type of mentorship did you give? To Whom?
   b) Did anyone else at your clinic have a role in helping with Mission Oaks' transition? How?
   c) What materials / resources did you share with the clinic? With whom?

10. **What has your own experience been with transitioning to the PBF model?**
    a) What was the rational for converting to PBF?
    b) How did the practice prepare for the implementation of PBF?
    c) What is your contact with other PBF clinics in BC?

11. **Who was involved at the beginning and how did you team change over time?**
    a) Initial and current team members, FTEs, roles?
    b) Are there any team members that are externally funded?
    c) What has your experience been with team-based care with PBF?

12. **What major factors support or challenge the conversion to and operations of your PBF clinic?**
    c) What would have made the process of conversion optimized?
    d) How has the relationship with the Health Authority and the MoH evolved and impacted the process over time?
    e) Have the committees / communication put in place by the Ministry and / or HAs been effective at aiding the transition and maintenance of the model?
    f) What else could be in place to assist in maintaining existing and future PBF clinics?

13. **How did you make your business model sustainable to support the implementation of PBF?**
    a) What, if any, financial or in-kind supports have you received from partners (e.g., transition funding for start-up costs? Clinical space? Funding for nurses or allied health?)
    b) What were the conditions attached to the support provided?

14. **Are there any other billing / encounter coding issues to highlight?**
    a) And in the future with the move towards PMH and PCN?

15. **What impacts are you seeing as a result of converting to PBF?**
    c) What are the benefits and drawbacks (e.g., access, cost)?
    d) How do you think this has impacted patient care? Physician experience?

16. **What recommendations do you have for converting a practice to PBF in the future?**
    a) For the Ministry, Doctors of BC, GPSC?
    b) For Divisions?
    c) For the EMR Vendors?
    d) For the Health Authorities?
    e) For the practices?

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Appendix D: Additional Information Regarding Operation of PBF

MoH attachment algorithm (according to the PBF Operations Manual)

The Ministry reviews claims history for all physicians in practice for three years and selects patients who meet the criteria of (a modified version of) the Ministry's patient attachment algorithm.

- The algorithm identifies patients who have received the majority of their GP services by physicians in a practice.
- If a patient has made more than five visits in the last year, all of those visits will be considered.
- Otherwise the last five visits (within three years) will be used.

The modifications to the attachment algorithm (for initial PBF register analysis) are:

- A maximum of three years is used to find five visits (instead of ten years). This is to ensure there is a focus on the current members of the practice.
- If a majority of visits (i.e. more than 50%) of all visits in the last year were not provided by a single practice, also look at just the last five visits to see if there is a majority within those.
- For patients still not identified as attached to any practice, look at the last two visits received: if both the last two visits are with the same practice, consider patient attached to that practice.

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Figure 1D. Reasons for recommendations for registration/de-registration of patients from the MoH and reasons for practices to override recommendations, as described in the *PBF Operations Manual*.

Ministry Reasons for suggesting Registration or De-Registration

Registration Reasons		De-registration Reasons			
01	Two Consecutive Visits at Site	A0	Ministry Records Indicate Patient is Deceased	C	No Reviewed Services are at Site
02	At least 51% of Last 7 Visits are at Site	A1	Patient No Longer Has MSP Coverage	D	At Least 51% of Reviewed Services are Not at Site
03	Patient register synchronisation	B0	Patient Lives Outside of Catchment Area	F	5 of Last 7 Visits in Catchment but Not at Site
M	Existing Record is Back-dated	B	Patient Moved Out of Catchment	L0	Patient Has Received No Visits at Site
		B1	Patient Moved Out of Catchment, Visit at Site	X1	All Reviewed Visits are Outside Catchment Area
				X2	Last 3 Visits are Outside Catchment Area

- The practice has up to 10 days to respond
- The practice may choose to accept the ministries recommendations or choose to override. No action is required to accept recommendations, however if changes are required the following override codes and reasons will need to be submitted.

PBF Practice Reasons for Overrides

96092 PBF Registration Override (The reason codes below are to prevent patients being registered)		**96093 PBF De-Registration Override** (The reason codes below are to prevent patients from being deregistered)	
C	PBF Physician covering for vacationing Physician	C	Patient saw another GP while their GP on vacation
D	Patient Deceased	E	MSP coverage confirmed (*Practice must also confirm through HN Web*)
F	PBF practice not accepting new patients	I	Patient is temporary resident of catchment area
I	Patient intends to see another GP	S	Patient lives outside of catchment area and requires special services from PBF practice
M	Patient has moved out of catchment	T	Patient referred temporarily to another GP
N	Patient not known to PBF practice	U	Address incorrect- Patient lives in catchment area (*Practice must also enter new data in HN Web*)
R	Patient referred temporarily to another GP	V	Patient was on vacation
T	Patient referred temporarily from another GP	W	Patient lives outside catchment area, but works of attends school in the catchment area.
X	Fee for service only	A	Another reason – enter note in data-line
V	Patient is only visiting the catchment area		
A	Another Reason- enter note in data line		

- On the morning of the 16th of each month the ministry finalizes their version of the practice register based on any changes received from the practice.
- Synchronization requires sending the Ministry (via SFDS) a current registered patient list from the practice's EMR software.
  - It should be done after the 17th of the month and before the 4th of the next month (Because if a practice was to synchronize within the review window- there are pending registrations and de-registrations that could cause false discrepancies between the site and Ministry register lists).

Appendix E: Physician Compensation Structure

EXAMPLES OF PHYSICIAN COMPENSATION STRUCTURE

Factors physicians may want to consider when determining how to share the PBF funds are

- Hours typically worked (to reflect part or full time work)
- Complexity of each physicians register of patients
- Coverage of other physician's patients (balanced among all physicians or perhaps on doc takes this role on for the entire clinic)
- Base of stable income (eg: regardless of factors above a portion of the PBF funds are regularly allocated to each doc)

The table below looks at examples of internal practice compensation structure/agreement from PBF practices.

	Requirements	Agreement

A	• Must accommodate physicians who
	  ○ work different number of hours
	  ○ see each others' patients
	• Must feel fair for all physicians
		• All fee for service funds are distributed to the physician who provided those services (as reflected in the Ministry report)
		• All Blended funding payments are first considered in terms of who 'owns' the registered patient. Each physician is paid 1/3 of his BF funds allocated by the Ministry for his register (the 'value' of his/her patient base to the practice)
		• The remaining 2/3 of the BF funds are paid to the physician that actually provided service to the patient. (This is determined each quarter by the Ministry's table of encounter activity by provider and by register)

B	• Plan must be simple
	• Physicians must generally agree to work a similar number of hours
	• Must feel fair to all physicians
		• All fee for service funds are distributed to the physician who provided services.
		• All Blended Funding payments are initially distributed to the physician who 'owns the registered patient
		• Quarterly adjustments are made for internal outflows (according to the table provided by the Ministry) as follows:
		  ○ The average blending funding amount per visit is calculated for each quarter (total BF $ divided by total # of encounters for that quarter)
		  ○ The number of encounters each physician performed on other physicians' patients is determined
		  ○ Funds are transferred between physicians

C	• Must accommodate
	  ○ Variance in working hours
	  ○ Reflect clinical complexity of individual physician patient register
	  ○ Provide stable income while away
		• All FFS income is distributed as per usual route. (each physician keeps all these monies- not shared)
		• Shared monies—PBF funds- Total $'s are split into 3 pots.
		  ○ First pot is equally split among all physicians
		  ○ Second pot is divided and distributed based on hours worked (office staff responsible for tracking full and ½ days)
		  ○ Third pot is divided and distributed based on each physician aggregate ACG value for their registered patients.