Central Okanagan
Division of Family Practice
A GPSC initiative

GPSC
General Practice Services Committee

Case Study:

Central Okanagan Division of Family Practice Integrating Nurses Into Practice: Transition Stage

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Acronyms

BC	British Columbia
CODFP	Central Okanagan Division of Family Practice
CFPC	College of Family Physicians of Canada
EMR	Electronic Medical Records
FTE	Full-time equivalent
GP	General Practitioner
GPSC	General Practice Services Committee
HA	Health Authority
IH	Interior Health
IHI	Institute for Healthcare Improvement
LPN	Licensed Practical Nurse
MOA	Medical Office Assistant
MoH	BC Ministry of Health
MMSE	Mini-mental state examination
MoCA	Montreal Cognitive Assessment
MRP	Most Responsible Provider
NP	Nurse Practitioner
PBF	Population-based funding
PCN	Primary Care Network
PMH	Patient Medical Home
PSP	Practise Support Program
RN	Registered Nurse
RPN	Registered Psychiatric Nurse
SIMARD	Screening for the Identification of Cognitively Impaired At-Risk Driver

Executive Summary

The GPSC undertakes in-depth case studies to learn about local primary care innovation in the context of Patient Medical Home implementation. This report is a product of an evaluation completed in partnership with the Central Okanagan Division of Family Practice (CODFP). The main purpose of the case study is to understand the experiences of participating clinics and to identify opportunities to enhance local and provincial supports for team-based care, particularly around the transition and successful integration of nurses into primary care practices. While the clinics included in this case study participated in the Ministry of Health- funded Nurse-in-Practice Program, this report covers themes that will be relevant to any clinic transitioning to **team-based care**.

About the initiative

In the Central Okanagan, the Ministry of Health funded eight nursing positions. The contracts between the Ministry and participating clinics included one-time start up funding, and one-year service terms to directly hire nurses for their practices. The purposes of the funding was to integrate nurses into primary care and expand the capacity of physician-run practices and attach patients. It is part of the greater vision for a Patient Medical Home (PMH). Through teamwork and shared responsibility, the CODFP supported the integration of nurses into practice to provide patients with a greater range of services, increased access to primary care, and reduced wait times, which, in turn, is expected to improve population health outcomes. Moreover, it is expected to contribute positively to the patient and provider experience, the quality of care, and the reduction of per capita costs over time.

About the Evaluation

The evaluation of the participating clinics used a case study design to report on the transition phase of the initiative (Figure 1), as well as some early findings related to the first-year outcomes. Note that at the time of the evaluation, only one of the eight nursing positions had been operating for more than one year.

Figure 1. CODFP Nurse-in-Practice Case Study Timeline

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

The following questions directed the evaluation:

1. How has the initiative developed?
2. What practical and contextual factors have facilitated success or challenged progress to the development and transition of bringing nurses into practice at the pilot sites?
3. To what extent are the intended outcomes of the initiative being achieved?

To answer these questions, the evaluation team worked closely with the CODFP, GPSC, and Ministry of Health, along with the project's working group to better understand the implementation of practice changes and to ensure that the findings are valuable for both local and provincial stakeholders.

The evaluation collected both qualitative and quantitative data between December 2017 and November 2018 to provide information about the local program. Methods included a patient focus group (n=7), stakeholder interviews (n=30), an analysis of nurses' shadow billing data, and surveys of participating practice physicians, nurses, and other team members at the pilot sites.

Summary of Findings

The evaluation included an analysis of the transition phase for eight clinics integrating nurses into practice in Central Okanagan. [1] Both physicians and nurses who participated in interviews reported a range of motivations for taking part in the initiative—one common theme across providers was to better support patients. Readiness for practice change was found to be positively influenced by four key factors: having someone champion and be responsible for managing the change, physician buy-in within the clinic, dedicated space for the nurse to use, and start-up funding from Ministry of Health to cover costs of minor clinic modifications or supplies. Prior to implementing the nurse, each practice underwent a panel assessment with GPSC's Practice Support (PSP) program, which was found to be challenging by some clinics. With regards to the process of hiring the nurse, it was found that the Division played a valuable role in recruiting and screening nurse applicants.

Preliminary outcomes of the initiative point to alignment with the goals of PMH and progress towards the Quadruple Aim. Generally, the evaluation found that the integration of nurses into a primary care clinic team is adding value to the practices, with highlights including that the nurses are introducing new services to the practices, getting patients set up with community services, and freeing up physician time to see more patients in a day. Both physician and nurse respondents reported positive links between job satisfaction and team-based care, and patient respondents reported high satisfaction with the program.

About a third of the practices noted that a lack of clarity around the ministerial expectations of the program contributed to a feeling of over-regulation for the nurses, which negatively impacted their experience. Concerns included a perception that there was a restriction on same-day billing, and that the model could result in potential loss of clinic income with having the nurse complete tasks that can otherwise be billed by the practice. In addition, two of the clinics identified uncertainty around the program's longevity given the investment of time and resources that practices use to onboard the nurses. These concerns may be alleviated through further examination of physician billing patterns and revenue changes following the maturity of the program in future evaluations.

Next Steps

Included in the report are recommendations directed to decision makers at the clinic-level, Division level, and provincially. As the pilot sites continue to operate, these recommendations may be useful to enhance their processes and procedures. They may also be valuable for other Divisions or clinics interested in introducing a nurse into primary care practices.

[1] The Ministry of Health funded 8 nursing positions in the Central Okanagan. Due to circumstances explored later in this report, a total of 9 clinics and 10 nurses were involved throughout the pilot, covering the 8 nurse positions.

Case Study:

Central Okanagan Division of Family Practice

Integrating nurses into practice | Transition Stage

Introduction

The GPSC undertakes in-depth case studies to learn about local primary care innovation in the context of Patient Medical Home implementation. This report is a product of an evaluation completed in partnership with the Central Okanagan Division of Family Practice (CODFP). The main purpose of the case study is to understand the experiences of participating clinics and to identify opportunities to enhance local and provincial supports for team-based care, particularly around the transition and successful integration of nurses into primary care practices. While the clinics included in this case study participated in the Ministry of Health- funded Nurse-in-Practice Program, this report covers themes that will be relevant to any clinic transitioning to team-based care.

The case study draws on existing work from the GPSC evaluation team in consultation with SK Consulting and the CODFP, as well as data collected by Reichert & Associates between December 2017 and November 2018, including a patient focus group, stakeholder interviews, an analysis of nurses' billing data, and surveys of participating practice physicians, nurses, and other team members of the pilot sites.

Context

Across British Columbia, general practices face excessive patient panel sizes at a time of primary care physician shortage (Morton, 2018). The average panel size within the CODFP catchment is about 1500 patients. Studies estimate that a family physician would have to spend nearly 22 hours per day to provide a panel of 2500 patients with the preventive, chronic, and acute care that is recommended (Yarnall et al., 2009, cf. Altschuler et al., 2012, p. 396). The shift towards a team-based model of care aims to reform primary care delivery and ease pressures on physicians. By sharing responsibilities and delegating tasks to other allied health professionals, team-based care seeks to offer not only improved patient access, but a greater range of comprehensive services that promote health and, ultimately, control the per capita costs of care for the healthcare system (Altschuler et al., 2012, p. 396; Strumpf et al., 2017, p. 76).

Division Profile

Currently representing 250 family physicians, the CODFP encompasses a catchment area of over 198,000 residents who reside in Kelowna, West Kelowna, Lake County, Peachland, and Westbank First Nation. It is estimated that 20% of the population is not attached to a general practitioner (GP) and depend on walk-in clinics or hospital care (van Emmerik, 2018). There is a concern that a lack of access to primary care will be amplified in the coming years due to an aging population and a forecasted decrease in the number of physicians working in the region. Approximately 16% of catchment physicians have indicated that they are nearing retirement (SK Consulting, 2017, p. 9).

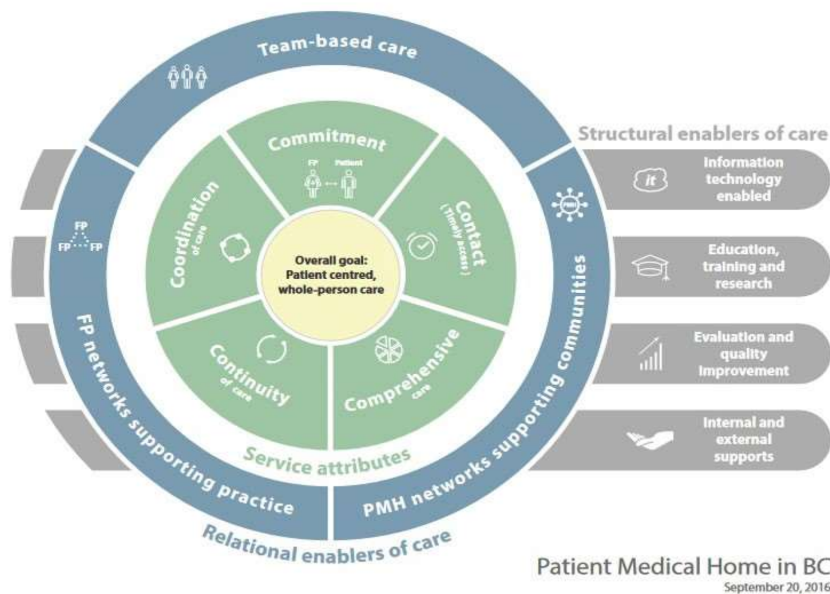
Team-based Care and the Patient Medical Home

As part of the greater vision for a Patient Medical Home (PMH), team-based care is a provincial strategy to expand the capacity of physician-led practices and provide better access to comprehensive care. Supported by the GPSC and the Divisions of Family Practice ("Divisions"), PMH is an ideal model of general practice 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, p. 3). Through teamwork and shared responsibility, team-based care, a core relational enabler of care, will help facilitate a greater range of services to patients, increased access, reduced wait times, and in turn, 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. The integration of nurses into practice embodies this attribute of the PMH and relational enabler of care.

Integrating Nurses into Practice

Beginning in July 2013, the CODFP surveyed its family physician members to assess interest in a range of practice changes, including team-based care. Those physicians who expressed interest in team-based care were approached in July 2015 about participating in the Nurse-in-Practice program (SK Consulting, 2017, p. 12). A total of 54 physicians were approached to "team up" with nurses in their practices, with 8 practices (representing 34 physicians) ultimately meeting the eligibility requirements established by the BC Ministry of Health (MoH) to move forward as pilot sites in February 2017. These eligibility requirements included having space available for an additional provider, having more than one physician in the practice, and having a defined patient panel (i.e. the pilot site is not a walk-in clinic).

Contract negotiations were conducted between representatives of the MoH, Doctors of BC, Division representatives, and physician leads at each of the 8 participating clinics to determine how practices and nurses be supported. Using funding provided by the MoH, each clinic added one nursing position and established year-long contracts for the clinics to directly employ the nurses.[3] This financial arrangement, where nurses were employed by each practice but funded by the Ministry, was attractive to participating physicians as it enabled them to delegate some of their tasks to a Ministry-funded nurse and improve their ability to see more patients.

The implementation of the Nurse-in-Practice program in Central Okanagan was supported by the CODFP. In addition to serving as a central liaison between each of the participating practices, the Division also assisted with each clinic's hiring process and organised learning groups among the new nurses-in- practice. The program was also supported by a working group comprised of representatives from the Division as well as physicians, nurses, and clinic managers from each of the practice sites. The working group offered an opportunity for pilot practices to share their experiences in an effort to improve the integration of nurses into their clinics and develop a broader community of practice.

The pilot sites varied in the type of nurse hired (i.e., RN, LPN, RPN, or NP, see Box A), their organization as a clinic (i.e., managed by a clinic manager, or physician-led), as well as their rationale and capacity for opting into the Nurse-in-Practice program. This contributed to the establishment of varying models of care and therefore unique experiences with the program. This variation exemplifies how the program can be somewhat flexible to meet the needs of different clinics, while also providing learnings that can be transferred to a variety of other practices across the province. Table 1 profiles the pilot sites that brought a nurse into practice as part of the initiative.

Box A. Differences between Nursing Roles

The main differences between RNs and LPNs is in their responsibilities. LPNs have a narrower scope of practice and must carry out their services under the direction of a physician or the supervision of a RN. The two other categories of nurses in BC are Registered Psychiatric Nurses (RPN) who specialize in mental and developmental healthcare, and Nurse Practitioners (NP) who are uniquely positioned to practice autonomously as primary care providers. (BCCNP, 2018).

[3] The Ministry of Health funded 8 nursing positions in the Central Okanagan. Due to circumstances explored later in this report, a total of 9 clinics and 10 nurses were involved throughout the pilot, covering 8 nursing positions.

Table 1. Pilot site profiles

	Total # of GPs within clinic	# of GP FTE [4]s within clinic	# of GP FTEs who brought a nurse into practice	Estimated patient caseload supported by nurse [5]
A	6	5	1	1500
B	10	6	6	9000
C	7	6	5	7500
D	5	3.5	3.5	5250
E	5	5	5	7500
F	7	6.5	6.5	9750
G	2	2	2	3000
H	3	3	3	4500
I	3	3	3	4500
Total	**48**	**40**	**35**	**52,500**

Early evaluation findings indicate that integrating nurses into practice has not only increased the range of new and existing services available to patients, but also improved the quality of care they receive. [6] Moreover, early sentiments made by the program's pilot physicians who were interviewed for this evaluation indicate that the integration of a nurse into their practice has improved the efficiency of their clinics while maintaining, if not improving, the quality of care their patients receive.

[4] "Full-time equivalent (FTE) is defined as the measure used to estimate whether a physician is working full-time." It is an algorithm based on a fee schedule that relies on the number and complexity of services rendered (CIHI, 2011, cf. CFPC, 2012, p. 2). While a standard panel size for all family physicians does not exist, the College of Family Physicians of Canada (CFPC) has established a guide for calculating a manageable panel size per family physician as well as for multidisciplinary teams.

[5] These numbers are based on the estimated panel size of 1500 per full-time GP. They represent an estimated maximum should all the physicians who have signed a contract with the Ministry of Health to participate in this program. However, as interviews revealed, regardless of the number of physicians signed-up per clinic, the nurses were only supporting 1-2 physicians per practice.

[6] See Evaluation Findings | Preliminary Outcomes for additional information on the impact of the integrating nurses into practice for patients and providers.

About the Evaluation

As part of the efforts to implement the PMH model of care, Divisions across BC were approached by the GPSC Provincial Evaluation Team with the offer to study one of their key PMH initiatives. The CODFP selected its Nurse-in-Practice program for study.

The current evaluation is the second case study in a series. As illustrated in Figure 3, which details the case study timeline, this current report focuses specifically on the transition phase. It aims to explore the processes of preparation, orientation, and integration of nurses as team members in each of the eight CODFP Nurse-in-Practice pilot sites. In so doing, it provides insight into the transition experience, while serving to contextualize the provincial cross-comparison of the different Nurse-in-Practice models within the larger PMH evaluation.

Figure 3. CODFP Nurse-in-Practice 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 transition phase of the Nurse-in-Practice program. It gathered both qualitative and quantitative data to provide information about the local program, including processes of preparation, orientation, integration, and team effectiveness. The findings are framed and examined in the context of stated PMH goals, the provincial PMH Evaluation Framework, and the priorities of the "Quadruple Aim" (Bodenheimer & Sinsky, 2014), the latter of which builds on the framework of the globally-recognized Institute of Healthcare Improvement (IHI)'s Triple Aim.

Additionally, to support the program's development, the evaluation worked collaboratively with the CODFP, GPSC, and Ministry of Health staff, participating physicians, and working group members to better understand the implementation of practice changes and to ensure that the findings are valuable for both local and provincial stakeholders.

Objectives

Specifically, the evaluation was designed to:

- Support the provincial PMH efforts and evaluation framework by establishing the progress of CODFP's Nurse-in-Practice program;
- Report on the various approaches to integrating a nurse into each of the CODFP pilot sites (including processes of preparation, orientation, integration and team effectiveness);
- Discuss the motivations, intentions, and experiences of the team members (particularly the physicians and nurses) within each pilot site;

- Identify enablers of change at the practice level that have led to successful implementation of the program;
- Identify 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;
- Describe early outcomes related to the Nurse-in-Practice (and Quadruple Aim) goals.

Key Questions

The following questions directed the evaluation:

1. How has the initiative developed?
2. What practical and contextual factors have facilitated success or challenged progress to the development and transition of bringing nurses into practice at the pilot sites?
3. To what extent are the intended outcomes of the initiative being achieved?

Stakeholder Involvement

The evaluation was designed to include a wide range of key stakeholders and potential sources of information, most notably:

- Team members at the pilot sites
  - Clinic staff
  - Medical Office Assistants (MOAs)
  - Nurses hired into the program
  - Participating physicians
- CODFP
- Doctors of BC
- GPSC
- BC's Ministry of Health
- Interior Health (IH)

Methods

Six data collection methods were employed to address the objectives and key questions:

Observations

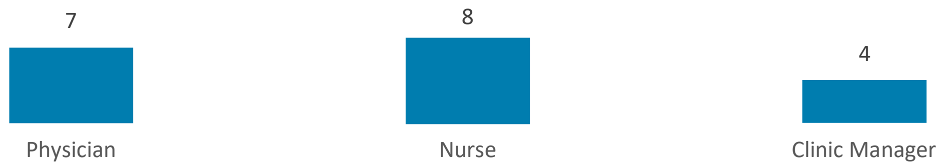
The CODFP hosted a working group meeting on April 12, 2018 for stakeholders of the Nurse-in-Practice program. The meeting provided 20 participants from across the pilot sites, including physician leads and the hired nurses, with an opportunity to discuss the common challenges, early successes, and needs of the program going forward. A member of the evaluation team attended this meeting for the purposes of observation and, with permission, recorded the proceedings.

In addition, the evaluation team attended two other meetings along with the Ministry, Divisions, GPSC, and participating practices on November 2, 2017 and May 3, 2018 that helped contextualize the program.

Working Group Survey

In April 2018, a total of 19 working group members completed the survey, which corresponded to a 95% response rate (19 of 20). Most respondents (79%; 15 of 19) identified themselves as being either a physician or nurse (Figure 4).

Figure 4. Working Group Survey Respondents by Role (n = 19)



Stakeholder Interviews

The evaluation included a selection of semi-structured interviews with key stakeholders of the Nurse-in-Practice program. The purpose of the interviews was to capture transition experiences of the nurses and the practices within which they provide care, as well as their expectations for the future. Interviews collected data on practice readiness, onboarding, and the degree to which nurses were integrated as team members within each pilot site.

In total, 30 stakeholders were interviewed, including the hired nurses and lead contracted physicians, representing 7 of the 9 clinics involved in the program (Figure 5). Interviews were also conducted with partners from the Divisions and Ministry. All interviews were conducted in-person except for three, which were completed over the phone.

Figure 5. Interviewed Stakeholders by Role (n = 30)

Nurse Experience Survey

A survey was developed to assess the experience of participating nurses participating. The survey was designed to align with the physician oriented PMH Assessment survey, which sought to understand the general practitioners' experience of care and practice support needs, as well as gauge provincial progress towards the twelve attributes of the PMH. All but one of the nurses in the program (87.5%; 7 of 8) completed the nurse experience survey.

Respondents identified as RNs (71%; 5 of 7), LPN (14%; 1 of 7), and RPN (14%; 1 of 7). In addition, two respondents described having "other" professional designations, including gerontology, orthopedics, midwifery, STI-prevention, and operating room.

Patient Focus Group

On November 27, 2018, the CODFP hosted a 1-hour focus group with patients (n=7) from one of the pilot sites. The focus group gathered patients' perspectives of the program and how their nurse was integrated into practice. In addition, the focus group provided feedback on how the program could advance the utilisation of nurses in primary care delivery.

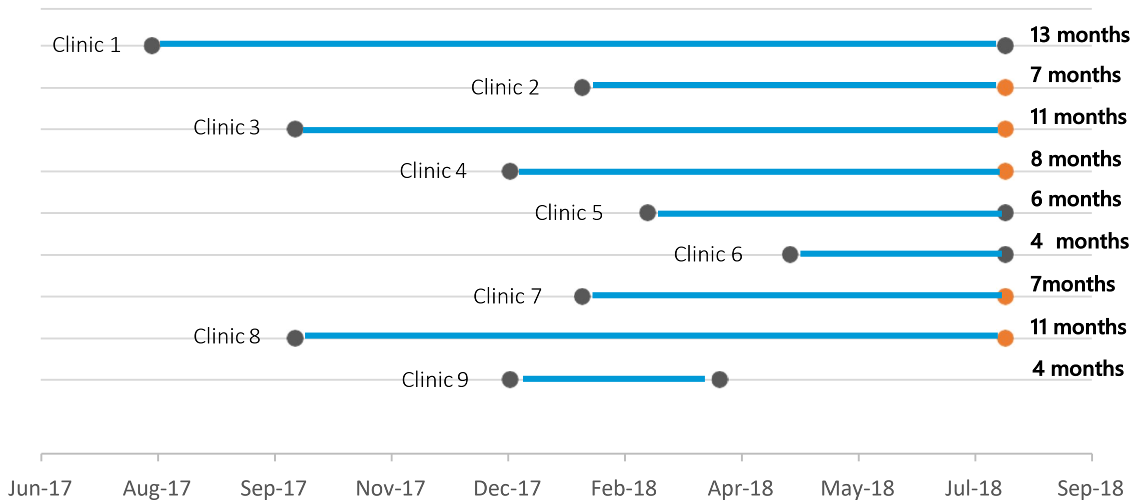
A survey was administered to all focus group participants (100%; n=7) to collect demographic information and measure satisfaction with the program. Most of the participants were over the age of 65 (86%; 6 of 7). Fifty-seven percent of participants (4 of 7) identified as being male.

Shadow Billing Data Analysis

In June 2018, a data request was submitted to the Ministry of Health for each participating clinic's shadow billing data. Analysis of this data enabled the evaluation to examine how each nurse was utilised in their practice and how their utilisation evolved over time.

Anonymized shadow billing data were available from August 2017 to August 2018 for the nine pilot sites involved in the program. However, because of the differing start dates for each of the nurses, only one clinic had data for this entire period (Figure 6).

Figure 6. Available Shadow Billing Data by Clinic



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 (McDavid et al., 2013).

It also bears mentioning that the small number of pilot sites and the unique models of their Nurse-in-Practice curtailed the ability of the report to describe experiences and case information without revealing identifiable data. Exemplary quotations, however, were deemed valuable to demonstrate and compare the variability of the program. They appear throughout this report as attributed only to stakeholders' roles (e.g., patient, physician, nurse, clinic manager, partner) in the interest of reinforcing the privacy of the respondents and participating practices.

Evaluation Findings | Preparation

The following section details the preparatory steps taken prior to implementing the Nurse-in-Practice program. Key areas include considering motivations for nurses and physicians to participate in the program, their readiness for practice change, how each clinic assessed their patient panels, and the hiring process for the nurses.

Motivations

Key takeaways

- Motivations for joining the CODFP Nurse-in-Practice program varied by stakeholder.
- For general practices, respondents indicated increasing and strengthening attachment, addressing care gaps in the community, cutting overhead to recruit and retain physicians, and mitigating physician burden as reasons to sign on to the program.
- For nurses, respondents highlighted that the program fosters a continuity of care and building of relationships with patients; they also highlighted the change in working hours and focus on health promotion as rewarding motivations to join the program.

Each practice and nurse had their own motivations for joining the program (Figure 7). For physician interviewees, it was important to them that their nurse-in-practice had experience working in preventive care and with diverse populations. One physician interviewee highlighted that the nurse hired into their practice was "very comfortable with the idea of prevention" and had previous experience with integrated, team-based care. Similarly, another physician interviewee had the vision of bringing a nurse into their practice to empower patients "to maintain and improve [their] health" with better education and self-managed care. This physician reported that they were eager to embark on the Nurse-in-Practice program and employed a nurse based on community work that she had done.

Almost all of the lead physicians indicated that they had previously worked with nurses in primary care. Four physician interviewees, for example, noted that they had previous experiences working with clinic-paid nurses to nurse practitioners placed in their practices by Health Authorities. One physician interviewee stated that they had interacted with primary care nurses through having practiced abroad in countries where nursing positions are more commonly integrated in general practices.

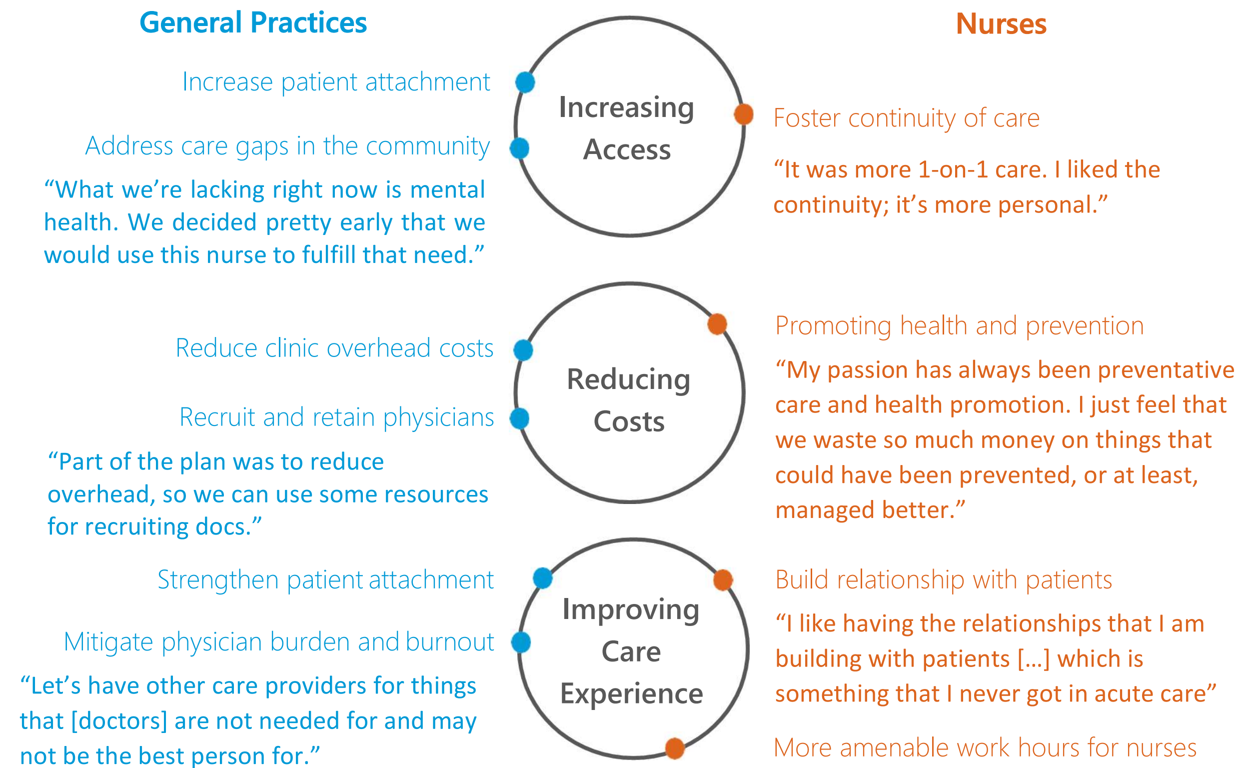
Nurse interviewees highlighted their desire to foster more personal relationships with their patients as a reason for joining the Nurse-in-Practice program. These nurses reported that they enjoyed providing more upstream, preventative care through health promotion and chronic disease management, two activities that they rarely engaged with in hospital settings.

> *I used to be an operating room nurse. My patients were either sedated or anesthetized and coming for the sole purpose of having something removed or fixed. I felt like I was in an assembly line doing one surgery after the next.*
>
> *In a clinic setting, I feel that I can be more patient-centred and focus on the quality of care for the whole patient, rather than purely focusing on the immediate physical needs.*
>
> \- **Nurse Respondent on why they joined the Nurse-in-Practice program**

Nurses reported that while they have had previous experience in primary care, their experiences were not supported by formalised training. From the nurse

experience survey, 71% of respondents (5 of 7) reported that they had no formal training in primary care, although a few (43%; 3 of 7) indicated that they have had informal training outside of the Nurse-in-Practice program.

Figure 7. General practices and nurses had common rationales for joining the Nurse-in-Practice program, including increasing access to care, reducing costs, and improving the experience of care.



Readiness for Change

Key takeaways

- There was a range of preparedness for the arrival of the nurse-in-practice across pilot sites.
- Common themes around preparations included dedicating workspace for the incoming nurse, the effectiveness of a clinic manager in change management and organizational development, and the importance of physician "buy-in" to help facilitate the transition for patients into more team-based care.
- One-time funding was made available by the Ministry of Health as well as other resources to assist the clinics in the transition process, including a detailed Nurse-in-Practice Proof of Concept Clinic Manual.

Practice Readiness

There was a range of preparedness for the arrival of the nurse-in-practice across the pilot sites. Practices varied in their commitment of time and resources into preparing their physical space as well as what might be considered "intellectual preparation," such as brainstorming tasks for the incoming nurse or the development of new workflow protocols. Common themes that arose from interviews with pilot site physicians, nurses, and staff were the importance of preparing a dedicated work space for the incoming nurse-in-practice, the effectiveness of a clinic manager in change management and organizational development, and the importance of physician "buy-in" to help facilitate the transition for patients.

Most of us have been working solo-practice forever, so to have a nurse-support was a brand-new concept that we had no idea, at the start, of how we would implement her and find work for her to do because we're so use to doing everything on our own.

- Physician Respondent on learning how to use the nurse-in-practice

One practice identified all three of these elements of clinic preparedness to be important. Interviewees from this practice stated that having the staffing and physical infrastructure enhanced the success of the initiative in their clinic. [7] Although not all physicians within this practice joined the pilot, the clinic manager spent a lot of time communicating with them, and with the clinic's MOAs. Together as a team, they decided what room the nurse-in-practice could use. The team wanted "her to be as close [physically] to the doctors" with which she would be attached. Using the one-time funding made available by the Ministry of Health to participating practices to help facilitate clinic preparations, the clinic renovated a space that was previously a treatment room for minor procedures. [8] The clinic

[7] Previously, this clinic had a nursing position, but the experience was described by respondents as generally negative. Importantly, it was said that the clinic was not involved in the hiring process, and as a result, there was no buy-in from the team; "the government just kind of said, 'This is your [nurse] and this is kind of what she's going to do; give her some space and away you go!" (Clinic Manager Respondent)

[8] In preparing for the program the Ministry team did a detailed assessment of potential 1-time clinic start-up costs for the practices and provided this to the clinics as "block funding" ($15,000 for RN/LPN and $17,000 for NP). To promote the program's success and the flexibility to meet each clinic's specific preparation needs, there were no restrictions or criteria applied to the funding provided.

manager purchased the necessary supplies and equipment that their nurse-in-practice would need. Regarding the nurse-in-practice's workload, the team brainstormed tasks that were time-consuming that could be offloaded from the physicians, and the clinic manager solicited "input from [the MOAs] on how that was going to work."

Nurse Readiness

In addition to funding, the Ministry of Health prepared resources to assist the clinics in the transition or "onboarding" process. This included a detailed Nurse-in-Practice Proof of Concept Clinic Manual, outlining procedures such as setting-up and implementing nurse encounter reporting / coding, FAQs, nurse roles and responsibilities (e.g. different nursing scopes of practice and specializations), and scenario-based examples of patient visits.

Patient Readiness

Each clinic took a different approach to introducing patients to team-based care and their nurse-in-practice. One practice posted notifications welcoming the nurse to their team, whereas another had the physician canvass the interest of patients privately during appointments. Only one clinic described not preparing patients "at all," but this clinic was transitioning an existing nurse (of 18 years) and she "already knew about one-third of the patients."

> *"'This is our nurse. She is part of our team. There are some things that she [will] really be helpful with,' and you sort of build [patients] up and you get that face-to-face contact and then they see it as part of the team and not just a delegation. Patients don't like being dumped, and there are a lot of things that nurses are better at than we are, but you have to make that connection because we are the continuity to them."*
>
> **- Physician Respondent on introducing their nurse-in-practice to their patients**

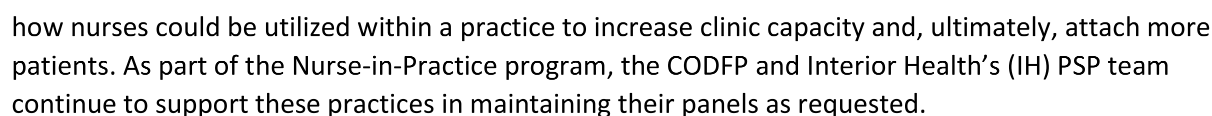
Participants from the patient focus group (n=7) corroborated what physicians and nurse interviewees noted about introducing patients to the Nurse-in-Practice program. Two focus group participants reported hearing about the program through their physician. Two other participants indicated that they had met their nurse through receiving an injection (e.g., immunizations, vaccines). Two participants noted that they had met their nurse through an evening workshop hosted by both the physician and the nurse. Lastly, one participant heard about the nurse while she was attaching her husband to her physician's practice.

Panel Assessment

Key takeaways

- The Ministry of Health, GPSC, PSP and the CODFP have been working with each practice and its physicians to determine which of their patients are considered "attached" as part of quality improvement efforts and to support future directions towards a population-based funding model.
- Physicians, nurses and clinic managers identified the panel assessment as an onerous process for practices participating in the program.

As part of the early stages of program development, the GPSC Practice Support Program (PSP) had an active role in assisting general practices to better understand their panels. The objective was to identify



how nurses could be utilized within a practice to increase clinic capacity and, ultimately, attach more patients. As part of the Nurse-in-Practice program, the CODFP and Interior Health's (IH) PSP team continue to support these practices in maintaining their panels as requested.

During the transition stage of the program, the MoH took an active role in working with each practice and their individual physicians to determine which of their patients are considered "attached" to them as their primary family physician. This exercise is termed "baselining" or establishing the baseline number of attached patients that can be later compared to different points in time along the progression of the program. [9] The Ministry's data analytics team assesses the MSP billing data they hold using their attachment algorithm, and then provides a report back to the practices with a list of their patients, categorized as being either "green" (strongly attached), "yellow" (maybe attached) and "red" (not attached). The physicians are then able to assess for themselves the levels of attachment of their individual patients and undergo an iterative process with the Ministry to finalize these numbers. This exercise was identified by the Ministry as a process that supports quality improvement for both the program and the practices and is mutually beneficial. As one partner stated, "I think that it is helpful both ways. It offers the physicians an opportunity to see that patients that they think are on their panels are actually getting their care elsewhere."

The panel assessment process that was undertaken by each participating practice in partnership with the Ministry was identified by about a third of physician interviewees as an overly onerous task. One commented that it may even deter other GPs interested in the Nurse-in-Practice program from participating. Another was specifically concerned that the MoH's attachment algorithm is incorrect, and "to go through all single health numbers to sort these patients is far too time-consuming to be worthwhile." These sentiments highlight the opportunity to better clarify the purpose and value of the panel assessment with physicians, while continuing to improve the process to make it more accurate and efficient.

Hiring Process

Key takeaways

- CODFP played an instrumental role in the recruitment of nurses for its Nurse-in-Practice program.
- The division also supported pilot sites by compiling job descriptions, posting advertisements received and scanned applications for the 8 nursing positions.
- CODFP provided support to the nurse-in-practice hired into a clinic that transitioned out of the program; this support was in the form of recruiting a new clinic and lead physicians to sign up and take on the nursing position.

The CODFP Nurse-in-Practice program transitioned a total of 10 nurses into primary care practices across the Central Okanagan region. Among the most prevalent themes to be identified by stakeholders was that the CODFP played an instrumental role in the recruitment and hiring of nurses. The CODFP

[9] As noted by one respondent, a similar process is undertaken to support the establishment of Alternative Payment Programs in BC such as population-based funding (PBF) models and the Fort St. John's model.

compiled job descriptions and posted advertisements on behalf of the pilot sites. They received 21 applications for the 8 nursing positions (SK Consulting, 2017, p. 29). One physician interviewee, who reviewed the resumes collected by CODFP, expressed that "this type of service would also work [for most offices]." This physician interviewed two nurses and offered the position to a nurse who had previously worked in residential care. Another physician interviewee noted that the practice had hired its own nurse in Spring 2015 but could no longer afford her after 15 months. This physician learnt, just a couple weeks later, about the Nurse-in-Practice program and described being "all in from the get-go." The physician interviewed 9 applicants who ranged "from new grads to [nurses] close-to-retirement." [10]

> *The Division* [of family practice] *was quite helpful; they put out advertisements, they collected resumes for me. I had a review of them, and I looked at the ones that fit our needs. The way that our office did it* [i.e., the hiring] *worked well.*
>
> \- **Physician Respondent on the CODFP's role in hiring the nurse-in-practice**

In one case, a clinic had hired a nurse as part of the program but withdrew its participation at short notice. The CODFP was credited for taking an active role in quickly finding a new clinic and lead physicians to sign on to the program, so as to transition that nurse smoothly to a new practice.

[10] Nurse experience survey respondents (n=7) indicated that they had a considerable range of years of nursing experience (from 1 to 33 years), although they reported a much narrower distribution of experience in primary care (from 0 to 9 years). As it was previously highlighted (p. 14), only a couple of the nurse respondents (29%; 2 of 7) indicated that they had formal training in primary care nursing, whereas a third respondent had had received informal training outside of the Nurse-in-Practice program.

Evaluation Findings | Implementation and Operation

The following section details the implementation and operation of having nurses integrated into primary care practices. Key steps at this stage included orienting and onboarding the nurses, evaluating integration and team effectiveness, and the nurse's scope of practice.

Orientation and Onboarding

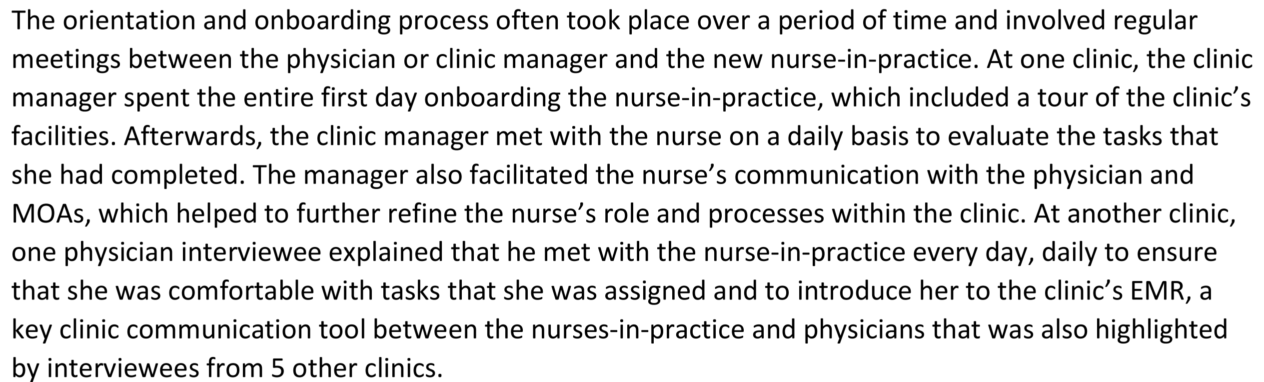
Key takeaways

- Most notably, stakeholders identified the importance of job shadowing, daily debriefings, additional training and skills development, as well as accounting for the EMR during the onboarding process given its prominence across participating practices as a communication support tool.
- Every pilot site raised concerns with how time-consuming, even challenging, the onboarding process was.

Pilot sites varied in the ways that they oriented themselves and their incoming nurse to the primary care clinic environment and the Nurse-in-Practice program. Strategies were often implemented on an *ad hoc* basis and tailored to reflect the relationship (and expectations) between each respective clinic and their nurse. These strategies ranged from informal "job shadowing" to briefings provided by the clinic manager, as well as additional training to build on the nurse's skillset so that she can expand the range of services available to patients.

The orientation and onboarding process was most often led by a clinic manager, lead physician, or in one case, an external consultant. Typically, the lead physician of each clinic played a critical role by providing on-the-job training through job-shadowing. The majority of clinics (6 of 7) reported using this one-on-one approach to orientation. At one clinic, both the nurse and physician interviewee highlighted job-shadowing as a key tool in determining what tasks that the nurse would be able to complete for the clinic. According to the physician interviewee from this clinic, job shadowing enabled the nurse to "*tell us what she could do*" and for the physician to outline "*what [they'd] like for her to do*."

The preparation to orient and onboard an incoming nurse-in-practice happened at all stages of a clinic's transition into the program. At one clinic, this preparation occurred before the nurse was hired. The lead physician at this clinic created a list of patients who had previously requested mental health counseling services. Because of this early planning, the newly hired nurse-in-practice began her onboarding with 15 to 20 patients to call as a first step. In spite of this early preparation, the nurse described the first few weeks into her new role as "fairly slow." The physician found that "the need [for mental health counselling services] was not as great as [he] thought it would be." As a result, the nurse-in-practice did not have enough work, reporting that on a "good day" she would have around 4 clients. The physician highlighted her narrow scope of practice as a consideration for future sites: "*Mental health counselling for one nurse [attached to one physician] is not enough, but if it was for four physicians, then that would be enough."*



The orientation and onboarding process often took place over a period of time and involved regular meetings between the physician or clinic manager and the new nurse-in-practice. At one clinic, the clinic manager spent the entire first day onboarding the nurse-in-practice, which included a tour of the clinic's facilities. Afterwards, the clinic manager met with the nurse on a daily basis to evaluate the tasks that she had completed. The manager also facilitated the nurse's communication with the physician and MOAs, which helped to further refine the nurse's role and processes within the clinic. At another clinic, one physician interviewee explained that he met with the nurse-in-practice every day, daily to ensure that she was comfortable with tasks that she was assigned and to introduce her to the clinic's EMR, a key clinic communication tool between the nurses-in-practice and physicians that was also highlighted by interviewees from 5 other clinics.

While the orientation and onboarding process was meant to welcome and train the new nurse into their new primary care environment, it was also identified by two physician interviewees as an opportunity for their clinics to develop new services that they could offer to their patients. For example, one physician interviewee noted "*It took a while [for me] to get used to the fact that [the nurse] is there to assist me on multiple levels that I didn't really consider existed. But as I became more familiar with her, with her being there and her experience and skillset, we would slowly* […] *have her do* [more] *stuff."*

Challenges with Orientation and Onboarding Process

Each of the pilot sites raised concerns with how time-consuming the onboarding process was. Having a clinic manager and establishing regular team meetings to advance the shared understanding of the scope of the nursing position could improve preparation and onboarding processes. Stakeholders highlighted the benefits of the meetings, organized by CODFP, for ongoing evaluation and future orientation of the program. Accordingly, additional considerations around the upfront investment of human resources, funding external training opportunities for the nurse-in-practice could support practice readiness, while expanding primary care services without asking more time of the clinics.

Integration and Team Effectiveness

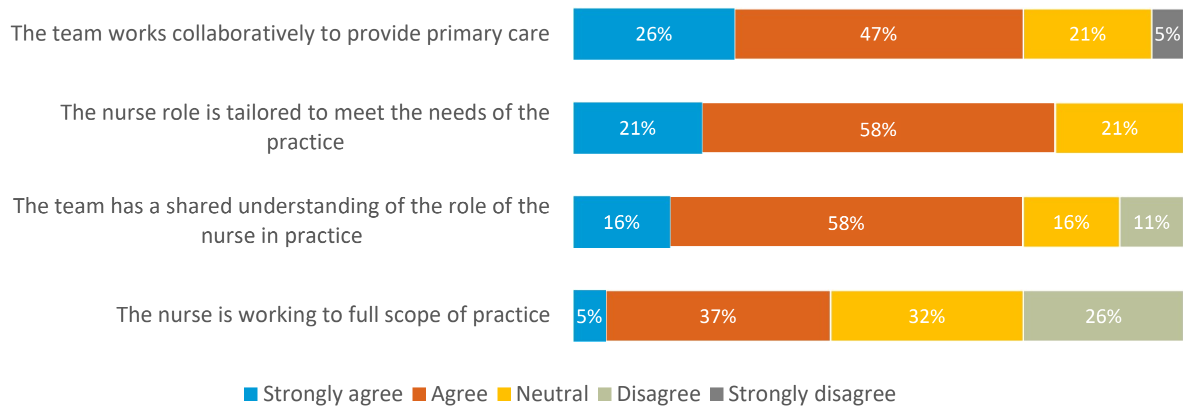
Key takeaways

- Stakeholders indicated satisfaction with the collaboration among team members with whom they are working. The majority of working group meeting survey respondents agreed that the team has a shared understanding of the role of the nurse-in-practice (74%; 14 of 19).
- Stakeholders identified effective communications within the participating practices as an important means of facilitating team effectiveness, including regular clinic meetings, the use of EMR messaging, and in one case, notes for follow-up appointments.
- The working group meetings led by CODFP continued to be opportunities to better integrate the nurse hired into the program through shared learnings.

At the core of the Nurse-in-Practice program is the vision of a comprehensive, team-based approach to delivering primary care. As indicated by responses from interviews and surveys with clinic stakeholders, the introduction of the nurse-in-practice to their teams enhanced each clinic's capacity to provide team-based care. Seventy-four percent of working group survey respondents (14 of 19) indicated that their

team works in a collaborative manner to provide primary care to their patients (Figure 8). Further, the majority of working group meeting survey respondents agreed that the team has a shared understanding of the role of the nurse-in-practice (74%; 14 of 19) and that this role is tailored to meet the needs of the practice (79%; 15 of 19).

Figure 8. Working group participants agreed that the nurse-in-practice role was contributing to the clinic's ability to provide team-based care (n = 19)



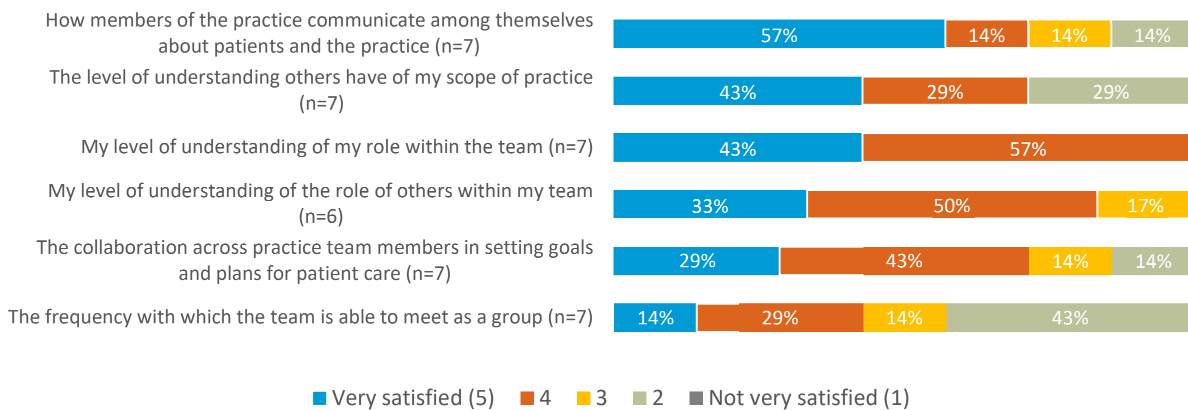
Collaboration between nurses and physicians was reflected in referrals made by nurses to team members within a clinic, or by physicians to nurses. Table 2 shows the top 5 most billed categories for each participating LPN/RN nurse-in-practice clinic by proportion of total billed services between August 2017 to August 2018. For 2 of the 7 LPN/RN clinics, referrals accounted for over 10% of each clinic's total shadow billing (Table 2).

Table 2. Top 5 most billed categories for each participating nurse-in-practice clinic (LPN/RN only) by proportion of total billed services (August '17-'18)

Rank	Clinic 1 (% Billed)		Clinic 2 (% Billed)		Clinic 3 (% Billed)		Clinic 4 (% Billed)		Clinic 5 (% Billed)		Clinic 6 (% Billed)		Clinic 7 (% Billed)	
1	Minor Treatment and Assessments	32.6	Minor Treatment and Assessments	40.8	Injections / Immunization	19.8	Visits	19.4	Telephone / Email	29.3	Counselling	81.5	Visit	55.8
2	Visit	23.0	Telephone / Email	30.3	Telephone / Email	19.7	Telephone / Email	16.9	Injection / Immunizations	24.1	Minor Treatment and Assessments	14.9	Minor Treatment and Assessments	12.4
3	Telephone / Email	17.1	Chronic Disease Management	6.3	Visits	19.4	Minor Treatment and Assessments	15.,7	Minor Treatment and Assessments	17.8	Telephone / Email	3.2	Injections / Immunization	10.4
4	Injections / Immunizations	15.0	Education	6.6	Minor Treatment and Assessments	14.7	Referral -In-clinic Team Member	14.1	Referral to Nurse	14.6	Education	0.5	New Patient Routine Health History	9.8
5	Other	4.9	Injections / Immunizations	6.6	Education	12.2	Other	13.9	Assisting GP	8.3	-	-	Telephone / Email	4.6

Nurse respondents corroborated on the working group's sentiment that the addition of the nurse-in-practice has enhanced team-based care at each clinic for which they work (Figure 9). With 1 representing "not very satisfied" and 5 representing "very satisfied", all nurse respondents (n=7) indicated that they were satisfied with their understanding of what their role is. Seventy-two percent (5 of 7) of respondents indicated that they were satisfied with the level of collaboration within their team in setting goals and plans for patient care.

Figure 9. Nurses reported being satisfied with role clarity and the level of communication and collaboration between themselves and the primary care team.



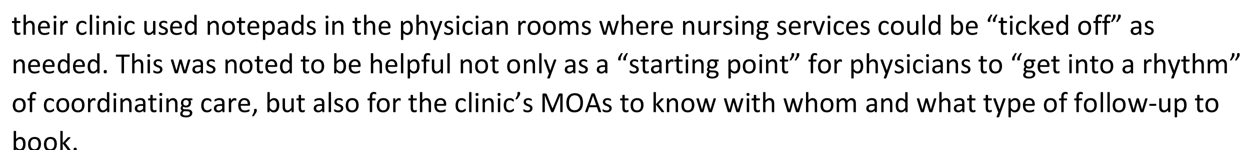
Communication to Support Integration and Positive Patient Outcomes

One key tool that supported the nurses' integration into their teams was each clinic's respective EMR software. According to interviewees from 5 clinics, their clinics' EMR instant messaging function served as a key conduit of communication between the physician and the nurse-in-practice. At one clinic, the nurse-in-practice interviewee used the EMR to track services and treatments they provided to a patient and messaged the physician through the EMR to inform them of the outcomes of those services. Multiple interviewees also indicated that nurses and physicians could message each other to request that they follow-up with a patient, for example, by asking if the other had a few minutes to 'pop in' to attend to a patient need. This interaction between physician and nurse through the clinic's EMR was corroborated by participants in the patient focus group.

Communication between physician and nurse also occurred "offline." One interviewee reported that

EXAMPLE: THE PATIENT'S PERSPECTIVE ON NURSE INTEGRATION

In a patient focus group at one clinic, the participants (n=7) reported that the nurse was well integrated into their respective practices. When asked about the coordination of care, all participants of the focus group perceived their physician and nurse to be 'on the same page' about care and were giving compatible advice. "They are a good team," explained one participant, "there's no question about going to see [the nurse] because you just know that there's going to be communication with the doctor. She doesn't just act on her own." Another respondent added how the nurse will "run down the hall to ask [the doctor a question]." Such collaboration built up participants' confidence in the nurse's skillset and in the care that she was providing.



their clinic used notepads in the physician rooms where nursing services could be "ticked off" as needed. This was noted to be helpful not only as a "starting point" for physicians to "get into a rhythm" of coordinating care, but also for the clinic's MOAs to know with whom and what type of follow-up to book.

Outside of online and offline meetings between physicians and nurses, the nurses' integration into the family practice environment was also supported through regular meetings with GPs and other team members. In the nurse experience survey, 71 % of respondents (5 of 7) indicated that they have been taking part in regular meetings with their team. Nurses also reported that they have been taking part in meetings with their counterparts in the other pilot sites—86% of survey respondents (6 of 7) noted that they participate in a community of practice with other nurses through, as one respondent noted, "regular emails and occasional meetings."

How a nurse was integrated into their respective clinics was reported to be dependent on the nurse's level of experience as well as their knowledge of the primary care practice environment. One practice observed that more experienced nurses appeared to integrate into the practices more readily than newer nurses, perhaps due to their enhanced confidence and familiarity with working in teams.

Regardless of the communication method, the close relationship between physician and the nurse-in-practice was reported to contribute to positive outcomes for patient care. Specifically, it has been shown to lead to more comprehensive care for patients. In an example, a female participant from the patient focus group shared a story of receiving a phone call from the nurse a few days after an appointment with her physician. In the previous appointment, she had mentioned in passing that her 15-month-old son was not sleeping through the night. Without prompting, the participant reported that the she received a phone call from the nurse asking, "Hey, the doctor said that you were having problems with your son sleeping. Would you like to come in and talk about it?" The participant detailed that the nurse had prepared a package of research for her and took 45-minutes to go over it.

Scope of Practice

Key takeaways

- While themes have been collated on the types of tasks that the nurses within the program are performing, the different scopes of nursing and years of experience have translated into differing Nurse-in-Practice models of care across the pilot sites.
- All nurse respondents identified health assessment and screening, health care management and therapeutic intervention, health education, as well as health promotion and injury prevention as overarching services that they provide.
- Stakeholders also perceived that the nurses were not, generally, working to their full scope of practice and many nurses are supporting clinical preparations even though this is outside their scope.

Through the working group survey and the interview process, working group stakeholders were asked to identify the tasks completed by the nurse in their practice. From these data sources, stakeholders indicated that there was no consistent scope of practice or progression of practice activities between all

of the nurse-in-practice clinics. Nurses' responsibilities were instead tailored to their unique training, experience, confidence, and comfort level(s) in addition to the needs of each clinic.

Table 3 highlights the various activities and services provided by nurses in the initiative. In general, all nurse respondents (n=7) in the Nurse Experience Survey identified health assessment and screening, health care management and therapeutic intervention, health education, as well as health promotion and injury prevention, as overarching categories of services that they have provided.

Table 3. Scope of a nurse in a primary care practice

Health assessment and screening	Vitals Height/weight Pap tests Frailty assessments Mental health assessments	Dementia assessments • Montreal Cognitive Assessment (MoCA), • Mini-mental state examinations (MMSE) • Screening for the Identification of Cognitively Impaired At-Risk Driver (SIMARD)
Health care management and therapeutic intervention	Chronic disease and pain management Medication reviews Immunizations and injections Wound care Suture removals	Care planning Referrals Vaccines Foot care Ear flushes Liquid nitrogen procedures
Health education	Self-care management	Inhaler reviews
Health promotion and injury prevention	Mental health counselling Nutrition counselling	Lifestyle counselling Follow-up phone calls
Clinical preparation	Prepare room for procedure Panel clean-up	Interview patients for case histories

While there was no discernible progression in the tasks that nurses were asked to complete, there was a pattern in how nurses were introduced to their position. From the nurse experience survey, just over half of respondents (4 of 7) noted that their initial scope of practice consisted of "*instant tasks*" like immunizations, vaccines, and routine screenings. Nurses who started in the Fall months mentioned that their process of integration and patient introductions was facilitated through the provision of flu shots. This was also noted by focus group participants (n=2), and also observed from each clinic's shadow billing data (Table 4). In the three clinics that had recorded shadow billing data between October to December 2017, the nurses' most frequently billed codes were related to immunizations and injections.

Table 4. Top 5 most billed categories for each participating nurse-in-practice clinic by proportion of total billed services (October - December 2017)

Rank	Clinic 1 (% Billed)		Clinic 2 (% Billed)		Clinic 3 (% Billed)	
1	Injections / Immunizations	38.4	Injections / Immunizations	44.88	Injections / Immunization	33.3
2	Minor Treatment and Assessments	33.8	Telephone / Email	19.7	New Patient Routine Health History	23.2
3	Visits	10.1	Visits	19.4	Visits	18.2
4	Telephone / Email	8.7	Minor Treatment and Assessments	14.7	Minor Treatment and Assessments	13.6
5	Referral – In clinic Team Member	3.2	Education	12.2	Telephone / Email	5.4

Another pattern that emerged from the nurse experience survey data related to the nurses' scopes of practice and their relative years of experience practicing their profession (Table 5). The LPN who reported to have had 25 years of nursing experience (including nine years in primary care) noted that she was performing all surveyed tasks except foot care. In contrast, the RPN reported to have a more focused scope. She indicated that she was in her first year of primary care and noted that she only provides psychosocial, rehabilitation, and nutrition services, as well as non-urgent care, screenings, and self-management support.

Table 5. Specific tasks of participating nurses

	RN (n=5) [11]	LPN (n=1)	RPN (n=1)
Management of care for an emergent but minor health problem (e.g., sprained ankle, unexplained rash)		√	
Non-urgent routine care (well care: baby, child, woman/man; chronic illness management)	√	√	√
Call/email patients to check on medications, symptoms, or to coordinate care between visits	√	√	√
Perform exams and screening (i.e., pap, MOCA, etc.)	√	√	√
Injections/vaccinations	√	√	

[11] Checkmarks indicate that the majority of RN respondents (what is at least 3 of 5; 60%) are providing the task.

Execute standing orders for medication refills and ordering tests	√	√	
Educate patients about managing their own care	√	√	√
Prevention and health promotion and/or education services	√	√	√
Prenatal care		√	
Psychosocial services (e.g., Counselling advice for physical, emotional, financial problems)	√	√	√
Liaison with home care	√	√	
Rehabilitation services		√	√
Nutrition counselling services	√	√	√
End of life care		√	
Foot care	√		

Challenges to Using the Nurses' Full Scope of Practice

Some nurse respondents to the Nurse Experience Survey (3 of 7) reported that they are not working to their full scope of practice and felt that they have been underused in terms of the number of appointments that they have per day. This is to be expected at this point in the implementation of the program. Preliminary nurses' shadow billing data show that while 34 physicians across the pilot sites signed on to the initiative, only one or two at each clinic reported using the nurse-in-practice consistently (See Appendix B: Shadow Billing Data Analysis on page 50 for each clinic's shadow-billing data completed by the nurses-in-practice). On the one hand, this could be strategic for easing the new nursing position into clinic workflow. On the other hand, this represents an opportunity for further utilization of the nurses.

While there are onboarding resources developed by the Ministry available for each of the nurses, nurse interviewees discussed a degree of "ambiguity to this job," and stakeholders reported wanting more information about what the nurses should and could be doing in relation to Ministry of Health expectations. One of the nurses created a clinical procedures manual of sanctioned nurse-in-practice tasks, along with corresponding encounter codes and expected room times, which she has since shared with both the CODFP and her peers. This manual may be a useful future tool for orientation of new practices and nurses into the program.

External Supports

Key takeaways

- CODFP Working Group meetings were identified as a valuable support in the preparation phase.
- There were requests for more formalized expectations, including job descriptions, and a designated external support, whether at the Ministry and/or CODFP.

External supports that were provided to the clinics to help them integrate a nurse into practice included support from the CODFP as well as the Ministry of Health.

Working Group Meetings

Working group meetings hosted by the Division were identified as a valuable support for physicians and nurses participating in the program. They allowed for a "community of practice" to develop by creating a space for clinics to voice their concerns and ask questions. For example, one physician interviewee mentioned that the working group meeting was a place where they were able to ask questions about the nurse's scope of practice.

> *"Division is a good knowledge base for us when we have questions about the program. So, having them involved right from the start, from deciding to join the program and hiring a nurse, has been a helpful resource all along."*
>
> - **Physician Respondent on the CODFP as a source of program knowledge**

Ministry of Health

In addition to examining the baseline of attachment, the Ministry provided quarterly reports to practices about their MSP billings and nurse encounter codes. This allows each practice to reflect on changes that have occurred in their practice and panel and determine potential future directions.

Nurse and physician interviewees reported that they would like clearer, formalized expectations from the Ministry of Health regarding nurses' scope of practice, such as a standardized job description, as well as guidelines around billing policies and practices. Challenges regarding the Ministry's billing expectations are explored in greater depth on page 30.

Evaluation Findings | Preliminary Outcomes

The following section details the early outcomes of the Nurse-in-Practice program, including exploring benefits for patients and providers. It is important to note that outcome data from this evaluation is preliminary and must be interpreted with caution. At the time of the evaluation, one of the nine clinics had been operating for over one year. A full outcome evaluation of the Nurse-in-Practice program is beyond the scope of this current report.

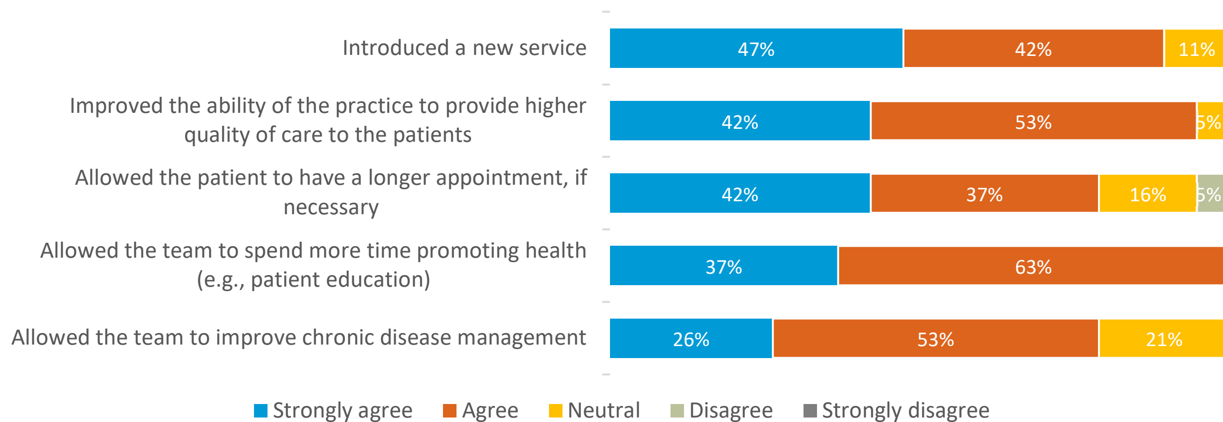
The section highlights initial challenges and barriers to be considered as the program continues not only within the pilot sites, but in other nurse-in-practice expansion sites as well.

Benefits for Patients [12]

Early evaluation findings indicate that Nurse-in-Practice program is enhancing the quality of primary care provided by participating practices. Physician interviewees discussed the integration of a nurse to their practice as a "value add," highlighting how the nurses hired into the program are introducing new services, "getting patients set up with community services," and "freeing up time for us [physicians] to see more patients in a day." Nurse interviewees expressed that they consider their role to be "an extension of GPs" or "doing what is needed" to "help the clinic run smoothly, even things like cleaning the treatment room after the doctor's done a procedure" despite it being outside the scope of nursing practice.

Working group survey respondents (n=19) agreed that **the CODFP Nurse-in-Practice program was improving the ability of practices to provide higher quality of care to patients**. It has introduced new services to patients, allowed the patient to have a longer appointment if necessary (and therefore potentially address more than one health concern), and allowed the team to spend more time promoting health and improving chronic disease management (Figure 10).

Figure 10. Working group meeting participants agreed that the having a nurse on the team provided a new service for patients that enhanced the ability of providers to provider a higher quality of care (n = 19)



[12] See Table 8 in Appendix A: Additional Tables and Figures for additional qualitative evidence

Accordingly, all participants of the patient focus group (100%; n=7) reported that **the program has had a positive impact on their health and care**, noting that they feel more supported in managing their health, more connected to resources and services, and more confident in taking care of their health conditions than before. As it was mentioned, **the Nurse-in-Practice program facilitated the introduction of new services that were previously unavailable**. In one clinic, the practice reported experiencing a bigger uptake in female-specific health services because of the introduction of the nurse-in-practice. According to this physician interviewee, their clinic saw an increased uptake in Pap tests at their clinic because "*women didn't like doing them with us* [male physicians]. *Many women have vulvar issues and they are too embarrassed to bring them up with us. But they would talk to the nurse*." At another clinic, a focus group participant noted that their physician was now able to offer home visits with the nurse to follow-up on chronic health issues.

Focus group **participants also highlighted experiencing a decrease in wait times as a result of having a nurse in practice**. Participants estimated that they now wait a maximum of 30 minutes for their appointments. The perceived decrease in wait times has, according to one pilot site physician, resulted in higher patient satisfaction. This physician interviewee noted that "Patients enjoy that they can see the nurse sooner rather than have to wait to go see the doctor."

> *"Suddenly, I got a phone call from [the nurse] and I had never talked to her directly about this [issue] because it wasn't something that I thought she would be involved in. I got this call, saying "We got this report and the recommendations, and I just wanted to go over it with you." So, we talked on the phone. I think she was looking to set up a meeting—an appointment time. But I just went over it with her.*
>
> \- **Patient Focus Group Participant on the proactivity of the nurse-in-practice**

As a result of the additional support and resources offered by the nurse-in-practice, focus group participants also expressed **having a better understanding about their health** and feeling empowered to be "part of the team to look after and maintain [their] own health." They explained how they do not feel rushed with the nurse and that they trust her knowledge and judgment. For example, one participant reflected on how they have been able to improve their diet through regular appointments with the nurse and reduce their daily units of insulin for the first time in 50 years. Similarly, another participant remarked that they went through results from their annual blood work and urinalysis line-by-line with the nurse, which they have never done before with a doctor. They were able to ask questions and now feel "more cognizant" about their blood pressure.

Impact on Providers

Reflecting on the initial experience of including a nurse into practice, both physician and nurse respondents revealed positive links between job satisfaction, team-based care, and quality improvement. Physician respondents reported having **increased capacity to provide and continue patient care "in-house"** and minimize referrals outside of the clinic as a result of having the nurse- in-practice on their team. As one physician interviewee stated, "Previously, we had to refer out of clinic, but now we can offer [additional services] in-house. The nurse can reinforce teaching and send patients home with more information, more education." Additionally, three other physician interviewees discussed how the program has reduced their administrative work, which has resulted in practice efficiencies that have not only improved the provider experience of care, but also the quality of care that patients receive.

> *You know, previously, there were always some crazy days that I went home and thought, "oh my goodness, what did I drop, what did I miss today?" I don't feel that anymore—not once since* [the nurse has] *been here. I feel like all the T's are crossed and I's are dotted.*
>
> - **Physician Respondent on having decreased stress has a result of the nurse-in-practice**

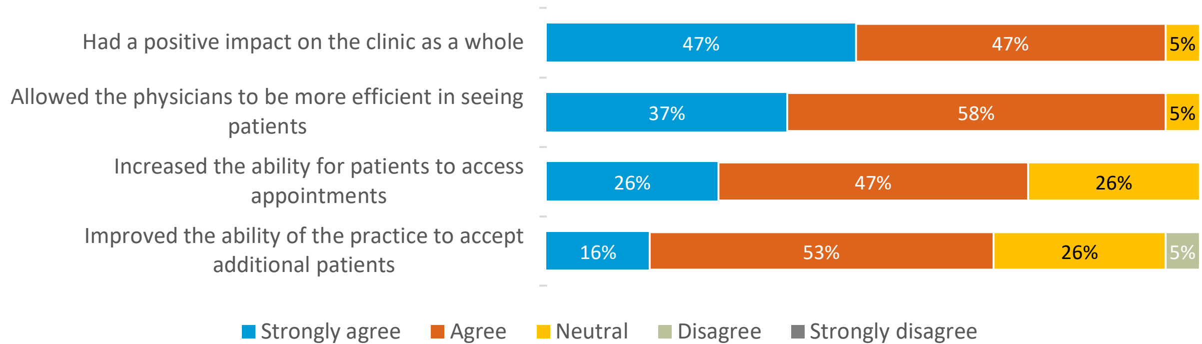
While physicians highlighted the benefits of increased clinic capacity and practice efficiencies that stem from having a nurse on their team, nurses emphasized the expansion and diversification of their responsibilities as **patient advocate and educator** as a benefit for both their work satisfaction and patient care. They observed that their roles were making healthcare more accessible and that the program had improved patient experience. One nurse interviewee shared that she had received good patient feedback with regards to her role as a patient educator.

> *I'm seeing patients with better quality. I have a higher level of information to work with, and we've also added two doctors to the practice around the same time as the nurse. It's hard to tell which impacted what, but as a practice, we've been able to take on around 1500 new patients!*
>
> - **Physician Respondent on the benefits of adding a nurse-in-practice**

In general, having a nurse on their team has allowed physicians to be more efficient in seeing patients. According to survey respondents from the program working group, the program has improved physicians' abilities to **strengthen their existing attachments while also accepting additional patients** (Figure 11). [13]This was corroborated in four physician interviews—physicians were able to delegate activities and services, such as some patient paperwork, to the nurses, which has freed up time for physicians to see more patients or accept new ones.

[13] For additional qualitative evidence detailing the benefits of nurses-in-practice, please see Table 8 in Appendix A: Additional Tables and Figures.

Figure 11. Working group survey respondents agreed that the Nurse-in-Practice program is having a positive impact on the clinic and patients (n = 19)



Integrating a Nurse Practitioner into Practice

As previously discussed, nurse practitioners (NPs) have significantly different scopes of practice when compared to an RN, LPN, or RPN. NPs in Canada are considered independent primary care providers and can build and maintain their own patient panels. NPs may join a practice with the intention of being patients' most responsible provider (MRP) and operate in conjunction with other physicians.

As BC moves more towards the PMH model of care and Primary Care Networks (PCNs), sharing care across different physicians, nurses, and allied care providers has been identified as a priority to meet the Quadruple Aim. The primary care goals of availability and access to care may be met through nurse practitioners building their patient panels. They can contribute to increased patient attachment in a clinic by adding another patient panel to the practice and may benefit from being collocated with physicians to expedite referrals and an enhanced clinical knowledge base. A blended model whereby an NP has some of their own patients but also provides services for the physicians may better serve the expressed goals of the Nurse-in-Practice provincial initiative.

Of the pilot sites in Central Okanagan, one site integrated an NP. Given the differences noted, process related questions emerged through the interviews around the integration of NPs in the Nurse-in-Practice program. Further, the government of BC recently committed to building Primary Care Networks (PCNs) across the province and has announced that they will be hiring 200 new GPs and 200 new NPs to be part of the new team-based care model. Over the next three years, they are aiming to have PCNs in 70% of BC communities (Health Match BC, 2018). With these changes on the horizon, it would be beneficial to further explore and evaluate models of integration of NPs.

Discussion

The following section details key enablers of the Nurse-in-Practice program's implementation and first year of operations. It also highlights the challenges and barriers that emerged during this time. Findings from this section will help refine the transition and integration process for future nurses-in-practice and support the program more broadly.

Program Enablers

Discussions throughout the working group meeting, patient focus group, and stakeholder interviews, along with survey data, indicate that the CODFP Nurse-in-Practice program is successfully facilitating team-based care of the pilot sites. Although the pilot sites varied in their transition to a team-based model of care and the integration of a nurse-in-practice, there were three key enablers identified as having advanced the program's preparation, orientation, and onboarding process. [14]

Provision of One-time Start Up Funding

To prepare for the arrival for the nurse-in-practice, the Ministry made available one-time (start-up) funding which the pilot clinics used for a variety of purposes. Four clinics used the funding for space renovations and the purchasing of necessary supplies and equipment. Stakeholders from one clinic noted that they used the available funds to support a **dedicated workspace for the incoming nurse-in-practice**. Other clinics used the funding to plan the development of a **strategic workflow and communications** strategy in order to facilitate change management and success of the program. Regardless of the type of preparation, interviewees reported that they used the funds in ways that supported the integration of the nurse-in-practice to their clinic.

Support from CODFP and Working Group

Stakeholders identified the **working group meetings** led by CODFP as an important forum to brainstorm the type of tasks and responsibilities that the nurse-in-practice could take on in the clinic. They also offered stakeholders **a network to disseminate (and evaluate) learnings** to optimize the program and better support one another with integration. In general, the working group meetings facilitated the development of a "community of practice" where physicians and nurses worked together to improve the program at their respective clinics.

Change Management: Clinic Manager Leadership and Physician Job-Shadowing

Stakeholders underscored the value of **having a clinic manager organise the Nurse-in-Practice program** within the clinic. This person was responsible for setting **regular team meetings** as well as debriefing with participating physicians and the nurse-in-practice to optimize the transition as necessary. One clinic manager interviewee reported that she met daily with the nurse-in-practice in the beginning to review and evaluate her tasks. Another clinic highlighted how their manager was responsible for guiding the nurse-in-practice through the human resources process and helping them with the EMR.

Beyond having a manager guide the nurse's introduction into their practices, stakeholders highlighted the importance of establishing a lead physician for the program. Having a lead physician was important for a number of a reasons. In terms of training the nurse-in-practice, the lead physician often had the

[14] For additional qualitative evidence, see Table 9 in Appendix A: Additional Tables and Figures

nurse shadow their work as a means of familiarizing the nurse to the clinic and identifying tasks that they could perform. Four nurse respondents also highlighted this job-shadowing as an opportunity for physicians and nurses to establish trust between them.

Challenges and Barriers

Confusion Regarding Same Day Billing Policies

One of the core program challenges that stakeholders identified was the perception that the Ministry of Health's guidelines and policies over-regulate the nurse-in-practice's role and restrict the flexibility of practices to provide the type of care necessary for their patients. About one third of clinics (3 of 9) raised this concern, which primarily focused on the perceived restriction around same-day billing, defined as the situation when physicians or nurses bill for services provided to a patient who had previously been provided services by the other professional in the same day. Practices identified this uncertainty as negatively affecting the experience of care for providers and contributing to the underutilization of the nurse-in-practice.

The Ministry really pushed for us to see patients totally separate, independent of the doctors. So, the patients come in; they are only seeing the nurses and that means that the doctors are seeing other patients.

\- **Nurse Respondent on the MoH's expectation that the nurses operate independently of physicians**

For example, a common same day billing scenario involved situations when patients request appointments with both the physician and nurse-in-practice within the same day. One physician respondent provided a hypothetical scenario of a patient wanting to book a smoking cessation appointment with the nurse-in-practice and a separate unrelated appointment with themselves on the same day as it is challenging to travel to the clinic. The physician noted that there was a lack of clarity on what their practice could do in this case. This type of situation challenged physicians who wanted to abide by the Ministry's policies, while also providing timely and accessible care to their patients.

If we ask someone if they wanted to talk about quitting smoking but we ask them to do it on a different day, they don't come in. […] Some people would come in on a different day, but most people would be like, "I'm seeing the doctor on Tuesday, can't I just do it on Tuesday?" […] What is really fair and appropriate for patient care, a lot of the initial program design does not make any sense […] We were trying to be very much 'by the book' and follow what we viewed as the intent and goals of the program, so we picked duties that fit into that description, but then we found that it was difficult to actually make that happen and still be responsive to what made sense for our patients.

\- **Physician Respondents on the challenges relating to the same-day billing policy**

Representatives from the Ministry of Health expressed that these perceived restrictions have been a misunderstanding and that the intention has not been to restrict patients from seeing the nurse and physician in the same day. These representatives clarified that as long as appointments were clinically necessary (i.e. the second professional was providing a required service), both physicians and nurses could bill on the same day. As of this report's writing, the evaluation has not had the opportunity to connect with clinic stakeholders to verify whether there have been actions to improve this policy's clarity within each clinic.

Incentives to Use a Clinic-Paid Nurse rather than a MOH-funded nurse

One physician interviewee identified an uncommon same-day billing scenario that negatively impacts the utilization of the nurse-in-practice. This interviewee highlighted a situation when it would be advantageous to use clinic-funded nurse (i.e. nurse paid by fee-for-service billings) to provide a service,

rather than the MOH-funded nurse, such as in the case of immunizations. In general, if a patient were to receive an immunization at the conclusion of an appointment with the physician, then the physician would not be able to bill for the service and it would make sense for them to ask the nurse-in-practice to provide this service. However, if the immunization occurred on a separate day and was not connected to a physician appointment, the physician could delegate and bill for this service. As such, the physician would be incentivized to schedule a patient's immunization on a separate day appointment and use their clinic-funded nurse to provide the immunization to generate income. According to the physician interviewee, they would not be able to bill for the immunization on a separate day if the MOH-funded nurse was the one who provided this service. In order to improve the utilization of the nurse-in-practice, this potential unintended outcome should be further explored to examine other potential services that have the same kind of reverse incentive.

Uncertainty Around Nurse's Billing Codes

Respondents also identified **challenges related to how nurses billed for their services and booked appointments**. For example, encounter codes were developed for nurses to allow them to bill for situations when they refer a patient to the physician. The reverse scenario, however, does not exist for physicians—physicians do not have billing codes to identify situations for when they refer their patients to the nurse-in-practice. According to one physician, this was said to give the impression that "[the nurse] *was not doing anything, when actually*, [they have] *been popping around* [for] *a number of* [patients]". An audit of each nurse-in-practice pilot sites' shadow billing data supports this observation. Table 7 illustrates clinic shadow billing data for each month and shows that there are certain clinics (e.g. Clinic 2, 5, and 7) who were not actively billing the services provided by their nurse-in-practice.[15] Clinics who are not actively shadow billing may not have been doing so because of the uncertainty around billing codes for both physicians and nurses.

Table 6. An audit of the clinics' shadow billing data reveals that there was a wide variation in how often clinics billed per day for each month

Month	Year	Clinic 1	Clinic 2	Clinic 3	Clinic 4	Clinic 5	Clinic 6	Clinic 7	Clinic 8	Clinic 9
August	**2017**	7.3								
September	**2017**	10.3								
October	**2017**	14.1		12.1					8.4	
November	**2017**	13.2		12.6					10.7	
December	**2017**	9.8		11.7					10.8	
January	**2018**	7.4		13.5	4.0				15.1	7.1
February	**2018**	12.3	2.0	14.0	14.3			2.0	13.8	5.2
March	**2018**	15.3	1.9	14.4	13.7	1.7		1.7	14.1	6.7
April	**2018**	12.0	2.1	14.1	16.9	1.5		1.9	11.6	5.0
May	**2018**	19.3	2.2	15.5	20.2	1.4	7.8	2.0	10.6	
June	**2018**	19.1	2.8	13.1	18.7	3.9	6.1	2.7	10.7	
July	**2018**	13.5	3.2	17.0	28.8	6.9	8.7	1.9	13.3	
August	**2018**	14.3	4.3	15.7	23.4	8.9	5.5	1.4	10.8	

[15] Numbers in the table represent the average number of codes billed per day for that month. The darker the shade of green in the cell, the closer the cell is to the max of the range of average number of codes/billed per day for all participating clinics.

Perception of Potential Loss of Clinic Income

Two of nine physician interviewees, both of whom have another nurse or MOA providing similar tasks on a fee-for-service basis, expressed that **the Nurse-in-Practice program could negatively impact the business performance of their practice by having the nurse-in-practice take on previously billable tasks**. One physician predicted a potential loss of income for their practice if their nurse-in-practice completed tasks, such as follow-up calls, that could be accomplished by clinic staff and therefore billed through MSP. To mitigate the risk of income loss, another physician respondent noted that their practice had to explicitly distinguish the nursing services provided through their clinic's overhead from services provided by the Nurse-in-Practice program. It is unclear from interviewees whether physicians have considered the potential income gains from seeing or attaching more patients to their practice as a result of the nurse-in-practice as an offset to the potential income losses. This potential unintended competition between an existing clinic-funded nurse and a Ministry-funded nurse-in-practice could be further explored in future evaluations.

> *[LPN] will do 1000 phone calls. If [nurse-in-practice] did the phone calls, then our income drops. None of those phone calls would be billable. If you do that over four physicians, that's 4000 phone calls and that volume builds up. 4000 calls per year at $20 is $80,000 and that's just phone calls! [LPN] does ear syringes, cryotherapy. If [nurse-in-practice] does ear syringes in place, then we can no longer bill for that service because the [nurse-in-practice] bills it. If those billings were removed, our clinic income would go down compared to the [funding for the nurse] from the initiative.*
>
> **Physician Respondents on the potential for loss income from using the nurse-in-practice**

Negative Feeling of Being Under Scrutiny

In general, the policies regarding same-day billing and the introduction of shadow billing practices contributed to a **feeling of surveillance by the Ministry of Health**. Nurse and physician respondents expressed their unease with this pressure. One nurse noted that they felt their job was more about "satisfying the Ministry" rather than focusing on promoting health for their patients. This challenge has implications for the nurse-in-practice's experience of providing care within a primary care setting, especially for those looking to move out of a regimented hospital environment and into a community-based, health promotion setting where they are able to potentially be more autonomous and provide flexible care.

> *We have to track to make sure that [the nurse-in-practice] has enough hours per week. It's a bit crazy, a bit ridiculous to track—her hours are 9 to 5. We have to tell the Ministry that she is working 9 to 5 every week […] We were confused with what the intention of the government was? Reduce funds for physicians? This is still on our minds, but we've had reassurance from Division meetings that this was not the case. GPSC was there, too. [But] you're never totally reassured. Were we going to lose funds that were formally ours?*
>
> **Physician Respondent on the need to track their nurse-in-practice's activities**

The Cost of Participating in the Nurse-in-Practice Program

The **additional costs of participating in the Nurse-in-Practice program** was another challenge cited by physician respondents. Although clinics were provided one-time start up funding as well as funds to cover the nurse-in-practice's salary, physicians indicated that their practices could not recover the additional costs of any test equipment used by the nurse, nor could they account for the investment of

preparation time and continuing support provided by the physicians to the nurse-in-practice. A clinic manager added that the absence of provisions in the contract for the nurse-in-practice's statutory holidays and sick leaves exposed the practices to draw funds from their clinic's overhead "to make up for it". Physician respondents noted that this challenge was a key reason for why some of their colleagues did not sign up for the program.

Challenges Associated with Ministry of Health Contracts

Lastly, physician respondents identified challenges within the Ministry of Health's year-long contracts for the Nurse-in-Practice program. During the program's implementation, it was identified that the **clinical hours required by the Ministry within its contracts leave little time for training, professional development, and time off**. According to documentation from the CODFP:

> *The nurse in primary care practice initiative agreement indicates that 1,631 hours per annum of clinical hours must be worked by the nurse for the practice to receive the full funding available. This calculates as working a 35-hour week for 48.6 week per year (inclusive of 10 statutory holidays in BC) and does not account for vacation or illness, i.e. there are 3.4 weeks left for vacation, illness and non-clinical time*.

Division staff estimate that, apart from paid time off and sick leave, approximately 11.5 days are needed for nurses-in-practice to attend meetings, undergo necessary training and professional development, and participate in the initiative's evaluation activities. All of these tasks are not included in the Nurse-in-Practice program's contract.

Sustainability

Alignment with the Quadruple Aim

The early benefits and perceived impacts of the Nurse-in-Practice program on both patients and providers that have been detailed in this report indicate progress towards three of the Quadruple Aim's goals.[16] **In general, patients and providers voiced their support for the continuation of the Nurse-in-Practice program**. All working group survey respondents (17 of 17) reported that they would recommend continuing the program at their practice and the nurse respondents, who were asked more specifically to rate their recommendation from 1 to 10, where 1 represented "not at all" and 10 represented "absolutely," gave an average rating of 9.6 out of 10.

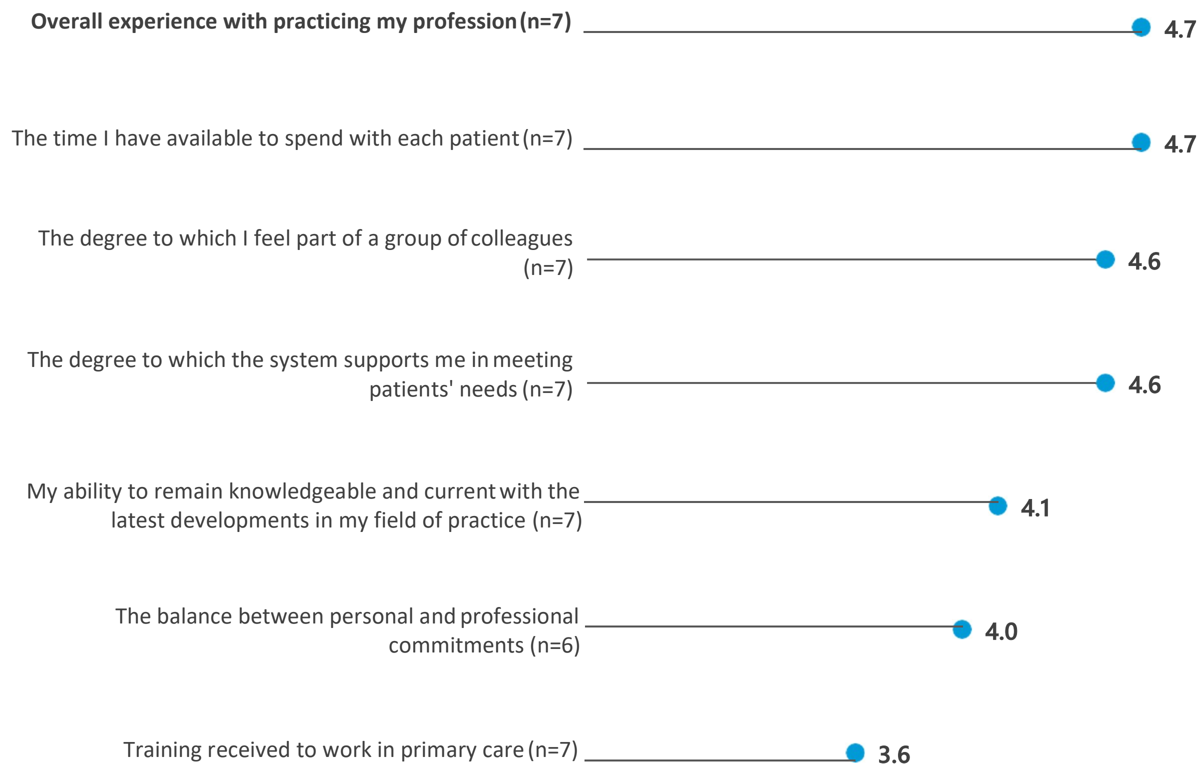
Similarly, patient focus group participants (7 of 7) unanimously supported the notion of having a nurse as part of their primary care team. Expectations of the program, as one patient revealed, have "been exceeded by leaps and bounds." Another patient described care from the nurse-in-practice as it "the best healthcare that [he has] received in [his] whole life."

Nurses who have taken part in the pilot program reported being satisfied with their unique experiences. As illustrated in Figure 12, nurse respondents rated their experience in the program as positive. Respondents highlighted that they were "very satisfied" with the time made available to spend with each patient (4.7 out of 5), that they felt as part of a group of colleagues (4.6 out of 5), and that the system supports them in meeting their patients' needs (4.6 out of 5). **Overall, these nurses rated their**

[16] Patient experience of care, provider experience of care, and improved population health

experience practicing in the Nurse-in-Practice program as a 4.7 out of 5—they reported being very satisfied with practicing their profession within their primary care settings.

Figure 12. Nurses reported being satisfied with their overall experience practicing in the Nurse-in-Practice program, including the time they are able to spend with patients and the degree to which they feel supported by colleagues and the healthcare system.

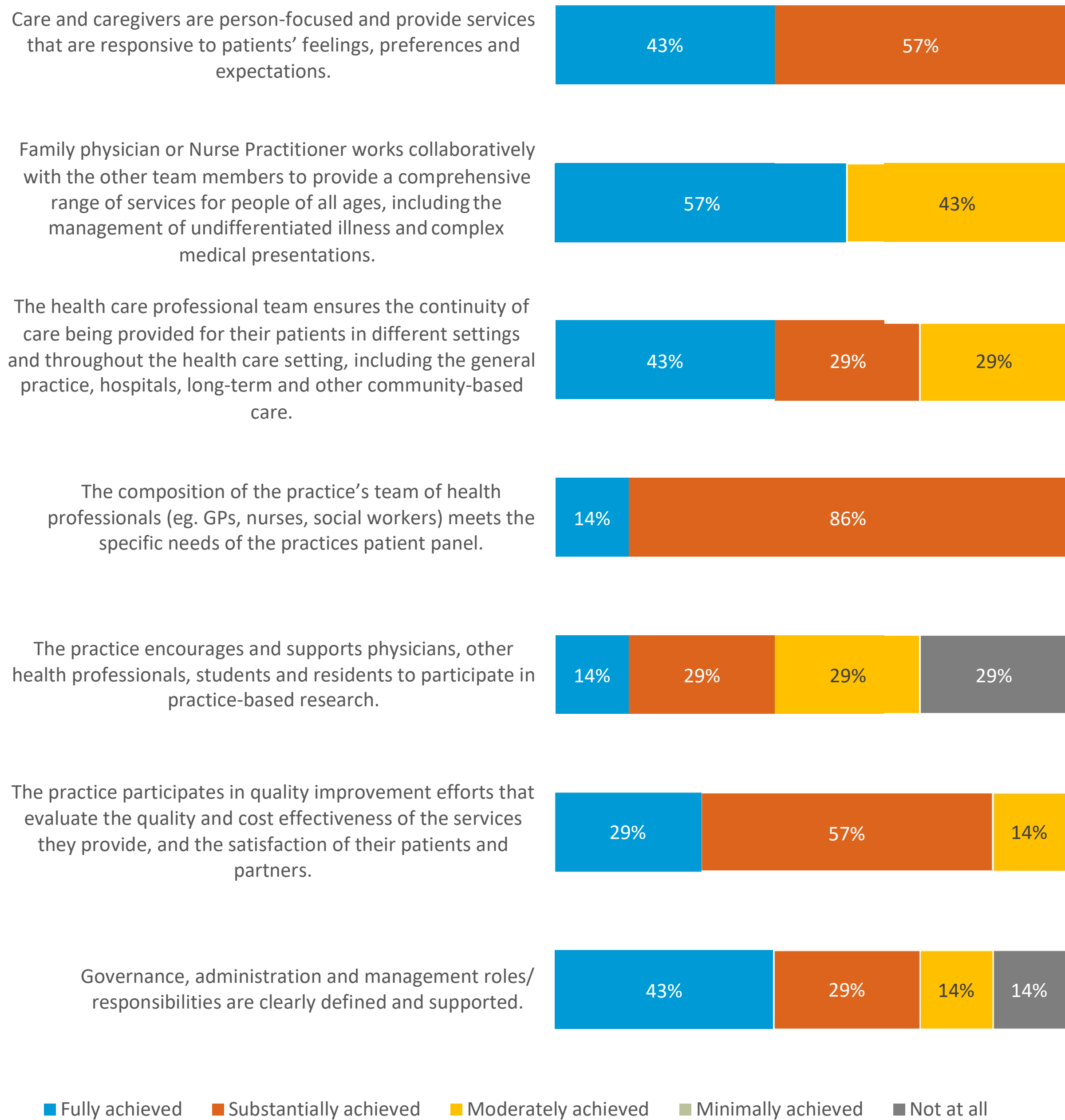


For this report, it was outside the scope of the evaluation to determine whether the CODFP Nurse-in-Practice program reduced per capita healthcare spending. With this being said, existing literature suggests that team-based care offers ways to minimize overuse of healthcare resources, including unnecessary emergency visits and physician time, while enhancing health promotion and practice efficiencies (Bodenheimer, et al., 2014; Goldman, et al., 2010). Given the nurses' focus on health promotion and improved management of chronic disease, it is reasonable to expect reduced per capita healthcare spending over the long term. Further evaluation is required to fully detail the financial impact of the Nurse-in-Practice program on overall healthcare expenditure.

Towards the Patient Medical Home

Evaluation findings indicate that the program is well aligned with the principles of the PMH, or the "vision of the future" as described by a working group respondent. At least 72% of nurse respondents (5 of 7) reported that their clinic has moderately achieved the 7 core attributes of the PMH model of care (Figure 13). In particular, all nurse respondents reported that the professional composition of their practice team meets the needs of their practice's patient panel. In other words, nurse respondents believe that their practice aligns with a team-based model of care.

Figure 13. Most nurse respondents reported that their clinics are aligned with the attributes of the PMH (n = 7)



Uncertainty Surrounding the Nurse-in-Practice Program's Future

Given the investment of time and supports that practices have dedicated to onboard the nurse-in-practice, **the stability of the program itself and its uncertain continuation** over the long term was another factor that physician respondents cited as a challenge to the program. For one physician, the decision to join the program was characterized as "a leap of faith" due to the amount of time and resources, such as benefits for the nurse, that the practice invested into the position. Nurse respondents noted that they have also been wary of the program's uncertain future. One nurse maintained a casual

position at the hospital in order to "feel more comfortable" about their job security and pension. A second nurse noted that they had not cancelled their previous benefits because "I'm not sure how long this job is going to last."

Upcoming Challenges and Barriers

The issues around clarifying financial and ministerial expectations were noted to negatively impact the perceive longer-term sustainability of the program amongst nurses and physicians. Although interviewees reported satisfaction with the positive impacts the program has had on the quality of care that clinicians are able to provide to patients, as well as the improvements to both physician and nurse experiences of providing care, a minority of interviewees indicated being concerned whether these impacts may be sustained due to uncertainties related to billing and income. As one physician interviewee stated, "*It frightens me to be taking on all those new patients because what if* [the program is not continued]?" As the program moves forward, program leadership could examine these concerns in order to bolster confidence into the Nurse-in-Practice model as a viable and sustainable way of providing team-based care.

> *There are all sorts of things that would be great and probably improve quality and improve patient satisfaction. But they don't necessarily lead to the other outcome. How can you increase capacity but not necessarily reduce the billable work that a physician is doing?*
>
> \- **Physician Respondent on their skepticism with the Nurse-in-Practice program**

Another upcoming barrier that physician interviewees identified was a need for greater consideration around the market competition of nursing (e.g., consideration of wages and other benefits such as pensions available to nurses employed by the health authorities), as well as further clarification on nurse encounter coding. They discussed potentially expanding the role of the nurses to capitalize on the full scope of their skills, noting during the working group meeting that increasing patient attachment was an important goal of the program but "*not enough*." Future practices, as these interviewees suggested, need to focus on the program as a vehicle to optimize care for current patients and as a way for clinics to improve the provider experience through opportunities presented in team-based care. Such a focus may decrease present and future physicians' concerns with the viability of the program.

> *We haven't gotten* [the nurse-in-practice] *to do any yet, but there are possibly some things* [like insurance forms] *for her to do that could lessen the paperwork load.*
>
> \- **Physician Respondent on potential tasks for the nurse-in-practice**

Recommendations

Recommendations at the Clinic Level

Based on the experiences of practices and nurses at the Central Okanagan pilot sites, the following recommendations are designed to support new clinics who are considering integrating a nurse-in-practice

1) Mentoring and modelling between participating Nurse-in-Practice clinics to promote shared learnings

The transition process of CODFP Nurse-in-Practice was described across stakeholders as time-consuming and sometimes challenging, especially around onboarding and integration. There was a shared uncertainty of the scope of the nursing role and this subsequently led to a shared experience of underutilizing the nurses who were hired. This uncertainty, however, was not shared by the nurse who shadowed another nurse at a participating practice. This nurse found this job-shadowing exercise as helpful in providing important insights and improving the dissemination of learnings between pilot sites. Future nurses of the program may benefit from job shadowing, which would also facilitate the development of a community of practice.

2) Involving a clinic manager or consultant to facilitate Human Resources and practice efficiencies

Participating practices with a clinic manager benefited from having this person spearhead organizational development and change management. In one instance, the clinic manager acted as a regular liaison between the physician and nurse-in-practice, meeting with the nurse daily (during the onboarding process) to review and develop their scope of practice and addressing any challenges that they may have encountered. A practice that did not have a clinic manager described needing to hire an external consultant to support the hiring and onboarding process.

A clinic manager or consultant would help to facilitate communications throughout the practice as well as organize regular group meetings to ensure team-building. This position can also facilitate one-on-one debriefs with clinical and non-clinical staff to build up the scope of the nursing position and improve the nurse-in-practice's integration with the practice team.

3) Tailoring a strategic communication plan for increased clinic staff and patient buy-in

There was a range of preparedness for the Nurse-in-Practice program due to each pilot site's unique needs and considerations. While each site's preparation process may differ from one another, it may be worthwhile to develop a general strategic plan for introducing clinic staff and patients to the idea of nurse-in-practice. This plan would establish a baseline of considerations for each practice site to have and would ensure that all elements of a successful integration of the nurse-in-practice are met. For staff, this would include the consideration of having dedicated meetings to discuss nurse roles and clinic workflow changes. In the case of patients, this may include private in-person introductions during physician appointments or through public emails that welcome a nurse to the team.

4) Preparing a list of potential tasks for the nurse-in-practice to begin with (and a workflow "map" to support her integration into clinic processes)

Researching and brainstorming potential tasks for the nurse-in-practice to do upon arrival would improve the integration of the nurse into the practice team. Clinics could create a workflow "map" and/or designate a specific support person to optimize the onboarding of the nurse-in-practice. For half of the participating practices, the nurse-in-practice took on "instant tasks" like immunizations, vaccines, and routine screenings, which dovetailed with the opportunity to be introduced to patients.

Recommendations at the Division Level

The following recommendations are designed to support GPSC and/or the Central Okanagan Division of Family Practice to disseminate lessons learned from this pilot. These recommendations may also be used by other Divisions of Family Practice who are interested in supporting their members in integrating nurses in practice.

5) Developing a "road map" resource for participating practices to reference in planning their transition to a Nurse-in-Practice model of care delivery, including options and templates for communications, preparations, onboarding, and integration

Across pilot sites, stakeholders described the onboarding of the nurse-in-practice as slow and uncertain. Nurse respondents called for greater physician involvement with the recognition that physician "buy-in" was an important enabler to patient uptake and increased practice productivity. Other common enablers were setting up dedicated workspaces for the nurse-in-practice, creating a list of tasks and the initial workflow of the nurse-in-practice in advance, as well as strategically planned communication processes, EMR support, and job shadowing.

It is recommended that GPSC (or CODFP with support) develop a road map resource, including a checklist, for clinics to reference in planning their transition to a Nurse-in-Practice model of care delivery.

6) Creating a readiness assessment tool for clinics to self-assess their preparedness for the transition to a Nurse-in-Practice model of care delivery

Further to road mapping, GPSC (or CODFP with support) can operationalize the shared learnings from their working group meetings and this evaluation into a readiness assessment tool for clinics to self-assess whether they are ready to pursue the transition to a Nurse-in-Practice model of care delivery. The tool can canvass the organizational, structural, and resource factors of implementation. Put simply, it can ask whether the team is ready to change and whether the team has considered their various needs and challenges for a transition to a Nurse-in-Practice model of care.

7) Collaborating to finalize the clinical procedure manual of Nurse-in-Practice tasks

One nurse respondent created a procedure manual of common Nurse-in-Practice tasks, along with their encounter coding. It is recommended that the Division continue to collaborate with the clinics to complete the procedure manual as a means of supporting both clinics and their nurse-in-practice in planning and optimizing workflows.

In addition to the procedure manual, stakeholders identified the need for resources, including designated support contacts and training opportunities, to enhance nursing positions within primary

care. It is recommended that the GPSC and CODFP play a role in centralizing such resources into a repository that could be housed (e.g. on a central website) and maintained over time by the GPSC.

8) Facilitating learning within participating practices and across potential future practices in the region (e.g., clinic visits, working group meetings, job shadowing)

Stakeholders found great value in the working group meetings organized by CODFP. The Division was there to identify, prepare, and launch these first Nurse-in-Practice clinics in the region. They engaged their membership and followed each practice closely, responding to needs as they were required. This was identified as being valuable and as an enabler to the program.

In addition to the work group meetings, the Division also facilitated learning groups between participating practices and nurses, thereby initiating the development of communities of practice for the program and the provincial initiative more broadly. This was also identified as a valuable support to existing and future practices with the Nurse-in-Practice program.

Moving forward, it is envisioned that the Division continue to have an important role to play in sharing learnings and spreading the program to other practices in the region that may be interested.

9) Continuing to support and provide feedback on the contracting and hiring processes of the Nurse-in-Practice program

Several participants from the practices and the Ministry acknowledged the benefit of having the Division involved in recruiting new nurses into the Nurse-in-Practice program. For example, the CODFP was responsible for posting the nursing positions, helped clinics with finalising their unique job descriptions, and recruited new clinic sites into the program when a clinic dropped out of the program.

As the program moves forward in its implementation locally and provincially, it is recommended that the Division retains this key role. This role is needed to help coordinate hiring with current and future clinics. In this role, the Division has valuable insights into the challenges and successes experienced by the clinics on the ground, which strategically positions them as key disseminator of knowledge for the program as they help prospective nurse-in-practice clinics with their individual hiring processes.

Recommendations at the Governance Level

The following recommendations are directed to decision makers at the provincial level to help support the implementation and expansion of the Nurse-in-Practice program province-wide.

10) Introducing a more flexible contract and contracting process for interested practices and nurses

Concerns were expressed by physicians and nurses that there has not been enough flexibility in the Nurse-in-Practice contracts to allow for sufficient training and development for the nurses, as well as paid time off work. For some practices, this lack of flexibility was not an issue, while for others it was. Given the variability in preparedness and initial resource constraints of each participating practices, there may be merit in considering an onboarding and contractual process whereby practices submit proposals for funding to the Ministry of Health (or via the CODFP) based on needs of their practice and / or the skillsets of the nurses being sought. This will enable practices to optimize the Nurse-in-Practice program to best suit their particular practice needs.

11) Enhancing the curriculum for both physicians and nurses to include team-based care and the Nurse-in-Practice model

To further foster the culture of team-based care and familiarize practitioners to the Nurse-in-Practice model, this evaluation recommends the development of team-based care education, professional development activities, as well as the formal inclusion of the Nurse-in-Practice model within physician and nursing curricula. For medicine and nursing, this means better articulation of nursing roles into curricula, introducing relevant case studies, scenarios, and discussions throughout training where doctors bring nurses into general practices and highlight specific priorities for nursing positions.

Since this program is being implemented for physicians and nurses who have already graduated, it is also recommended that continuing medical education on these topics be developed and made available for these practices.

12) Improve internal and public communications (e.g., contracts, guidance documents) regarding the Nurse-in-Practice program, especially around physician billing and nurse encounter coding

Concerns around the use of data regarding physician billing and nurse encounter codes was identified early in the developmental phase of the Nurse-in-Practice program (SK Consulting, 2017) and continued to persist at the time of this evaluation. Respondents stated that they would benefit from improved communications by the Ministry of Health. During the transition phase and working group meeting, the Ministry analytics team provided presentations to the practices and made themselves available for questions on a few occasions. This could be enhanced by more regular communications and site visits with the practices as well as clearer documentation around data collection, storage, and protection. The development of a clear business case for the practices and guidance documents, including example job descriptions, that establish clear expectations and delineates the Ministry's policies for frequently encountered billing scenarios (e.g., how nurses should bill; whether they can complete same-day billing or recoup equipment costs for the clinics).

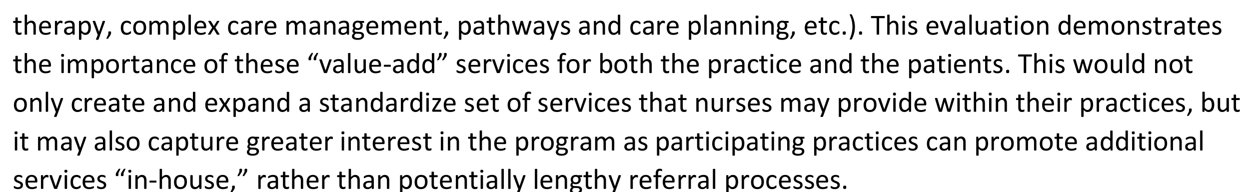
13) Developing, implementing, and communicating more comprehensive goals for the Nurse-in-Practice program, specifically around increased attachment and quality of care

Throughout the physician interviews, it was clear that respondents had mixed ideas as to what the Nurse-in-Practice program was trying to achieve in both the short and long terms. Many felt that the program was too narrowly focussed on increasing attachment (i.e. volumes) of patients, with less focus on strengthening existing attachments or optimizing physician satisfaction. This lack of clarity at the time of data collection may have influenced, according to one respondent, physicians within participating practices to withdraw from the program.

To improve physician "buy-in" and facilitate the successful implementation of nurses in primary care. It is recommended that the Ministry of Health identify (and possibly tailor) goals or measurable objectives of the Nurse-in-Practice model.

14) Incentivize additional training for nurses in the Nurse-in-Practice program

To optimize the role of the nurse-in-practice, respondents recommended that the Ministry of Health support training opportunities to expand the skillsets of incoming nurses as required within their specific clinic (e.g., EMR training, foot and wound care courses, immunizations, medical devices, pelvic examinations, spirometry, lifestyle intervention certificates, metal health and cognitive behaviour



therapy, complex care management, pathways and care planning, etc.). This evaluation demonstrates the importance of these "value-add" services for both the practice and the patients. This would not only create and expand a standardize set of services that nurses may provide within their practices, but it may also capture greater interest in the program as participating practices can promote additional services "in-house," rather than potentially lengthy referral processes.

15) Further incentivize change management at the practice level through providing financial compensation and other practice supports

Having nurses working in fee-for-service practices poses several challenges in terms of both planning and implementation. Planning and implementing this practice change takes up valuable physician time in the change management process, which was compensated in a one-time funding from the Ministry. However, this was not always perceived by physicians to be an adequate amount for the work required. As a result, only the trailblazers and enthusiast have shown interest in undertaking the task of onboarding a nurse. In order for more clinics to consider a team-based care model such as this one, physicians reported that they would appreciate assurances of compensation to supplement for lost income.

The panel management and baselining processes that was undertaken by each participating practice in partnership with PSP and the Ministry was further identified as a potential barrier to participation in the program. This evaluation recommends continuing the work of the GPSC/PSP for compensation of panel management and maintenance.

Conclusion

The Nurse-in-Practice program represents a provincial initiative launched in 2017 to introduce nurses into primary care and expand the capacity of general practitioners as part of the vision for a Patient Medical Home (PMH). This evaluation used a case study design, which included stakeholder interviews and surveys, to assess the process and initial impacts of the transition to the Nurse-in-Practice model of service delivery within participating physician-run clinics located in the Central Okanagan Division of Family Practice (CODFP).

While the roles of the nurse-in-practice varied considerably across pilot sites, their tasks could be categorized into the following domains: health assessment and screening, health care management and therapeutic intervention, health education, as well as health promotion and injury prevention. Interview and survey respondents indicated that they perceived the program to be fulfilling many of the objectives of the PMH, including increased access and attachments, as well as improved practice efficiencies and care experiences. Notably, both physician and nurse respondents reported positive links in the program between job satisfaction, team-based care, and quality of care. These findings were also supported by patient focus group participants who found their physician and nurse to be communicating and coordinating care effectively.

Stakeholders, however, highlighted some of the inherent challenges with the program's design and with the challenges of organizational reform more broadly. Above all, the transition (preparation, orientation, integration) was described as time-consuming, and suggestions were made to develop resources to clarify expectations of the program and enhance existing guidance documents, including a standard job description. As training and experience in primary care nursing varies, the completion of a clinical procedure document for nurses in primary care practice may also be a useful future tool for onboarding new nurse.

Providing job shadowing and training opportunities, as well as having prepared a list of potential tasks that nurses hired into the program can perform were identified as important means of facilitating the new workflow of the clinic. Stakeholders regarded the development of a strategic communications plan, both within and between participating programs, as another enabler to support current and future sites with the successful integration (and optimization) of a nurse-in-practice. Stakeholders noted that they valued the continuation of the working group meetings led by CODFP, the ongoing dissemination (and evaluation) of learnings for the coordination of care, and the benefit of having a clinic manager to the transition process as additional key enablers for the transition.

Stakeholders expressed a desire for further clarity around same-day billing to maximize practice efficiencies and respect patient time (i.e., improve quality of care and patient experience). They also identified a need to provide more dedicated funding and/or create compensation (e.g., incentive fee codes) for administration time, physician time, and team development. Stakeholders added that the expansion and diversification of the nurses' skills (and therefore scope of practice) can introduce new services to the clinic without undercutting the business performance of the practices.

Moving forward, there may be opportunities at the clinic, Divisions of Family Practice, and governance levels to enhance the transition to a Nurse-in-Practice model of care delivery. Prospective practices could consider whether they have the physical space and human resources available to enhance the implementation of the program, including a clinic manager or consultant who can coordinate team

members and ensure practice efficiencies. It is also suggested that consideration be given to incentives that promote team-based care within participating practices (e.g., the development of encounter codes for regular team meetings and one-on-one meetings support from physicians). Furthermore, it is suggested that education opportunities be offered to advance the skillset of the nurse-in-practice and introduce new services for patients in order to mitigate the potential loss of practice income by creating distinct responsibilities from existing clinic staff. It may be worthwhile to consider the development of a "road map" and "readiness assessment tool" for interested practices to highlight these shared learnings and to discuss strategies around physician and patient "buy-in," workflow and workload optimization, as well as overall change management.

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Appendix A: Additional Tables and Figures

Table 7. Provider and patient benefits related to the CODFP Nurse-in-Practice program.

INCREASE ACCESS	**greater capacity to provide care** *“I don’t know why anyone would think this is bad. I mean, it’s free. People like getting free footcare and free TLC for their diabetes.”* (Physician Respondent) *“I like the team feel. I like collaboration. I think that this is going to grow over time as we get used to what* [the nurse] *can do. Our* [practice] *is getting used to what a nurse is able to do.”* (Physician Respondent) *“The nurse has more time to converse and loop up topics while I am there* [at the clinic]. *Having the nurse is useful to the doctor by saving* [the doctor’s] *time and having someone to discuss the patient with.”* (Patient Focus Group Participant)	**less wait times** *“Before patients would have to book out two weeks to see their doctor. Now it is a day or two!”* (Clinical Manager Respondent) *“Patients enjoy that they can see the nurse sooner rather than have to wait to go see the doctor.”* (Physician Respondent) *“I get a pre-seasonal allergy shot, series of shot, and right away, they just set me up in the program to see* [nurse] *and it was much quicker and less waiting time.”* (Focus Group Participant)
	new and strengthened attachments *“We see the benefits in the sense of seeing patients who haven’t been seen in a while.”* (Physician Respondent) *“There was one particular patient who was a senior and she wanted to see me for stuff. She was putting her health off because she didn’t feel comfortable with a male* [physician] *even though she liked the doctor. It was nothing personal; she just didn’t feel comfortable.”* (Nurse Respondent) *“You’re really more relaxed with the nurse* […] *Just because you know that she doesn’t have four more patients waiting in the waiting room for her, and just because she’s had a little more time to do the research on you as an individual. You feel like you’ve got an extra person that’s interested in what’s going on with your health.”* (Patient Focus Group Participant)	**additional services (fewer external referrals)** *“My patients like having all their services here, even though there’s a diabetes clinic in the community.* [The nurse]*’s done a few house-calls for a few docs who couldn’t. It’s kind of nice; if we can’t get out, she can go.”* (Physician Respondent) *“Before we* [would] *have used other services in town* […] *that some patients may not be able to go to. For this narrow group of patients, we can provide a new service.”* (Physician Respondent)

IMPROVE CARE EXPERIENCE	**practice efficiencies**	**health promotion and prevention**
	"Helpful that [the nurse-in-practice] *can do the follow-up for patients. For example, if a mental health person comes in and we recommend CBT or something, she does the follow-up."* (Physician Respondent) *"Less things that are being missed and more little things that are being identified that aren't necessarily high-priority but are still worthy*." (Physician Respondent) *"MoCAs* […] *are really time-consuming for the physicians. I usually add some sort of seniors' assessment on there, so I make sure that they are functioning well at home and that they have support and that they feel safe."* (Nurse Respondent) "[The nurse] *feels that she could be used to a higher degree and that physicians need to take advantage of her role. Some physicians have a harder time letting go of some tasks; I don't mind doing that. I haven't done any tasks like blood pressure, CHF* [congestive heart failure], *weight, oxygen stats, measurements of calves, etc. since she's been able to take on those tasks for me. I find it useful for her to gather the data—the information to help inform my decisions*." (Physician Respondent)	*"Previously,* [we] *had to refer out of clinic but now we can offer* [additional services] *in-house* […] *The nurse can reinforce teaching and sends patients home with more information—more education."* (Physician Respondent) *"The nurse is able to go over basic medications with patients, like, how to use a puffer. I've never gone over how to use a puffer with patients."* (Physician Respondent) **better work life** *"This works for everyone—patients are happier to get more time, physicians are less stressed, and overall patient care is better and more holistic."* (Nurse Respondent) *"There has been no change in my income; my workload has been alleviated to some degree* […] *I'm very happy"* (Physician Respondent)

Table 8. Program Enablers for the Nurse-in-Practice

Preparations	Orientation & Onboarding	Integration & Team Effectiveness
list of potential tasks for Nurse-in-Practice *"All of us gave list of things that we'd like to use the nurse for—brainstorming where she'd be effective in saving us time."* (Physician Respondent) *"Thinking about things that are very time-consuming that we could offload to her; the more we discovered things like that, the more exciting it became to know that she would be arriving"* (Physician Respondent**)**	**office manager or lead liaison** *"Between* [the nurse] *and I, we sat down almost every day* [to discuss] *what kind of things she did, what kind of things she could do more of, and then I would talk to the doctors. Constantly evaluating!"* (Clinic Manager Respondent) *"Without my role,* [Nurse-in-Practice] *would have been a lot harder. I don't know if the nurse or the doctors would have had the time to put into it as much as I have put into!"* (Clinic Manager Respondent)	**more physician involvement** *"Concept is fantastic; it'd be good if all doctors are on board."* (Nurse Respondent) *"I think it would be beneficial if they hired another doctor at this clinic, particularly if it's another young doctor who wants to work with another nurse. The more doctors* [that] *I work for, the more work I have. The busier I'll be, the better* [the program will] *run"* (Nurse Respondent)
start-up funds *"As a group, we decided what room she could take over, renovate*[d] *the room, purchase*[d] *all the equipment that she would need using the $15,000 that the government gave us to do that. We used all of it."* (Clinic Manager Respondent)	**physician buy-in** *"It takes a little bit of negotiating and understanding and trust building. That's the biggest thing—for them to feel comfortable and confident in how I am going to participate in their practice, and consequently, how we work together as a team."* (Nurse Respondent)	**addition of new services** *"You have to learn how to use a nurse; you have to change your practice style a little bit. One of the things that we are doing, we're adding in other services—MoCA tests in our case."* (Physician Respondent)
experience of nurse-in-practice having worked with diverse populations *"If you were to bring somebody fresh in from university or only 5 years doing one particular type of nursing, I think it could be a whole different experience for all of us."* (Patient Focus Group Participant) *"It would be a lot harder when you started in this type of role if you didn't have experience with different people at different stages of life* [...] *if you didn't have public health*	**patient introduction** ➢ **via medical history** *"We did have her review the list of diabetics and she went through immunization history and lifestyle part. She helped update records."* (Physician Respondent) ➢ **via immunizations, vaccines, and screenings** *"Started at flu season—great way to meet a lot of people really fast!"* (Nurse Respondent) ➢ **via physicians**	**EMR support** *"Very few nurses coming into the* [nurse-in-practice] *who were not previously part of a primary care clinic would not have too much experience with* [EMR]" (Nurse Respondent) *"I can do the actual tasks of being a nurse but learning how to use the computer system and bill for each service is difficult."* (Nurse Respondent) *"There's a huge amount of data to be gleaned from the EMRs and its' not always that intuitive to know how to get at it* [...] *how to*

nursing, mental health nursing, or some sort of specialization that would make you more equipped." (Nurse Respondent) *"*[The nurse] *is extremely knowledgeable about a lot of things and she's taken extra courses on geriatric care and that sort of thing, so that's particularly valuable for somebody in my age group, for sure!"* (Patient Focus Group Participant)	*"Based on my prior experience, I felt like the best way for a nurse who was going to continue to help with patients was, really, for the physician to introduce the nurse and the patient."* (Physician Respondent) *"The MOAs were calling his patients and telling them, 'he's going to be retiring. We have* [a nurse-in-practice]. *Do you want to meet with her?"* (Nurse Respondent)	*find that data and just some more advanced training, even for the physicians."* (Nurse Respondent) *"You need to be familiar with the* [EMR] *to be able to be efficient in billing and charting and that's probably the most important thing to start off with, and I think that's why my transition here was easy* [...] *because the EMR was no secret to me."* (Nurse Respondent)
strategic plan / workflow mapping *"Having a plan in place too: how are we going to build up my practice? What's the plan? Are we advertising?"* (Nurse Respondent) *"I see the role expanding, but we're just used to practicing the way we're practicing. It's hard to change. I'm looking at my list to see what I can free up to* [the nurse-in-practice]. *It's a process; she is wanting to be busier than she is."* (Physician Respondent)	**training opportunities** *"The nurse was proactive in taking a few courses on her own. A combination of her telling us what she can do, and what we'd like her to do."* (Physician Respondent) *"In the future, we'd love the nurse to get some training in mental health, cognitive behavior therapy. That's a really big gap in our community."* (Physician Respondent) *"More formal training for primary care and more regular updates, educational sessions for ongoing professional development. More opportunities and supports for networking with other providers, clinics."* (Nurse Respondent)	**teaching-oriented practice / close physician-nurse contact** **"***It's super open-door; I can go to* [physician leads] *whenever and question them about stuff. They genuinely care about their patients. They, you know, do everything they can; they're very teaching-oriented. Yeah, so, they're totally so easy to talk to, and go to with questions, which is helpful.* (Nurse Respondent) *"There were a couple of times where* [the nurse will] *text* [the doctor] *or she'll phone her or she'll run down the hall to ask, and problem solved! Question answered."* (Patient Focus Group Participant)
dedicated workspace *"We had to think through space of course, because that is something that we knew from other experience that having a person there without focused workspace can be difficult for the person doing the work."* (Physician Respondent)	**job shadowing** *"I job shadowed* [another participating physician]. *I came back with a whole list of what* [the nurse-in-practice] *does. This gave my docs an idea of how to get the ball rolling. We've also met through meetings."* (Nurse Respondent)	**network / peer support** *"It was when I got invited to the regional* [...] *meetings* [that I started to feel supported] *and that's important—that we stay connected with other* [nurses] *in the community."* (Nurse Respondent)

Appendix B: Shadow Billing Data Analysis

The following tables displays the shadow billing data for each participating Nurse-in-Practice clinic from August 2017 to August 2018. For each financial quarter, the total number of billed services as well as the percentage of billed services relative to the total number for that quarter are indicated for each billing code category. In the total columns, the total number of billed services are highlighted in red—the darker the cell colour, the higher the number of billed services for that specific clinic. The percentage of billed services are highlighted in blue—the darker the cell colour, the higher the percentage of billed services for that specific clinic.

Clinic 1

Billing Code Category	Q1 (Aug - Sept 2017)		Q2 (Oct - Dec 2017)		Q3 (Jan - Mar 2018)		Q4 (Apr - Jun 2018)		Q5 (Jul - Aug 2018)		TOTAL	
	#	%	#	%	#	%	#	%	#	%	#	%
Assisting GP			2	0.3%	6	1.0%	10	1.0%	4	0.7%	**22**	0.7%
Chronic Disease Management									9	1.5%	**9**	0.3%
Conference			1	0.1%			3	0.3%			**4**	0.1%
Education	14	6.3%	25	3.5%	9	1.5%	5	0.5%	1	0.2%	**54**	1.7%
Injections / Immunizations	53	23.7%	273	38.4%	58	9.4%	56	5.6%	31	5.2%	**471**	15.0%
Medications	3	1.3%	7	1.0%	10	1.6%					**20**	0.6%
Minor Treatments / Assessments	75	33.5%	240	33.8%	242	39.3%	304	30.4%	166	27.8%	**1027**	32.6%
Other							77	7.7%	78	13.0%	**155**	4.9%
Palliative EOL Care Planning					6	1.0%	6	0.6%			**12**	0.4%
Referral - GP to Nurse									9	1.5%	**9**	0.3%
Referral - In-Clinic Team Member	8	3.6%	28	3.9%	22	3.6%	33	3.3%	11	1.8%	**102**	3.2%
Referral - Non-Health Service Provider			1	0.1%							**1**	0.0%
Telephone / Email	41	18.3%	62	8.7%	142	23.1%	197	19.7%	98	16.4%	**540**	17.1%
Visit	30	13.4%	72	10.1%	121	19.6%	310	31.0%	191	31.9%	**724**	23.0%
Total	**224**	**100.0%**	**711**	**100.0%**	**616**	**100.0%**	**1001**	**100.0%**	**598**	**100.0%**	**3150**	**100.0%**

The following table identifies the top 5 most billed codes for the clinic for each quarter.

Rank	Q1 (Aug - Sept 2017)	Q2 (Oct - Dec 2017)	Q3 (Jan - Mar 2018)	Q4 (Apr - Jun 2018)	Q5 (Jul - Aug 2018)
1	Minor Treatments / Assessments	Injections / Immunizations	Minor Treatments / Assessments	Visits	Visits
2	Injections / Immunizations	Minor Treatments / Assessments	Telephone / Email	Minor Treatments / Assessments	Minor Treatments / Assessments
3	Telephone / Email	Visits	Visits	Telephone / Email	Telephone / Email
4	Visits	Telephone / Email	Injections / Immunizations	Other	Other
5	Education	Referral - In-Clinic Team Member	Referral - In-Clinic Team Member	Injections / Immunizations	Injections / Immunizations

Clinic 2												
Billing Code Category	**Q1 (Aug - Sept 2017)**		**Q2 (Oct - Dec 2017)**		**Q3 (Jan - Mar 2018)**		**Q4 (Apr - Jun 2018)**		**Q5 (Jul - Aug 2018)**		**TOTAL**	
Assisting GP							2	1.9%	3	3.6%	**5**	2.2%
Chronic Disease Management					11	26.8%	8	7.8%			**19**	8.3%
Education					1	2.4%	8	7.8%	6	7.1%	**15**	6.6%
Injections / Immunizations					1	2.4%	5	4.9%	9	10.7%	**15**	6.6%
Medications							1	1.0%			**1**	0.4%
Minor Treatments / Assessments					11	26.8%	48	46.6%	34	40.5%	**93**	40.8%
Telephone / Email					17	41.5%	30	29.1%	22	26.2%	**69**	30.3%
Visit							1	1.0%	10	11.9%	**11**	4.8%
Total					**41**	**100.0%**	**103**	**100.0%**	**84**	**100.0%**	**228**	**100.0%**

Rank	Q1 (Aug - Sept 2017)	Q2 (Oct - Dec 2017)	Q3 (Jan - Mar 2018	Q4 (Apr - Jun 2018	Q5 (Jul - Aug 2018)
1			Telephone / Email	Minor Treatments / Assessments	Minor Treatments / Assessments
2			Minor Treatments / Assessments	Telephone / Email	Telephone / Email
3			Chronic Disease Management	Chronic Disease Management	Visits
4			Injections / Immunizations	Education	Injections / Immunizations
5			Education	Injections / Immunizations	Education

Clinic 3												
Billing Code Category	**Q1 (Aug - Sept 2017)**		**Q2 (Oct - Dec 2017)**		**Q3 (Jan - Mar 2018)**		**Q4 (Apr - Jun 2018)**		**Q5 (Jul - Aug 2018)**		**TOTAL**	
Assisting GP			9	1.3%	14	2.0%	16	2.1%	21	3.1%	**60**	2.1%
Chronic Disease Management			12	1.8%	8	1.1%	11	1.5%	13	1.9%	**44**	1.6%
Conference			1	0.1%	1	0.1%	1	0.1%	1	0.1%	**4**	0.1%
Counselling			1	0.1%			5	0.7%	5	0.7%	**11**	0.4%
Education			47	6.9%	108	15.5%	115	15.2%	72	10.7%	**342**	12.2%
Injections / Immunizations			304	44.8%	91	13.1%	83	10.9%	76	11.3%	**554**	19.8%
Medications									1	0.1%	**1**	0.0%
Minor Treatments / Assessments			71	10.5%	74	10.6%	149	19.7%	117	17.5%	**411**	14.7%
New Patient Routine Health History									2	0.3%	**2**	0.1%
Other			10	1.5%	16	2.3%	23	3.0%	28	4.2%	**77**	2.7%
Referral - GP to Nurse							6	0.8%	15	2.2%	**21**	0.7%
Referral - In-Clinic Team Member			29	4.3%	57	8.2%	51	6.7%	43	6.4%	**180**	6.4%
Telephone / Email			112	16.5%	121	17.4%	168	22.2%	150	22.4%	**551**	19.7%
Visit			83	12.2%	206	29.6%	130	17.2%	126	18.8%	**545**	19.4%
Total			**679**	**1**	**696**	**1**	**758**	**1**	**670**	**1**	**2803**	**1**

Rank	Q1 (Aug - Sept 2017)	Q2 (Oct - Dec 2017)	Q3 (Jan - Mar 2018	Q4 (Apr - Jun 2018	Q5 (Jul - Aug 2018)
1		Injections / Immunizations	Visits	Telephone / Email	Telephone / Email
2		Telephone / Email	Telephone / Email	Minor Treatments / Assessments	Visits
3		Visits	Education	Visits	Minor Treatments / Assessments
4		Minor Treatments / Assessments	Injections / Immunizations	Education	Injections / Immunizations
5		Education	Minor Treatments / Assessments	Injections / Immunizations	Education

Clinic 4

Billing Code Category	Q1 (Aug - Sept 2017)		Q2 (Oct - Dec 2017)		Q3 (Jan - Mar 2018)		Q4 (Apr - Jun 2018)		Q5 (Jul - Aug 2018)		TOTAL	
Assisting GP					1	0.3%					**1**	0.0%
Chronic Disease Management							9	1.0%	38	4.7%	**47**	2.3%
Conference					2	0.6%					**2**	0.1%
Counselling							2	0.2%			**2**	0.1%
Education					4	1.2%	8	0.9%	3	0.4%	**15**	0.7%
Injections / Immunizations					63	18.3%	100	10.9%	90	11.0%	**253**	12.2%
Medications							1	0.1%			**1**	0.0%
Minor Treatments / Assessments					44	12.8%	144	15.7%	138	16.9%	**326**	15.7%
New Patient Routine Health History					31	9.0%	26	2.8%	14	1.7%	**71**	3.4%
Other					42	12.2%	130	14.2%	116	14.2%	**288**	13.9%
Referral - GP to Nurse							8	0.9%	15	1.8%	**23**	1.1%
Referral - In-Clinic Team Member					26	7.5%	99	10.8%	168	20.6%	**293**	14.1%
Referral - Non-Health Service Provider					1	0.3%					**1**	0.0%
Telephone / Email					48	13.9%	218	23.8%	86	10.5%	**352**	16.9%
Visit					83	24.1%	171	18.7%	149	18.2%	**403**	19.4%
Total					**345**	**1**	**916**	**1**	**817**	**1**	**2078**	**1**

Rank	Q1 (Aug - Sept 2017)	Q2 (Oct - Dec 2017)	Q3 (Jan - Mar 2018	Q4 (Apr - Jun 2018	Q5 (Jul - Aug 2018)
1			Visits	Telephone / Email	Referral - In-Clinic Team Member
2			Injections / Immunizations	Visits	Visits
3			Telephone / Email	Minor Treatments / Assessments	Minor Treatments / Assessments
4			Minor Treatments / Assessments	Other	Other
5			Other	Injections / Immunizations	Injections / Immunizations

Clinic 5												
Billing Code Category	**Q1 (Aug - Sept 2017)**		**Q2 (Oct - Dec 2017)**		**Q3 (Jan - Mar 2018)**		**Q4 (Apr - Jun 2018)**		**Q5 (Jul - Aug 2018)**		**TOTAL**	
Assisting GP					5	41.7%	13	14.1%	16	5.2%	34	8.3%
Conference									1	0.3%	1	0.2%
Injections / Immunizations					5	41.7%	41	44.6%	53	17.3%	99	24.1%
Medications									1	0.3%	1	0.2%
Minor Treatments / Assessments					1	8.3%	27	29.3%	45	14.7%	73	17.8%
New Patient Routine Health History							2	2.2%	13	4.2%	15	3.7%
Other					1	8.3%			4	1.3%	5	1.2%
Referral - GP to Nurse							8	8.7%	52	17.0%	60	14.6%
Referral - In-Clinic Team Member							1	1.1%			1	0.2%
Telephone / Email									120	39.2%	120	29.3%
Visit									1	0.3%	1	0.2%
Total					**12**	**1**	**92**	**1**	**306**	**1**	**410**	**1**

Rank	Q1 (Aug - Sept 2017)	Q2 (Oct - Dec 2017)	Q3 (Jan - Mar 2018	Q4 (Apr - Jun 2018	Q5 (Jul - Aug 2018)
1			Assisting GP	Injections / Immunizations	Telephone / Email
2			Injections / Immunizations	Minor Treatments / Assessments	Injections / Immunizations
3			Minor Treatments / Assessments	Assisting GP	Referral - GP to Nurse
4			Other	Referral - GP to Nurse	Minor Treatments / Assessments
5				New Patient Routine Health History	Assisting GP

Clinic 6												
Billing Code Category	**Q1 (Aug - Sept 2017)**		**Q2 (Oct - Dec 2017)**		**Q3 (Jan - Mar 2018)**		**Q4 (Apr - Jun 2018)**		**Q5 (Jul - Aug 2018)**		**TOTAL**	
Minor Treatments / Assessments							1	0.6%	2	0.7%	**3**	0.7%
NP - Injections							1	0.6%	9	3.2%	**10**	2.2%
NP - Pelvic Examination / PAP							6	3.3%	2	0.7%	**8**	1.8%
NP - Visit in Primary Location							101	56.1%	205	74.0%	**306**	67.0%
NP Initial Visit							64	35.6%	47	17.0%	**111**	24.3%
NP Telephone							7	3.9%	12	4.3%	**19**	4.2%
Total							**180**	**1**	**277**	**1**	**457**	**1**

Rank	Q1 (Aug - Sept 2017)	Q2 (Oct - Dec 2017)	Q3 (Jan - Mar 2018	Q4 (Apr - Jun 2018	Q5 (Jul - Aug 2018)
1				NP - Visit in Primary Location	NP - Visit in Primary Location
2				NP Initial Visit	NP Initial Visit
3				NP Telephone	NP Telephone
4				NP - Pelvic Examination / PAP	NP - Injections
5				Minor Treatments / Assessments	NP - Pelvic Examination / PAP

Clinic 7													
Billing Code Category	**Q1 (Aug - Sept 2017)**		**Q2 (Oct - Dec 2017)**		**Q3 (Jan - Mar 2018)**		**Q4 (Apr - Jun 2018)**		**Q5 (Jul - Aug 2018)**		**TOTAL**	
Counselling					52	91.2%	87	78.4%	42	77.8%	**181**	81.5%
Education							1	0.9%			**1**	0.5%
Minor Treatments / Assessments					5	8.8%	17	15.3%	11	20.4%	**33**	14.9%
Telephone / Email							6	5.4%	1	1.9%	**7**	3.2%
Total					**57**	**1**	**111**	**1**	**54**	**1**	**222**	**1**

Rank	Q1 (Aug - Sept 2017)	Q2 (Oct - Dec 2017)	Q3 (Jan - Mar 2018	Q4 (Apr - Jun 2018	Q5 (Jul - Aug 2018)
1			Counselling	Counselling	Counselling
2			Minor Treatments / Assessments	Minor Treatments / Assessments	Minor Treatments / Assessments
3				Telephone / Email	Telephone / Email
4				Education	

Clinic 8

Billing Code Category	Q1 (Aug - Sept 2017)		Q2 (Oct - Dec 2017)		Q3 (Jan - Mar 2018)		Q4 (Apr - Jun 2018)		Q5 (Jul - Aug 2018)		TOTAL	
Assisting GP			3	0.6%	10	1.3%	13	2.1%	1	0.2%	**27**	1.2%
Chronic Disease Management			14	2.9%	7	0.9%	17	2.7%	13	3.1%	**51**	2.2%
Counselling			6	1.3%	6	0.8%	6	0.9%	3	0.7%	**21**	0.9%
Education			6	1.3%			7	1.1%	3	0.7%	**16**	0.7%
Injections / Immunizations			159	33.3%	35	4.5%	33	5.2%	12	2.9%	**239**	10.4%
Medications							10	1.6%	8	1.9%	**18**	0.8%
Minor Treatments / Assessments			65	13.6%	103	13.3%	78	12.3%	41	9.8%	**287**	12.4%
New Patient Routine Health History			111	23.2%	63	8.1%	37	5.8%	14	3.3%	**225**	9.8%
Other							11	1.7%	4	1.0%	**15**	0.7%
Referral - GP to Nurse							3	0.5%	4	1.0%	**7**	0.3%
Referral - In-Clinic Team Member			1	0.2%	2	0.3%	4	0.6%	1	0.2%	**8**	0.3%
Telephone / Email			26	5.4%	27	3.5%	13	2.1%	39	9.3%	**105**	4.6%
Visit			87	18.2%	523	67.4%	402	63.4%	275	65.8%	**1287**	55.8%
Total			**478**	**1**	**776**	**1**	**634**	**1**	**418**	**1**	**2306**	**1**

Rank	Q1 (Aug - Sept 2017)	Q2 (Oct - Dec 2017)	Q3 (Jan - Mar 2018	Q4 (Apr - Jun 2018	Q5 (Jul - Aug 2018)
1		Injections / Immunizations	Visit	Visit	Visit
2		New Patient Routine Health History	Minor Treatments / Assessments	Minor Treatments / Assessments	Minor Treatments / Assessments
3		Visit	New Patient Routine Health History	New Patient Routine Health History	Telephone / Email
4		Minor Treatments / Assessments	Injections / Immunizations	Injections / Immunizations	New Patient Routine Health History
5		Telephone / Email	Telephone / Email	Chronic Disease Management	Chronic Disease Management

Clinic 9

Billing Code Category	Q1 (Aug - Sept 2017)		Q2 (Oct - Dec 2017)		Q3 (Jan - Mar 2018)		Q4 (Apr - Jun 2018)		Q5 (Jul - Aug 2018)		TOTAL	
Minor Treatments / Assessments					1	0.3%	3	3.8%			**4**	1.0%
NP - Chronic Disease Management - Diabetes					1	0.3%					**1**	0.2%
NP - Pelvic Examination / PAP					3	0.9%	5	6.3%			**8**	2.0%
NP - Visit in Primary Location					292	90.7%	66	82.5%			**358**	89.1%
NP Initial Visit					15	4.7%	1	1.3%			**16**	4.0%
NP Telephone					10	3.1%	5	6.3%			**15**	3.7%
Total					**322**	**1**	**80**	**1**			**402**	**1**

Rank	Q1 (Aug - Sept 2017)	Q2 (Oct - Dec 2017)	Q3 (Jan - Mar 2018	Q4 (Apr - Jun 2018	Q5 (Jul - Aug 2018)
1			NP - Visit in Primary Location	NP - Visit in Primary Location	
2			NP Initial Visit	NP - Pelvic Examination / PAP	
3			NP Telephone	NP Telephone	
4			NP - Pelvic Examination / PAP	Minor Treatments / Assessments	
5			NP - Chronic Disease Management - Diabetes	NP Initial Visit	