HQCA
Health Quality Council of Alberta

A CASE STUDY EVALUATION

Crowfoot Village Family Practice and the Taber Clinic

October 2019

The Health Quality Council of Alberta is a provincial agency that pursues opportunities to improve patient safety and health service quality for Albertans. It gathers and analyzes information, monitors the healthcare system, and collaborates with Alberta Health, Alberta Health Services, health professions, academia, and other stakeholders to drive actionable improvements.

Our responsibilities are set forth in the *Health Quality Council of Alberta Act.*

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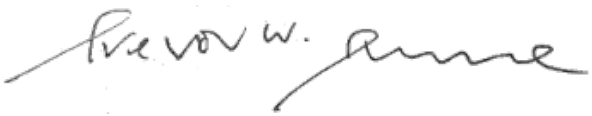
FOREWORD

Since 1999 Crowfoot Village Family Practice (in Calgary) and the Taber Clinic (in Taber) have operated under an alternative funding model (a blend of mostly capitation and some fee-for-service) unlike most family physician practices in Alberta which are compensated primarily by fee-for-service. This type of alternative funding model is not well understood, and has led to many myths about its risks and benefits.

This case study report dispels some of these myths by providing evidence and a better understanding of the value, including cost and quality, of primary care delivered by these two clinics. We studied and analyzed a wealth of patient data, and heard from physicians, clinic staff and patients who work in or receive service from these clinics. All of this work has provided us with an important window into what the future of primary care in Alberta could look like.

Our findings corroborate the evidence published from other health systems, that investing in strong, team-based primary care results in better patient outcomes and lower overall health system costs. Consequently, we offer one key recommendation and nine considerations for action. We are confident that these are the best steps to move Alberta in the right direction if we are truly committed to transforming primary care delivery. The long-term benefits to Albertans and the healthcare system as a whole cannot be understated.

Thank you to Crowfoot Village Family Practice and the Taber Clinic for embracing this evaluation, and to all of the practitioners and staff members who provided us with their perspectives and experiences. Their insights helped us better understand their practice model, its linkages to their funding agreement, and the patient outcomes identified. Most importantly, we thank the patients who shared their experiences in surveys and focus groups. It is with the future of all patients in mind that we can and should be inspired to use the evidence produced from this case study to provide Albertans the high performing healthcare system they expect and deserve.



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Board Chair

ACKNOWLEDGEMENTS

The Health Quality Council of Alberta (HQCA) team extends their gratitude to the physician, non-physician, administrative and leadership staff at Taber Clinic and Crowfoot Village Family Practice. We would not have been able to provide a comprehensive report without their vulnerability, confidence in the project process, and commitment to providing information about their experience.

Further acknowledgement must be extended to the Alternative Compensation Unit of Alberta Health and the Alternative Relationship Plan Program Management Office of the Alberta Medical Association. Both teams provided their perspectives and experiences related to the clinical relationships and management of ARP funding models in Alberta. Although not specifically included in the findings, these perspectives helped to form some of the future considerations presented in the report.

We also appreciate the guidance and support of a number of expert advisors who helped to refine the scope of the project. This group challenged our approach to data collection and analysis and encouraged valuable 'so-what' and 'now-what' conversations among our team.

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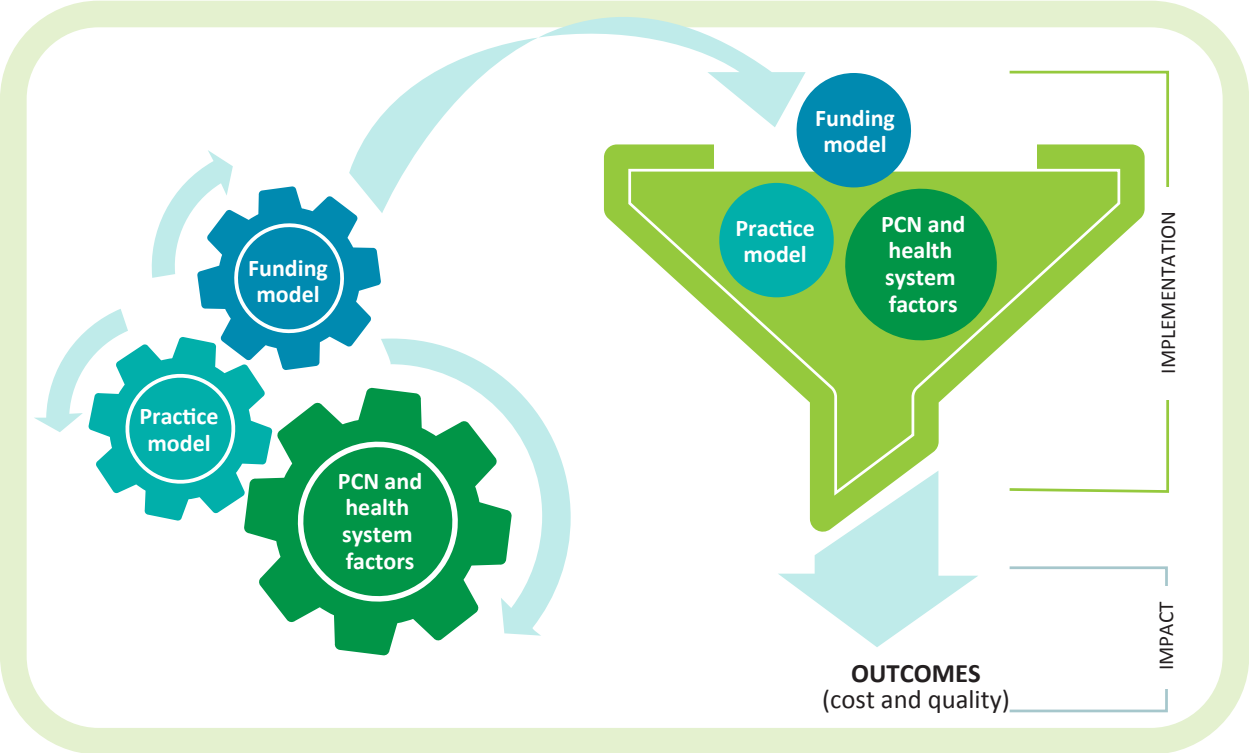
EXECUTIVE SUMMARY

Primary care reform, focused on changing payment incentives and encouraging more interprofessional care, has accelerated in Canada over the past decade (1). While Canadian policy-makers have experimented with alternative funding models in primary care, there has been very little evaluation or assessment done of how these models are working, what outcomes they are achieving for patients, and the value they achieve for the healthcare system (2). This study examined, using a case-study design, the value of a capitation-based Alternative Relationship Plan (ARP) to the delivery of primary care services at Crowfoot Village Family Practice (CVFP), Taber Clinic (TC), and Alberta's wider health system. The goal was to provide a comprehensive picture of each practice model implemented at CVFP and TC and to assess their impact on various health system outcomes. This approach is well-suited for exploring interrelationships between the ARP, the Primary Care Nework (PCN)[1], the practice model, and the impact of the ARP and practice model on various outcomes, such as the costs of care to the health system, healthcare use patterns, provider perceptions regarding the value of the model, and patient experiences about the quality of care.

Conceptual framework and case study methodology



[1] Primary Care Networks (PCNs) bring local physicians and other health care professionals together to provide comprehensive patient care to Albertans. PCNs are comprised of groups of family physicians working with other health care professionals such as nurses, nurse practitioners, dietitians, pharmacists, social workers and mental health professionals. PCNs develop solutions to meet the needs of the local community and their health issues. PCNs are created through an agreement between physicians and Alberta Health Services.

Key Findings

An alternate funding model enables the design and delivery of a team-based practice model consistent with the principles of the Patient's Medical Home (PMH)[2]

Both clinics have implemented a practice model (an assemblage of providers, practices, and values) that delivers team-based primary care services that are patient-centred, accessible, comprehensive, collaborative, integrated, efficient, and informed by quality improvement processes. This study found that the capitation-based ARP (i.e., alternate funding model) implemented at CVFP and TC is a key factor in supporting the structure and organization of team-based care capable of maximizing benefits for patients and providers.

Crowfoot Village Family Practice and Taber Clinic provide comprehensive, cost-effective care that creates value for the health system

The primary and community care services delivered by the two clinics are more expensive than their rural and metropolitan peers. However, under the capitation-based ARP, both clinics have been able to use a team-based practice model that offers more cost-effective care, particularly when downstream health system costs such as emergency department use and inpatient hospital stays are considered. In 2016-17, the practice models delivered by CVFP and TC realized health system cost savings of $4.3 million and $7.2 million respectively. This trend of health system cost savings has been consistent since 2007-08 (see figures 7a, 7b) with 10-year accumulated savings of $57.3 million and $62.2 million respectively.

Important contextual factors were identified as complementary to the alternate funding model that influence the delivery of the Patient's Medical Home practice model

Each clinic has leveraged key features of its local context to achieve a cost-effective practice model. Of importance is the intentional use of the electronic medical record, effective clinical and administrative leadership, physicians' attitudes and mindset toward a team-based practice model, co-location of services, and resources from the Primary Care Network.

This report has identified a number of key insights relevant for policy-makers, physicians, primary care networks, and practice support programs. An alternate funding model is one of a number of factors that influence the design and delivery of a team-based PMH practice model. To support the scalability of alternate funding models, there are a number of health system considerations that must align with, and support, the on-the-ground delivery of primary care.

[2] For the College of Family Physicians of Canada, the patient's medical home (PMH) is a vision that emphasizes the role of the family practice and family physicians in providing high-quality, compassionate, and timely care (CFPC, 2019). The PMH is a family practice defined by its patients as the place they feel most comfortable presenting and discussing their personal and family health and medical concerns.

Taber Clinic:
ANNUAL PER PATIENT COSTS & SAVINGS
2016-17

ANNUAL COSTS	TABER	ALBERTA RURAL	DIFFERENCE
PRIMARY CARE	$378	$366	$12 higher
OTHER PROVIDERS (e.g. specialists)	$326	$406	$80 lower
EMERGENCY DEPARTMENT VISITS	$162	$274	$112 lower
INPATIENT STAYS	$467	$736	$269 lower

ANNUAL SAVINGS:

Per patient: **$449**

For all patients at the Taber Clinic: **$7.2M**

10-YEAR SAVINGS:

For all patients at the Taber Clinic (2007-08 to 2016-17): **$62.2M**

Crowfoot Village Family Practice (CVFP)
ANNUAL PER PATIENT COSTS & SAVINGS
2016-17

ANNUAL COSTS	CVFP	ALBERTA METRO	DIFFERENCE
PRIMARY CARE	$343	$293	$50 higher
OTHER PROVIDERS (e.g. specialists)	$521	$510	$11 higher
EMERGENCY DEPARTMENT VISITS	$86	$110	$24 lower
INPATIENT STAYS	$298	$517	$219 lower

ANNUAL SAVINGS:

Per patient: **$182**

For all patients at the Crowfoot Village Family Practice: **$4.3M**

10-YEAR SAVINGS:

For all patients at the Crowfoot Village Family Practice (2007-08 to 2016-17): **$57.3M**

The above infographic shows creating an alternative funding agreement that enables a team-based practice model has consistently provided value, in the form of downstream cost-savings, to the health system. However, achieving these savings on a larger scale is not as simple as replicating the funding agreements or the local conditions in which CVFP and TC operate. One important step should be to ensure a transparent, but adaptable, funding model framework. This enables the best possible conditions to be created to support successful outcomes for the primary care practices and the health system.

Recommendation

No new funding agreements should be implemented without first developing a provincial alternate funding model framework that describes the key elements required to support the development and implementation of alternate funding agreements. The framework must be in alignment with, and support the vision for, primary and community care, and inclusive of the role of Primary Care Networks.

Considerations for action

The following considerations for action are intended to inform and/or be included in the development of the alternate funding model framework.

PROVINCIAL-LEVEL CONSIDERATIONS

- Define primary care performance metrics that focus on value-based outcomes and communicate reporting expectations to participating primary care clinics.
- Enhance the reliability of health system cost data, particularly for inpatient service utilization.
- Engage stakeholders to identify the key elements of an alternative payment model that can best incentivize a larger-scale implementation of the PMH model

COMMUNITY-LEVEL CONSIDERATIONS

- Review negation parameters to accommodate the health service needs of rostered patients.
- Define and develop services that support the health needs of the population served, are adaptable for changing local contexts and enable scalability and management of the funding agreements.
- Define the PCNs' role in provision of clinical supports and/or healthcare services that complement those offered by practices operating under an alternate funding agreement.

PRACTICE-LEVEL CONSIDERATIONS

- Define metrics to be reported by practices that focus on the shift to a PMH and the provision of team-based care.
- Engaging patients, including completion of a rostering conversation with all newly rostered patients, geographic or contracted, should be embedded in all alternate funding agreements.
- Practices transitioning to an alternate funding agreement should receive PCN change management support toward building a practice model in alignment with PMH principles.

The alternate funding agreements in this case study have delivered health system cost savings. Alternate funding agreements, designed to complement other health system factors, enable the delivery of a team-based primary care practice model. Ensuring alignment between funding agreements, complementary supports to build a team-based practice model, and adaptive to local health service needs is an essential component of the alternate funding model framework to ensure it can be delivered across multiple contexts. When considering the spread of an alternate funding model for primary care in Alberta, the challenge is one of scaling the most effective processes, principles, and cultures of transformation.

BACKGROUND

Family physicians are at the heart of the healthcare system. They have been considered the hub of primary care, acting as the first point of contact and a reliable medical resource to the communities they serve, caring for patients and supporting them throughout all interactions with the healthcare system (3). Ensuring the optimal delivery of primary care has been considered essential to high-performing health systems (4). Since the early 1990s, Canada and Alberta have strived to fund and deliver high-performing healthcare and have recognized the importance, and sought to enhance the delivery, of community-based primary care.

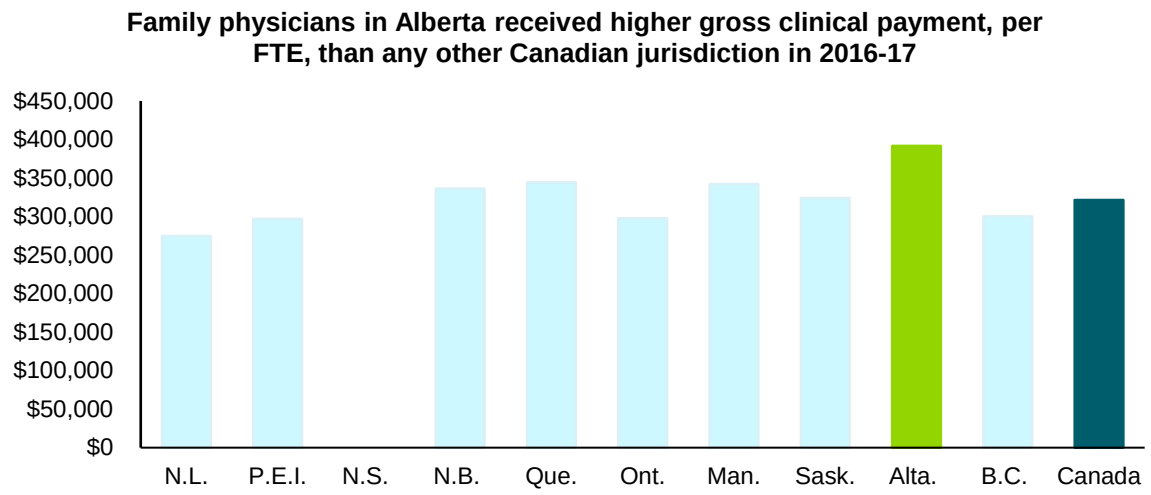
Internationally, health systems are shifting their emphasis toward increasingly value-driven, proactive and co-ordinated primary care services instead of those that are fragmented and volume- or visit-based (4). There is also a growing recognition that the mechanism of physician remuneration plays a role in upholding these objectives, especially in relation to primary care reform. This shift is occurring based on the recognition that changes to how physicians are paid can help achieve the establishment of a patient's medical home (PMH) practice model in primary care[3]. Over the past decade these improvements to primary care, commonly referred to as primary care reform, have focused on changing payment incentives and encouraging more interprofessional care (1).

Historically, primary care physicians across Canada have been paid through a fee-for-service (FFS) funding model. While FFS funding models are well understood and considered predictable and modifiable, critics argue that they incentivize care that is volume-driven rather than value-driven, and results in the fragmentation of care with less regard for quality or cost (5). Consequently, providers are able to increase the volume of care without bearing the financial risk for quality or costs of that care. In contrast, payers (e.g., the Government of Alberta) bear a higher financial risk in this arrangement (5). As such, the FFS model incentivizes care models that are not aligned with the goals of primary care reform. Despite this malignment, the vast majority of family physicians in Alberta are paid more through FFS and have the lowest proportion of delivering care through alternate funding models compared to those in other provinces (Figures 1a and 1b) (6).

Experts in policy and research agree that alternate payment models (APM) are capable of improving primary care effectiveness (7). As such, funding models are evolving from FFS and taking the form of capitation, while also incorporating other options that include pay-for-performance, shared savings and bundled payments (8,9). The challenge for policy-makers is to create payment systems that align incentives toward primary care reform with the twin objective of improving the quality of care and containing costs (10).

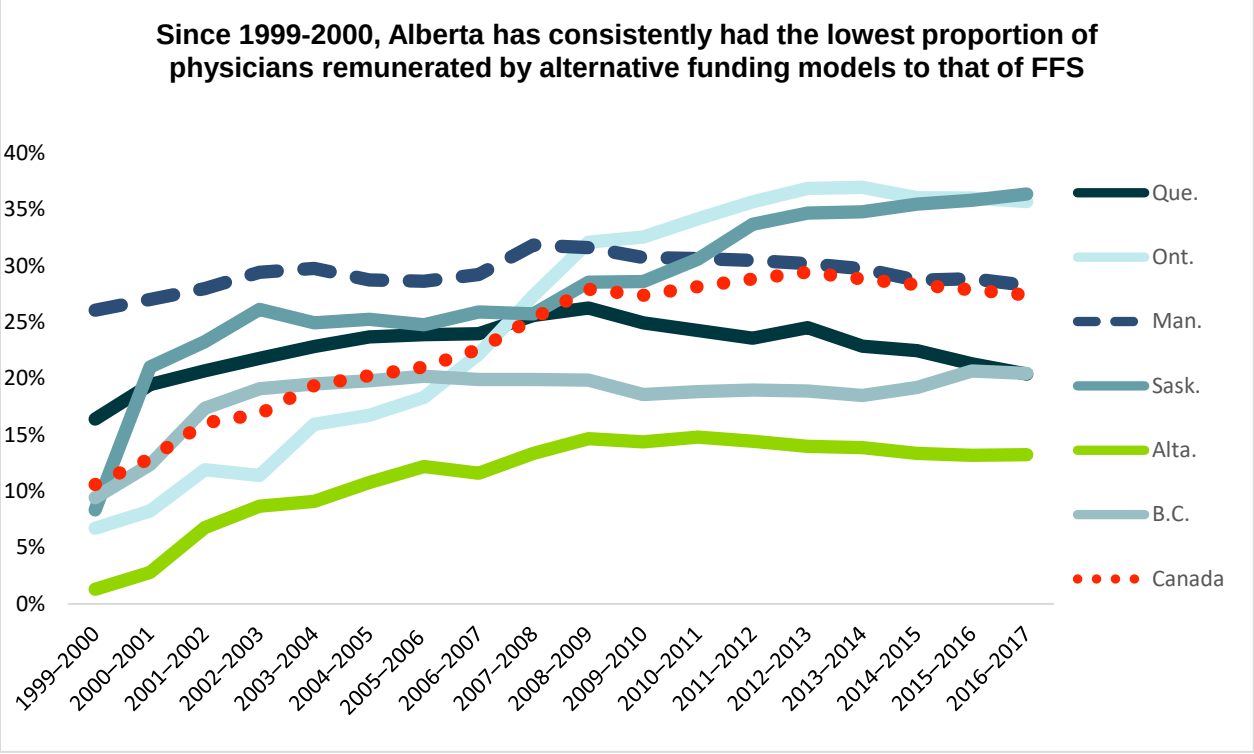
[3] For the College of Family Physicians of Canada, the patient's medical home (PMH) is a vision that emphasizes the role of the family practice and family physicians in providing high-quality, compassionate, and timely care (CFPC, 2019). The PMH is a family practice defined by its patients as the place they feel most comfortable presenting and discussing their personal and family health and medical concerns.

Figure 1a: Provincial comparison of average clinical payments to family physicians from all sources, per FTE, 2016-17



Source: National Physician Database, Canadian Institute for Health Information (6)

Figure 1b: Provincial comparisons of the proportion of total physicians receiving any form of ARP payments, other than FFS, 1999 to 2017



Source: National Physician Database, Canadian Institute for Health Information (6)

In Alberta, alternate funding models to FFS are referred to as clinical alternative relationship plans (ARPs). These ARPs have been established to encourage clinical research in academic practices, enhance physician recruitment and retention, team-based approaches to service delivery, access to services, patient satisfaction, and value for money. They are seen as a way to support a specific service delivery model that enables physicians and Alberta Health Services (AHS) to more effectively deliver team-based services to specific patient populations (11) and are intended to offer flexibility in the way physicians provide care. However, APMs such as clinical ARPs must complement other conditions that build a sustainable, integrated, and flexible healthcare system.

Policy-makers in Alberta have explored the implementation of interdisciplinary teams, new organizational and governance structures, and alternate funding models in primary care (12). During the late 1990s, the Alberta government, health regions, Alberta Medical Association and physicians recognized the importance of alternate payment models to the enhancement of primary care service delivery and were interested in piloting a new model. Consultations resulted in the implementation of a capitation funding model in two different communities: the Crowfoot Village Family Practice (CVFP) in metropolitan Calgary and the Taber Clinic (TC) in southern rural Alberta. While there was great interest in the early years in evaluating the cost of the model, clinical outcomes, and the quality of care provided (13), these clinics have gone largely unstudied.

In a traditional capitation model, providers are paid a prospective amount to cover all services within a specific period of time, most often as a 'per patient per time period' fee. In contrast to FFS, capitation shifts financial risk to the provider, while the payer has lower risk (4,7). Traditional capitation has demonstrated mixed effects on cost and quality, although most evidence suggests a decreased use of hospitals and other expensive resources. The benefit of capitation to primary care practice is that up-front investments can be made toward PMH infrastructure that contribute to enhanced continuity, access, comprehensive and co-ordinated care. Capitation models have been associated with decreased access that may reflect an incentive for providers to avoid sicker patients (termed 'cream skimming' or 'cherry-picking') to reduce costs. Another possible negative impact of the model is the financial incentive to inappropriately under-deliver services, leading to decreased comprehensiveness (8). As capitation and FFS often have opposite effects, blending the two models could mitigate the shortcomings of each.

Since the implementation of these two capitation funding models, there is continued recognition that transformational change in Alberta's primary care landscape will be more likely to occur when physician compensation aligns with the goals of comprehensive primary care (primary care reform). In 2017, a Blended Capitation Model (BCM) demonstration project in one rural-central Alberta primary care practice was the first phase of implementing an alternate funding model to FFS. The model focused on enhancing the provision of comprehensive care, while seeking to remove barriers to providing true team-based care (14). It also included measures that aligned with, and reflected the goals of, the PMH including timely access, patient-centredness, continuity of care, team-based care, comprehensive care, and system supports (14). A 16-month evaluation study of the BCM demonstration project explored how

a group of physicians and interdisciplinary team members worked together and the degree to which it influenced outcomes related to the delivery of a PMH practice model. One highlighted limitation of that project was the omission of a developmental evaluation, due to the assumption that any findings would not be representative nor scalable for other practices. However, developmental evaluations are best suited for emerging initiatives, such as healthcare reform (15).

Aside from the BCM evaluation, clinical ARPs have not been widely tested, studied, or implemented in Alberta. Further, the evaluation of the cost and quality of care within these current funding contexts have not been widely documented or disseminated. As such, little is known about the potential of these funding models for improving the quality of care and value for money. In 2019, conversations around alternate funding for primary care continued, as well as recruitment initiatives to increase adoption of these alternatives across primary care practices. These conversations are an important step toward achieving larger-scale change. Gleaning the experiences of physicians and primary care teams, combined with an understanding of the local nuances that influence service design and delivery, are essential in planning what investments might be required to support a broader transition to an alternate funding model for primary care.

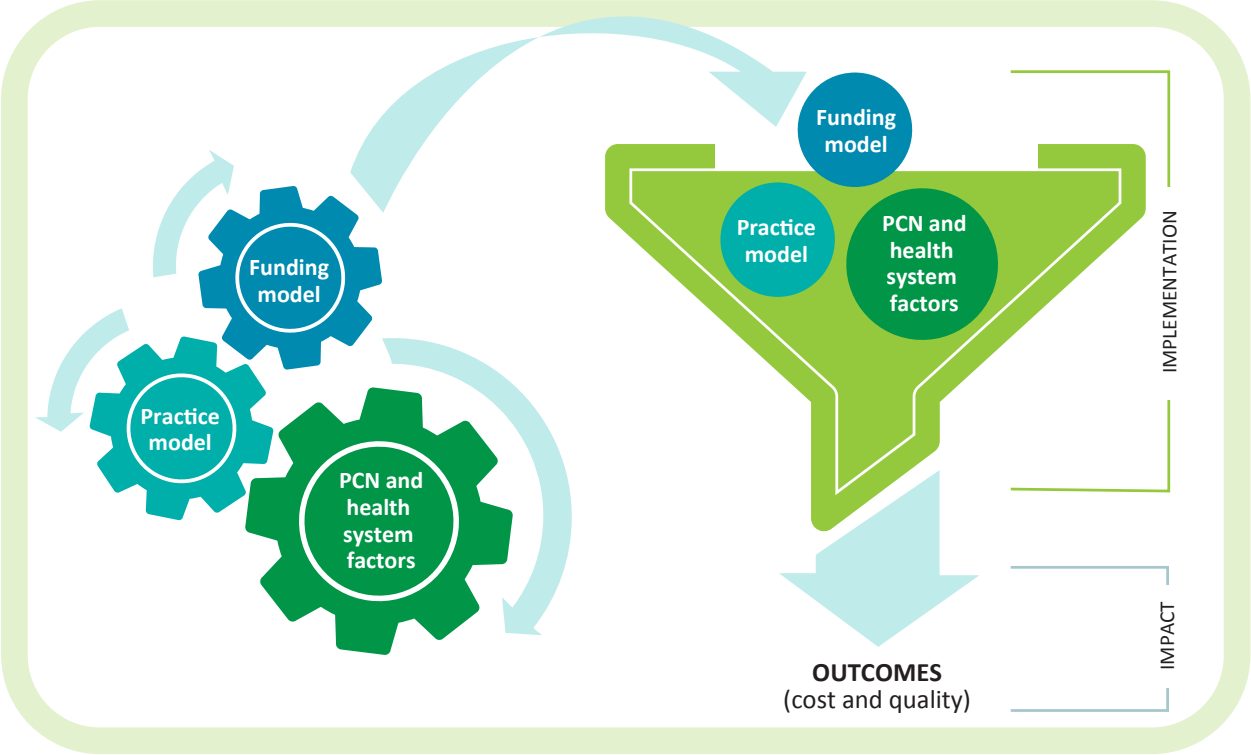
Given the backdrop of current provincial priorities and the limited local evidence available, this study sought to strengthen the understanding of how the implementation of primary care service delivery was influenced by the existing clinical ARP in both CVFP and TC, and what outcomes they have been able to achieve for Alberta's healthcare system.

This report presents an opportunity to explore the practice models implemented at CVFP and TC, the potential implications for primary care funding, and the value proposition, if any, to the broader health system. This report also shares insights into how each clinic has achieved their outcomes – what policies, practices, and organizational structures were put into place to achieve their outcomes, including the role of the PCN and AHS zone services and programs in shaping the models of care in each practice.

Conceptual framework

To understand the key factors contributing to the observed outcomes presented in this report, it is important to acknowledge the interaction between the funding model, practice models implemented by the case study clinics, and other health system factors such as the role of primary care networks (PCNs). Figure 2 illustrates the conceptual framework that has been adopted to understand how the interaction of these factors may influence the design and delivery of the primary care practice models and the extent to which they might contribute to the outcomes observed.

Figure 2: Visual representation of the conceptual framework that guided the development of the objectives and methodology of this case study



Objectives of this case study

The purpose of this study was to examine the value of a capitation-based ARP to the delivery of primary care services at CVFP, TC and Alberta's wider health system using an illustrative case study design. The goal was to provide a comprehensive picture of each practice model implemented at CVFP and TC and assess their impact on various outcomes.

The objectives of the implementation study were to:

- describe the practice model that has been implemented at each clinic, including the mix of health human resources and sociodemographic characteristics of patients
- understand the income sources present at each clinic and how they are used to build the practice model and pay physician and non-physician providers
- explore provider perceptions and experiences about how the ARP influences the delivery of care and the quality of care
- understand patient experience regarding the quality of care of each practice model
- identify the barriers and facilitators related to the implementation of the practice model and the delivery of primary care under an ARP at CVFP and TC

For the impact assessment, the overall purpose was to evaluate the impact of the capitation-based ARP on the outcomes of cost and health care use.

The objectives of the impact assessment were to:

- examine the impact of delivering primary care under an ARP on healthcare use patterns
- investigate the costs of the ARP to Alberta's health system considering the healthcare use patterns of patients at CVFP and TC

METHODOLOGY: HOW IMPLEMENTATION AND IMPACT WERE ASSESSED

Illustrative case study

This project was informed by the illustrative case study evaluation approach. For a detailed description of the methods, see the methodological supplement. The case study approach generates comprehensive knowledge about an instance, such as a program, situation, or site, through the use of "extensive description and analysis of that instance taken as a whole and in its context" (16). An illustrative case study evaluation design is used when little is known about how contextual factors influence an instance and interact to produce noticeable effects. This methodological approach was adopted because it is well-suited for providing a comprehensive picture of the practice models implemented at CVFP and TC, and for the exploration of interrelationships between the ARP, the practice model, and the impact of the ARP and practice model on various outcomes, such as the costs of care to the health system, healthcare use patterns, provider perceptions regarding the value of the model, and patient experiences about the quality of care. Each clinic operates in different contexts, such as geography (metropolitan/rural) and PCN governance structures, which were considered to likely have an impact on the implementation of a capitation-based practice model and health outcomes, such as the use of health services (e.g., emergency department visits, inpatient hospitalizations) and the costs of care. As such, an analytic goal in this project was to understand how such contextual features work together in relation to the ARP and practice model to produce notable experiences, outcomes, and health use patterns.

Consistent with an illustrative case study evaluation approach, different forms of data collection, data sources, and analysis were used to gather information about CVFP and TC. Site visits, interviews, focus groups, surveys, and quantitative analysis of administrative data were used to identify trends, patterns, and themes, and to develop a full understanding of what is happening at two Alberta clinics with a capitation-based ARP. Triangulation, or the comparison of information across data sources, allows us to tell a story about CVFP and TC that is credible and "thick", or rich, in details.

Data collection and analysis

Data collection began in the fall of 2018 and continued until spring 2019. In fall 2018, the project lead and members of the project team visited each site to introduce the project to clinic leaders. Shortly after, two members of the project team interviewed clinic leaders to develop a preliminary understanding of the practice model and to make plans for the collection of data from providers, patients, and the electronic medical record (EMR). These clinic leaders were also interviewed throughout the study to discuss, from their experience, how the ARP informs their practice model, clinical practices and business operations. Early conversations with clinic leaders and descriptions of their practice model were used to identify which participant groups needed to be interviewed at each site to explore further interconnections between the ARP and the delivery of primary care services. The following participant groups were identified: physicians, nursing professionals, medical office assistants, and other types of health professionals that work alongside clinic staff but are associated with external agencies (i.e., Alberta Health Services, Primary Care Network).

In February 2019, two members of the project team visited each clinic for two days to conduct semi-structured interviews and focus groups with providers. Table 1a reports the number of participants interviewed for each participant group at both sites. The nursing professional group includes a mix of

nurse practitioners, registered nurses, and licensed practical nurses because different types of nurses work at each site. Participants in the 'external provider' group are a mix of professional types that work for agencies outside of the clinic (i.e., AHS, PCN). This group includes registered nurses with specialized training, pharmacists, and improvement professionals[4].

Interviews with these participant groups helped to develop a comprehensive and deep understanding from different points of view of the practice model and to explore interrelationships between the practice model, funding arrangement, and relevant contextual features. Questions in the interviews and focus groups were designed to gather information about provider experiences delivering primary care services under an ARP, to understand the perceived value of an ARP, how the ARP impacts the practice model, including the roles and responsibilities of healthcare providers, what is working well/not well with the ARP, and facilitators and barriers to the delivery of primary care services under the funding arrangement.

Table 1a: Number of participants per participant group and form of data collection

Participant group	CVFP	TC	Total	Form of data collection
Clinic leaders	1	1	2	Interview
Physicians	5	5	10	Interview
Nursing professionals	8	7	15	Interview or focus group
Medical office assistants	8	4	12	Focus group
External providers	6	5	11	Interview or focus group

Patient experiences with the delivery of primary services under an ARP were assessed using a survey and semi-structured telephone interviews/focus groups. The HQCA's Primary Care Patient Experience survey, which is adapted from the Consumer Assessment of Healthcare Providers and Services (CAHPS) Clinician & Group Survey 2.0, is a tool that can be used to evaluate the performance of clinics and providers. This survey assesses four dimensions of care that can impact a patient's experience with their physician and the clinic (access, communication, healthcare team, and treatment plans and care priorities). Summary scores of performance are available at the clinic level across each dimension of care. The HQCA regularly conducts this survey with volunteering clinics. As such, the use of this survey provided the opportunity to compare findings at CVFP and TC with the aggregate of other physicians in Alberta who have participated in the survey in the past 12 months. Table 1b reports the number of eligible respondents during the data collection period, number of survey respondents, and the response rate for each clinic.

[4] Improvement professionals is a generic term for an individual employed to support the application of quality improvement principles and processes in primary care practice. In Alberta, many titles are utilized, however, the commonly referred term in the primary care setting is practice facilitator.

Table 1b: Number of respondents participating in the survey and response rate

	CVFP	TC
Number of eligible respondents during the data collection period	4,017	1,693
Number of respondents to the survey	1,209	618
Response rate	30.1	36.5

Telephone interviews or focus groups were conducted with patients to more deeply explore their experiences with primary care under an ARP. Unfortunately, staff at TC did not have the resources to support the recruitment of patient participants at the time the HQCA was completing this project milestone. TC provided the HQCA with the names of three patients from group one, and interviews with only two patients could be arranged. The data collected from these individuals is not included in this report because the sample size is too small to identify patterns and themes from the point of view of patients at TC. CVFP had more success with the recruitment of participants, but still struggled to meet the target sample sizes for both groups. In total, at CVFP, eight patients participated in the study.

Analysis of the qualitative data involved looking for examples of how clinic practices and the practice model are impacted by specific structural elements of the ARP (e.g., negation, the roster) and contextual features (e.g., metropolitan/rural, PCN). Analysis also sought to identify dominant themes with respect to the perceived significance or value of the ARP to the delivery of primary care services from the point of view of providers and patients. Quotes that illustrate the experiences, perceptions, and points of view of participants are provided in the report, with identifying information removed.

To assess the cost and quality of care provided by the two clinics under a capitation-based ARP, a quantitative analysis of each clinic using existing administrative data was conducted. To enable this, Alberta Health provided panel rosters (i.e., a list of patients rostered to each clinic) to the HQCA. From this, each clinic's list of rostered patients was assembled for the 2007-08 to 2016-17 fiscal years (April 1 to March 31). For demographic purposes, each clinic's roster was considered to be the number of paneled patients at year-end. For example, the panel for 2016-17 is the number of rostered patients as of March 31, 2017. Use patterns and associated costs were measured for each of the above-mentioned fiscal years. Measures of use included number of visits to family doctors, specialists, and other providers, emergency department visits, and inpatient discharges. Costs of care across these settings were measured using fee-for-service claims, capitation payment agreements, and other data provided by Alberta Health Services and other stakeholders. All use and cost measures were calculated on a per-patient basis.

To enable appropriate peer comparisons, CVFP results were compared with Alberta Metro (largely comprised of Calgary and Edmonton), and TC results were compared with Alberta Rural (other rural communities). Raw and adjusted comparisons were performed. Factors included in adjusted analyses included age, sex, clinical risk group (CRG), material deprivation, and social deprivation. This allowed for the accounting of differences between metropolitan and rural areas in Alberta, as well as a variety of factors which have been shown to be associated with health use patterns and outcomes.

KEY REGULATORY FEATURES OF THE ARP FUNDING AGREEMENTS

To understand the basis from which these clinics have designed their practice models, it is essential to understand the key features of the respective funding agreements. In the late 1990s, a funding agreement was established with CVFP and TC and the Tripartite Committee on Health Care Restructuring that included Alberta Health and Wellness, Alberta Medical Association, and the provincial health authorities of Alberta (17). In 2011, the funding agreements shifted from a contract to a Ministerial Order (M.O.). Under the M.O., the Minister of Health has solitary decision-making authority over the ARP and expansion and improvements to the program.

Under an ARP, clinics have self-determination over business processes, governance, administrative systems, organizational vision and mission, strategic planning, team composition, staff/physician compensation, and benefits. As such, variation in clinic practices related to these features can exist across capitation-based practice models. The M.O./ARP as one participant explained "gives licence and some parameters" to the practice model. The program features that inform and restrict practices include: negation, the roster, and 'block' funding.

Here, the specifics of each of these program parameters at CVFP and TC are described. The next section discusses using the experiences and perceptions of providers, and how these program parameters are experienced to influence in different ways the design and implementation of the practice model.

Patient rostering

To calculate how much each clinic is paid requires a defined number of patients to be 'rostered' to the practice. Rostering is a term that defines the formal relationship between the practice and its individual patients. Given that patients are free to move residence and seek required, or preferred, care from other health service providers, rostering requires effective panel identification, monitoring, and management processes to be developed between the payer and the provider clinics. Alberta Health (the payer) defines a rostered patient as being within a certain geographic area of the primary care provider. A panelled patient is one who has an established and confirmed relationship with the practice team. The difference in definition, although trivial, is important, particularly when you consider the implementation of a geographic roster for rural practices.

At CVFP, the practice has a responsibility to formally roster patients through a contract. This mechanism is initiated during a face-to-face "meet-and-greet" between a clinic team member and the patient. This contract can be revisited at any point and patients can be removed or added to the roster at any time.

In the case of CVFP, termination of a rostered patient can occur when:

- the rostered member relocates to a location outside Calgary and surrounding area
- circumstances determine it is not possible to maintain an appropriate relationship
- a rostered member has a minimum of six visits with a physician who is not a participating physician for insured medical services for specific services
- the rostered member is admitted to a healthcare facility for long term care

At TC, the roster is comprised of all residents living within a specific geographic area, as defined by residential postal codes. The communities within the geographic boundaries for which the TC is responsible include Taber, Barnwell, Cranford, Purple Springs and Vauxhall. The current mechanism for monitoring this roster is based on an annual review of the Alberta Healthcare Insurance Plan (AHCIP) registry. This presents an example of the difference between a rostered patient and a panelled patient. There are some patients who appear on the roster of TC but may never step foot into the TC for care. As such, they may not be considered part of the clinic panel.

Once the roster is defined geographically (in TC's case) or formalized contractually (in CVFP's case), this becomes the population for which these clinics are primarily responsible to deliver a defined set of primary care services.

Basket of services

The term 'basket of services' describes the primary care services that are expected to be delivered by a clinic as part of the per-patient funding agreement. The services that are 'in-basket' are negotiated between physician representatives at each clinic and Alberta Health in accordance with the program parameter updates in MO 53/2011. The list of defined services takes into consideration aspects of the local context. There are some important differences in the basket of services between CVFP and TC (see Appendix 2 for a list of services at each clinic).

Crowfoot Village Family Practice is located in an metropolitan area and situated near a wide array of healthcare services (specialized medical and non-physician clinical) and facilities (hospitals, emergency departments, long term care). Facility-based services provide out-of-basket services. However, the CVFP basket of services includes codes that reflect clinic subspecialties to ensure the defined services are appropriate to meet the needs of their rostered panel.

Taber Clinic is located in a rural community and has family physicians who also work in the emergency department, hospital, and residential care facilities. Taber Clinic's funding arrangement takes this into consideration; all types of services that physicians perform are included on the list of 'basket of services.'

Capitation rates

As discussed above, the ARPs at CVFP and TC are capitation based, which means each clinic is paid an annual amount per rostered patient to provide a defined set of insured medical services. Some opportunities exist to be remunerated through FFS payments. It is well known that age and sex can influence the use of primary healthcare services required to manage care. By considering the variation on healthcare costs between these categories, in combination with the expected scope of primary care service delivery (defined by the basket of services), each clinic can expect to receive as-equitable-as-possible per-patient payment. These per-patient rates offer an opportunity to include the required care management resources but also to enhance other infrastructure (e.g., staffing and technology) that might support co-ordination of care across the health system beyond a traditional office visit (Park, 2018).

Appendix 1 compares the capitation rates at both CVFP and TC. The variation presented is a result of the expected scope of healthcare services to be provided according to their respective funding agreements. A patient who is not rostered to either clinic is eligible to receive the appropriate services they need. For

CVFP, this can occur for a non-rostered patient one time. Subsequent visits require the patient to become formally rostered for the clinic to receive payment. Although these non-rostered patient visits are not included in the capitation payments, the clinics are entitled to submit a fee-for-service claim for the care provided. The total capitation payments and FFS remuneration for each clinic are outlined in Table 3.

Negation

CVFP and TC receive financial penalties when rostered patients receive services elsewhere. This negation policy is intended to incent a combination of accessible and effective primary care.

For example, in the case of CVFP, when a rostered patient receives an insured medical service from a physician who is not a participating physician and/or included on the Special Interest Designation Physician List, subsequent compensation shall be negated in an amount equivalent to the fee-for-service claim. Exceptions to this rule occur when the insured medical service is provided at an acute care hospital outside the primary care practice. In such cases, compensation is negated at 50 per cent of the amount equivalent to the fee-for-service claim. Services are not subject to negation if they are specialized insured medical services or provided by a general practitioner with a specialty and identified on the Special Interest Designation Physician List, as per the M.O.

Overall, the negation penalties for either clinic for a given year will not exceed the capitation rate for that rostered member. For example, if a 44-year-old female receives insured medical services outside of CVFP, the practice will not be penalized more than $335.53 for that given year (see capitation rates, Appendix 2). Future sections of this report include a discussion on how each practice views negation with descriptions of how negation is mitigated in each practice.

BUILDING THE HEALTH AND MEDICAL HOME

Implementation of a capitation-based ARP to build a primary care practice

This section describes the practice model implemented at each clinic. The aim of this case study was to understand how the ARP influenced the implementation of each practice model at CVFP and TC in relation to important contextual and health system features, to produce notable approaches to the delivery of primary care services, experiences, and outcomes. A key finding in this study is that an ARP supports a team-based approach to care, which is an integral component of the PMH and the focus of primary care reform in Alberta. This section highlights how a group of physicians and non-physician team members work together under a capitation-based ARP to deliver care that maximizes benefits to patients and providers. Important insights are offered into how a capitation-based ARP supports the structure and organization of team-based care, and highlights specific features unique to the team-based approach that have been implemented at each clinic.

What the practice model at each clinic looks like

Both clinics have implemented a practice model: an assemblage of patients, providers, practices, and values that informs the delivery of primary care services. At each clinic, physicians, registered nurses (RNs), and medical office assistants (MOAs) are organized into teams that provide care to a panel of patients. The following describes the staff mix at each clinic, the specific roles of each staff type, and important characteristics of their respective patient populations.

Crowfoot Village Family Practice

Crowfoot Village Family Practice is located in the northwest of Calgary, Alberta and is a member of the Calgary Foothills Primary Care Network. Given its metropolitan location, the clinic is close to a number of specialist physician and non-physician services, including diagnostic clinics and a large tertiary care teaching hospital. The clinic is responsible for the delivery of primary care services to a contracted roster of approximately 24,000 patients (in 2016-17).

The wider clinic team is divided into five ‘pods’ or teams of staff. Each pod consists of three physicians, one floor nurse, and four full-time medical office assistants that care for a panel of patients.

There are two groups of physicians: owners and non-owners. The owners comprise the board, make business decisions, and share the overhead and profit. Some physicians also work at the after-hours clinic at the Primary Care Network or provide specialty services at other clinics.

A nurse practitioner (NP) works in a pod and cares for a dedicated panel of approximately 350 patients who are primarily young, healthy women, aged 18 to 55. The NP has a specialty focus on women’s wellness and books appointments with patients on their own panel or patients referred by clinic physicians. These patients need obstetrical or gynecological care, such as an intrauterine device, prenatal biopsy, prenatal treatment, biopsy, Pap smear, or contraception.

Registered nurses work in roles with specific functions. These nursing roles and functions include:

- Floor/team nurse: Assigned to a specific pod and works with the physicians in that team. This nurse provides patient assessment/history support to physicians, discusses laboratory results/symptoms over the phone with patients, and does procedures "on the fly" as needed, such as suture removal.
- Triage nurse: Available each day to patients with urgent needs who require same-day access. The majority of patient consultation occurs over the telephone using protocols which help to determine a course of action. The patient's situation is addressed over the telephone unless the protocol suggests that an in-person appointment with a physician is required. The nurse in this role also books same-day appointments for minor procedures (e.g., ear syringes, dressing changes, suture removal) and performs duties required by pre-booked appointments (e.g., teaching, injections). They are also the first point of contact for a walk-in patient from their panel.
- Specialty clinic nurse: Has specialty training to provide care specific to wart removal, vaccines, and travel immunizations. This nurse is the host of a dedicated clinic that operates on a semi-regular basis with pre-booked patients for the treatment of warts, for example.
- Nursing clinical resource: Oversees all aspects of clinical practice, such as maintaining inventory and supplies, reviewing best practices, and proposing updates to policies and procedures.

Medical Office Assistants are cross-trained in clearly defined clerical roles with specific functions to support the delivery of patient care. The roles and functions of MOAs include:

- Proactive care co-ordinator: Reviews charts, prepares paperwork, and contacts the patient so that laboratory work and screening tests are completed in advance of a clinic visit.
- Patient appointment co-ordinator and patient service co-ordinator: Books patient appointments, answers patient questions, directs inquiries to the physician or nurse, and follows up on referrals to specialists.
- Clinical assistant: Works directly with the patient and physician to support day-to-day clinic activity.
- Patient data co-ordinator: Handles incoming/outgoing faxes.
- Patient flow co-ordinator: Checks in the patient and reviews documentation.
- Specialty clinic co-ordinator: Manages 'specialty clinic' services provided by the PCN health team and AHS staff.

Non-physician health professionals are assigned by the Calgary Foothills Primary Care Network and provide services on site specific days of the week. These personnel include:

- pharmacists trained as diabetic educators
- behavioural health consultants
- an improvement professional

The improvement professional meets regularly with the physician owners/leadership and engages with the whole team when required to support an improvement initiative.

The CVFP team is both multidisciplinary and interdisciplinary. Consistent with multidisciplinary teams, team members defer to physicians as "leaders" who oversee program characteristics and approve

nursing protocols. Team members also work independent of the skills and contributions of other disciplines and provide patient care that is parallel to or in sequence with one another (18). For instance, a physician completes a task which then prompts the completion of another task by a nurse or other provider during a different clinic visit/appointment or location. However, elements of interdisciplinary teamwork are also present, with the physicians working with other providers and disciplines both formally and informally to solve problems, develop treatment plans, and design qualitative improvement initiatives.

The demographics of patients rostered to CVFP are presented in Table 2a. Of note is the slightly higher proportion of females and lower scores on the material and social indices compared to their metropolitan peers. This means that CVFP patients have higher income, employment, and education, and a lower proportion of single parent families or patients that live alone. These are among a number of social determinants of health that may impact demand for, and scope of services provided in primary care.

Table 2a: Demographic of rostered patients to Crowfoot Village Family Practice, 2016-17

	CVFP	Rest of AB-Metro	Rest of Alberta
Sex (percent male)	46.8	50.5	50.6
Average age (years)	38.6	37.4	37.5
Average Clinical Risk Group (CRG) Score	3.6	3.4	3.4
Average Material Deprivation Score	2.2	2.9	3.0
Average Social Deprivation Score	2.5	3.2	3.2

Notes: CRG is a numerical score assigned to each individual based on their medical condition. Level 1 is indicative of a healthy patient, while level 9 indicates catastrophic illness. Material deprivation is comprised of the indicators education, employment, and income. Social deprivation is comprised of indicators related to one's living situation (e.g., separated/widowed/divorced, living alone, married, etc.). Each quintile score is assigned at the neighborhood level (approx. 400 to 700 homes) drawn from 2011 census data. A score of 1 indicates lowest deprivation, and a score of 5 indicates highest deprivation.

Taber Clinic

Taber Clinic is located in Taber, Alberta and is a member of the Chinook Primary Care Network. Taber is a community of approximately 9,000 residents located 53 kilometres east of Lethbridge on Highway 3. Taber Clinic is responsible for providing primary care services to the communities of Taber, Vauxhall, Purple Springs, Barnwell and Crawford. Taber Clinic is co-located with a hospital, emergency department, multiple Alberta Health Services programs, and family and community support services.

Physicians, NPs, RNs, and MOAs are organized into teams that care for a panel of patients.

Every physician in the group is a partner and is compensated using the same formula. Physicians provide patient care at TC and at the hospital and emergency department. Some physicians have specialties (e.g., endoscopy) and provide services that exist outside of the basket of services included in the ARP.

The NPs assess, diagnose, and treat a full range of patients and conditions, as well as conduct procedures, refer to specialists, and order laboratory tests and x-rays. Their schedules are open each day so they are available to see patients with less urgent conditions from all teams as needed. They are described as "load balancers" for the physicians and work each day with an assigned RN and MOA.

Registered Nurses work on a team that includes three physicians, with some RNs also working with a NP in place of a third physician. RNs have pre-booked appointments with patients, but also provide patient care identified by a physician or NP (e.g., ear lavage, injection). On a daily basis, RNs complete procedures (e.g., wart removal/treatment, Pap smears), monitor patient conditions (e.g., blood pressure), provide education, adjust medication, order laboratory tests and screening, assess the overflow of infections, and follow up with patients about screening and test results. RNs have specialized training in smoking cessation, Pap smears, and spirometry.

A licensed practical nurse (LPN) is available to support the delivery of services and has a varied/robust role, with day-to-day tasks that include: ambulatory blood pressure checks, dressing changes, monthly injections, staple/suture removal, immunizations, assisting physicians with minor procedures (e.g., circumcision), and facilitating instrument autoclaving. The LPN also supports the wider TC team, collaborates with public health at AHS to maintain immunization supplies and to keep up-to-date with immunization guidelines, and provides services to patients outside of TC. For example, the LPN delivers education at community agencies and immunizes patients at the local lodge and supportive living facility.

Multiple non-physician health professionals from AHS health service program areas are co-located at the Taber Health Centre (THC), including an emergency department. The different program areas and professionals that work together with TC include: public health (RNs who are public health nurses), nutrition services (registered dietitian who is a certified diabetes educator, RN who is a diabetes educator), and addiction and mental health (mental health therapists).

An improvement professional is provided by the Chinook Primary Care Network to support quality improvement. Two committees meet regularly for the purposes of quality improvement. The first involves various individuals from the clinic and an improvement professional from the PCN to improve clinical care and team dynamics, while the other committee involves clinic staff and representatives from AHS program areas that work regularly with TC toward the goal of improving the integration of services.

Taber Clinic operates more like an interdisciplinary team because providers work jointly with professionals from other disciplines and program/service areas in the same setting to solve problems and provide patient care. Collaboration between providers and programs occurs in both formal (e.g., meetings) and informal (e.g., “warm hand-offs” in the hallways) ways to develop treatment plans and provide timely, integrated, seamless services. For example, joint appointments between physicians and other providers have been co-designed with members of the Taber-hood Quality Improvement committee; and providers worked together to plan an integrated well baby clinic so multiple providers could see a mother and baby during a single clinic visit.

The demographics of patients rostered to TC are presented in Table 2b. On average the demographics of patients at TC are less comparable to their rural Alberta peers. Of note, the patient population at TC is younger and slightly healthier, has a higher material deprivation score, and lower social deprivation score. This means that TC patients have lower levels of employment, education and income, but a lower proportion of single parent families, and persons aged over 15 and living alone.

Table 2b: Demographic of rostered patients to the Taber Clinic, 2016-17

	TC	Rest of AB-Rural	Rest of Alberta
Sex (percent male)	50.8	50.7	50.6
Average age (years)	34.3	39.0	37.5
Average Clinical Risk Group (CRG) Score	3.1	3.6	3.4
Average Material Deprivation Score	4.1	3.6	3.0
Average Social Deprivation Score	2.4	3.5	3.2

Notes: CRG is a numerical score assigned to each individual based on their medical condition. Level 1 is indicative of a healthy patient, while level 9 indicates catastrophic illness. Material deprivation is comprised of the indicators education, employment, and income. Social deprivation is comprised of indicators related to one's living situation (e.g., separated/widowed/divorced, living alone, married, etc.). Each quintile score is assigned at the neighborhood level (approx. 400 to 700 homes) drawn from 2011 census data. A score of 1 indicates lowest deprivation, and a score of 5 indicates highest deprivation.

What enables the clinics to build their practice model?

It has previously been identified that each clinic studied has some notable contextual differences with their respective funding agreements. First, the characteristics of the rostered population for which these clinics are responsible is different (as noted above). More important, there are local contextual differences that should be considered as integral to both the funding agreements and the development of their practice model. Getting a sense of how each clinic operates within a local system of care may help to determine what aspects of the model are scalable and what scalability might mean for the roles or responsibilities of those supportive services.

PRIMARY CARE NETWORKS

Primary Care Networks in Alberta are provided $62 per rostered patient per year. PCNs vary in population size and geographical boundary, with more rural PCNs covering wider geographies with smaller populations. Further, there are differing legal models of PCNs. Such models create differences in their relationship with AHS zone programs and accessibility to broader health system data. Therefore, there are disparities about how the capitation payments are used and what services or resources might be invested in to complement those provided by the primary care teams in the community. This results in PCNs using their funding and managing their relationships with member clinics in different ways. This influences the types of supports delivered by PCNs to build these respective practice models. Of particular interest is the centralization and decentralization of non-physician providers. A decentralized model, like that of Chinook PCN, provides additional funding to clinics for non-physician providers as well as other in-kind supports, for example a clinical care co-ordinator or integration lead, at the expense of the PCN. A more centralized model, such as Calgary Foothills PCN, provides in-kind services but not additional funding to clinics to independently recruit the non-physician services required to deliver care.

FUNDING AGREEMENT

The funding agreement creates opportunities for income beyond the capitation payments to each clinic. Understanding the broader income streams helps to understand what additional resources might need investment, as a business cost, to each practice beyond those provided by the respective PCN. The supplementary income generated by the clinics (offered under a fee-for-service payment) is a product of the expected services provided and the demand from non-rostered patients. Both clinics are able to see

patients who are not rostered to them and are able to claim remuneration under FFS for any in-basket service they provide. Also, there are some services which are considered out-of-basket that may be remunerated for all patients, including those rostered to each practice. The higher the volume of each of these scenarios, the higher the FFS remuneration. Table 3 provides a synopsis of the proportion of payments these clinics received over the previous three years. Table 4a and 4b depicts the top five FFS codes that the respective clinics delivered. Table 5 depicts the demands for specific services for rostered and non-rostered patients in each practice. This is important as these demands may disrupt the work flow of the practice models or provide opportunities for revision of services or rosters defined in the funding agreements.

Table 3: Income sources for each practice relative to panel size, 2014-15 to 2017-18.

Income	Crowfoot Village Family Practice			Taber Clinic		
	2014-15	2015-16	2016-17	2014-15	2015-16	2016-17
Clinic patient panel (n)	24,631	24,840	23,927	15,529	15,717	16,144
Capitation payments ($)	$7.24M	$7.28M	$7.17M	$4.60M	$4.65M	$4.82M
Fee-for-service payments ($)*	$257,600	$351,655	$291,990	$548,313	$584,581	$579,508

* Fee for service payments for CVFP and TC are provided for any services used by non-rostered patients as well as services considered out-of-basket for rostered patients, as defined by the respective funding agreements. More details on the proportion these services contribute to total FFS payments can be found in Table 4a and 4b

Table 4a: Top 5 FFS claims among rostered patients – Crowfoot Village Family Practice, 2014-15 to 2016-17

Billing Code	Description	Number Claimed	Amount Paid
03.05JR	Physician telephone call directly to patient, to discuss patient management/diagnostic test results	3,646	$56,644
13.99BC	Pelvic examination using a speculum requiring swab(s) and/or sample(s) collection; and/or periodic papanicolaou smear	2,889	$81,064
03.01NM	Patient care advice to a pharmacist provided via telephone or other telecommunication method in relation to the care and treatment of a patient	1,214	$17,811
03.05O	Direct management, reassessment, education and/or general counselling of a patient with chronic pain, per 15 minutes or portion thereof	455	$23,887
93.91B	Joint aspiration, injection, other joints	445	$15,072

Notes: FFS claims are the most common out-of-basket services (based on volume) over the three-year period.

Table 4b: Top 5 FFS claims among rostered patients – Taber Clinic 2014-15 to 2016-17

Billing Code	Description	Number Claimed	Amount Paid
03.03A	Limited assessment of a patient's condition requiring a history related to the presenting problems, an examination of the relevant body systems, appropriate records, and advice to the patient	1,393	$96,292
03.04A	Comprehensive assessment of a patient's condition requiring a complete history, a complete physical examination appropriate to the physician's specialty, an appropriate record and advice to the patient	300	$31,773
08.19G	Direct contact with an individual patient for psychiatric treatment (including medical psychotherapy and medication prescription), psychiatric reassessment, patient education and/or general psychiatric counselling, per 15 minutes or major portion thereof	180	$19,834
03.01NG	Patient care advice to paramedic – pre-hospital patch, Mobile Integrated Healthcare Unit paramedic, assisted living/designated assisted living and lodge staff, active treatment facility worker for hospital inpatient, long term care worker for patients in a long term care facility, nurse practitioner, hospice worker, home care worker, midwife or public health nurse weekdays 0700 to 1700 hours, provided via telephone or other telecommunication methods, in relation to the care and treatment of a patient	118	$2,033
03.05JR	Physician telephone call directly to patient, to discuss patient management/diagnostic test results	110	$1,747

Notes: FFS claims are the most common out-of-basket services (based on volume) over the three-year period

Table 5: Demand for services by non-rostered patients at Crowfoot Village Family Practice and Taber Clinic, 2014-15 to 2016-17.

Income	2014-15		2015-16		2016-17	
	CVFP	TC	CVFP	TC	CVFP	TC
Fee-for-service payments	$219,804	$291,470	$246,172	$342,147	$167,291	$354,957
Number of claims submitted	3,856	7,123	4,832	8,248	3,584	8,689
Number of patient visits	3,708	6,811	4,663	7,798	3,476	8,119

The following sections explore the implementation experiences of team members from each practice and their perceptions of how the ARP and other supports, like the PCN, enable them to deliver the practice model.

How the ARP influences the development of the practice model and the delivery of primary care

In the interviews, participants described the ARP as impacting how a clinic is organized and assembled to deliver primary care, thereby changing the physician-patient relationship, quality of care, and the provision of services. This section outlines how the ARP, from the participants' perspective, influences the practice model and primary care delivery . The contextual feature of metropolitan/rural environment is discussed when it is a relevant factor that influences clinic practices.

FACILITATING A SHIFT TOWARD TEAM-BASED PRIMARY CARE

Participants explained that primary care services are delivered differently because under an ARP, clinic volume and physician income are not the focal point of the practice model. The ARP allows for the establishment of scheduling and appointment booking procedures that can result in better work flow, use of resources, and patient care. For instance, medical office assistants reported that under an ARP, appointments no longer need to be booked to generate [physician] income, but for patients who need to be seen, while physicians articulated that they are able to do what is best for the patient because the interaction is not fee-driven:

"We are getting in people who need to be seen, not recruiting for physicians." (MOA)

"When working in a FFS clinic, every day I was expected to cold call patients and make five appointments for physicals, to generate income." (MOA)

"Physicians see the patient when needed… others to follow up when appropriate; rather than mandating monthly prescription followup that is driven by money because that's how the physician gets paid." (Physician)

"If a patient is stable, we can see them every six months. If they're having a hard time controlling [their chronic disease], we see them every week. We do what's best for the patient. We don't need the money… we're not fee-driven." (Physician)

Physicians also described the funding arrangement as changing the physician-patient interaction during a single visit because their personal income is no longer a mediating factor. Under a capitation-based practice model, physicians do not have to limit the visit to one concern and defer remaining concerns to another visit to generate compensation as they do in a FFS environment. As such, the ARP makes it easier for them to focus on patients, medicine and good care, what is best for the patient, and have "more time for people who need me more."

Notably, physicians reported that the ARP incentivizes them to become a team member who works with other providers, especially nursing professionals (i.e., NPs, RNs, and LPNs), to provide primary care, as the excerpts below illustrate:

"The ARP has enabled us to develop a good team."

"Rather than being 'IT' you become a member of a team."

Furthermore, the ARP was described as allowing the clinics "to employ people who are better at providing treatment than physicians"[5]. This occurs because the funding arrangement does not require physicians to see the "whites of the patient's eyes" as a requisite for payment, which enables nursing work to occur independently of physicians. Fittingly, members of the nursing team at each clinic described themselves as working to "full scope" and able to function broadly and robustly in their role, and in a role that is unique because of the ARP:

"We couldn't function this way in a FFS world."

"No other doctor's office in the city here has a nurse working like this … I don't just do blood pressures, heights, and weights."

With the shift to a team-based approach and the use of nursing full scope of practice, the delivery of primary care services is distributed across a group of professionals. This requires a practice model that is able to align the the best provider to the patient's particular concerns to maximize the team members' skills and competencies and ensure primary care is patient-centered and accessible:

"Our aim is to maximize physician time for more complex patients and concerns."

"Is it in [nursing] scope and helpful for the physicians? Is it better for the patient to have a fast appointment [and be] in and out because of seeing the nurse?"

To achieve these goals, a planned team approach is established to facilitate the co-ordination of activity among team members and between patients and professionals. For instance, the practice model at CVFP separates MOAs into distinct clerical roles with unique functions to support communication and patient care. Well-developed triage processes that inform how staff roles function are also part of the practice model at each clinic. For example, at CVFP, MOAs ask patients detailed questions about their symptoms and history and use algorithms to guide decision-making about whether a physician or a nurse is needed to address a patient's concern. The practice model at CVFP also includes a triage nurse who is available each day to meet the urgent needs of patients in person or over the telephone using established protocols[6]. By comparison, the practice model at TC uses NPs as load balancers for the doctors to see

[5] Each clinic has assembled a practice model that includes nursing staff, but variation is present in the numbers and type of nurse employed.

[6] When a patient phones with a suspected UTI, the nurse asks questions using a protocol. If a UTI is suspected, a requisition is faxed to the laboratory, and the patient is directed to get a lab test. If the test result is positive, the nurse faxes a signed prescription to the pharmacy.

walk-in patients or the "disease of the day." Two NPs are available daily and have open schedules to allow same day access for patients who need to be seen for lower-acuity conditions, such as strep throat and urinary tract infections.

Participants also perceived their practice models to be collaborative. Team members described team members from different professions working co-operatively to formulate and carry out treatment plans and sharing responsibility for problem-solving. They stated that trust and a willingness to learn what each other needs is integral to their approach and enables them, along with the ARP, to deliver primary care in alternative ways and eliminate a visit for the patient.

CAPACITY FOR QUALITY IMPROVEMENT

Perceptions about the extent to which the ARP contributes to quality improvement varied across providers and improvement professionals at CVFP and TC. Improvement professionals at both clinics had first-hand experience with quality improvement in the ARP and FFS environment. At CVFP, improvement professionals described the quality improvement culture to differ under the ARP. They explained that the ARP, team-based approach, and clinic culture work together to produce a vision and structured approach to quality improvement:

"In FFS the focus is on each patient and their need now. They do not have a global vision [for QI]."

"I have never seen this level of commitment to maintaining access. This was the most professionally rewarding experience of my career."

They experienced that under the ARP, physicians reflect about quality improvement and are motivated to design quality improvement activities on specific topics, such as access, continuity, and proactive/preventive care. The ARP can be attributed to the achievement of improving these goals. Improving access is the right thing to do, but having good access also limits how much negation a practice might experience. Moreover, the ARP opens up opportunities to keep people healthy when a team-based practice model is used that generates conversation about how clinic practices can better support screening manoeuvres using the resources, skills, and competencies available on the team, as has been observed at CVFP. Conversely, at TC the perception exists that the ARP is not a key factor because the FFS clinics are observed to be improving too. Rather, participants' descriptions about quality improvement at TC suggest a current driver of efforts is the improved integration of services across the professionals and programs at Taber Health Centre, which is not perceived to be influenced by the ARP (discussed further below).

NEGATION MANAGEMENT

Different approaches to mitigate the financial impact of negation penalties are integral to each practice model, with negation management particularly methodological and advanced at CVFP. This exists due to their ability to control the roster by de-enrolling and re-enrolling patients, combined with the metropolitan context. CVFP exists in close proximity to many fee-for-service clinics/providers, which necessitates the development of carefully designed tactics that manage patient behaviour and ensure a flow of care to the clinic to ultimately prevent negation.

One negation tactic at CVFP is patient education about the ARP. New patients are given a handbook of information and attend a meet-and-greet appointment where a medical office assistant explains how CVFP differs from other clinics. Below is an excerpt from the handbook which describes the team-based model the ARP supports:

"CVFP is a full service practice seeing patients over their entire life span. We use a team approach to health care which means you will encounter physicians and other health professionals within our clinic. Registered nurses will be involved in providing your care along with many other health professionals including a pharmacist, behavioural health consultant, dietician, and nurse educator. In addition, we have a Nurse Practitioner who specializes in women's health. By using this team approach, we are able to see sick patients faster and provide our patients with more thorough care" (Meet and Greet Information, CVFP 2019).

At the meet-and-greet appointment and in other instances of communication with patients, another tactic is a carefully crafted message with contradictory content. Patients are informed that consequences exist for CVFP when they seek care elsewhere, but are simultaneously reminded that under appropriate conditions, they should seek the care they need elsewhere: "If you go to a Walk-in, we get negated. Alberta Health will send us the bill. But go get care if you need it. If you're in another city, go get the care you need."

Another tactic is the use of a dedicated person/position to monitor negation at CVFP. This person reviews negation reports provided by Alberta Health, and follows the policies and procedures developed by the clinic. If an instance of negation is identified, this staff member contacts the patient to remind them of the importance of using CVFP as their primary care provider. Patients are also contacted when a pattern of three consecutive negations is identified. For instance, patients can be seeking care elsewhere for a period of time (e.g., weight loss treatments), which results in negation when an external provider uses an in-basket billing code. The staff member explores what is happening with the patient and then consults the physician to discuss if and when to de-enrol the patient. When a patient is de-enrolled, the clinic no longer receives funding for their care, but as per in-house policy, primary care is still provided while the patient seeks care elsewhere. However, the patient's situation is closely monitored to determine when it is appropriate for them to be re-enrolled. Decisions about rostering/derostering are not self-explanatory; participants at CVFP describe these decisions as involving the careful consideration of the reality of income loss for the clinic and the "legitimate" care needs of patients that require non-CVFP providers.

Approaches to manage negation are present at TC, but compared to CVFP, they are less complicated. With a geographic-based roster, the clinic does not have control over who is or is not part of the roster. However, staff at TC do try to ensure alignment between a patient's address/postal code and their record at Alberta Health. To achieve this, medical office assistants ask patients if they have changed their address with Alberta Health and/or inform them that they should do so. Once a year, Alberta Health provides TC with a list of people who have been added or removed from their roster, which is used by a staff member to look up patient information on Netcare to see if the patients receiving care at TC have a postal code that is in the ARP. If not, a message is put in the EMR to get the patient to sign a form at their next appointment. At TC, patient education that informs patients about the ARP and the impact of them

receiving care elsewhere does not appear to be a dominant practice used to manage negation like it is at CVFP. This may be due to the rural context and lack of proximity to FFS clinics/providers.

Perceived value of the capitation-based practice model

PROVIDERS' PERCEPTIONS OF THE PRACTICE MODEL AND QUALITY OF CARE

The dominant perception among participants is that better quality primary care services are delivered under a capitation-based ARP than in a FFS environment. The perception that services are of higher quality is often linked to the implementation of a team-based approach and the use of nursing skills and competencies. Participants explained that the practice model the ARP supports results in primary care that is timely, accessible, respectful of patients' lives and time, and grounded in relationships, as the quotes below illustrate:

"It is the team structure that allows access and continuity of care."

"The RN talks with patients on the phone and patients know her."

"Phone consults and the availability of the nurse are reassuring to patients."

"Patients are happy to talk with the nurse when they're at work."

"Patients feel they're being listened to."

Patient care was also described as "customized", "holistic", "comprehensive", "proactive" and "preventative" due to the ARP. This occurs because physicians have more time to spend with patients to address a range of issues, but also because of the availability and support of the team:

"In practices elsewhere… there's not enough time for general health, just dealing with the day's problems. There are no team members to look after other things, like screening or benchmarks for diabetes."

Physicians explained that access to team members' expertise allows for the exploration of "broader contributors to patient health" and equips patients to "follow healthy ways" as they are exposed to information, through contact with the team about their health as well as local community programs and resources. Participants emphasized that the roles of MOAs and nurses function specifically to support patient care to keep people healthy. MOAs review patient records to see if screening requirements are up-to-date and provide instructions and reminders to patients in person or over the telephone to ensure patients attend appointments, while nursing professionals establish relationships with patients as they follow up with test results and monitor chronic conditions. Together these practices help to ensure that things don't get missed, a multitude of actors are considered in the presenting case, patients are empowered through education about their health, opportunities for prevention and early intervention are identified, and emotional troubles are caught in advance of a crisis:

"Things don't get missed."

"What problems are co-contributors to the presenting case?"

"It empowers the patient to be involved in their care."

"RNs take more time for teaching."

"We do a big [patient] education piece, bigger than we realize."

"We end up having so many teachable moments. They get the same message from nurses, physicians, LPN – everyone. Common consistent messages – all in one day."

"At CVFP, we see 10-12 patients. They get reminder calls and all show. At other [FFS] clinics, there is a problem with no-shows. Four are booked and one shows."

Participants described physicians as providing comprehensive primary care under an ARP due to their commitment to collaboration and working as part of a multi/interdisciplinary team. For example, at CVFP, physicians were described as more aware of the type and range of services available through the PCN team and more likely to promote appointments with other health professionals than physicians at FFS clinics[7]. In a FFS model, physicians were depicted as lacking the time and resources to attend to general health, screening, and benchmarks because they are with "patients who don't have to be there." As such, participants observed FFS physicians to be "putting out fires" and were referred patients that are "critical," in "crises," "not managed well," and "lacking education":

"Physicians are up to their eyeballs with patients who don't have to be there."

"The physicians send us critical, crisis patients… Diabetics with A1Cs of 10.8 or 14."

"The patient is not managed well. They lack education. The physicians are putting out fires."

According to providers, the team-based approach to care that the ARP enables allows them to focus on screening practices and the early detection and treatment of disease. Evidence of this performance is reported in Table 6a and 6b which provides a snapshot of the completed screening rates of rostered patients compared to their peers. This data illustrates that screening rates at CVFP and TC are higher than their respective peer groups and confirms that these clinics are performing well on prevention.

[7] The reflections in this paragraph are from providers who are assigned to work at CVFP by the PCN; they have assignments at CVFP but also in FFS clinics, and as such, have experience working with physicians and patients under both types of models.

However, it is important to emphasize that the way providers' describe comprehensiveness reinforce that it is not defined as simply the delivery of services contained within the basket of services. Rather each practice model provides a full range of services to meet patients' needs for prevention, education, lifestyle management, and psychosocial support, which unfortunately in this study due to data limitations, was not able to be quantified.

Of course, offers for screening are a great process measure for how one might manage a patient roster, but subsequent completion rates vary. There are patient and health system factors that may influence completion of screening, including the patient's acceptability of a particular test and the accessibility of more advanced procedures, such as mammograms.

Table 6a: Screening Rates (percent screened) – Crowfoot Village Family Practice, 2016-17

Screening Test	CVFP	Rest of AB-Metro	Rest of Alberta
Diabetes	91%	80%	80%
Lipids	89%	79%	78%
Colorectal Cancer	76%	57%	57%
Cervical Cancer	81%	66%	65%
Breast Cancer	79%	63%	63%

Notes: Percentages are according to current Alberta Screening and Prevention (ASaP) guidelines and reflects number of screening tests completed, not offered.

Table 6b: Screening Rates (percent screened) – Taber Clinic, 2016-17

Screening Test	TC	Rest of AB-Rural	Rest of Alberta
Diabetes	85%	80%	80%
Lipids	80%	77%	78%
Colorectal Cancer	66%	56%	57%
Cervical Cancer	65%	60%	65%
Breast Cancer	64%	62%	63%

Notes: Percentages are according to current Alberta Screening and Prevention (ASaP) guidelines and reflects number of screening tests completed, not offered.

The ARP enables flexibility over who provides services and how services are provided. This feature is perceived to be valuable because it results in the efficient and appropriate use of resources:

"There is no frivolous calling the patient back for monthly appointments to get [prescription] refills or followup for garbage visits."

"The 52 injections completed by the LPN annually would mean 52 more physician visits [for that patient]."

Participants also perceived the ARP and the practice model it supports to be valuable for personal reasons. Physicians articulated that providing primary care services under this model is positive, fulfilling, and satisfying. At TC, physicians explained that balance is present between their work and personal life. Here, physicians appreciated that it is possible for them to take a vacation without the loss of income, and are comforted that the team is available to look after their patients in their absence:

"Our unique situation have [sic] created a positive place to work. I wouldn't go back to fee-for-service."

"[It] promotes long-term sustainable physician workforce with less burn out."

The ARP "…makes it possible to not forget about our own personal life."

Nursing professionals valued the opportunities that the ARP presents to their role as a nurse. They liked being able to apply their skills and competencies in the primary care environment and working as part of a team. Further, they experienced fulfillment in their role because it is possible for them to develop relationships with patients and make a difference in patients' lives:

"It means a lot to have that full scope of practice … and able to work on our own and make decisions for ourselves."

"… allows you to gain so much knowledge. Always learning from other team members."

"It's definitely rewarding to be part of a patient's support and care system."

"It's amazing the way we get to know people [patients] and help them through things."

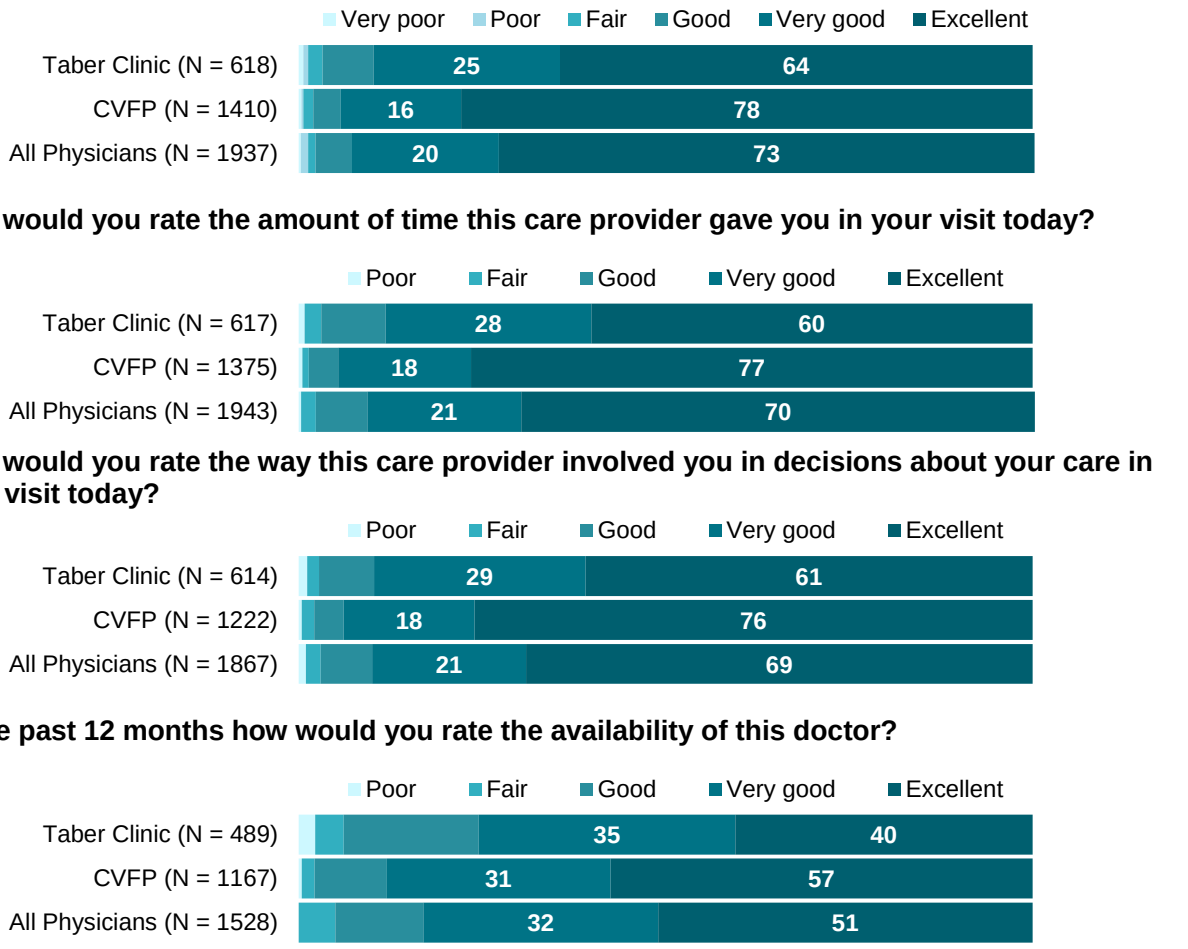
"We are making differences in the lives of patients. Patients tell us that all the time."

Medical office assistants, especially at CVFP, described their work as satisfying, interesting, and rewarding. They felt the work they complete on a day-to-day basis is more diverse than booking appointments because their role involves co-ordination and communication to get patients' needs addressed on the same day, when possible, which they experience as satisfying.

PATIENTS' PERCEPTIONS OF QUALITY OF CARE

The HQCA's Primary Care Patient Experience Survey was used to evaluate patients' perceptions of the practice model. This survey includes questions that ask patients to evaluate the quality of care provided in the dimensions of access, communication, the healthcare team, and care management plans. This tool provides visit-specific provider ratings and overall care ratings from the patient's point of view. Patient responses about the quality of care at CVFP for both types of ratings were consistently higher than the provincial average across most measures, while patient responses about the quality of care at TC were consistently below the provincial average. For example, patients at CVFP rated the care they received in their most recent visit as excellent by five more percentage points than the provincial average, where patients at TC rated their care nine percentage points below the provincial average. Patients consistently rate the quality of care received at TC as lower than CVFP and the provincial average. This is especially observed in responses to questions about the amount of time the care provider spent in their visit ,and provider involvement in decision-making about care (see Figure 3).

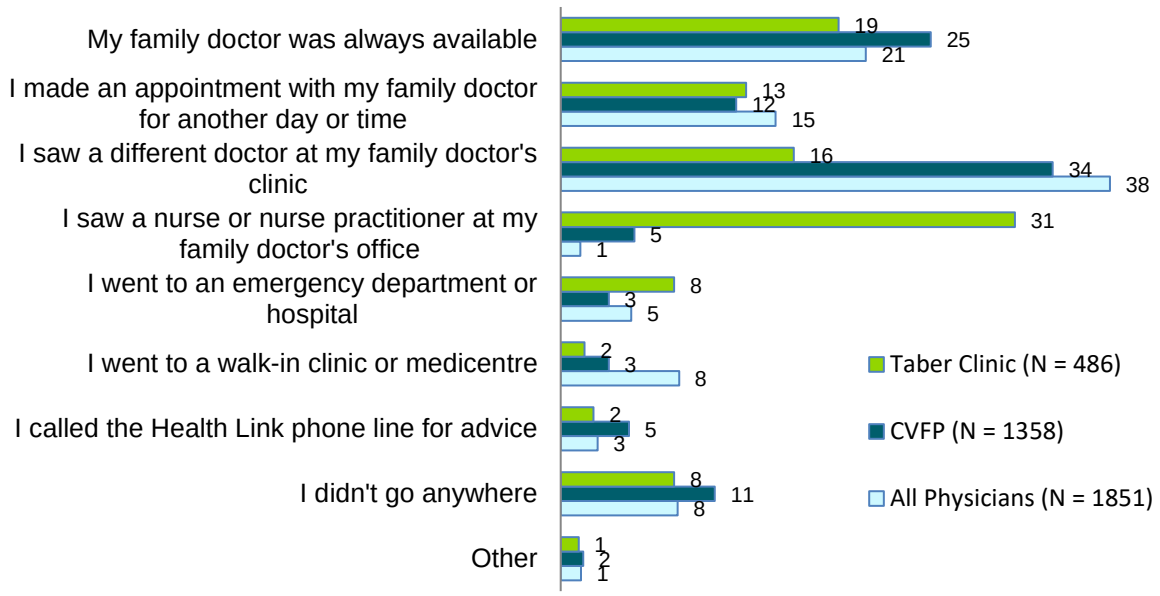
Figure 3: Patients rating of care at Taber Clinic and Crowfoot Village Family Practice after a visit with a provider



Using the survey data alone it is difficult to fully understand why the patient-rated quality of care ratings are lower at TC. The pattern may be due to sociodemographic differences in the patient population and the patients' inability to opt in to the practice model. Another explanation may be that the lower ratings in care are a reflection of dissatisfaction with how the team-based practice model at TC has been implemented. For instance, providers' descriptions of the practice model at TC suggest that nurses provide more daily direct in-person patient care on an as-needed basis than do physicians, when compared to providers' descriptions of the practice model at CVFP. For example, at TC, the RNs book independent appointments with patients, and NPs see lower-acuity patients daily as needed, where at CVFP, the triage nurse is the only person who has an open schedule to see patients, with other nursing contact most often occurring over the telephone, and the NP provides a specific type of service – women's wellness – to a dedicated panel of patients.

This information about each practice model is confirmed in the survey data in patients' responses to a series of questions about what happens when their family doctor is unavailable (Figure 4). In this circumstance, patients at TC rated the availability of their physicians as excellent with less frequency than patients at CVFP and the provincial average. Moreover, patients at TC, when compared to CVFP, were less likely to report their family doctor was always available by six percentage points, and more likely to see a nurse or nurse practitioner by 26 percentage points. Patients at TC were also much less likely than CVFP to say that they saw a different physician instead of their regular family doctor (16 per cent of respondents at TC, compared to 34 per cent of respondents at CVFP). This pattern of responses indicates that patient experience may be impacted by the practice model at TC and potentially some disagreement between provider and patient perceptions regarding quality of care. While providers, in the interviews, articulate that their team-based approach enables them to provide timely care from the most appropriate provider, the survey data suggests patient expectations are not aligned with this approach. Primary care services across Canada have historically been delivered by physicians, and thus, patients at TC may be expecting physicians to be their first point of contact for primary care services and be unfamiliar with the team-based approach to care, and the skills and competencies of nursing professionals in the primary care setting.

Figure 4: Patient experiences of alternative care sources when their family doctor was unavailable



Patients[8] at CVFP were interviewed to understand the value of the ARP and practice model from their perspective and experience. They described the care they received in very positive terms. They explained that the primary care services they receive exceed their expectations and that they have learned, through their experiences at CVFP, what excellent primary care looks like. Some patients even expressed an awareness that it is the alternative funding arrangement that enables them to "do things well" and recommended that more clinics in Alberta should adopt this model. The quotes below illustrate these themes:

"Prior to going to this clinic I did not expect some of the services that … I now have access to. So to me they are going above and beyond how I always defined primary health care, which is you are going in and see your doctor. Here they are able to provide more than that."

"I do think that the model of care, the way that Crowfoot is set up with how they are billed, not by billing code or fee per patient. That should be duplicated in other areas as well. I think it should be definitely more available to more people to have that model of care."

"I know this is a pilot project. If you can get it out to the rest of Alberta that would be good."

[8] A small number of patients from TC were interviewed, but the sample size is too small to confidently report findings for this report.

In general, patients described providers as "doing the right things" in the delivery of primary care services. They say they receive complete and thorough care for many reasons. They experienced physicians and nurses to be invested in their problems and often having the time to fully answer all of their questions during a clinic visit or on the telephone. They also felt that physicians and clinic staff were thorough in their care because they "go beyond diagnosis and prescriptions" to keep them healthy. They "do a little bit more" by asking about their concerns, personal life, and family. As such, patients experienced CVFP's model of care to be both patient- and family-centered:

"[T]he staff are invested in solving your problems. They don't necessarily know what is going on but they are invested in solving it however they need to solve it."

"They are asking me questions about what I need or what needs that need to be talked about."

"They go beyond diagnosis and prescriptions. They do a little bit more."

"They are trying to get you through all the process of being healthy rather than just this solution and that solution."

"One of the main things I feel very patient and family centered. At previous clinics, I was limited to 2 questions and 10 minutes per appointment. But now at any interaction I can ask questions and get test results in one appointment. Even if I'm going for a check-up with my [family member] they are assessing the whole family at one interaction and this is one of the benefits where the quality is much better than other clinics."

They also experienced the structure of CVFP's team-based approach to result in a high quality of care. They are seen by the same nurse or doctor and perceive the nurses they interact with as knowledgeable about their individual problems, conditions, and care plan, as the following quotes illustrate:

"Because of the team-based model, I am seen by the same [emphasis added] nurse or doctor or someone who works closely with them and have a great knowledge about myself and my family."

"The [nurses] are often who I speak with on the phone with questions or concerns. [H]aving that same [emphasis added] nurse or couple nurses every time really helps improve that quality of care, feeling like they know my whole health picture and story and building a relationship that's not just the doctor but other team members too."

"Because of the team-based model, I am seen by the same nurse or doctor or someone who works closely with them and have a great knowledge about myself and my family."

Patients also referred to their care as "straightforward and efficient." They valued the model's forward-thinking proactive approach that involved the completion of tests in advance of an appointment. There is also a "flow of information between patients, the clinic staff, and their doctor" which enables patients to stay informed about their health and to feel involved in their treatment plan. They found it easy to get an appointment and to access services such as appointments, education, referrals, and test results, and to get answers to questions. Patients also reflected on the availability of nursing professionals, which they perceived to be a good option and to result in peace of mind and the efficient and convenient delivery of services:

"Nine times out of ten we can get a same day appointment."

"I can always see someone else if [my doctor] is not available. It works out well."

"I had an [infection] and told the nurse over the phone and [they sent] over a prescription so I did not have to go over to get it. That was all I needed and they were able to do that. They got my doctor to sign and phone me and we picked it up from the pharmacist."

"[I] have seen the NP [nurse practitioner] before … I'm happy to have that option… Sometimes you don't need to see a doctor and you can see a[nother] professional that will give you peace of mind and good information, and that's a good option with the clinic."

In the interviews, patients often reflected that their experiences with CVFP were positive compared to a previous history of negative encounters and interactions in FFS clinics. In FFS clinics, they encountered impersonal care, long or longer wait times, and poor information and education about their medical condition, which made them distrustful of their physicians and treatment plan:

"I haven't had the same or the greatest experiences elsewhere. I feel like I get a lot more out of the care and resources that are provided and I feel they do truly care and take the time to follow up and make sure I am included in the care as well."

"I know that I got complete care. That's how I feel I have been spoiled. I listen to these stories of other people. They are not anywhere near what I have to say."

Overall, patients had positive experiences at CVFP, but at times in the interviews, suggestions for improvement to the practice model were offered that relate to the availability of more professional types and disciplines onsite to increase the breadth of the practice model and to improve the accessibility of services outside of regular office hours:

"It obviously would be great to have more…diversity of skilled professionals in [the] clinic, not just doctors, and nurses, and RN's like a dietitian or a psychologist, but it's not a problem to be referred outside."

"I would love to see the option for extended hours whether it is one evening every other week or a weekend for a few hours…to have more availability especially for peoples' work schedules. It would be nice to have the option to go to the clinic to see my care provided, not just 9 to 5."

What supports the successful delivery of the practice models?

The ARP enables a team-based approach to the delivery of primary care, and this approach is facilitated by many factors that work together to produce the key outcomes participants describe: better services, timely care, accessibility, etc. In the interviews, participants described the ARP as only one component among many that contribute to the practice model and the outcomes they experience:

"To talk about the ARP in isolation doesn't make sense. It only gives one facet of the practice."

"The reality is the ARP by itself would only facilitate some changes. It needs to be combined with other factors."

"Everything together has allowed us to improve communications, patient access, etc."

This section describes the most prominent factors participants identified that work together with the ARP to inform the practice model implemented. These factors include: the electronic medical record, effective leadership, physicians' attitudes and open-mindedness, co-location, and the Primary Care Network.

ELECTRONIC MEDICAL RECORD

The EMR was identified as an invaluable tool that supports communication among the team, patient care, and the functioning of the practice model for a variety of reasons. The EMR allows the assignment of tasks to team members within the scope and function of their role. The EMR monitors, in a single location, patient information about their health, test results, and care plan. Charting practices and the delegation of tasks facilitate the delivery of comprehensive and co-ordinated patient care across members of the team. The EMR also helps the team target chronic disease management and develop quality improvement projects that are responsive to the needs of the local population

Participants at each clinic cite strong physician leaders who inspired staff to think about primary care reform and acknowledged that these leaders generated ideas for changes to the practice model at the outset of implementation. Although these founding physician leaders have retired, participants reported that strong and effective leadership continues at each clinic. At TC, one physician described the competency and good ideas of the leaders. combined with the ARP and PCN resources, that "keep it all working together."

PHYSICIANS' ATTITUDES AND OPEN-MINDEDNESS

Participants gave credit to physicians' attitudes and open-mindedness for supporting the teamwork the ARP enables. They described physicians as willing to work with others, able to acknowledge the limitations of their scope of practice, fully committed to the belief that patients will benefit from seeing another provider, and trusting in the skills and competencies of their team members:

"[CVFP] docs recognize they don't have all the answers and might not be the best resource for the patient at that moment."

"Physicians trust in our assessments."

"Need a group of physicians with a shared commitment to this way of practice."

"Physician buy-in is high … The physician says 'you need to see the pharmacist' and not 'you should see the pharmacist'."

CO-LOCATION

Participants at TC described the many benefits of the co-location of programs, professionals, and healthcare services. They outlined that co-location expands the breadth of the team, allows for comprehensive healthcare delivery, and enables the clinic to establish a practice model that provides integrated services and smooth transitions in care, as the following quotes illustrate:

"If someone comes in with a tetanus prone injury, the doctor will send a message to us [Public Health at AHS] about [other] immunization needs. We go over to their clinic and do it right there."

"Saw a family yesterday with suspected pertussis. [I] linked with Public Health for [an] immediate check of immunization status and [the] immunization was completed."

"The patient is completely set-up [for diabetes self-care and insulin management] in one visit."

"In a 1 ½ hour visit, all the care is coordinated. The Public Health Nurse measures the baby, physician assesses, and dietician changes the formula."

Co-location combined with TC's commitment to interdisciplinary teamwork has improved patient access to services in a single visit. In the interviews, participants described two examples of integrated care delivery that are the result of collaborative practice. An integrated well-baby clinic is when a public health nurse, in a joint appointment, completes screening, immunizations, and a physical assessment. The TC – AHS Diabetes Education Centre model is when upon the diagnosis of diabetes during a clinic visit, a "warm hand-off" occurs to nutrition services to provide education and training about diabetes, diet, and insulin, and to set up laboratory requisitions, followup appointments, and prescriptions for medication.

At TC, participants argued that co-location, rather than the ARP, is instrumental to the engagement and collaboration that exists between TC and other programs and service areas. In fact, participants that worked for AHS lack awareness about the alternative funding arrangement at TC, and thus, were unable to explain how the ARP contributes to the interdependence they experience with other providers:

"Since we've been housed in the same facility, our engagement with TC has increased one hundred-fold."

"The ARP did not contribute to colocation."

"I have no idea what an ARP is. How physicians are compensated is not important to the care I provide."

At CVFP, professionals from the PCN work alongside and together with CVFP providers because of the availability of office space. CVFP providers explained that, as at TC, the colocation of other professionals/disciplines expands the depth and breadth of the team, and allows for communication and problem-solving about individual patient treatment plans. However, joint appointment types across program areas and agencies does not occur, as CVFP is a standalone clinic.

PRIMARY CARE NETWORKS

Participants at both clinics acknowledge the significance of PCN funding and resources for increasing the depth, breadth, and effectiveness of the delivery of team-based care the ARP supports. However, as noted earlier, CVFP and TC have different PCN funding models, which results in variation in their practice models and use of health human resources.

CVFP is part of the Calgary Foothills PCN, which uses a capitation funding model. Under this model, healthcare professionals are assigned to the clinic. At present, PCN personnel include: pharmacists that provide chronic disease management and diabetes education, a respiratory technician that provides respiratory education, a psychologist and social worker that provide mental and behavioural health support, and an improvement professional. These resources are described by CVFP participants as fundamental and essential to the team:

"I don't think that Crowfoot could do what we do, first without the PCN. It's absolutely fundamental."

"We [physicians] consider the PCN funded team an essential part of CVFP."

The Calgary Foothills PCN consults with CVFP to align resource assignments with the needs of their local patient population, but ultimately, CVFP does not have full control over the type of professional expertise brought into their practice model.

The Chinook Primary Care Network uses a decentralized model for the distribution of funding to clinics in the network. This funding model has enabled TC to expand its nursing team in size and by type of provider, and to more fully operationalize the possibilities the ARP presents for the delivery of team-based care.

"[Before the PCN] we didn't have the funding to hire allied providers … We had the nurse practitioner that we ended up funding ourselves… But once we got to the PCN, we could then hire

more NP's, more RN's, psychiatric nurses, all that sort of stuff, who all work within the physician clinic, but work semi-independently."

"[O]nce we got to the PCN, we could then hire more NP's, more RN's, psychiatric nurses, all that sort of stuff, who all work within the physician clinic, but work semi-independently."

The decentralized funding model also makes it "impossible to separate what is ARP and what is PCN" because providers all work together on site and as a unified team to provide services:

"When a patient comes in, they don't know whether they're getting PCN or clinic services. They're just getting service that they need."

Does the capitation-based ARP pose challenges to the practice model? While respondents perceived the provision of primary care services under an ARP to be valuable, fulfilling, and to result in a better quality of care, they noted that they experienced challenges providing primary care services under an ARP. This section outlines the challenges reported by participants at both CVFP and TC. These challenges relate to structural features of the funding agreement, such as rostering, negation, and shadow-billing, their relationship with the Ministry of Health and other agencies in the maintenance and monitoring of the ARP, and other resulting experiences, such as high patient expectations.

ROSTER

Issues with the roster were identified by participants as requiring improvement. At CVFP, improvements are needed to the re-rostering process after de-rostering. De-rostering is part of their practice model and is a negation mitigation strategy used to minimize the financial impact of negation. For instance, low-risk obstetric care is not provided at CVFP, so pregnant women are de-rostered for the duration of the pregnancy. De-rostering a patient is straightforward, but re-rostering a patient after birth is complex and takes time, as one participant explained, "De-rostering is quick with Alberta Health, but re-rostering is not quick. This is not a nimble issue." At TC, improvements are needed to ensure the roster iscomprised of an accurate list of the people living within the geographic boundary outlined in the ARP. A person may live elsewhere, but have an out-of-date or incorrect address on file with Alberta Health. From the perspective of TC, an accurate list of rostered patients is important to minimize instances of negation and to ensure they are not over- or underpaid, using the predetermined capitation rates, for the patients listed on the roster.

Participants at TC also articulated concerns with respect to non-rostered patients who seek care at TC. A non-rostered patient is someone who seeks care at TC but lives outside of the geographic boundary (e.g., Lethbridge). Providers consider such patients to be problematic because there is a chance they will seek care at the emergency department in the Taber Hospital if they are not offered an appointment. As such, it is common practice to provide services to non-rostered patients, but doing so requires FFS practice, rather than team-based care. In these instances, physicians see the patient even if they have a low-acuity condition or review an RN's assessment so that a billing claim can be submitted. These circumstances are described as disruptive to the flow of work and result in inefficiencies and wait times for patients.

These concerns were not tied to any specific idea for improvement, but to be a "quirk" or features that results when providing primary care under a geographic-based ARP.

NEGATION

Negation was a dominant theme in the interviews. Negation was described as not affecting the clinical care that is provided by physicians and nurses, but operational processes, day-to-day activities, as well as relationships and conversations with patients. Concerns about negation were particularly prominent at CVFP due, in part, to the proximity of other providers in the urban environment. For instance, medical office assistants at CVFP reported feeling pressure to ensure room can be found in the schedule for patients who require services. Conversations with patients about negation were described as hard and difficult because most patients do not understand the funding differences between an ARP and FFS and the mechanics of how negation happens. Other participants at CVFP experienced the management of negation to require a lot of investigation in order to understand the constantly changing context and reasons for negation so that appropriate mitigating strategies could be developed. Most prominently, at CVFP, the negation rate was discussed as high (reported as approximately eight to 12 per cent in the interviews) and worrisome because it is experienced as a threat to the financial viability of the clinic.

Participants at both clinics also felt circumstances beyond their control were resulting in unfair instances of negation, for example when a patient receives urgent and necessary care at an emergency department out of town. Participants, especially at CVFP, were especially concerned about negation occurring in close proximity to their clinic. In 2016-17, 90 per cent of negations at CVFP and 67 per cent at TC occurred within 75 kilometres of the practice (see Figure 5). Participants explained that negations occur because the Special Interest Designation Physician List is out of date, but also for other reasons. For instance, a patient may see another provider, outside of CVFP or TC, for a Botox injection or weight loss treatment, which are procedures that use an in-basket billing code by a family physician. Family physicians in the community were also noted as performing unnecessary procedures (e.g., complete physical). Even though patient and physician behaviour is difficult to control, participants agreed that patients should have the right to access services elsewhere. However, they expressed the desire for a more reasonable system of negation that takes into account that patients have the right to access other providers or care that they legitimately need.

MAINTENANCE OF THE FUNDING AGREEMENT

Alberta Health's role and responsibility to monitor and administer the ARP was another concern for participants at both clinics. In the past, each clinic had a contract that was established with the involvement of the Ministry, health region, and Alberta Medical Association. Participants explained that since the ARP has become managed under a Ministerial Order (M.O.), there has been a lack of communication with the Ministry and the ARP Program Management Office, which limits discussions about the functioning of the ARP to identify opportunities for improvement. Some participants said the context of constantly changing elected officials and their lack of knowledge about the ARP program makes it difficult to generate discussions that can lead to improvement and expansion of the practice model.

Figure 5: Geographic representation of primary care visits* for rostered patients that result in negation occurring at Crowfoot Village Family Practice (left) and Taber Clinic (right).

*Each dot in this figure represents the location of a visit by patients from CVFP and TC for a reason that resulted in a FFS physician claim. As such it resulted in a negation penalty for their respective clinics

Concerns related to the maintenance of requirements stated in the M.O. were also noted. For instance, the Special Interest Designation Physician list was reported to be out-of-date and resulted in instances of negation that were perceived to be unfair. Participants also noted that, while Alberta Health has the responsibility to monitor the performance of the clinic/practice under the ARP, they have observed little oversight, in their experience, on the part of Alberta Health. For instance, participants said even though they provide performance metrics annually as per the M.O. to the Ministry, it is unclear whether these reports are actually reviewed because questions and conversation do not occur about their content. Moreover, some participants also questioned the effectiveness and reliability of the self-reporting monitoring and evaluation structure, given that the Ministry does not conduct audits of the annual reports.

SHADOW BILLING

Participants at both clinics expressed anxiety about the shadow billing requirement. They described billing codes and the practice model that each clinic is able to deploy with an ARP to be out of sync. They explained that information reported to Alberta Health using existing billing codes and practices does not fully capture the comprehensiveness of the patient care that the clinics are able to provide using the

team-based practice model the ARP supports. The information reported is inaccurate for the following reasons: 1) physicians are not motivated to extensively shadow bill using modifiers or to keep up to date on billing codes for procedures not covered in the ARP; 2) only physicians are required to shadow bill as per the M.O.; and, 3) current billing codes do not adequately capture the volume of activity, type of activity, or acuity of care provided by physicians, nurses, and the wider team. As such, they argued that billing codes are needed that reflect the types of work physicians are able to perform under an ARP and that capture nursing work and workload. Further, it was also apparent in the interviews that participants were uncertain about the value of shadow billing to Alberta Health:

"Patient visits, diagnoses are documented [in the EMR] – what's shadow billing used for? What's the value?"

LONG-TERM STABILITY

The most prominent concern articulated by participants was the lack of long-term stability and commitment from Alberta Health about the ARP. Participants explained that they experience the renegotiations that occur every three years with the Ministry to be disruptive and to distract from patient care. They also perceive that their practice model has a demonstrated history of value to their patients and communities and that they should no longer be treated as a pilot project: "We have been doing this for 20 years, but we're still treated as a pilot project. Why?" Nursing staff also reported feeling vulnerable because there is uncertainty about the stability of their employment under an ARP, and they understand the ARP is the feature that allows them to work with a broad scope of practice in the primary care environment.

PATIENT EXPECTATIONS

As previously discussed, participants argued that the ARP enables them to provide timely patient care and same-day access to primary care services through the use of a team-based practice model. However, from the point of view of providers, patients learn to expect a high level of service from their clinic, which can result in moments of tension between providers and patients when patient expectations cannot be fulfilled.

"Patient was upset because couldn't get a triplicate [prescription] refilled when called in at 4:30 PM on Friday."

In such instances, providers perceive patients to be "demanding," "spoiled," and to have "unrealistic" expectations, while others interpret these patients as understanding it is their right to receive timely and accessible care as illustrated in the following participant reflection: "Do we 'spoil' our patients? Is access to service and team-based care spoiling?"

USE OF HEALTH SYSTEM RESOURCES

Understanding the impact of ARP Funding

The implementation of the ARP funding model in both clinics appears to have supported the evolution of these practice models to deliver care in alignment with the principles of the patient's medical home. Despite the PMH being a practice model that inspires primary care reform, it is essential to explore how the implementation of a PMH model impacts the use of health system resources and what implications this has for the costs of health service delivery for the patients served by CVFP and TC. This section explores the use of some of the higher-cost health service resources, including emergency department visits, specialist doctor visits, and number and duration of hospital stays. To get a sense of the cost comparisons for patients served by practices who deliver primary care using other funding models (predominantly fee-for-service), this report offers a metropolitan peer comparator for CVFP and a rural peer comparator for TC.

How do patients use healthcare resources beyond the primary care clinic?

The use of institutional healthcare facilities, including long term care homes, hospitals (both surgical and medical stays) and emergency departments are the most expensive in any health system. Although most Albertans will require the use of these health services, it is recognized that a high quality primary care delivery model, such as the patient medical home, can support the avoidance, or more appropriate use, of these 'downstream' healthcare resources. Understanding how patients in this case study used various health system resources offers perspective on the implications of the future demand for, and supply of, health services if a specific funding or practice model were scaled in Alberta.

Tables 7a and 7b present the adjusted use of those key health services on a per-patient basis for CVFP and TC respectively. Although these practices have been operating under an ARP for almost 20 years, this report presents the most complete data available from 2016-17. The data has been adjusted for variability in patient characteristics known to influence health service use. This includes age, sex, clinical risk grouping (presence or absence of specific disease states), and key social determinants of health (material and social deprivation indices). By making these adjustments, this report is able to attribute any variation in service use to practice or system factors in care delivery rather than patient-specific characteristics.

How do patients at CVFP use health services compared to patients at other metropolitan clinics?

Table 7a shows some important differences in health service use. Of note are the reduced visits to family doctors, specialist doctors, and emergency departments as well as number and length of hospital stays. Although the model of care provided at CVFP is described as multidisciplinary, it does not seem to be reflected in the clinic visits below. A limitation of the health service use data for Alberta, and notably for CVFP, is the lack of information related to a primary care visit that does not involve a family physician.

Shadow billing is the act of submitting a claim for health service provided that is not compensated in a fee-for-service environment. This includes information about visits to primary care when any non-physician clinician provides a healthcare service to a patient, or, when a physician is providing a service that is included in the 'basket' of services in a capitated model. The available data is inconsistently collected, or submitted to Alberta Health. This makes the data source unreliable for quantifying the demand for primary care resources used in the implementation of the respective practice models at CVFP and TC. Although the implementation assessment of this case study demonstrated the scope of services provided by non-physician staff at both clinics this may not be accurately reflected in the utilization data. As a result any conclusion, or judgment, about the productivity of service delivery and subsequent 'value' would be premature.

Table 7a: Adjusted[α] utilization of select health services on a per-patient basis – Crowfoot Village Family Practice compared to metropolitan peers, 2016-17

Service Utilization Measure[*]	CVFP	Rest of AB-Metro	Rest of Alberta
Family Doctor Visits	3.39	4.31	4.33
Specialist Doctor Visits	2.02	2.13	1.93
Other Provider Visits	1.27	1.27	1.15
Emergency Department Visits (All CTAS)	0.21	0.28	0.43
ED Visits (CTAS 4-5 only)	0.06	0.08	0.20
Number of Hospitalizations	0.06	0.08	0.08
Mean Length of Hospital Stay	5.1	7.3	6.9
Inpatient Days	0.30	0.52	0.56

[α] The utilization measures have been risk adjusted to account for variability in key patient characteristics including age, sex, clinical risk grouping (CRG), material and social deprivation.
[*] Service utilization measures are presented as a per-patient rate. This depicts the average number of interactions with a particular health service per person. Mean length of stay values are an average for only those rostered patients who were hospitalized.
CTAS is an acronym for Canadian Triage Acuity Score. This is identified on a scale of 1 to 5 by a triage nurse when every patient presents to an emergency department. The higher the score, the less serious the presenting complaint is considered. This helps to prioritize the order in which patients can be seen.

A notable feature between the two tables is the difference between the peer comparators (rural and metropolitan) and the rest of Alberta. The vast majority of Albertans live in metropolitan areas. As a result, the use of health services by patients in those areas influences the values seen for the rest of Alberta. As such, when observing the differences between the use of services by patients at TC, some important considerations in the way health services are used and delivered in rural Alberta must be made. The results observed in Table 7b highlight some of these considerations. In rural Alberta, patients are likely to have higher use of family physician and emergency department visits, be hospitalized more frequently, and for longer.

In contrast, the way in which TC delivers care under an ARP influences the extent to which their patients utilize healthcare resources compared to their rural counterparts. Patients of TC use much less family

doctor, specialist doctor, emergency department, and hospital inpatient services than patients of other rural clinics. Of note is the much higher use of other provider visits. This illustrates the degree to which the interdisciplinary team practice model is delivered, and measured in TC. Although it indicates there is greater use of non-physician providers, this is an important aspect of their practice model and may be measured more consistently than others.

Table 7b: Adjusted[α] utilization of select health services on a per patient basis – Taber Clinic compared to rural peers, 2016-17

Service Utilization Measure[*]	TC	Rest of AB-Rural	Rest of Alberta
Family Doctor Visits	2.96	4.71	4.33
Specialist Doctor Visits	1.28	1.54	1.93
Other Provider Visits	2.11	0.81	1.15
Emergency Department Visits (All CTAS)	0.57	0.91	0.43
ED Visits (CTAS 4-5 only)	0.31	0.53	0.20
Number of Hospitalizations	0.09	0.11	0.08
Mean Length of Hospital Stay	5.3	6.7	6.9
Inpatient Days	0.47	0.74	0.56

[α] The utilization measures have been risk adjusted to account for variability in key patient characteristics including age, sex, clinical risk grouping (CRG), material and social deprivation.
[*] Service utilization measures are presented as a per-patient rate. This depicts the average number of interactions with a particular health service per person. Mean length of stay values are an average for only those rostered patients who were hospitalized.
CTAS is an acronym for Canadian Triage Acuity Score. This is identified on a scale of 1 to 5 by a triage nurse when every patient presents to an emergency department. The higher the score, the less serious the presenting complaint is considered. This helps to prioritize the order in which patients can be seen.

What is the impact on costs to Alberta's health system?

When considering the variability in the use of health services presented in the previous section, it is prudent to illustrate what impact this may have on costs to the health system. Table 8a and 8b present the health service utilization costs by patient for CVFP and TC compared to their metropolitan and rural peers. The costs are presented in a step-wise manner to consider the relationship between primary and community care service costs and those of emergency department and inpatient hospital service costs. The costs to the health system also include the costs incurred in remunerating the respective practices. As such, the average capitation rate per patient and the average negation per patient are included in each table.

Table 8a: Adjusted[α] health service utilization costs per patient of Crowfoot Village Family Practice compared to metropolitan peers, 2016-17

Cost Categories	CVFP	Rest of Alberta	Difference (CVFP - rest of Alberta)	Rest of AB-Metro	Difference (CVFP - rest of AB-Metro)
Family Doctor FFS (1)	$58	$309	($251)	$293	($235)
Specialist Doctor FFS (2)	$303	$290	$13	$303	$0
Other FFS (3)	$218	$186	$32	$207	$11
Capitation Payment (4)	$300	$0	$300	$0	$300
Negation (5)	$15	$0	$15	$0	$15
Primary and Community Care (total provider) Cost (1+2+3+4–5)	**$864**	**$785**	**$79**	**$803**	**$61**
ED All CTAS (6)	$86	$150	($64)	$110	($24)
ED CTAS 4-5	$14	$46	($32)	$20	($6)
Total Provider Cost + ED (1+2+3+4–5+6)	**$950**	**$935**	**$15**	**$913**	**$37**
Inpatient visit costs (7)	**$298**	**$557**	**($259)**	**$517**	**($219)**
Total Costs/Savings (1+2+3+4–5+6+7)	**$1,248**	**$1,492**	**($244)**	**$1,430**	**($182)**

Note: When looking at differences, a bracketed amount implies cost savings. One without brackets implies higher cost.
[α] The utilization measures have been risk adjusted to account for variability in key patient characteristics including age, sex, clinical risk grouping (CRG), material and social deprivation.

For CVFP the costs of providing primary care services in 2016-17 were $61 higher per patient than their metropolitan peers and $79 higher than the rest of Alberta. Notable contributors to this increased are the combined capitation and FFS costs for family doctors and slightly increased costs of other FFS providers. The reduced use of the emergency department by patients of CVFP for all CTAS levels, as well as those less urgent (CTAS 4-5) provide some cost savings to the health system, although not enough to balance that of the primary and community care costs. However, the reduced number and duration of hospital inpatient visits have a notable impact on costs to the health system. When considering all of these services together, a higher primary and community care cost creates a greater downstream health system cost savings when a practice model is delivered that avoids hospitalization and reduces length of a hospital stay.

Table 8b: Adjusted[α] health service utilization costs per patient of Taber Clinic compared to rural peers, 2016-17

Cost Categories	TC	Rest of Alberta	Difference (TC - rest of Alberta)	Rest of AB-Rural	Difference (TC - rest of AB-Rural)
Family Doctor FFS (1)	$102	$309	($207)	$366	($264)
Specialist Doctor FFS (2)	$211	$290	($79)	$263	($52)
Other FFS (3)	$115	$186	($71)	$143	($28)
Capitation Payment (4)	$298	$0	$298	$0	$298
Negation (5)	$22	$0	$22	$0	$22
Primary and Community Care (total provider) Cost (1+2+3+4–5)	**$704**	**$785**	**($81)**	**$772**	**($68)**
ED All CTAS (6)	$162	$150	$12	$274	($112)
ED CTAS 4-5	$70	$46	$24	$123	($53)
Total Provider Cost + ED (1+2+3+4–5+6)	**$866**	**$935**	**($69)**	**$1,046**	**($180)**
Inpatient visit costs (7)	**$467**	**$557**	**($90)**	**$736**	**($269)**
Total Costs/Savings (1+2+3+4–5+6+7)	**$1,333**	**$1,492**	**($159)**	**$1,782**	**($449)**

Note: When looking at differences, a bracketed amount implies cost savings. One without brackets implies higher cost.
[α] The utilization measures have been risk adjusted to account for variability in key patient characteristics including age, sex, clinical risk grouping (CRG), material and social deprivation.

For TC, the model of primary care delivery combined with the design of the ARP funding agreement results in more health system savings than the rest of Alberta ($81), including those of rural Albertans ($68). These per-patient savings are notable across primary and community care, emergency department ($112), and inpatient services ($249). Considering these cost savings at all levels of health service delivery, one could consider the Taber Clinic a high-value practice model to the health system.

The infographic in Figure 6 is a visual representation of Tables 8a and 8b. If the model of care at CVFP and TC was spread across Alberta, through scaling up of an alternative primary care funding model, there is potential for significant health system cost avoidance. However, it should also be acknowledged that the conditions with which these clinics operate (e.g., relationship to a PCN, with AHS, and the broader network of community providers) may not be replicable. As such the recommendation and key considerations for action enable the development of an adaptable, in design and implementation, alternative funding framework. This enables the best possible conditions to be created to support successful outcomes for the primary care practices and the health system.

One may hypothesize that 2016-17 was an unusual year for CVFP and TC or for the rest of Alberta for service use and cost. To account for this, this report presents year-over-year data (from 2007-08 through 2016-2017) for each of the service costs presented in Figure 7a and Figure 7b. This highlights a consistency over time in health system cost savings, despite a higher cost of primary care service delivery.

Figure 6: A description of health system utilization cost differences among rostered patients at Crowfoot Village Family Practice and Taber Clinic compared to their metropolitan and urban peers.

Taber Clinic:
ANNUAL PER PATIENT COSTS & SAVINGS
2016-17

ANNUAL COSTS	TABER	ALBERTA RURAL	DIFFERENCE
PRIMARY CARE	$378	$366	$12 higher
OTHER PROVIDERS (e.g. specialists)	$326	$406	$80 lower
EMERGENCY DEPARTMENT VISITS	$162	$274	$112 lower
INPATIENT STAYS	$467	$736	$269 lower

ANNUAL SAVINGS:

Per patient: $449

For all patients at the Taber Clinic: $7.2M

10-YEAR SAVINGS:

For all patients at the Taber Clinic (2007-08 to 2016-17): $62.2M

Crowfoot Village Family Practice (CVFP)
ANNUAL PER PATIENT COSTS & SAVINGS
2016-17

ANNUAL COSTS	CVFP	ALBERTA METRO	DIFFERENCE
PRIMARY CARE	$343	$293	$50 higher
OTHER PROVIDERS (e.g. specialists)	$521	$510	$11 higher
EMERGENCY DEPARTMENT VISITS	$86	$110	$24 lower
INPATIENT STAYS	$298	$517	$219 lower

ANNUAL SAVINGS:

Per patient: $182

For all patients at the Crowfoot Village Family Practice: $4.3M

10-YEAR SAVINGS:

For all patients at the Crowfoot Village Family Practice (2007-08 to 2016-17): $57.3M

Figure 7a: Annual per-patient cost differences (raw numbers) for services provided to Crowfoot Village Family Practice patients compared to metropolitan peers, 2007-08 through 2016-17

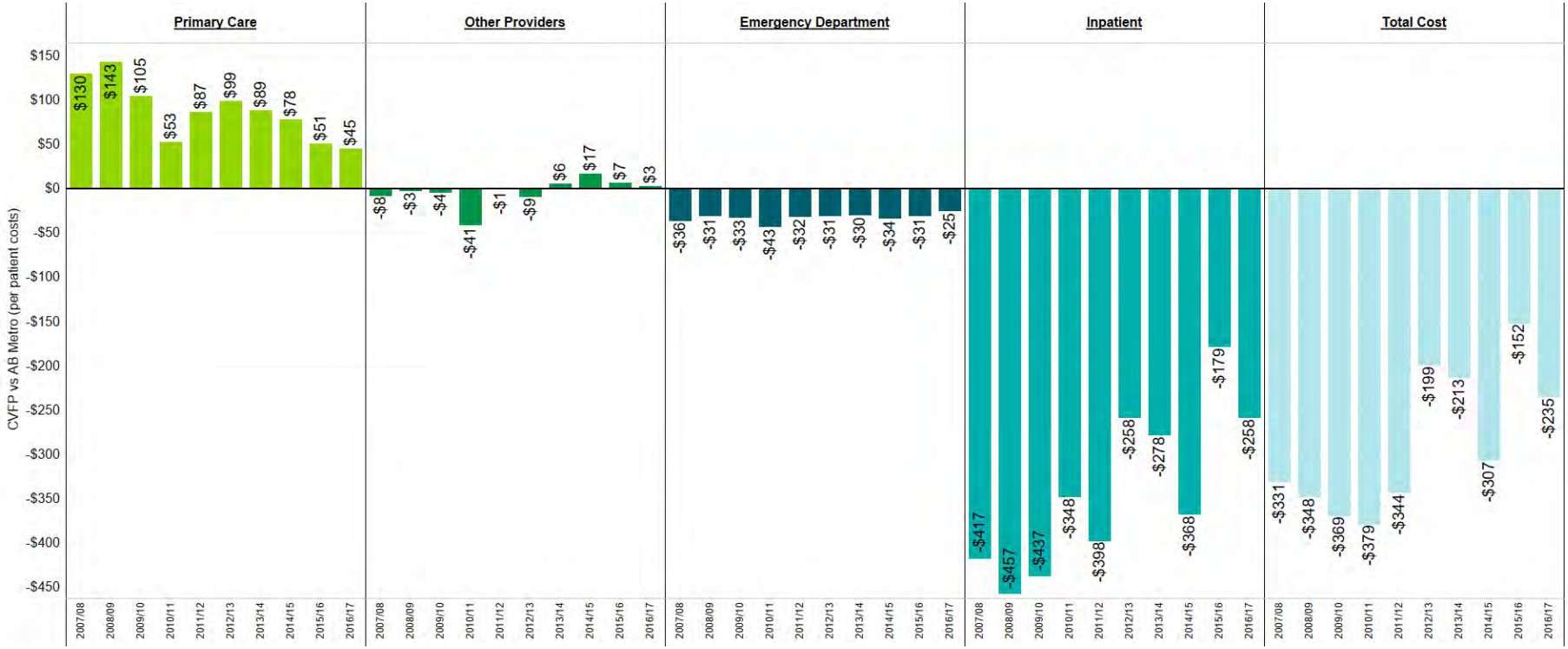
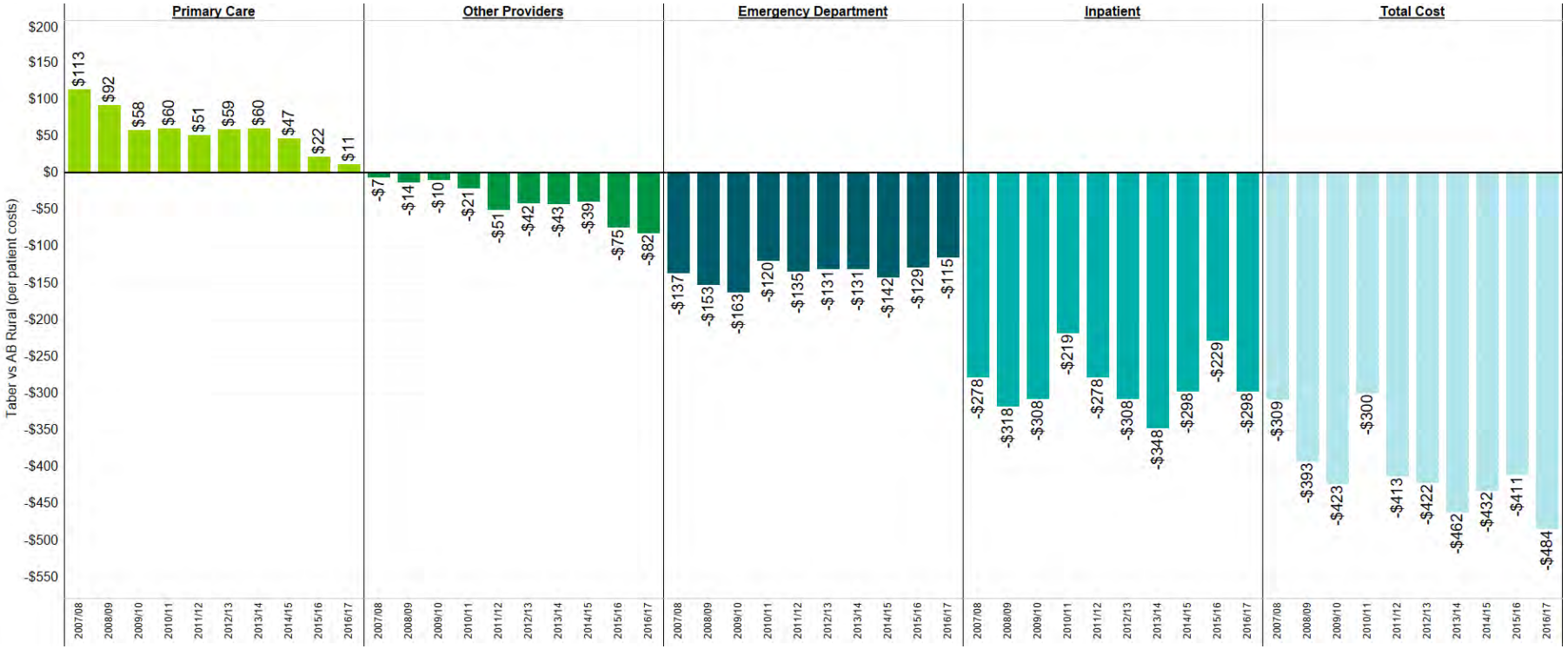


Figure 7b: Annual per-patient cost differences (raw numbers) for services provided to Taber Clinic patients compared to rural peers, 2007-08 through 2016-17



KEY FINDINGS

The data presented in this case study affirms that an ARP alternate funding model in primary care adds value to Alberta's health system. In these clinics, the value is achieved by enabling a practice model to be designed and delivered in alignment with PMH principles. As demonstrated by the clinics in this case study, a PMH provides enhanced primary care services of value to patients, and the care teams who work with them. This evolving PMH model promises improved access to high-quality, patient-centred primary care through trusted relationships with patients; incorporates team-based care with clinicians and staff working atto their full scope of practice top of their skill set; and provides cost-effective care co-ordination and population health management connecting patients to the "medical neighborhood" and to their community (19).

An alternate funding model enables the design and delivery of a team-based practice model consistent with the principles of the Patient's Medical Home (PMH)[9]

Both clinics have implemented a practice model (an assemblage of providers, practices, and values) that delivers team-based primary care services that are patient-centred, accessible, comprehensive, collaborative, integrated, efficient, and informed by quality improvement processes. This study found that the capitation-based ARP (i.e., alternate funding model) implemented at CVFP and TC and is a key factor in supporting the structure and organization of team-based care capable of maximizing benefits for patients and providers.

Crowfoot Village Family Practice and Taber Clinic provide comprehensive, cost-effective care that creates value for the health system

The primary and community care services delivered by the two clinics are more expensive than their rural and metropolitan peers. However, under the capitation-based ARP, both clinics have been able to use a team-based practice model that offers more cost-effective care, particularly when downstream health system costs such as emergency department use and inpatient hospital stays are considered. In 2016-17, the practice models delivered by Crowfoot Village Family Practice and Taber Clinic realized health system cost savings of $4.3 million and $7.2 million respectively. This trend of health system cost savings has been consistent since 2007-08.

Important contextual factors were identified as complementary to the alternate funding model that influence the delivery of the Patient's Medical Home practice model

Each clinic has leveraged key features of its local context to achieve a cost-effective practice model. Of importance is the intentional use of the electronic medical record, effective clinical and administrative leadership, physicians' attitudes and mindset toward a team-based practice model, co-location of services, and resources from the Primary Care Network.

[9] For the College of Family Physicians of Canada, the patient's medical home (PMH) is a vision that emphasizes the role of the family practice and family physicians in providing high-quality, compassionate, and timely care (CFPC, 2019). The PMH is a family practice defined by its patients as the place they feel most comfortable presenting and discussing their personal and family health and medical concerns.

RECOMMENDATION AND CONSIDERATIONS FOR ACTION

Building a primary care practice model in alignment with the principles of the PMH has been successfully undertaken in many health systems, under different funding arrangements (see Table 9) and have demonstrated improved costs, quality, and provider and patient satisfaction (20). However, attributing either the funding model or the practice model to the outcomes observed at CVFP and TC would be premature. Becoming a PMH is a journey. For some practices, transformation requires large-scale changes and a redesign of care delivery; for others it requires implementation of a few important changes. Creating the conditions to optimize primary healthcare service delivery, so that practices can evolve toward a PMH, can be difficult as there are a myriad of challenges beyond physician remuneration. These include geographic barriers, rates of disease in rural areas, maldistribution of physicians and other health human resources, provider and patient dissatisfaction, gaps between guideline-recommended care and provided care (12), as well as access to services that all impact the total cost and quality of care.

"…there must be an understanding that payment alone, through an alternative funding agreement, is not likely to deliver change where it is needed most" (21)

Alberta envisions strong community-based primary healthcare as the foundation of the health system that provides Albertans with a comprehensive set of consistent and high-quality services across the province (11). To achieve this vision, there must be an effective alignment of policy goals with existing accountability and governance structures to ensure a sustainable implementation of priority initiatives. To achieve the outcomes observed in this case study, a systemic view of the factors that influence primary and community care service delivery must be taken. Funding agreements must be designed that are not a barrier to better care, and there must be an understanding that payment alone is not likely to deliver change where it is needed most (21). Value-based funding arrangements can lower costs and improve quality. They enable advanced primary care practices to provide integrated, patient-centred, team-based care, and support the migration of physicians away from fee-for-service by compensating them for work they do between office visits, such as care co-ordination and care planning. More advanced funding models are beginning to reward population health management and prevention while incentivizing co-ordination between primary care providers and medical specialists, further expanding value-based care across the medical neighborhood.

The following recommendation and considerations for action support how Alberta can bring alternate funding models for primary care into the 21st century. It provides key considerations for optimizing the design, delivery, management, and monitoring of primary care services through an alternate funding model. It combines evidence from other health systems, the experiences of these practice teams in delivering primary care services under an alternate funding agreement, some of the lessons learned from the BCM demonstration project, and accounts for local health system factors that influence how primary care services can be designed and delivered. Further, it explores what might be required to support organizational/systemic change toward a PMH. This includes applying principles of blended payment models and team-based service delivery models that seek to promote patient enrolment, continuity, and co-ordination of care (22).

Recommendation

No new funding agreements should be implemented without first developing a provincial alternate funding model framework that describes the key elements required to support the development and implementation of alternate funding agreements. The framework must be in alignment with, and support the vision for, primary and community care, and inclusive of the role of Primary Care Networks.

Having initiated these funding agreements in 1999, the practice models of CVFP and TC have adapted to the evolution of Alberta's health system over the past 20 years. Through the implementation of PCNs, the consolidation of nine health authorities into Alberta Health Services, to the emergence of zone governance in service delivery, each clinic has gained value through their adaptability to changing local contexts (see Figure 8). In parallel, the Clinical ARP Program Parameters were re-established by Alberta Health under MO 53/2011 in 2011. This effectively updated the pre-existing funding agreements in negotiation with the respective clinics. Although these were updated and considered some of the local contexts in service requirements, they were not effectively modernized to consider broader systemic interactions of physician specialties, the role of the PCN, or a broader range of services available to patients. As a result, it became clear that the parties were not content with the expectations and management of the funding agreements, but no-one wanted to see these agreements repealed.

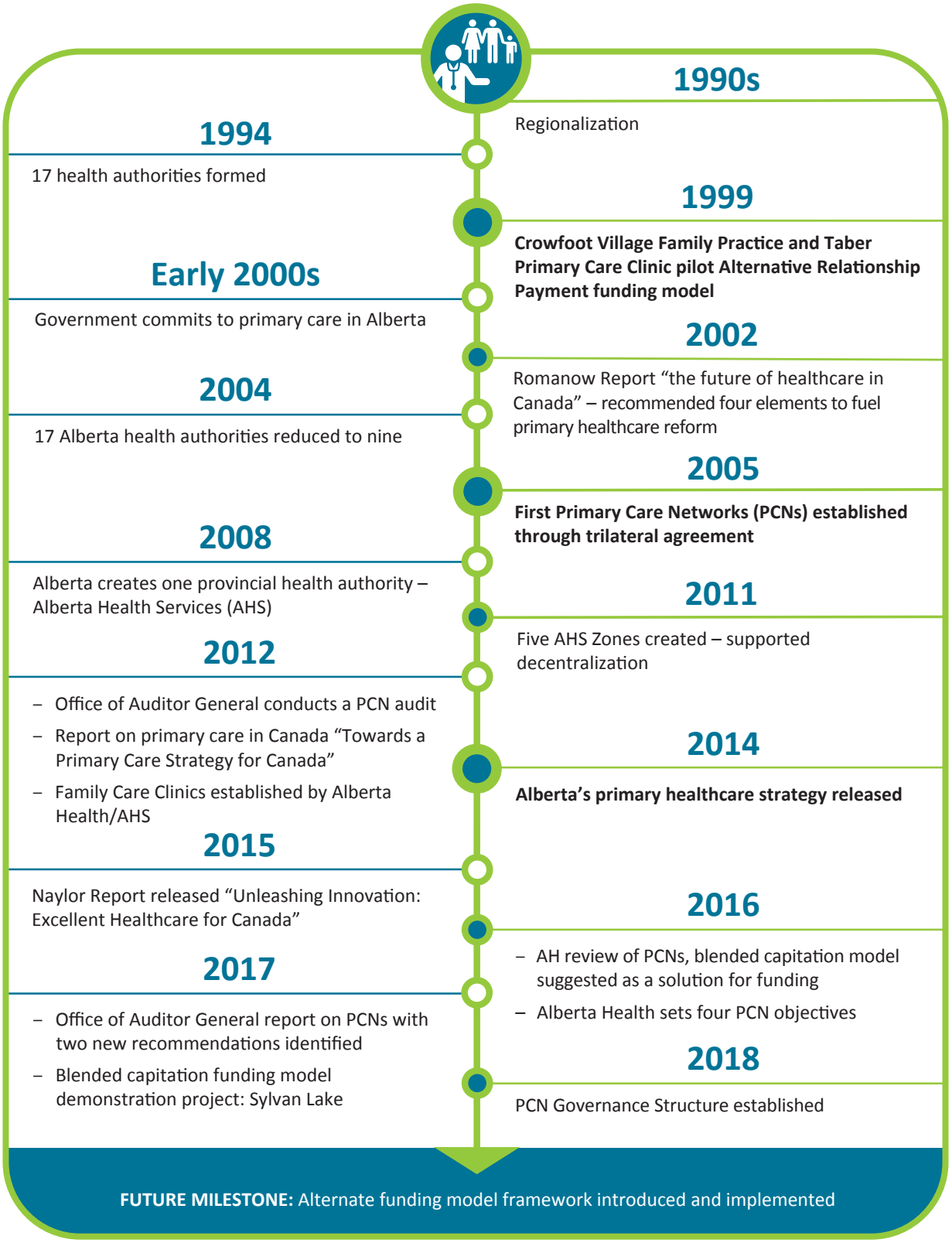
One characteristic of both clinics in this case study was that care was delivered in alignment with the principles of the patient's medical home. Over the past decade, more than 500 public and private sector medical home initiatives are underway in the U.S. In 2017, a survey conducted by the American Academy of Family Physicians found that 49 per cent were operating in a practice recognized as a medical home. The Patient-Centred Primary Care Collaborative (PCPCC) in the U.S. has provided annual evidence summaries that have explored the effects of implementing a medical home practice model on the costs, quality and use of care (4).

Across these studies, funding models for primary care have varied, with the consistent feature being the intentional shift toward a PMH practice model. In most instances, the effects were positive and increased over time, but not uniformly. Where results are mixed, it has been noted that expected returns on cost and quality were unrealistic, particularly when these interventions were isolated to primary care and there was lack of buy-in from the broader medical neighbourhood, such as specialists and hospital-based providers (4). This is an important principle. A key aspect of developing an alternate funding model framework in Alberta is to ensure services are appropriately aligned with PCN and non-primary care community services. Further, accommodating a transition to a team-based practice model, like a PMH, requires independent investment in the change facilitation, leadership, and management of resources that supports this cultural shift.

The provincial PCN committee, in their work to design and implement a zone-based PCN governance structure, has defined a refreshed set of priorities and desired outcomes for primary care in Alberta. Such work includes the use of community and EMR data as well as refining the roles of AH, AHS and PCNs (11). Given the current desire to continue recruiting for, and experimenting with, alternate funding models, the timing is appropriate to develop a framework that describes the key elements for an

alternate funding model that is in alignment with and supports the vision for primary and community care in Alberta.

Figure 8: Timeline depicting the historical events related to the evolution of primary care since the inception of the funding models at Crowfoot Village Family Practice and Taber Clinic.



Alberta Health has recently acknowledged that **current policy and funding models need to be adjusted to support successful implementation of the health home**(11) and identified a number of roles for government to achieve this objective, including:

- Policy/legislation/standards: Develop health policy and standards, monitor implementation plans, and establish targets for success (including performance measurement).
- Funding: Future funding agreements will be sustainable and predictable; facilitate sharing of resources and targeted investment at the zone level; incentivize quality, improve efficiency and team-based care, and encourage evidence-informed practice that provides best value for Albertans.
- Accountability: Establish clear performance expectations and accountability mechanisms.

Improvements in primary care and health system reform have been hampered by a misalignment between policy goals, and existing governance and accountability structures (1). Consequently, it is essential that **no new clinics (or physicians) be recruited to an alternate funding model until a framework has been developed.**

To support the recommendation to develop an alternate funding model framework a number of considerations are proposed at the provincial, community, and practice level. These considerations represent the interdependent features that will be important for the development of an alternate funding model framework moving forward. Our goal is to ensure this framework supports the future design, implementation, and management of a sustainable, predictable funding model for the province in achieving the goals of the Primary Health Care Strategy.

Considerations for action

PROVINCIAL-LEVEL CONSIDERATIONS

Define primary care performance metrics that focus on value-based outcomes and communicate reporting expectations to participating primary care clinics.

Performance measurement is an important part of monitoring the value of health service delivery. As system performance metrics are defined, it will be increasingly important to communicate the reporting expectations to the participating primary care clinics. Wherever possible, reporting should be automated, draw lines-of-sight to desired primary care and health system outcomes, and enable opportunities for organizational learning and quality improvement (at clinic, PCN, zone, and province levels). Clearly articulating what is important in terms of outcomes and value is essential so a practice model, and wrap-around community services, can be designed and implemented accordingly. It must also be communicated in a way that guides, but not prescribes, physician behaviour, and supports the achievement of the best possible results for Albertans. Consistency in measurement can create opportunities for clinical quality improvement support, incentive-based remuneration, and enhanced, local, integrated, service planning.

Wide-scale adoption of the PMH has been limited in Alberta. Subsequently, payment reform has also been explored as a way to engage family physicians and incentivize practice change toward a PMH model. Given increasing provider "measurement fatigue," alignment of both payment and performance measurement is key to garnering support from primary care practices transitioning to these value-based

payment models (19). Physician feedback, in the form of performance reports, has been a key factor in the most successful contributions of primary care to Accountable Care Organizations (ACOs) in the U.S.

> ***"…almost all high-performing ACOs provided their physicians with customized data on healthcare costs to inform them about their practice patterns and referrals."*** (23)

However, in Alberta, current measurement infrastructure may not support the performance measurement required to deliver this model. Investing in the infrastructure that can support high quality data management is essential primary care performance metrics are defined. Some primary care measurement initiatives have been undertaken in the past but have been difficult to scale, in part due to this lack of infrastructure for data collection, submission and management. A future step will be to identify desired outcomes of primary care services that measure comprehensive, co-ordinated, and accessible care. Alberta can leverage previous experiences in developing these measures, as well as the experiences of other provinces. In 2014, Ontario invested significant efforts to develop a provincial primary care performance framework (24). These efforts sought to support health system improvement by developing a co-ordinated and sustainable approach to measure and report on primary care performance at the practice and system (community, regional and provincial) levels.

Future funding agreements that include measuring performance outcomes (with targets) may create opportunities for specific investments in health system improvement. There are foundational initiatives in place that can support this. The Central Patient Attachment Registry (CPAR) project led by Alberta Health is one of those initiatives. This presents an opportunity to align with the Health Quality Council of Alberta physician panel reports that includes the most appropriate measures to inform PCNs, member physicians and their practice teams, as well as the change management supports, about potential improvement opportunities. The definition of key system and clinical performance metrics is essential to the design of an alternate funding model framework. It provides opportunities for incentives or investments in change supports for achieving priority outcomes of care.

Previous PMH experiences highlight that trust can remain a barrier to performance measurement and PMH implementation. Most of the concerns are related to hidden motives to save costs rather than to improve the quality of care (25). To build trust, the value of performance measurement and reporting to physicians must be recognized and align with an acknowledged and consistent suite of measures that support system-level conversations. Socialization of performance measurement expectations and subsequent reporting is required. As such, a focused approach on the reform of physician payment with an eye to producing greater accountability (through appropriate performance measurement) between physicians, payers/administrators and patients can produce the desired outcome over time (1).

Further benefits of robust metrics for primary care is the opportunity to build a data repository that supports lessons learned, as funding or practice models are scaled up. Making innovation highly adoptable includes building confidence in the clinical audience that any changes made will result in an improvement in things that matter to them (26). Rapid cycle research and dissemination is necessary to build trust with physicians around how data is being used, to deepen understanding of PMH implementation in local contexts, and to enable adaptation of funding models that align with lessons learned in implementation.

Enhance the reliability of health system cost data, particularly for inpatient service utilization.

As alternate funding models spread, ongoing monitoring of the impact to health service utilization and subsequent costs of care should be undertaken. The largest contributor to costs in healthcare is attributed to those provided in facilities, such as hospitals. Although this study demonstrated a return on public investment compared to their peers, there are still gaps in the confidence to quantify the value proposition, particularly for inpatient service utilization. Understanding, at a patient level, the costs of care for inpatient service use, ED visits, and other community services is required to confidently assess the value and return on public investment. Working with AH and AHS to appropriately cost facility-based care would be an important step in this direction.

Confidence in data and methods for costing inpatient service utilization is important, but as the system begins to shift focus towards community-based care, costing of services provided outside of hospital facilities will be required. A second step is to ensure confidence in data of other fee-for-service providers in the community. These include specialist consults and diagnostic services. By ensuring important PMH principles, such as care co-ordination and comprehensive care, are measured and reported back to physicians, conversations can focus on reflective practice for providers and create opportunities for investments in improvement resources in specific areas, like PCNs.

Engage stakeholders to identify the key elements of an alternative payment model that can best incentivize a larger-scale implementation of the PMH model

Although there is sufficient evidence about the value of alternate funding models, before developing the framework, consideration should be made about which alternative payment model would best incentivize the implementation of the PMH in the Alberta context. Given the expected evolution of the role of primary care providers toward a PMH model of care, capitation or a blended system with a large capitation component, may be a better way to provide compensation for those services (10). The use of blended payment schemes in primary care, particularly toward implementing a PMH, has involved capitation payments, and elements of pay-for-performance, in addition to fee-for-service (27). However, the evidence does not yet clearly point to a single payment strategy that is most successful in delivering advanced primary care (19). If appropriate measures for primary care are identified, measured and monitored, a payer and provider could hypothetically guard against inappropriate under-delivery of care through the achievement of quality-based outcomes. Table 9 provides a summary of the possible options for alternative funding models to support larger-scale reform of primary care in Alberta.

The evidence supporting pay for performance has been mixed. In two large systematic reviews, some modest yet positive impacts on rate of improvement for targeted quality and patient outcomes were observed initially, but these benefits stagnated over time, if not regressed to pre-intervention rates (27,28). The largest source of evidence regarding the impact of blended FFS and capitation in primary care comes from two large Medicare demonstration projects in the U.S.: the Comprehensive Primary Care Initiative (CPCI) and the Multi-Payer Advanced Primary Care Practice (MAPCP). In the third year of CPCI, improvements in care access and continuity were observed. Other studies found similarly mixed Quadruple Aim outcomes for blended FFS and capitation models (4,5,20). These studies would suggest that capitated, per-patient, payments could enable practices to proactively invest in an infrastructure that supports PMH implementation in primary care. As capitation and FFS often have opposite effects, blending the two models could mitigate the shortcomings of each. Blending FFS and capitation may

reduce barriers to widespread implementation, by providing autonomy for practices to determine how funding is utilized.

Table 9: Options for alternative funding models *(adapted from* (29)*)*

Payment Model	Description
Enhanced fee-for-service	Increased FFS payments (a percentage higher than standard rates) to practices that are recognized and/or functioning as PMHs
FFS with specific PMH billing codes	Practices can bill for new PMH-related activities (e.g., care co-ordination, alternate visit types)
Pay for performance	Practices are paid more for meeting process measures toward PMH (short-term) utilization targets (ED use, hospitalization for certain diseases, generic prescribing) and/or improving patient experience
Per patient per month (PPPM) or Per patient per year (PPPY)	Practices are paid a capitated yearly or monthly amount in addition to FFS, often adjusted for PMH recognition level or degree of care co-ordination expected
Shared savings	Practices are rewarded with a portion of savings if the total cost of care for the patient panel increases more slowly than a preset target and quality thresholds are met
Comprehensive or Population-based payment	Partial or complete risk for total cost of care (risk-adjusted) to include new models of direct primary care.

However, incentivizing practice-level change will also be important. One study explored physician experiences in implementing a PMH practice model. In this study, practices were given: a one-time 12 percent payment increase for all service billings; external nurses, provided at no charge to participating practices to help manage high-risk patients with multiple chronic conditions and to help primary care providers develop individualized care plans for this subset of high-risk patients; and access to a secure information portal, similar to the digital panel reports available for Alberta's family physicians through the HQCA. This gave each provider access to data on the total cost of care, including primary care, specialist visits, and hospitalizations, for the 50 highest-cost patients within their patient panel (25). The main reasons for joining the PMH program that were consistently mentioned by primary care providers and office staff included the 12 per cent payment increase for participation and the desire to improve patient care by using various elements of the PMH program. Although the payment increase was viewed as necessary to obtain initial buy-in, it was not sufficient to foster ongoing engagement with the program.

Given the experience of other health systems in shifting the delivery of primary care services to a PMH model, there is no clear funding formula that has been found to work across contexts. As Alberta aims to advance the vision of implementing the principles of the PMH, it would be prudent to consider the key elements of an alternate funding model that would best support the variable contexts and service needs across the province. Subsequent development of an alternate funding model framework should engage representation, and support, from stakeholder groups to incent adoption of the PMH while balancing local service needs.

COMMUNITY-LEVEL CONSIDERATIONS

Review negation parameters to accommodate the health service needs of rostered patients.

Both clinics accept that negation is a useful and important aspect of the funding agreement. For TC, negation is seen as a cost of doing business as they cannot control the health service needs of their geographic population. For CVFP, negation is a threat to the livelihood of the practice. For metropolitan and urban primary care practices, investments in resources to manage negation are likely required. Rostered patients in these geographical areas have more options for receiving primary care services. Negation management means ensuring patients receive accessible and acceptable services in their medical home or practice. This may include providing same-day appointments and alternate appointment types for services such as prescription refills, among others.

If negation is to be used as a way to incent access and team/physician productivity, it is essential to find a balance between the accommodation of a rostered patient's healthcare/service needs and the encouragement of high continuity of care. Using postal code data may enable the identification of geographic cut points where primary care service use will not be negated due to reasons beyond the control of the participating clinics.

The provincial and zone PCN committees are exploring the future role of PCNs in providing specific primary care services. It will be essential, especially for urban/metropolitan PCNs, to ensure the services PCNs provide complement those defined as in-basket in an alternate funding agreement. Currently, services such as screening, after-hours care, and aspects of chronic disease case management increase the risk of competitive local service delivery and increased rates of negation. If strong continuity of care between a rostered patient and their primary care practice team is expected, careful service planning between member clinics to avoid negation should be considered.

Define and develop services that support the health needs of the population served, are adaptable for changing local contexts, and enable scalability and management of the funding agreements

The goal of optimizing service baskets across rural-, remote-, metropolitan-, and urban-based providers is to ensure that maximum value can be gained without compromising on the comprehensiveness and accessibility of services in those communities. This case study has learned that negation is an important factor in maintaining relationships with patients, as well as designing services that meet the needs of patients, providers, and the practice at large. When physicians from TC do rotations in the emergency department and provide an in-basket service, they do not submit a fee-for-service claim. This prevents a negation penalty and contributes to cost savings to the health system.

Alberta Health has a desire to plan healthcare services with people and their communities. This may present some opportunities related to the definition of service baskets, especially in rural geographies. Co-defining services with rural communities and the completion of zone service plans may provide a range of options for rural health service baskets. Where communities or wider geographies require unique, specialized GP services (such as anesthesia, obstetrics, pediatrics, etc.) these may be included in the special interest designation list and delivered in rural communities as an fee-for-service out-of-basket healthcare service for rural family physicians. For rural communities, emergency department visits for primary care services may be considered 'core' regardless of co-location. If a primary care physician delivers a primary care service in an emergency department that is considered in-basket, that

service should not affect a fee-for-service claim and should be explicitly stated in the funding agreement. To support rural considerations in the framework, it is essential to consult with zone leadership, as well as the rural physician action plan program team.

For metropolitan- and urban-based services, adapting the service baskets to minimize unintentional negation may pose a challenge. CVFP say they are challenged by maintaining and updating special interest physician designation lists and ensuring that providing some specialized GP services avoids negation. When looking to the future of PCN responsibilities and the priorities emerging around PCN-based after-hours care, the funding agreement should consider the interaction between family physicians providing those after-hours services and the risk of negation to the participating practices. It will be important for the ARP-PMO, PCNs, and member physicians to learn from the experiences of early adopter practices in more urban areas and be highly adaptive regarding potentially competitive services offered by PCNs and other community providers, like walk-in practices. Finding a balance that ensures standardized and equitable delivery of primary care in these contexts will be essential to sustainability, predictability, and management of the funding agreements. This adaptability in the early stages of implementation may be critical to the scalability of a model that combines capitation, FFS, and negation.

Define the PCNs' role in provision of clinical supports and/or healthcare services that complement those offered by practices operating under an alternate funding agreement

Alberta Health has identified that all community-based primary and community health services should be part of a PCN, including community health centres, nurse practitioner clinics, and specialty primary care provided through AHS. In this study, it was identified that the contributions of a PCN in supporting the delivery of the practice model is variable but important. Much of this variability is driven by the PCN model in which the practice operates and how they might share services between PCNs across metropolitan and rural boundaries.

As the role and responsibilities of PCNs are defined, identifying a balance of local health service delivery options with the practice management supports, provided by PCNs, will be essential. This speaks to the importance of a PCN funding model that outlines specific expectations around the provision supports for member clinics to become a PMH (inclusive of interdisciplinary team members, physical infrastructure, and administrative costs).

In defining the priorities for primary care in Alberta, the provincial PCN committee has identified that the primary responsibilities of PCNs include, but are not limited to:

- Develop service delivery plans based on identified population health needs and in consideration of community assets.
- Provide access (either directly, through partnerships, service agreements or other arrangement) to comprehensive primary healthcare services through interdisciplinary teams, determined through a provincial policy that articulates the minimum basket of primary care services.
- Support prevention and management of chronic conditions and diseases through partnership and involvement of Albertans with their primary care provider, and a range of services as required based on risk.

When baskets of service are defined in an alternate funding agreement, it will be essential the defined basket of PCN services be complementary to member practice services. Negation is a significant

influencer in the provision of comprehensive, accessible care for rostered patients. If PCNs are required to provide a basket of services, for example, operate an after-hours clinic, the parameters influencing negation, such as identifying all physicians who practice in the after-hours clinic as special interest designation, or acknowledging any after-hours visit for a rostered patient is not subject to a fee-for-service claim, and does not impact negation for the clinic with which the patient is rostered.

For PCNs, the services provided might take some inspiration from Oregon. An evaluation of Oregon's co-ordinated care organizations demonstrated a reduction in ED visits, inpatient hospitalizations, preventable hospitalizations and primary care visits (30). The authors attribute much of this decreased service use to an increased use of services outside the medical office, such as engagement with community health workers and social services. This speaks to the importance of the role of PCNs to provide non-traditional support services and integrated service programs.

Overall, this speaks to the important and interdependent relationship between the PCN and their member practices and the concept that the basket of primary healthcare services (including ED) in any funding agreement be defined, accounting for the interdependent contributions of practice and PCN.

As waves of implementation of a modernized funding agreement progress, it must be acknowledged that transformed and transforming practices need time to mature before significant improvements can be achieved. The longer a practice has been transformed, the more positive its impact on quality, cost, and utilization (4). Peer-reviewed findings have supported this claim in that a majority of the studies that looked at four years or more of data had positive results, whereas many of the studies looking at two years of data or less had mixed or non-significant results. Primary care stakeholders, including policy-makers should realize that not supporting initiatives that show mixed or slightly negative results before they have had time to mature could be detrimental to the implementation and spread of these types of funding models.

PRACTICE-LEVEL CONSIDERATIONS

Define metrics to be reported by practices that focus on the shift to a PMH and the provision of team-based care

Shifting a practice model to align with the principles of the PMH includes a shift toward greater team-based care. To date, the measurement of team-based care has proven difficult and as a result considered low value (14). Currently, shadow billing appears to be the only mechanism for measuring the contribution of non-physician providers in primary care practice, as well as the 'productivity' of ARP-funded physicians. Participants said shadow billing is onerous to a clinic's workflow, requires a significant amount of resources to manage and when submitted, does not seem to be helpful for managing the ARP. This is not ideal and presents risks of measurement fatigue and assumptions being made about physician productivity or team-based care delivery. Solutions to improve the current state may be costly (e.g., EMR optimization, data abstraction tools) with low yield in return.

It seems shadow billing acts as a form of process measure that informs the breadth and depth of physician and non-physician activity under an alternate funding agreement. A better process measure that can be documented, and measured against outcomes, would be the degree to which a PMH practice model is achieved. This could take the form of an annual (or periodic) PMH assessment that is built into the requirments of the alternate funding agreement supported by PCN resources. This enables practices to begin with a self-assessment that identifies opportunities for improvement and to understand the

current level of "medical homeness" (31). In addition to receiving and reviewing physician and practice level panel reports, this self-assessment can provide a detailed indication of the extent to which the practice functions as a PMH.

Team-based care is a key domain of this assessment and explores the degree to which:

- Patients are encouraged to see their paneled provider and practice team.
- Non-physician practice team members play a role in clinical care.
- The practice assesses training needs of staff and their roles and responsibilities to ensure rostered patient needs are met (32).

Primary care practice transformation initiatives have generally supported the notion that becoming or advancing one's status as a PMH was associated with decreases in overall cost (20). This association was stronger for mature PMHs and for those caring for patients with more complex medical conditions. Expecting this process to be undertaken in the scope of an alternate funding model creates opportunities for larger-scale understanding of the overall adoption of the PMH, helps PCNs and zones learn where member practices might require investments in change supports, and helps Alberta Health understand the degree to which alternate funding agreement practices are scoring on the team-based care domain.

While the goals or attributes for PMH practices are often similar, the PMH model is not one-size-fits-all. PMH practices differ in terms of their implementation, measurement, and performance; even practices with the highest level of PMH achievement have variation in their medical home capabilities, and they excel in different domains based in part on distinctions in capability, values, and patient needs (19). This protects some of the practice autonomy desired by the physician community and supports investments in the PMH in areas that are important to the system, the practice and their rostered patients.

Engaging patients, including completion of a rostering conversation with all newly rostered patients, geographic or contracted, should be embedded in all alternate funding agreements

Despite the practice model at CVFP and TC evolving over 20 years, one may consider why patients might not feel socialized to, and accepting of, this model of care. It creates the opportunity to consider how a practice shifting to an alternate funding model and redesigning their practice model might engage their patients in the redesign process, or inform them of the expected changes they might experience.

Formally rostering patients, regardless of geographic or 'contract' panels, should be undertaken by all clinics migrating to an alternate funding model. Doing so can create the opportunity for clinics to share information about their practice model and educate patients around what to expect from the primary care service delivery model of the clinic. Providing education about how care is delivered and managing expectations of what to expect from a primary care practice is essential to establishing and maintaining a relationship with a patient. This is exemplified in social movements that support patient experiences in care, such as the #hellomynameis and #whatmatterstoyou campaigns.

Engaged patients are more likely to become involved in practice redesign activities, from informing to co-designing changes with practice teams. Although co-design projects typically bring about a series of incremental quality improvements, the partnership between patients and providers in making these small changes often leads to deeper, longer-term changes in attitudes and behaviours (33).

One might consider how to implement the lessons of CVFP in managing negation and having conversations with patients about such expectations. Rostering conversations and engaging patients could also influence the management of conflict reports delivered by the CPAR initiative[10]. It would be beneficial for an alternate funding agreement to expect practices to engage patients beyond a rostering conversation so that the patient and family voice informs practice improvement initiatives toward the PMH.

Practices transitioning to an alternate funding agreement should receive PCN change management support toward building a practice model in alignment with PMH principles

Six Veterans Affairs primary care practices in the U.S. using evidence-based quality improvement approaches to PMH implementation were compared with 28 practices implementing PMH without any change management support for one year before and four years after implementation. After supporting PMH implementation with QI approaches, overall utilization for primary care, specialty care, and mental health/substance abuse care decreased, while patients also had fewer hospitalizations, and lower per-patient costs. Utilization for telephone care increased among all practices (34).

In Oregon, a similar program called the Patient Centered Primary Care Home (PCPCH) was developed in 2009, taking the concepts of the medical home and applying them to primary care clinics throughout the state. The PCPCH provided support for practice transformation, identified and disseminated best practices of a medical home and encouraged individuals covered by Oregon's Health Plan to enrol in PCPCH clinics (20). The principle of actively engaging citizens to join the health plan in Oregon is of importance. As we shift priority service delivery to the community and increase reliance on continuity of care to a PMH, one might want to consider what role PCNs, AHS and government could play in citizen engagement and advocacy for enhanced primary care services.

Practices transitioning to a PMH have commented on the role and need for external facilitation and support to implement a PMH, and all but one practice recognized the need for a well formulated and prespecified change model to inform the transition (35). Of note is the role that available PMH self-assessment resources and implementation guides can play in guiding practices, and their change facilitators, in adapting their practice models. Various factors influence practice facilitation resource requirements, including intensity of the change project, geography and modality of engagement, as well as the experience of the practice facilitator. On average, a single practice facilitator can support between eight (onsite, more intensive) and 20 (distance, less intensive) practices during an active PMH intervention (36).

As previously mentioned, in transitioning to a PMH, small primary care practices appreciated having a funded local care co-ordinator (similar to a clinical care co-ordinator in Taber) to implement a care plan and provide care co-ordination for patients with multiple chronic conditions. For many participants, the co-ordinator represented the most tangible program element that added value for patients and improved the existing operations and workflow of the practice. Providers in small practices were

[10] The Central Patient Attachment Registry (CPAR) Conflict Report is generated by CPAR on a per panel basis and lists patients on the provider's panel that are also panelled to another provider. It is produced monthly. See Appendix B of the following document for a sample report. http://www.albertanetcare.ca/learningcentre/documents/CII-General-FAQ.pdf

especially receptive to the support of a nurse who could interact with patients. However, there may be an initial reluctance to welcome external support because they may be perceived to be disruptive to the practice's existing workflow (25).

In addition, the importance of an internal culture change was noted, similar to that experienced by team members in the Blended Capitation Model demonstration project. A limitation of the project was that it did not include a developmental evaluation or a comprehensive assessment of the implementation of the practice model. The quantitative data collected from these projects relating to specific PMH outcomes, while critical, only tell part of the story. Without an on-the-ground look at how these changes affect staff, patients and workflows, the opportunity is lost to understand how practices are being transformed and what support resources are required to advance the transformation.

As the implementation of alternate funding agreements are scaled up, it is essential that change management resource requirements continue to be monitored through a developmental evaluation approach. This can increase the predictability of resource investment over time as experience points to what organizational development approaches best suit a transition to PMH and a team-based practice model. Over time, as PMHs proliferate within PCNs and across the province, it becomes hard for non-transformed practices to become totally immune to the uptake of PMH concepts (20), making later-stage implementation more predictable and expedient. However, in the early stages of implementation, PCNs will need to determine how to support this shift.

CONCLUSION

The practice models delivered by CVFP and TC are well established, having been influenced and enabled by the ARP funding agreement they have operated under over the past 20 years. The clinics have experience in delivering care in alignment with the objectives of primary care reform and the delivery of a PMH practice model. Although primary care reform has accelerated across Canada in the past 10 to 15 years and largely focused on changing payment incentives that encourage more interprofessional care, Alberta has been slow to adopt these funding and practice models. Studies have shown that improvements in primary care, and health system reform, have been hampered by a misalignment between policy goals, and existing governance and accountability structures (1).

Alberta seeks to enhance care in the community, and shift priorities away from facility-based toward more community-based care delivery. Developing an alternate funding model framework that considers the interdependence of multiple health system factors and accommodates differences in geographic context is essential. A need to continue strengthening the governance and accountability structures that guide the delivery and performance of primary and community care services is important, in particular the identification of value-based measures that inform the public, providers and policy-makers on the performance of the primary care system.

This case study has demonstrated that an alternate funding model can influence the design and delivery of a PMH practice model in a rural and a metropolitan community. Although primary care costs in both clinics are higher, their demonstration of team-based comprehensive care has reduced the need for accessing downstream, more expensive, facility-based health services.

When considering the spread of an alternate funding model for primary care in Alberta, it must be acknowledged that the outcomes observed in this case study are not likely to be observed without a reciprocal investment in the change management supports that will assist clinics implement the desired practice model in their local context. As a result, the challenge is one of scaling the most effective processes, principles, and cultures of transformation.

HQCA
Health Quality Council of Alberta

APPENDICES

Promoting and improving patient safety and health service quality across Alberta

APPENDIX I: CAPITATION RATES FOR EACH PRACTICE

Age Range	Gender	CVFP (2017-2020)	TC (as of Sept 2018)	Gender	CVFP (2017-2020)	TC (as of Sept 2018)
		Annual Capitation Rate			Annual Capitation Rate	
Under 1	F	$299.55	$338.31	M	$314.97	$355.07
1 to 4	F	$213.33	$223.43	M	$223.38	$234.87
5 to 9	F	$166.05	$171.44	M	$169.01	$174.99
10 to 14	F	$165.79	$170.56	M	$162.93	$168.27
15 to 19	F	$237.54	$246.79	M	$175.97	$183.49
20 to 24	F	$303.25	$313.21	M	$184.33	$193.37
25 to 29	F	$351.40	$360.26	M	$194.77	$201.41
30 to 34	F	$370.10	$376.52	M	$211.11	$216.15
35 to 39	F	$347.21	$351.26	M	$228.76	$234.05
40 to 44	F	$335.53	$338.43	M	$249.37	$255.71
45 to 49	F	$346.74	$350.80	M	$271.14	$278.55
50 to 54	F	$361.00	$366.67	M	$292.47	$302.84
55 to 59	F	$373.97	$382.11	M	$317.73	$330.99
60 to 64	F	$389.65	$404.11	M	$349.70	$368.16
65 to 69	F	$418.66	$440.20	M	$388.89	$416.58
70 to 74	F	$465.36	$508.43	M	$442.16	$485.32
75 to 79	F	$568.35	$642.17	M	$550.10	$629.08
80 to 84	F	$654.54	$784.83	M	$657.05	$793.02
85 to 89	F	$763.07	$976.94	M	$741.61	$957.96
90+	F	$873.26	$1,217.95	M	$821.63	$1,169.43

APPENDIX II: BASKET OF SERVICES WITHIN ARP FUNDING AGREEMENT: CROWFOOT VILLAGE FAMILY PRACTICE COMPARED TO TABER CLINIC

Crowfoot Village Family Practice		Taber Clinic	
Code	**Description**	**Code**	**Description**
03.01	**Diagnostic interview and evaluation, unqualified**	**03.01**	**Diagnostic interview and evaluation, unqualified**
03.01AA	After-hours time premium	03.01AA	After-hours time premium
03.01B	Patient care advice provided to community mental healthcare workers, child protection workers, group home staff, or educational personnel weekdays 0700 to 1700 hours in relation to the care and treatment of a patient receiving community mental healthcare services under the Alberta community mental healthcare program.		
03.01C	Telehealth assistance services	03.01C	Telehealth assistance services
03.01J	Assessment of an unrelated condition in association with a Workers' Compensation service	03.01J	Assessment of an unrelated condition in association with a Workers' Compensation service
03.01LG	Physician to physician or podiatric surgeon telephone or telehealth videoconference consultation, referring physician, weekdays 0700 to 1700 hours	03.01LG	Physician to physician or podiatric surgeon telephone or telehealth videoconference consultation, referring physician, weekdays 0700 to 1700 hours
		03.01LH	Physician to physician or podiatric surgeon telephone or telehealth videoconference consultation, referring physician, weekdays 1700 to 2200 hours, weekends and statutory holidays 0700 to 2200 hours
		03.01LI	Physician to physician or podiatric surgeon telephone or telehealth videoconference consultation, referring physician, any day 2200 to 0700 hours
		03.01LJ	Physician or podiatric surgeon to physician telephone or telehealth videoconference consultation, consultant, weekdays 0700 to 1700 hours
		03.01LK	Physician or podiatric surgeon to physician telephone or telehealth videoconference consultation, consultant, weekdays 1700 to 2200 hours, weekends and statutory holidays 0700 to 2200 hours
		03.01LL	Physician or podiatric surgeon to physician telephone or telehealth videoconference consultation, consultant, any day 2200 to 0700 hours
		03.01LM	Patient care advice to active treatment facility worker or nurse practitioner in relation to the obstetrical outpatient, weekdays 0700 - 1700 hours

Crowfoot Village Family Practice		Taber Clinic	
Code	**Description**	**Code**	**Description**
		03.01LN	Patient care advice to active treatment facility worker or nurse practitioner in relation to the obstetrical outpatient, weekdays 1700 - 2200 hours, weekends and statutory holidays 0700 - 2200 hours
		03.01LO	Patient care advice to active treatment facility worker or nurse practitioner in relation to the obstetrical outpatient, any day 2200 - 0700 hours
03.01MT	Completion of a Physician Report form under the Mandatory Testing and Disclosure Act		
03.01N	Management of anticoagulant therapy to include ordering necessary blood tests, interpreting results, adjusting the anticoagulant dosage as required	03.01N	Management of anticoagulant therapy to include ordering necessary blood tests, interpreting results, adjusting the anticoagulant dosage as required
03.01NG	Patient care advice to paramedic – pre-hospital patch, assisted living/designated assisted living and lodge staff, active treatment facility worker for hospital inpatient, long term care worker for patients in a long term care facility, nurse practitioner or home care worker, weekdays 0700 to 1700 hours, provided via telephone or other telecommunication methods, in relation to the care and treatment of a patient	03.01NG	Patient care advice to paramedic – pre-hospital patch, assisted living/designated assisted living and lodge staff, active treatment facility worker for hospital inpatient, long term care worker for patients in a long term care facility, nurse practitioner or home care worker, weekdays 0700 to 1700 hours, provided via telephone or other telecommunication methods, in relation to the care and treatment of a patient
03.01NH	Patient care advice to paramedic – pre-hospital patch, assisted living/designated assisted living and lodge staff, active treatment facility worker for hospital inpatient, long term care worker for patients in a long term care facility, nurse practitioner or home care worker, weekdays 1700 to 2200 hours, weekends and statutory holidays, 0700 to 2200 hours, provided via telephone or other telecommunication methods, in relation to the care and treatment of a patient	03.01NH	Patient care advice to paramedic – pre-hospital patch, assisted living/designated assisted living and lodge staff, active treatment facility worker for hospital inpatient, long term care worker for patients in a long term care facility, nurse practitioner or home care worker, weekdays 1700 to 2200 hours, weekends and statutory holidays, 0700 to 2200 hours, provided via telephone or other telecommunication methods, in relation to the care and treatment of a patient
		03.01NI	Patient care advice to paramedic – pre-hospital patch, assisted living/designated assisted living and lodge staff, active treatment facility worker for hospital inpatient, long term care worker for patients in a long term care facility, nurse practitioner or home care worker, any day 2200 to 0700 hours, provided via telephone or other telecommunication methods, in relation to the care and treatment of a patient.
03.02	**Diagnostic interview and evaluation, described as brief**	**03.02**	**Diagnostic interview and evaluation, described as brief**
03.02A	Abbreviated assessment of a patient's condition	03.02A	Abbreviated assessment of a patient's condition
03.03	**Diagnostic interview and evaluation, described as limited**	**03.03**	**Diagnostic interview and evaluation, described as limited**
03.03A	Limited assessment of a patient's condition requiring a history related to the presenting problems, an examination of the relevant body	03.03A	Limited assessment of a patient's condition requiring a history related to the presenting problems, an examination of the relevant body

Crowfoot Village Family Practice		Taber Clinic	
Code	**Description**	**Code**	**Description**
	systems, appropriate records, and advice to the patient.		systems, appropriate records, and advice to the patient.
		03.03AR	Urgent or priority attendance on hospital inpatient or long term care inpatient, at request of facility staff when physician is already on site
03.03B	Prenatal visit	03.03B	Prenatal visit
03.03C	Routine post-natal office examination NOTE: May be claimed once per patient per physician per pregnancy	03.03C	Routine post-natal office examination
		03.03D	Hospital visits
		03.03DF	Visit to hospital inpatient in association with a callback
03.03E	Periodic chronic care visit for a long term care patient	03.03E	Periodic chronic care visit for a long term care patient
		03.03EA	Visit to long term care patient in association with a special callback (HSC 03.03KA, 03.03LA, 03.03MC, 03.03MD)
		03.03KA	Special callback to hospital emergency/outpatient department, AACC, UCC, auxiliary hospital or nursing home, when specially called from home or office, weekday, (0700-1700 hours)
		03.03LA	Special callback to hospital emergency/outpatient department, AACC, UCC, auxiliary hospital or nursing home, when specially called from home or office, weekdays 1700-2200 hours, weekends and statutory holidays 0700-2200 hours
		03.03MC	Special callback to hospital emergency/outpatient department, AACC, UCC, auxiliary hospital or nursing home, when specially called from home or office, any day (2200-2400 hours)
		03.03MD	Special callback to hospital emergency/outpatient department, AACC, UCC, auxiliary hospital or nursing home, when specially called from home or office, any day (2400-0700 hours)
03.03N	Home visit - first patient	03.03N	Home visit - first patient
03.03P	Home visit - second/subsequent patients	03.03P	Home visit - second/subsequent patients
03.04	**Diagnostic interview and evaluation, described as comprehensive**	**03.04**	**Diagnostic interview and evaluation, described as comprehensive**
03.04A	Comprehensive visit	03.04A	Comprehensive assessment of a patient's condition requiring a complete history, a complete physical examination appropriate to the physician's specialty, an appropriate record and advice to the patient
03.04B	Initial prenatal visit requiring complete history and physical examination	03.04B	Initial prenatal visit requiring complete history and physical examination

Crowfoot Village Family Practice		Taber Clinic	
Code	**Description**	**Code**	**Description**
		03.04C	Hospital admission
03.04D	Long term care admission (Nursing Home/Auxiliary Hospital or a long term care bed in a general hospital)	03.04D	Long term care admission (Nursing Home/Auxiliary Hospital or a long term care bed in a general hospital)
03.04E	Emergency home visit and admission to a hospital and hospital visit on the same day	03.04E	Emergency home visit and admission to a hospital and hospital visit on the same day
03.04I	Comprehensive visit, including completion of form, required for admission to an Alberta Alcohol and Drug Abuse Commission (AADAC) residential treatment facility	03.04I	Comprehensive visit, including completion of form, required for admission to an Alberta Alcohol and Drug Abuse Commission (AADAC) residential treatment facility
03.04J	Development, documentation and administration of a comprehensive annual care plan for a patient with complex needs	03.04J	Development, documentation and administration of a comprehensive annual care plan for a patient with complex needs
		03.04K	Comprehensive geriatric assessment, first hour and 30 minutes
03.04M	Pre-operative history and physical examination	03.04M	Pre-operative history and physical examination
03.04N	Comprehensive evaluation including completion of forms to determine capacity as defined by the Personal Directives Act (PDA) (RSA 2007 s9(2)(a))		
03.05	**Other diagnostic interview and evaluation**	**03.05**	**Other diagnostic interview and evaluation**
		03.05FF	Followup care of a patient remaining in a non-rotation duty emergency department after awaiting further evaluation, treatment, and/or waiting for a bed, transfer to another facility, or requiring extended care by a physician, 0700 - 1700 hours, weekdays
		03.05FG	Followup care of a patient remaining in a non-rotation duty emergency department after awaiting further evaluation, treatment, and/or waiting for a bed, transfer to another facility, or requiring extended care by a physician 1700 - 2200 hours, weekday, 0700 - 2200 hours weekend and statutory holiday
		03.05FH	Followup care of a patient remaining in a non-rotation duty emergency department after awaiting further evaluation, treatment, and/or waiting for a bed, transfer to another facility, or requiring extended care by a physician 2200 to 0700 hours any day
		03.05G	Care of healthy newborn in hospital (first day)
03.05H	Medical examination, including completion of form, required pursuant to the Traffic Safety Act to	03.05H	Medical examination, including completion of form, required pursuant to the Traffic Safety Act to obtain

Crowfoot Village Family Practice		Taber Clinic	
Code	**Description**	**Code**	**Description**
	obtain or renew an operator's license, where the patient is 74.5 years of age or older		or renew an operator's license, where the patient is 74.5 years of age or older
03.05I	Direct care, reassessment, education and/or general counseling of a patient requiring palliative care, per 15 minutes or portion thereof		
03.05JA	Formal, scheduled, multiple health discipline team conference, full 15 minutes or major portion thereof for the first call when only one call is claimed With para-medical personnel regarding the provision of healthcare where social and other issues are involved	03.05JA	Formal, scheduled, multiple health discipline team conference, full 15 minutes or major portion thereof for the first call when only one call is claimed With para-medical personnel regarding the provision of healthcare where social and other issues are involved
03.05JB	Formal, scheduled family conference relating to a specific patient, per 15 minutes or major portion thereof	03.05JB	Formal, scheduled family conference relating to a specific patient, per 15 minutes or major portion thereof
		03.05JC	Family conference relating to acute care facility inpatient or registered emergency or outpatient, or auxiliary hospital, nursing home patient, AACC or UCC patient, per 15 minutes or major portion thereof
		03.05JD	Formal, scheduled, multiple health discipline team conference related to a patient in a planning, care plan review, annual integrated care conference, patient continuing care facility for purposes to include care management, per 5 minutes or greater portion thereof to a maximum of 12 units per hour
		03.05JE	Formal, scheduled review of patient medication (multiple patients) for patients in continuing care facilities, by the physician most responsible for the patient's care
03.05JN	Second and subsequent physician attendance at a formal, scheduled, professional conference related to the care and treatment of multiple patients undergoing rehabilitation therapy including those with chronic pain, when discussion occurs on behalf of a specific patient		
		03.05K	Formal, scheduled, team/family conference per 30 minutes
03.05LA	Group session, multiple patients, per patient where a physician is involved in providing care and teaching to patients in attendance	03.05LA	Group session, multiple patients, per patient where a physician is involved
03.05M	Supportive care visit	03.05M	Supportive care visit
		03.05N	Special callbacks - hospital inpatient; when specially called from home or office 0800 - 1700 hours, weekdays.
		03.05P	Special callback to hospital inpatient, weekday, (1700 - 2200 hours)
		03.05QA	Special callback to hospital inpatient, (2200-2400 hours)

Crowfoot Village Family Practice		Taber Clinic	
Code	**Description**	**Code**	**Description**
		03.05QB	Special callback to hospital inpatient, (2400-0700 hours)
		03.05R	Special callback to hospital inpatient, weekends and statutory holidays 0700-2200 hours
03.05T	Formal, scheduled, professional interview relating to the care and treatment of a palliative care patient with other physicians, family, and/or direct therapeutic supervision of allied health professionals or community agencies, on behalf of a specific patient, per 15 minutes or portion thereof . NOTE: This service is to be claimed in the name of the patient by the physician most responsible for the patient.		
03.05U	Second and subsequent physician attendance at formal, scheduled, professional interview relating to the care and treatment of a palliative care patient with other physicians, family and/or direct therapeutic supervision of allied health professionals or community agencies, on behalf of a specific patient, per 15 minutes . NOTE: This service is to be claimed in the name of the patient.		
03.05V	Formal, scheduled, professional interview relating to the care and treatment of a patient with chronic pain with other physicians, and/or direct therapeutic supervision of allied health professionals or community agencies, on behalf of a specific patient, per 15 minutes	03.05V	Formal, scheduled, professional interview relating to the care and treatment of a patient with chronic pain with other physicians, and/or direct therapeutic supervision of allied health professionals or community agencies, on behalf of a specific patient, per 15 minutes
03.05W	Second and subsequent physician attendance at a formal, scheduled, professional interview relating to the care and treatment of a patient with chronic pain with other physicians, family, and/or direct therapeutic supervision of allied health professionals or community agencies, on behalf of a specific patient, per 15 minutes	03.05W	Second and subsequent physician attendance at a formal, scheduled, professional interview relating to the care and treatment of a patient with chronic pain with other physicians, family, and/or direct therapeutic supervision of allied health professionals or community agencies, on behalf of a specific patient, per 15 minutes
03.05X	Formal, scheduled, professional interview with relative(s) relating to the care and treatment of a patient with chronic pain on behalf of a specific patient, per 15 minutes	03.05X	Formal, scheduled, professional interview with relative(s) relating to the care and treatment of a patient with chronic pain on behalf of a specific patient, per 15 minutes
03.05YM	Second and subsequent physician attendance at a formal, scheduled, professional interview, case conference on behalf of a specific patient 18 years of age and under, per 15 minutes		
03.07	**Consultation, described as limited**		
03.07A	Minor consultation		
03.07B	Repeat consultation		
03.08	**Consultation, described as comprehensive**	**03.08**	**Consultation, described as comprehensive**
03.08A	Comprehensive consultation		

Crowfoot Village Family Practice		Taber Clinic	
Code	**Description**	**Code**	**Description**
03.08B	Obstetrical consultation	03.08B	Obstetrical consultation
		08.01	**Psychiatric evaluations, interviews, and consultations**
08.19	**Other psychiatric evaluation and interview**		
08.19F	Formal, scheduled, professional conference related to the care and treatment of a psychiatric patient with other physician(s), and/or direct therapeutic supervision of, allied health professionals, educational, correctional and other community agencies on behalf of a specific patient, provided by the physician most responsible for the patient's care, per 15 minutes or major portion thereof	08.19F	Formal, scheduled, professional conference related to the care and treatment of a psychiatric patient with other physician(s), and/or direct therapeutic supervision of, allied health professionals, educational, correctional and other community agencies on behalf of a specific patient, provided by the physician most responsible for the patient's care, per 15 minutes or major portion thereof
08.19G	Direct contact with an individual patient for psychiatric treatment (including medical psychotherapy and medication prescription), psychiatric reassessment, patient education and/or general psychiatric counselling, per 15 minutes or portion thereof	08.19G	Direct contact with an individual patient for psychiatric treatment (including medical psychotherapy and medication prescription), psychiatric reassessment, patient education and/or general psychiatric counselling, per 15 minutes or portion thereof
08.44	**Group Theory**		
08.44A	Group psychotherapy, where all members of the group are receiving therapy in the session, full 15 minutes or major portion thereof for the first call when only one call is claimed		
08.45	Assessment or therapy of a family, requiring comprehensive psychiatric or family systems evaluation, first full 45 minutes or major portion thereof for the first call when only one call is claimed		
08.45A	Complex assessment or therapy of a family, requiring comprehensive psychiatric or family systems evaluation, first full 45 minutes or major portion thereof for the first call when only one call is claimed		
12.3	**Removal of other foreign body from head and neck without incision**	**12.3**	**Removal of other foreign body from head and neck without incision**
12.31	Removal of non-penetrating foreign body from eye without incision	12.31	Removal of non-penetrating foreign body from eye without incision
13.42	**Immunization for allergy**		
13.42A	Desensitization treatments with allergy serums		
13.59	**Other njection or infusion of therapeutic or prophylactic substance NEC**	**13.59**	**Other injection or infusion of other therapeutic or prophylactic substance NEC**
13.59A	Intramuscular or subcutaneous injections	13.59A	Intramuscular or subcutaneous injections
13.99	**Other miscellaneous diagnostic and therapeutic procedures NEC**	**13.99**	**Other miscellaneous diagnostic and therapeutic procedures NEC**

Crowfoot Village Family Practice		Taber Clinic	
Code	**Description**	**Code**	**Description**
13.99BA	Periodic Papanicolaou Smear	13.99BA	Periodic Papanicolaou Smear
25.1	**Incision of cornea**		
25.1A	Removal of corneal foreign body		
30.19	**Excision or destruction of other lesion of external ear**		
30.19A	Aural polyp removal		
33.01	**Control of epistaxis by anterior nasal packing**		
33.01A	Control of epistaxis by anterior nasal packing with or without cautery		
		58.99	**Other operations on intestines NEC**
		58.99F	Manual disimpaction of stool
61.37	**Evacuation of thrombosed hemorrhoids**		
61.37A	Incision or excision		
		61.39	Other procedures on hemorrhoids
		61.39B	Scarification procedure on hemorrhoids
80.83	**Uterine biopsy**		
80.83B	Endometrial biopsy		
81.8	**Insertion of intra-uterine contraceptive device**		
81.8	Insertion of intra-uterine contraceptive device		
97.8	**Invasive diagnostic procedures on breast**		
97.81	Percutaneous (needle) biopsy of breast		
98.03	**Other incision with drainage of skin and subcutaneous tissue**	**98.03**	**Other incision with drainage of skin and subcutaneous tissue**
98.03A	Incision and drainage of abscess or hematoma, subcutaneous or submucous	98.03A	Incision and drainage of abscess or hematoma, subcutaneous or submucous
98.03C	Aspiration of hematoma	98.03C	Aspiration of hematoma
98.03E	Aspiration of seroma	98.03E	Aspiration of seroma
98.04	**Incision with removal of foreign body of skin and subcutaneous tissue**	**98.04**	**Incision with removal of foreign body of skin and subcutaneous tissue**
98.04B	Without anesthesia	98.04B	Without anesthesia
98.04C	Removal of subdermal contraceptive implant		
98.11	**Debridement of wound or infected tissue**		
98.11A	Up to 32 square cms		
98.12	**Local excision or destruction of lesion or tissue of skin and subcutaneous tissue**	**98.12**	**Local excision or destruction of lesion or tissue of skin and subcutaneous tissue**
98.12A	Excisional biopsy, skin	98.12A	Excisional biopsy, skin
98.12B	Excisional biopsy, skin of face	98.12B	Excisional biopsy, skin of face

Crowfoot Village Family Practice		Taber Clinic	
Code	**Description**	**Code**	**Description**
98.12C	Removal of sebaceous cyst	98.12C	Removal of sebaceous cyst
98.12J	Removal or excision, first lesion	98.12J	Removal or excision, first lesion
98.12K	Removal by fulguration, first lesion	98.12K	Removal by fulguration, first lesion
98.12L	Non-surgical treatment (cryotherapy, chemotherapy), warts or keratosis	98.12L	Non-surgical treatment (cryotherapy, chemotherapy), warts or keratosis
		98.12M	Removal of pigmented benign naevus, excluding face
		98.12N	Removal of pigmented benign naevus of the face
		98.12P	Removal of complicated naevi
		98.12Q	Removal of (any method)
98.12R	Removal first plantar wart	98.12R	Removal first plantar wart
98.12S	Non surgical treatment, cryotherapy	98.12S	Non surgical treatment, cryotherapy
98.22	**Suture of skin and subcutaneous tissue of other sites**	**98.22**	**Suture of skin and subcutaneous tissue of other sites**
98.22A	Laceration, face, up to 2.5 cms (1 unit) or body, up to 5 cms (1 unit)	98.22A	Laceration, face, up to 2.5 cms (1 unit) or body, up to 5 cms (1 unit)
98.22B	Laceration, face, over 2.5 cms (1 unit) and/or body, over 5 cms (1 unit)	98.22B	Laceration, face, over 2.5 cms (1 unit) and/or body, over 5 cms (1 unit)
98.81	**Biopsy of skin and subcutaneous tissue**	**98.81**	**Biopsy of skin and subcutaneous tissue**
98.81A	Biopsy, skin	98.81A	Biopsy, skin
98.81B	Punch biopsy	98.81B	Punch biopsy
98.96	**Removal of nail, nailbed, or nailfold**	**98.96**	**Removal of nail, nailbed, or nailfold**
98.96A	Wedge excision	98.96A	Wedge excision
98.96B	Radical excision	98.96B	Radical excision
98.96C	Wedge excision with plastic repair, one side of nail		
98.96D	Wedge excision with plastic repair, two sides of nail		

APPENDIX III: LIST OF FIGURES

APPENDIX IV: LIST OF TABLES

APPENDIX V: GLOSSARY

Alternate payment models (APM) Makes reference to any physician payment model that is an alternative to fee-for-service. These can be designed and applied to payments for direct primary care service provision or to payments that intend to incent a change in the way care is provided.

Alternative Relationship Plans (ARP) This is a term that is very similar in definition to APMs above. This is most commonly utilized in Alberta to describe a funding model that different to fee-for-service.

Blended Capitation Model (BCM) A combination of patient-based capitation payments and volume-based fee for service payments, the BCM aims to promote collaborative team-based comprehensive care that encourages health promotion, wellness, continuity of care, and system sustainability.

Block funding Provided to regional or other types of health authorities or networks responsible for delivering health services within the province/territory. In Alberta, PCNs are provided block funding to deliver specific services that complement those of their member primary care clinics and support the health of their patient population.

Capitation A payment model whereby providers (in this case the clinic entity) are paid a prospective amount to cover all services within a specific period of time, most often as a 'per patient per time period' fee. The rates at which each clinic is paid per patient, based on age and sex is shown in Appendix A.

Electronic medical record (EMR) An information system that is designed to provide a digital version of the traditional paper-based medical record for an individual patient in a primary care clinic. It is used to hold information about the health and medical history of a patient that can be easily referenced by a practice team to support customized service supports for a given patient.

Fee-for-service (FFS) A common payment model in healthcare where a physician is paid specifically for the number and type of services rendered. Such a model is guided by a specific fee code which defines how much a physician will be paid for a given interaction with a patient.

In-basket services A defined set of primary care services that are expected to be delivered under a capitation-based funding agreement.

Interdisciplinary team An interdisciplinary team consists of members from varied disciplinary backgrounds that work jointly together in the same setting to solve problems and provide patient care. Team members work both formally and informally together towards the achievement of a common goal, with team members adjusting their actions after consideration of the skills and contributions of another discipline.

Metro Population ≥500,000. Calgary and Edmonton proper.

Ministerial order (M.O) An order created under the authority granted to a Minister. Generally, decisions of government that typically do not have as wide an impact as decisions made by Orders in Council, but are significant decisions of government, are executed through Ministerial Orders. Ministerial Orders are made for a variety of purposes, including program delivery, creating committees, appointing committee members, setting rates and fees, designating positions and vesting Ministerial authority in others.

Moderate Metro Defined by AHS Local Geography areas immediately surrounding Calgary and Edmonton. These are deemed as communter communities (live outside of Calgary/Edmonton but commute to Calgary/Edmonton for work and business).

Moderate Urban Local geographic areas surrounding the 5 urban centres. These areas are typically considered rural given that their populations are low and the local geographic areas do not define these areas properly.

Multidisciplinary team A multidisciplinary team consists of members from varied disciplinary backgrounds. Team members interact in formal ways, independently of the skills and contributions of other disciplines, and provide patient care that is parallel to or in sequence with one another.

Negation A financial penalty imposed on a practice that intends to compensate for any in-basket services delivered by another provider that should have been delivered by a practice responsible for providing care to a rostered patient, as per a funding agreement.

Out-of-basket services Any primary care service that is not included in the capitation-based funding agreement. When these service are provided, they are almost always remunerated by a fee-for-service payment for that given encounter with a patient.

Panel A list of patients defined by the clinic team that identifies who the clinic have formally attached as a patient to their practice.

Patient's Medical Home (PMH) For the College of Family Physicians of Canada, the patient's medical home (PMH) is a vision that emphasizes the role of the family practice and family physicians in providing high-quality, compassionate, and timely care (CFPC, 2019). The PMH is a family practice defined by its patients as the place they feel most comfortable presenting and discussing their personal and family health and medical concerns.

Practice model A practice model consists of a set of principles, values, and informal and formal structures (e.g., policies and regulations) that inform how providers operationalize the delivery of patient care in a primary care clinic. It also includes administrative functions and remuneration structures. Administrative functions refer to leadership roles and responsibilities, human resource management, and other duties that are integral to the day-to-day functioning of a primary care clinic. Remuneration structures refer to models of physician payment, the payment of other staff in the clinic, and other financial and legal components that govern the distribution of funds.

Primary Care Network (PCN) An organization that brings local physicians and other health care professionals together to provide comprehensive patient care to Albertans across specific geographies. PCNs are comprised of groups of family physicians working with other health care professionals such as nurses, nurse practitioners, dietitians, pharmacists, social workers and mental health professionals. PCNs develop solutions to meet the needs of the local community and their health issues. PCNs are created through an agreement between physicians and Alberta Health Services. There are currently 40 operating across Alberta.

Roster A list of patients defined by Alberta Health as being formally affiliated with a primary care clinic of whom they are responsible for delivering healthcare services.

Rural Populations less than 10,000 and up to 200 kilometres from a Metro or Urban centre. These include towns, villages, hamlets and agricultural areas.

Rural Centre Area Population of 10,000 to less than 25,000 populations (Brooks, Canmore, Wetaskiwin, Camrose, Lloydminster, Cold Lake).

Rural Remote Greater than 200 kilometres from a Metro or Urban centre. Industries tend to include oil & gas, forestry, hunting/trapping, tourism and sometimes pockets of agriculture.

Urban 5 major urban centres with populations >25,000 but < 500,000 (Grand Prairie, Fort McMurray, Red Deer Lethbridge, Medicine Hat).

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