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Community Pharmacy Primary Care Clinics: Final Learning and Evaluation Report

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RPI
Research Power Inc.

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Executive Summary

Introduction

The Pharmacy Association of Nova Scotia (PANS) is piloting the implementation of community pharmacy primary care clinics (CPPCC). This project is intended to support more effective, efficient, and accessible healthcare for all Nova Scotians. Pharmacies across Nova Scotia are operating these pharmacy clinics with pharmacists working to their full scope of practice to provide effective care for patients.

A final evaluation of CPPCC was conducted in October and November 2024. This final evaluation report assesses whether the project is achieving its intended outcomes and identifies the lessons learned related to implementation. This multi-method evaluation included focus groups, interviews, and surveys with pharmacy teams, community healthcare providers, patients, and PANS staff as well as analysis of project data from participating pharmacies and the Department of Health and Wellness. The evaluation includes the 31 pharmacy clinics in operation as of September 30, 2024.

Key Project Successes

For Patients

- Patients are **highly satisfied** with the care they are receiving with almost all patients (98%) responding to the patient survey rating their satisfaction as 8 or higher out of 10. Almost all patients (98%) agreed that they would use the pharmacy clinic in the future for their care needs.
- The clinics are **improving access to care** for both unattached and attached patients. Many evaluation participants highlighted how accessing care at the pharmacy clinics saved patients time and provided care quickly and conveniently. Accessing care at the pharmacy clinic appears to have diverted about 10% of patients from emergency departments (EDs) and 25% from walk-in clinics.
- Pharmacy clinics have demonstrated their ability to **help patients improve their physical and mental health outcomes**. Many evaluation participants described how receiving care at the clinics helped patients to improve clinical indicators such as A1c, blood pressure, or lipids by providing medication management, regular monitoring and follow-up, and lifestyle counselling. Evaluation participants also reported improvements in mental health, particularly in reducing anxiety for patients about how and where they could access healthcare.
- From the project's start (February 1, 2023) to October 31, 2024, a total of 188,276 patient visits were provided to over 90,000 unique patients. Almost half of these visits (45%) were with unattached patients. Over 218,000 services were delivered during this time (patients could receive multiple services in one visit).
- The most frequently provided services were renewals, strep throat assessment and prescribing, minor ailment assessment and prescribing, chronic disease management (CDM), warfarin

> *I am extremely grateful for this service . . . I didn't feel like a number here, I felt like a human. Thank you for everything. I hope this service continues. I will use it again in the future and recommend to anyone. (Patient)*

management (Community Pharmacy Anti-coagulation Management Service, CPAMS), and assessment and injection of medications. Unattached patients more frequently received services such as renewals and CDM services compared to attached patients.

For Pharmacies/Pharmacy Teams

- Most pharmacists working in the clinics indicated that they have **increased their knowledge, confidence and skills** since they began working in the clinic.
- Pharmacies have benefitted from having **separate workflows for dispensing and clinical services**. They reported that providing the more complex and time-intensive services in the clinic helps to reduce pressure in the dispensary. However, many evaluation participants also indicated that dispensaries are increasingly busy, with a high volume of clients and phone calls and increased demand for clinical services outside of clinic hours in some pharmacies.
- Most average **service times have remained the same over time**, although the average time required decreased for initial assessments for advanced and basic medication reviews and CDM.
- Many pharmacy evaluation participants consistently indicated that their **level of work satisfaction has improved** as a result of the clinics. Pharmacists appreciated being able to build relationships with patients over time and seeing positive changes in patient health.

For the Health System

- **Communication and collaboration have improved** between the pharmacy clinics and other parts of the healthcare system. Evaluation participants noted that other providers are more comfortable with the clinics now and more willing to collaborate and/or refer patients. Pharmacy clinics have been able to establish many positive collaborative relationships with a variety of healthcare providers (e.g., family physicians, specialists, diabetes centres, NSH primary care/access clinics). Efforts to improve communication between the pharmacy clinics and other parts of the healthcare system are ongoing.
- Some evaluation participants noted that **understanding of the care that pharmacists provide is improving**, and pharmacies are increasingly seen as an important part of the healthcare system.
- Pharmacists feel that they are delivering **high quality care for patients**. Most patients responding to the survey agreed that they received quality care in various areas such as being listened to and treated with respect, being involved in their care (e.g., provided with information and encouraged to ask questions), and respect for privacy.
- Data collected through the evaluation suggests that care provided at the pharmacy clinic instead of alternate locations may also help to reduce health system costs.

Key Lessons Learned and Areas for Improvement

Patient Care

- **Understanding of the care pharmacies can provide**: Many evaluation participants noted that there has been improvement in knowledge and understanding of the clinic scope and services over time. Although there have been improvements, evaluation participants also indicated that

continued education and information for both potential patients and other healthcare providers must be ongoing to help ensure patients are seeking appropriate care at the pharmacy clinics, especially as services available at the clinics may change over time. Leveraging IT systems to provide consistent screening and triage when patients book appointments could also assist with ensuring patients are booked appropriately.

- **Clinic scope of services**: Additions to the scope of services that pharmacy clinics can offer have been helpful as pharmacists are now able to address a wider range of concerns without needing to refer patients. Some evaluation participants felt that scope should be further expanded, although a few others felt that pharmacists should have more time to build confidence in the most recently added services before other changes are made.
- **Managing patient care**: Clinics provide care to both attached and unattached patients. When providing care for attached patients, evaluation participants indicated that they feel more comfortable providing more complex care (e.g., CDM) if they know the patient has a provider that will communicate and collaborate with the pharmacist.

Clinic Management

- **IT supports including EMR**: Pharmacy clinics use a variety of IT tools to support patient care, including patient booking tools, pharmacy management software (PMS), and an electronic medical record (EMR). In the summer of 2024, the digital health team at DHW conducted a gap analysis of pharmacy primary care digital solutions. The findings of this evaluation aligned with those identified in the gap analysis. For example, evaluation participants frequently discussed how the multiple systems used in clinics lead to duplication of work and fragmentation of patient information. The gap analysis also included recommendations for improving the IT systems used in the clinics: centralizing workflow through an EMR, leveraging existing IT initiatives, implementing minimum standards for charting, developing a standard patient summary to share with other providers, and providing appropriate implementation supports.
- **Human resources**: The pharmacists and admin staff working in the clinics are essential to effective clinic functioning. The evaluation found that it is important to identify pharmacists who are most interested and engaged in working in the clinic setting. The important role of clinic admin staff as well as strong management support for the clinics were also highlighted. Finding sufficient staffing for both the clinic and the dispensary has been a challenge for some pharmacies, although this seems to have improved in the last year. Staff turnover in a few pharmacy clinics has been challenging as the process for onboarding new staff is time consuming.
- **Support and training**: Most evaluation participants felt they had the resources and support they needed to participate in CPPCC. Some indicated the training provided was effective while others suggested improvements or areas for additional training (e.g., peer learning, clinical training).
- **Workload and time management**: Evaluation participants indicated workload and time management in the clinic can be challenging. Some of the concerns identified included managing patient needs within a given appointment time and completing required paperwork/ documentation. Pharmacies identified effective strategies they have implemented for managing the workload: managing patient bookings so that there are different types of appointments on a

given day; blocking time for patient care tasks that are not patient-facing; setting clear expectations with patients; and preparing in advance for appointments.

- **Management of patient appointments**: No show appointments and unbooked appointment minutes can be challenging for pharmacies to manage. Across all pharmacies, an average of 10% of appointments were unbooked and 5% were no shows, although this varies considerably across clinics (between 1% and 14% average no show minutes per clinic; between 1% and 52% average unbooked minutes per clinic).
- **Financial sustainability**: Some evaluation participants noted that the financial sustainability of the clinics has improved substantially since April 2024 when many services moved to the Funded category. However, participants also still consistently expressed concerns about the long-term financial viability of the clinics, highlighting issues such as the low level of remuneration for some services (e.g., renewals, CDM), lack of a billing code for non-patient-facing care (e.g., collaboration with other providers), and insufficient funding to address training and infrastructure needs. Funding could be improved by increasing the compensation provided for some services to better match the time required, by continuing the stipend amount that pharmacies receive to support non-billable services/patient care activities, improve clinic efficiency, and incorporate more risk-sharing for non-billable time (e.g., no shows, unbooked appointments).
- **Change management:** Some evaluation participants noted that managing the ongoing change process can be challenging. Suggestions to support change management included moving slowly to implement changes over time, launching new services in phases, and providing clear communication in advance about changes.

Integration with the Health System

- **Perspectives of other providers**: Some healthcare providers are very supportive of the pharmacy clinics and the care they provide to patients and identified benefits of the pharmacy clinics including improved access to care, reduced burden on other parts of the healthcare system, improved communication and collaboration with pharmacy clinics, and good quality care provided by the clinics. Many providers also discussed concerns or challenges related to the clinics including barriers to communication and collaboration, lack of confidence in pharmacist skills/training and concerns about quality of care, lack of understanding of the pharmacy clinics, and concerns related to fragmentation and poor continuity of care. These findings illustrate that there are system improvements needed to support communication and collaboration amongst all providers and that continued efforts are needed to share accurate information about the clinics with other healthcare providers, including the assessment processes pharmacists follow when offering CPPCC services. Increased opportunities for collaboration and joint education sessions with pharmacists and other providers could help to improve understanding of the clinics.
- **Nurse practitioner support for CPPCC sites:** In July 2024 a new program was implemented where CPPCC pharmacists can contact an NP for support in selected areas of patient care. This program has helped to improve pharmacist comfort and confidence in providing care as well as their knowledge and skills, and helps provide a pathway for addressing issues outside of the pharmacist's scope. Overall, the program is working well, but key areas for improvement

identified in the evaluation include ensuring pharmacists have dedicated time to consult with NPs and compensation for this time, integrating Virtual Hallways with EMR systems to make information sharing more efficient, and exploring expanding the scope of issues the NPs can support.

- **Referral pathways**: Pharmacists provide most care independently but do need to occasionally refer patients to other providers. The lack of clear referral pathways and additional barriers to accessing care can be challenging. For example, pharmacists are not always able to refer directly to NSH primary care clinics for in person care with a physician or NP, nor are they able to refer to a specialist. Although having access to the NPs has helped in part to address this challenge, a formal referral system with clear pathways for patients requiring care outside the pharmacist's scope would make access to care easier and more efficient.
- **Communication and Collaboration**: Healthcare providers across the system, including pharmacists, can be challenged in communicating with one another. The evaluation identified factors that support communication and collaboration including established relationships, mutual respect, and shared access to patient information. Key challenges identified include information systems that are not integrated and create barriers to sharing patient information, lack of time, and lack of interest/openness to collaboration. Electronic tools that support collaboration and information-sharing between providers should be explored, and all providers should receive appropriate compensation for the time they spend communicating/collaborating.

Conclusion and Recommendations

This evaluation has assessed the implementation and outcomes of the Community Pharmacy Primary Care Clinic demonstration project. Although this is a final evaluation of the CPPCC, clinics are continuing to provide care going forward, so the following recommendations are provided based on the findings of the evaluation:

1. **Continue work to establish collaborative relationships and referral pathways** to support communication and collaboration between the clinics and other parts of the healthcare system, and to effectively address patient care needs outside of the pharmacist's scope.
2. **Continue to educate and build awareness about the clinics** to improve understanding of the scope of services available and acceptance of the clinics among patients and healthcare providers.
3. **Implement strategies for improving the efficiency and integration of IT systems** in line with the recommendations from the Gap Analysis of Pharmacy Primary Care Digital Solutions.
4. **Provide clinics with the necessary structure** to support good patient care and integration with the healthcare system but also **allow some flexibility** to support pharmacies in meeting their patient and organizational needs.
5. **Continue to provide support and training to pharmacy clinic staff** related to both clinic management and clinical care.
6. **Continue the CPPCC with a sustainable long-term funding model** that provides fair compensation to pharmacies to ensure continued participation of pharmacies as clinic sites.

Introduction

The Pharmacy Association of Nova Scotia (PANS), in partnership with the Government of Nova Scotia, is piloting the implementation of community pharmacy primary care clinics (CPPCC) in Nova Scotia. Participating pharmacies have dedicated clinic hours with pharmacists working to their full scope of practice to provide additional options for effective care for patients. The vision is a healthcare system that has the right provider for the right patient at the right time and place. Appointments are available for services within pharmacy scope of practice including drug administration (e.g., vaccines, injectable medications), assessment and prescribing (e.g., renewals, adaptations, Group A Strep, urinary tract infections (UTI), 31 minor ailments, chemoprophylaxis for Lyme disease), and health management (e.g., chronic disease, mental health (Bloom), contraception).

The project was implemented in pharmacies across Nova Scotia, focusing on areas where there are identified significant primary care provider (PCP) shortages. The first group of 12 pharmacies (Phase 1) began offering services February 1, 2023 and the second group of 14 pharmacies, began providing services on May 1, 2023 (Phase 2). In June 2024, six pharmacies that were previously operating as Lawtons Primary Care Walk-In Clinics (PWIC+) officially became part of the CPPCC. In October 2024, Phase 3 of the project was launched, with 14 additional pharmacies becoming CPPCC sites. PANS engaged an independent evaluator (Research Power Inc.) to develop and implement the evaluation of CPPCC with input and guidance from PANS, the Department of Health and Wellness (DHW), Nova Scotia Health (NSH), Doctors Nova Scotia (DNS), and participating pharmacies.

Although the clinics are continuing to operate, a final evaluation was conducted using data collected to November 15, 2024. Pharmacies from Phase 1, Phase 2, and the former PWIC+ locations were included in this evaluation. This final evaluation report assesses whether the project is achieving its intended outcomes. It also shares the lessons that have been learned related to project implementation since the interim evaluation was conducted in fall 2023. The final evaluation included the following methods:

- Focus groups and a survey with clinic teams (pharmacists and administrative staff), pharmacy managers and owners, and PANS project staff. This included 73 focus group participants and 137 respondents to the clinic team survey.
- A survey that all clinic patients are invited to complete after receiving services at the clinic. This survey was completed 5,551 times, representing approximately 3% of visits reported by pharmacies.
- Interviews and a survey with community providers (e.g., family physicians, specialists, nurse practitioners (NPs), diabetes centres, other healthcare providers). This included 15 interviews and 328 respondents to the survey.
- Interviews with NPs involved in supporting the CPPCC sites (three participants).
- Case studies of patients that received chronic disease management services at four CPPCC sites. This included four interviews with pharmacists, 15 interviews with patients, and four interviews other community providers (specialist, two nurses, respiratory educator).

- Project data, including data reported weekly by pharmacies to PANS, an online clinical data collection tool that clinic staff complete after each service for selected services, data from pharmacy management software (PMS), and billing data from DHW.
- Patient chart audit of patients at 21 CPPCC sites that included analysis of data from 146 patients that met the review criteria.
- Review of key project documents.

The strength of response of a theme or finding from the qualitative data (e.g., focus groups, interviews, open-ended survey questions) is reflected through the use of descriptors such as “many”, “some” and “a few”. Descriptive statistics from the quantitative data such as frequencies and means are also reported.

Findings

Project Description

This section provides descriptive information about the implementation of CPPCC, including participating pharmacies, promotion of CPPCC, the support and training provided to pharmacies, and clinic management.

❖ Participating Pharmacies

Twenty-six pharmacies began offering services through CPPCC in 2023 (12 in February 2023 and 14 in May 2023). Pharmacies were selected based on level of readiness (e.g., staffing, physical space) as well as pharmacy and community characteristics (e.g., different pharmacy banners, communities with high numbers of unattached patients). In June 2024, six pharmacies that were previously operating as Lawtons Primary Care Walk-In Clinics (PWIC+) became part of the CPPCC, for a total of 31 sites in operation as of October 31, 2024, excluding Phase 3 sites that started in October 2024 but are not included in this evaluation. About a third of these sites are in Central Zone (34%) and Western Zone (28%), and a smaller proportion are in Northern Zone (22%) and Eastern Zone (16%).

❖ Promotion of CPPCC

The CPPCC project has been widely promoted since the initial launch in 2023. Promotional activities (e.g., social media, posters and other materials in the pharmacy, grand opening) occurred at each participating pharmacy as well as at the provincial level by PANS and DHW (e.g., media releases, advertising, inclusion on provincial websites). Many meetings were also conducted with healthcare providers and throughout the healthcare system level to build awareness and understanding of CPPCC and support collaboration. The CPPCC sites are also listed as a resource in the YourHealthNS app and 811 operators are able to directly book appropriate patients to receive care at CPPCC sites (as of October 2024).

❖ Support and Training for Pharmacies

Pharmacy owners and managers, pharmacists, and clinic admin staff were provided with training sessions (offered by both PANS and external organizations) to support them with implementing the pharmacy clinic. Training addressed set up and administration of the clinic (e.g., appointment-based pharmacy, online booking systems, billing) and care delivery (e.g., ordering and managing lab tests, managing chronic disease, adult immunizations). PANS also provided ongoing supports such as tools and resources, a discussion forum, an internal project website, and regular touchpoints with PANS staff.

Beginning July 15, 2024, pharmacists in the pharmacy clinics could contact one of three NPs for support with patient care relating to one of seven disease states (diabetes, hypertension, hyperlipidemia, COPD, asthma, chronic kidney disease, thyroid disease) and peer review of the first time a pharmacist provided

a diagnosis by protocol for diabetes or hypertension. All NP support is provided virtually using Virtual Hallway. The pharmacist and NP collaboratively review the patient case, determine a course of action and who will be responsible for any next steps and follow-up. NPs also provide some care outside of the pharmacist's scope such as referring the patient to a specialist or diagnosing conditions.

❖ Changes to Scope of Services and Funding

Pharmacy clinics deliver all services that are within a pharmacist's scope of practice. Additional scopes of practice were approved to be studied under the Standards of Practice Prescribing, Appendix I by the Nova Scotia College of Pharmacists (NSCP) (assessment and prescribing for Group A strep and prescribing with a diagnosis already established for specific chronic conditions in 2023; diagnosis by protocol for hypertension and diabetes, and assessments and prescribing for acute ear (otitis media and otitis externa) and nose (sinusitis) complaints in 2024). Assessment and prescribing for Group A strep was incorporated into the regular scope of practice for all pharmacists after the research was completed in fall 2023.

CPPCC was launched with a pilot project funding model. In this model, participating pharmacies are paid as usual for services that are publicly funded in all pharmacies (Funded services) and receive a monthly research stipend of $7,00 to cover the time required to participate in evaluation activities, clinic set up, staff training/education, overhead, collaboration with other providers, and non-patient facing clinical time. The stipend also covers all services provided that are not publicly funded (Not Funded, Eligible). Pharmacies also provide a small number of services that are billed directly to patients (Not Funded, Not Eligible; e.g., travel health consultations). The services that are considered either Funded or Not Funded, Eligible have changed over time. In April 2024, almost all services in the Not Funded, Eligible category moved to the Funded category. Services that remain in the Not Funded, Eligible category include renewal assessment that does not result in a prescription; assessment and prescribing for some minor ailments (dandruff, corns and calluses, cough, warts), and diagnosis of hypertension and diabetes (a service being provided through NSCP prescribing research).

❖ Clinic Management

Pharmacy clinics are open variable hours, and there have been changes in hours over time. Full-time clinics typically operate at least 32 hours/week, while part-time clinics are generally open around 20 hours/week. From February 1, 2023, to October 31, 2024, on average, full-time clinics were open for 36.9 hours per week and part-time clinics were open for 19.6 hours per week. Clinic hours are sometimes lower than anticipated due to holidays, staff vacation or illness, other staff shortages, weather, training/meetings, or in a few cases natural disasters (flooding, forest fires). Some clinics offer evening and weekend hours (five regularly, 11 occasionally).

Both a pharmacist and a clinic admin are typically on duty all hours that a clinic is open. Across all clinic sites included in this evaluation, approximately 165 pharmacists and 63 admin staff work in the clinics as of October 31, 2024 (numbers may vary over time as staffing changes).

Impact to Patient Care

❖ Patient Visits and Services Delivered[1]

Pharmacy clinics reported a total of 188,276 patient visits from February 1, 2023 to October 31, 2024 (not unique patients, the same patient could be seen multiple times), an average of 95 visits per week for full-time clinics and 50 visits for part-time clinics. Ten clinics averaged over 100 visits/week and nine clinics below 50 visits/week. The average number of patients seen per hour also varied quite a bit across clinics, which would be influenced by the type of service provided and appointment length (i.e., longer services such as chronic disease management (CDM) leads to fewer visits), as well as by unbooked appointments and no shows. Over half of visits to the clinic were reported to be with patients that are attached to a PCP (55%), and this proportion has declined over time (a high of 66% in April 2023, to 48% in October 2024). Most visits for which data is available were delivered in person (83%) and around 17% were delivered by phone, with almost no visits conducted using virtual care.

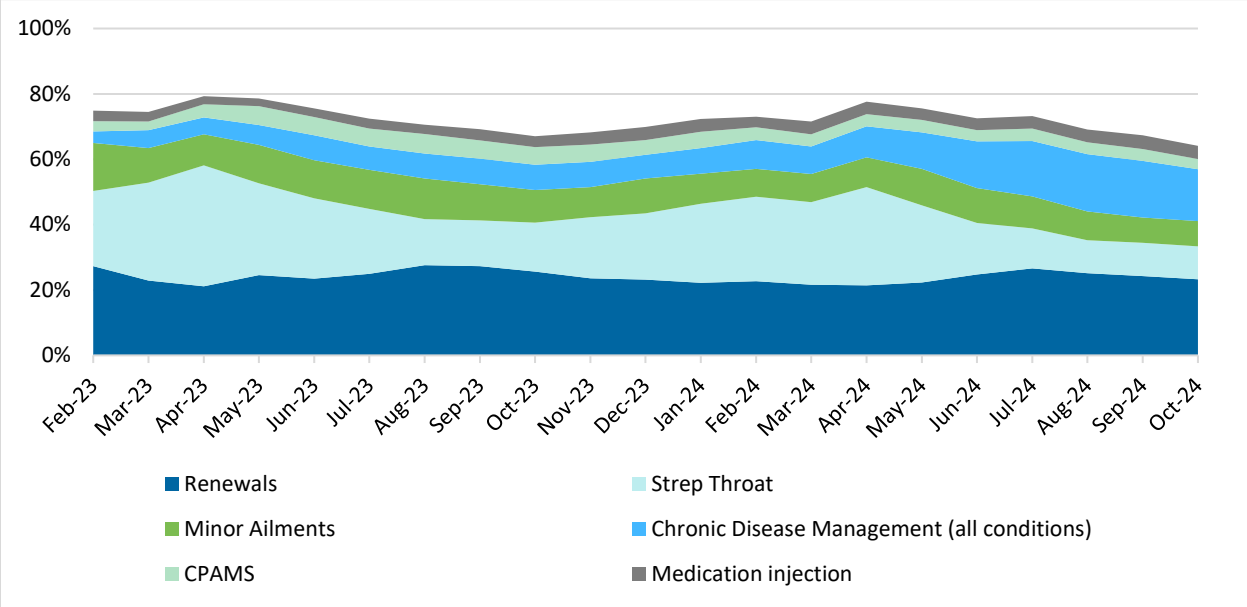
There were 90,678 unique patients that received at least one service at a pharmacy clinic between February 1, 2023, and October 31, 2024.[2] Overall, more female patients (62%) than male patients (38%) received services. The largest proportion of patients were aged 60-79 years (26%), followed by patients aged 20-39 years (24%) and those aged 40-59 years (24%). An estimated 50% of patient appointments were for unique patients, and the rest were for patients returning to the clinic (either for follow up or a new service), although this pattern varied across pharmacy sites.

Based on billing data from pharmacies, there were 218,308 services billed from February 1, 2023, to October 31, 2024. On average, clinics billed 422 services per month, with full time clinics averaging 477 services per month and part time clinics averaging 216 services per month. The top six most frequently delivered services made up more than 60% of services delivered each month, and sometimes up to almost 80% (see Figure 1). Renewals (24%), strep throat (20%), and services for minor ailments and CDM (each 10%) were the most commonly delivered services. Assessment and prescribing for Group A Strep fluctuates over time due to the seasonal incidence of strep throat.

[1] Three data sources are included in this section: billing data from pharmacy management systems reported to PANS about the number of services delivered; billing data from DHW (billed to Nova Scotia Medial Insurance Services); and data on services delivered reported in the project clinical data collection tool. Each data source offers different information. The pharmacy billing data only tracks services delivered but is considered the most accurate reflection of this data. DHW billing data is reported as they can track individual patients and the services they received. The clinical data collection tool gathered additional context about the services delivered. Both the clinical data collection tool data and the DHW billing data reflect under-reporting (fewer services reported compared to the total reported in pharmacy billing data).

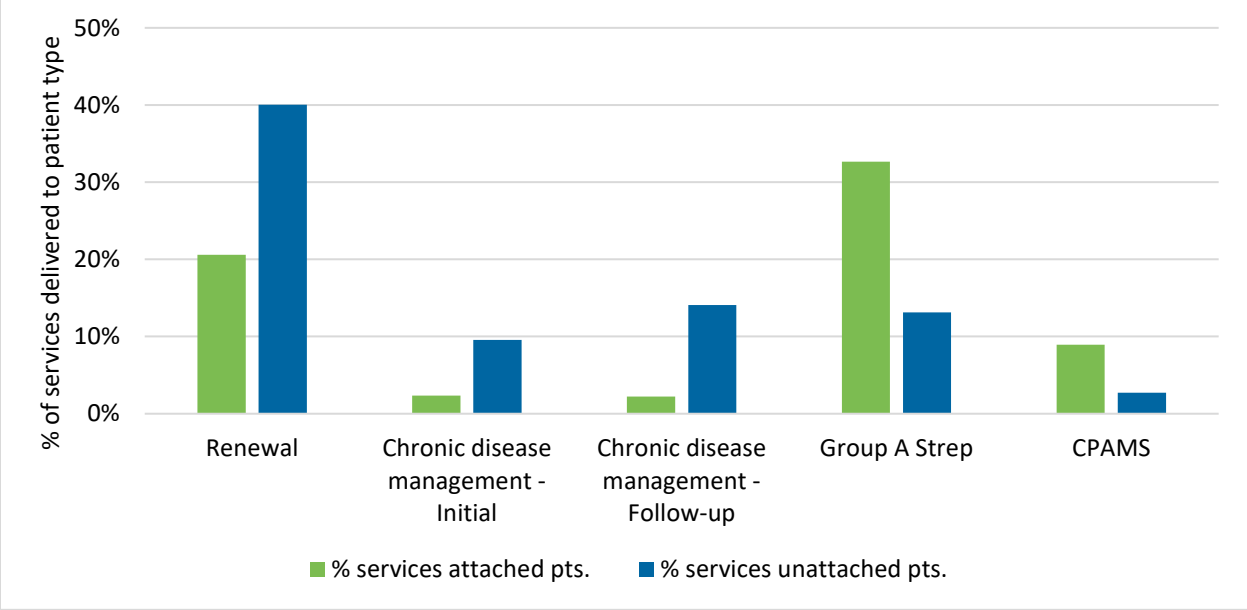
[2] This is billing data reported to DHW and is assumed to be an under-estimate of the actual number of unique patients served by the pharmacy clinics.

Figure 1: Top six most frequently delivered services by month



Based on data reported in the clinical data collection tool, renewals and CDM services made up a greater proportion of all services delivered to unattached patients, while more attached patients received Group A Strep and CPAMS services (see Figure 2).

Figure 2: Services delivered to attached vs. unattached patients

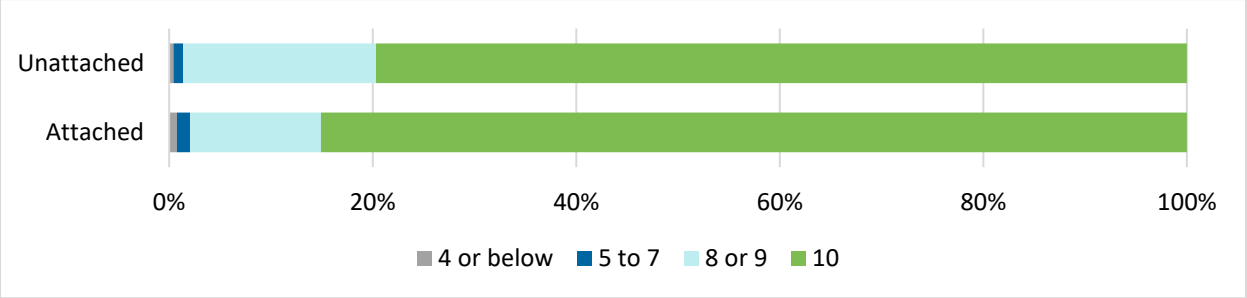


❖ Outcomes for Patients

Positive Experience of Pharmacy Care

Patients appear to be highly satisfied with the care they are receiving at the pharmacy clinics. Most patients responding to the post-service survey rated their satisfaction as 10 out of 10 (82%). An additional 16% of patients rated their satisfaction as 8 or 9 out of 10. Reported satisfaction was similar between attached and unattached patients (see Figure 3).

Figure 3: Patient satisfaction with Pharmacy Primary Care Clinic



Patients were also given the opportunity to report on specific aspects of their care experiences. Almost all patients reported having positive experiences, indicating that the hat they felt confident in the pharmacist's ability to help with their health needs (98%) and that, if they need care in the future, they will use the pharmacy primary care clinic again (98%). Across all clinic locations, approximately 34% of patients returned to a clinic for at least one other different service, suggesting that these patients are satisfied with the care they are receiving and are likely to return to the pharmacy clinic.

> *I am extremely grateful for this service . . . I didn't feel like a number here, I felt like a human. Thank you for everything. I hope this service continues. I will use it again in the future and recommend to anyone. (Patient)*

Improved Access to Care

Many evaluation participants highlighted that the pharmacy clinics have increased access to care for both attached and unattached patients. Access to care for unattached patients was noted as a particularly important benefit of the clinics. Some unattached patients have been without regular access to care for an extended period of time, and would not be able to receive regular care without the pharmacy clinics. Unattached patients noted that having access to care at the pharmacy clinic has helped to reduce stress and anxiety about where and when they would get care. The clinics have also enhanced access to care for attached patients, particularly for patients with more acute needs who may not be able to see their regular PCP on short notice.

> *The pharmacy clinics provide the ability to have life altering interventions, particularly for those patients that don't have any ongoing source of primary care. (Pharmacy team)*

Patients expressed satisfaction with the enhanced access to care. On the patient survey, patients indicated that seeing a healthcare provider more quickly (51%) and convenient access at the pharmacy (43%) were the top reasons for seeking care at a pharmacy clinic. Most patients agreed that it was easy to book an appointment (98%), they received quick access to care (98%), accessing care at the clinic saved time (97%), and the hours (97%) and location (95%) were convenient. In the open-ended feedback of the survey, some patients provided positive feedback about the efficiency, accessibility, and convenience of the service at pharmacy clinics. They noted that accessing care at the pharmacy clinic helped to save them time, reduced barriers to care such as transportation, and allowed them to access care outside regular business hours.

> *This clinic is my source of healthcare to manage my chronic health conditions without this clinic I would be very ill. The staff at the clinic is awesome. (Patient)*

Patients were asked where they would have gone for care had they not been able to get an appointment at the pharmacy primary care clinic. Most commonly, patients said they would have gone to a walk-in clinic (28%), or their regular PCP (26%), or the ED (11%). When comparing attached and unattached patients, a greater proportion of attached patients would have visited their regular PCP, while a greater proportion of unattached patients would have gone to a walk-in clinic. Six percent of patients would not have sought care anywhere else for their health issue.

Improved Shorter-term Health Outcomes

Pharmacy clinics have demonstrated their ability to help patients improve their physical and mental health outcomes. Pharmacy staff described how they have helped patients improve their physical health, often citing changes in clinical outcomes as indicators of improved health (e.g., reduced A1c or blood pressure, improved lipids or thyroid values). Pharmacists helped patients by making changes to patient therapies (e.g., add or modify medications) and providing patients with regular follow-up and testing. Pharmacists also provided patients with lifestyle counselling (e.g., diet, exercise, home monitoring), which supported patients in changing their health behaviours and may contribute to longer-term improved health outcomes. Some patients and pharmacy evaluation participants also discussed how the pharmacy clinics have contributed to improved patient mental health. Patients felt less stress and anxiety knowing that they have consistent and timely access to care through the pharmacy clinic. A few patients also described improvements to their mental health and general improvements in quality of life as a result of participating in the Bloom program.

> *Being on that [new medication], I have noticed the A1c is going down.*
>
> *My blood pressure is down to the lowest it had ever been . . . almost to normal. (Patient)*

> *Just knowing that they're there, and that we can get in touch with someone if we have any kind of issue, provides peace of mind. (Patient)*

To assess changes to clinical outcomes for patients, a chart audit was conducted in the summer of 2024. The chart audit includes data from 146 patients that had at least three visits at the pharmacy clinic for

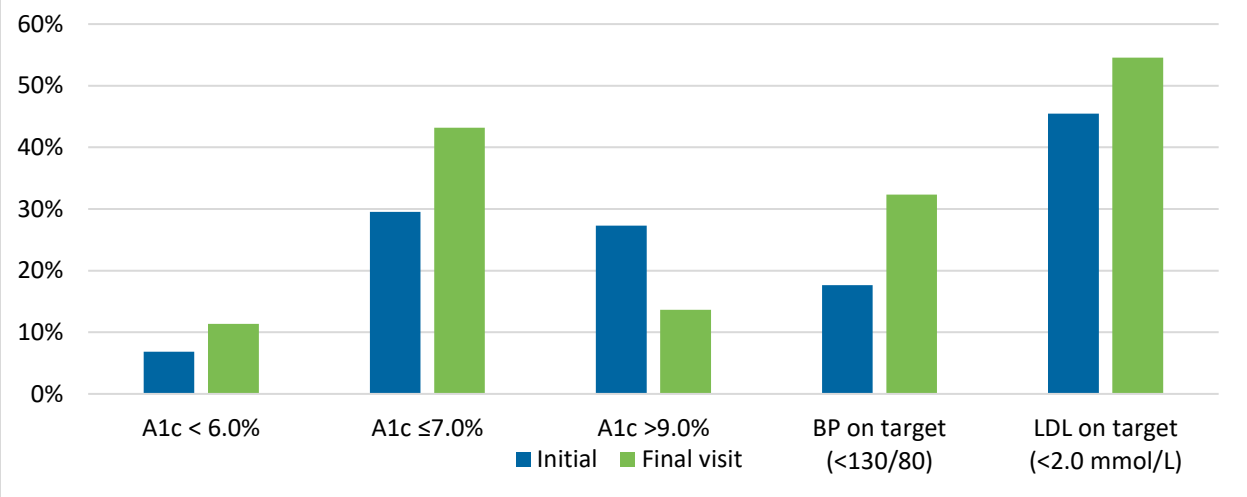
CDM. While the sample sizes for each specific measure are relatively small, the results indicate that the pharmacy clinics are making a measurable difference in clinical outcomes for patients receiving CDM care.

The Diabetes Canada Clinical Practice Guidelines recommend that most people with diabetes maintain an A1c of 7% or lower, a blood pressure of <130/80 mmHg, and LDL cholesterol of less than 2.0 mmol/L. On average, between their first and final visit, patients with diabetes reduced their A1c, blood pressure, and LDL cholesterol (see Table 1). A greater portion of patients with diabetes were at the recommended targets for all three clinical measurements at their final recorded visit with the pharmacy clinic, and fewer had an A1c greater that 9% (see Figure 4).

Table 1: Clinical values for patients with diabetes

	Average value - initial	% on target - initial	Average value - final	% on target - final
A1c (n=44)	8.2%	29.5%	7.4%	43.2%
BP (n=34)	146/81 mmHg	17.6%	140/78 mmHg	32.4%
LDL cholesterol (n=11)	2.5 mmol/L	45.5%	1.9 mmol/L	54.5%

Figure 4: A1c of patients with diabetes



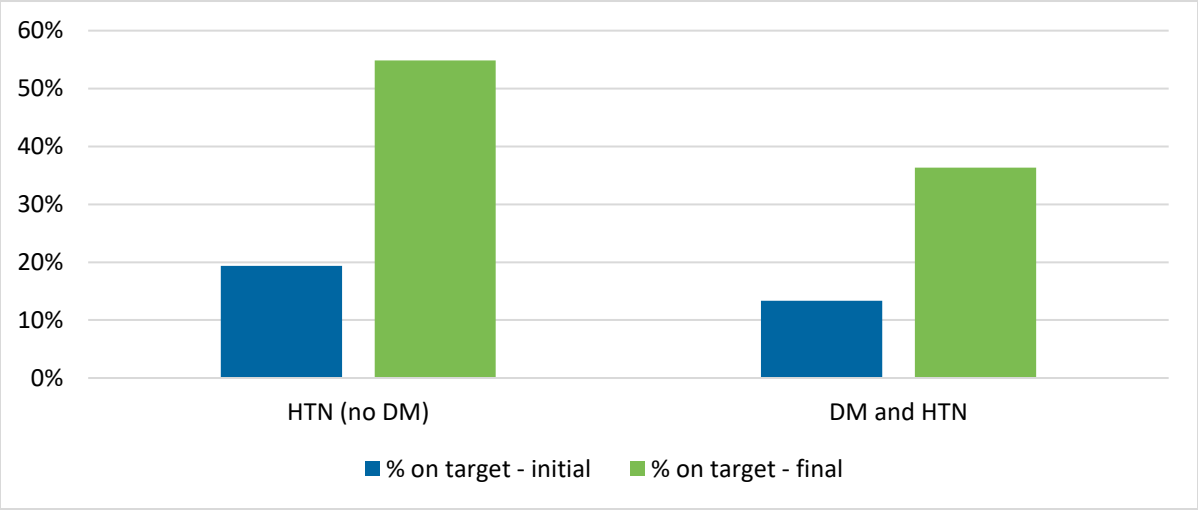
Hypertension Canada Guidelines indicate that most patients with hypertension are recommended to achieve and maintain a blood pressure of less than or equal to 135/85 mmHg (or 130/80 mmHg if the patient has diabetes) to reduce risks of cardiovascular complications. On average, patients with hypertension decreased their blood pressure (see Table 2). A greater proportion of patients with hypertension, both with and without diabetes, were meeting blood pressure targets at their last reported visit to the pharmacy clinic (see Figure 5). Meta-analyses of clinical trials have found that a 5 mm Hg reduction in systolic blood pressure reduced the risk of major cardiovascular events by about 10%,

regardless of other cardiovascular disease diagnoses,[3] so even patients that are not yet at target can benefit from decreases to their blood pressure. More than two-thirds of patients with hypertension (68%) and more than half of patients with hypertension and diabetes (57%) decreased their systolic blood pressure by at least 5 mm Hg between their first and final visit with the pharmacy clinic (see Table 2).

Table 2: Blood pressure values of patients with hypertension

	Average value - initial	% on target - initial	Average value - final	% on target - final	% with ≥5 mm HG decrease
HTN (no DM) (n=31)	154/86	19.4%	134/73	54.8%	67.7%
DM and HTN (n=30)	149/81	13.3%	141/78	36.4%	56.7%

Figure 5: Proportion of patients with hypertension meeting blood pressure targets



❖ Lessons Learned

This section summarizes the key lessons learned related to patient care.

- **Knowledge and Understanding of Pharmacy Clinic Scope:** Many evaluation participants shared that knowledge among the public and other healthcare providers about the scope of the pharmacy clinics has improved over time. Pharmacy staff generally felt that most patients that have an appointment at the clinic are appropriate for the scope of practice that pharmacists can provide

> *Patients seem to understand very well which care provider is going to do what things. (Pharmacy team)*

[3] Canoy D, Nazarzadeh M, Copland E, et al. How Much Lowering of Blood Pressure Is Required to Prevent Cardiovascular Disease in Patients With and Without Previous Cardiovascular Disease? Current Cardiology Reports. 2022;24(7):851-860.
Pharmacological blood pressure lowering for primary and secondary prevention of cardiovascular disease across different levels of blood pressure: an individual participant-level data meta-analysis. Lancet. 2021;397(10285):1625-1636.

and felt that patients and health care providers generally seem to understand what pharmacists in the clinics can and cannot do. There are also now many more returning patients (about a third of patients completing the survey) with greater familiarity with the clinics. Although there have been improvements, many evaluation participants still identified lack of knowledge of and understanding about scope as a concern. Patients do still sometimes book appointments for issues that are outside of the pharmacist's scope, and pharmacies receive inappropriate referrals from other providers. The proportion of patients who are triaged out before and at their appointments has decreased over time but was still around 14% in October 2024 (primarily patients triaged out before their appointments, 12%). Lack of understanding can contribute to patient frustration when they are not able to receive care and challenges for the pharmacy in managing appointments and clinic workflow. Evaluation participants suggested ongoing communication and promotion activities to continue to build awareness and understanding of the pharmacy clinic scope, and changes to booking platforms to provide pre-screening questions that help to ensure patients book appropriate appointments.

- **Scope of Services:** The scope of services offered at pharmacy clinics has changed over time. This has been helpful as pharmacists can provide more services and have less need to turn patients away for out-of-scope concerns. It can also make it more challenging to communicate about the scope of the clinics as it continues to change. A few evaluation participants suggested the clinic scope be further expanded, although others felt that scope should not be further expanded until pharmacists feel more comfortable and confident with the more recent changes. Specific conditions proposed for expanded scope include cellulitis, gout, prescribing for mental health conditions (within the Bloom program), and the ability for pharmacists to order some tests, particularly lung function tests.
- **Considerations for Attached Patients**: Pharmacy clinics provide care to both attached and unattached patients, and each type of patient has different needs and considerations. Pharmacists may refer attached patients to their PCP for follow up if a concern is identified. Pharmacy clinics also share any findings or recommendations with the PCP. Pharmacists indicated that some PCPs are more open to collaboration with the pharmacy clinic than others. If a PCP does not respond to a pharmacist's recommendations, the pharmacist will go ahead with changes to care that are in the patient's best interest.

> *If the doctor doesn't respond, then we have to take things into our own hands and do what is best for the patient… they are our patient too. (Pharmacy team)*

- **Publicly Funded Vaccines:** In the pharmacy billing data, there were 13,263 vaccine services reported from February 1, 2023 to October 31, 2024. Half (51%) were for non-publicly funded vaccines (e.g., Shingrix), 46% for publicly funded vaccines, and 4% for complex vaccine assessments (4%). The most commonly administered publicly funded vaccines were Tdap, Td, Pneumococcal-23, and MMR II. Pharmacy clinics provided an average of 14 publicly funded vaccines per month per CPPCC site (maximum = 594/month, minimum = 15). Most patients (88%) had one vaccine at their appointment, with about 6% receiving two or more vaccines at a visit. Appointments where one vaccine was requested took over 25 minutes, whereas appointments where three vaccines were requested took around 42 minutes. Non-publicly funded vaccine

assessment took a similar amount of time to publicly funded vaccinations for high-risk patients and routine adult vaccinations.

- **Patient Experience:** Feedback from patients that received a vaccination service was high, with 99% of survey respondents rating it an eight or above where ten is completely satisfied.
- **Pharmacy Team Experience:** Although pharmacy team experience with publicly funded vaccines appears to have improved somewhat over time, there are still challenges with delivery of this service. Challenges include addressing more complex vaccination scenarios, finding accurate and up to date vaccine information for patients, and accessing patient health information to determine eligibility.

> *We're still the middleman, often needing to reach out to the Vaccine Consult Service or Public Health. (Pharmacy Team)*

- **Medication Reviews**: In the pharmacy billing data, 3,677 medication reviews were reported from February 1, 2023 to October 31, 2024. Of these, 45% were advanced, 29% were complex (this type was added in May 2024), and 26% were basic. Patients who received an initial complex or advanced medication review were on numerous medications (average of 8.6 for advanced medication review and 7.5 for complex) and had more than four medical conditions. At 54% of initial complex and advanced medication review appointments and 38% of follow-up appointments, one or more drug-related problems (DRPs) were identified. The most common DRPs identified were needs additional therapy, dose too low, and adverse drug reaction. Pharmacists also identified other issues/care needs at a little over 10% of visits (e.g., need for an additional service, undiagnosed condition).
  - **Patient Experience:** Feedback from patients that received a medication review was high, with 99% of survey respondents rating it an eight or above where ten is completely satisfied.
- **Chronic Disease Management Services**: There were 22,592 chronic disease management services reported in the pharmacy billing data from February 1, 2023, to October 31, 2024. Most of these services were for cardiovascular disease (54%) or diabetes (31%). Most CDM services (83%) were provided to unattached patients. DHW billing data indicates that there were 9,054 patients who received CDM services. Almost half of the patients (48%) received an initial service and at least one follow-up appointment. The majority of CDM appointments reported in the clinical data portal were provided to unattached patients (83%). At 54% of initial CDM appointments and 34% of follow-up appointments, one or more DRPs were identified. The most commonly identified DRPs were need for additional therapy, drug dose is too low, or an adverse drug reaction. Pharmacists also identified other issues/care needs at approximately 8% of visits (e.g., need for an additional service, undiagnosed condition).
  - **Patient Experience:** Feedback from patients that received a CDM service was high, with 99% of survey respondents rating it an eight or above where ten is completely satisfied.

> *I would not be able to manage my meds and diabetes without this clinic. Lifesaver. (Patient)*

  - **Patient Journeys**: To better understand the experiences and journeys of patients receiving CDM services from the pharmacy clinics, sixteen patient case studies were completed at four pharmacy sites. Most patients were unattached or did not have regular access to their PCP. Pharmacists commonly proivded medication management, prescribing, and lifestyle counselling to these patients and also ordered bloodwork to assess medication effectiveness and safety. In most cases, because patients were unattached, there was limited collaboration with other providers. More than half of the 16 patients saw improvements in their clinical outcomes (reduced blood pressure, A1c in target range) and/or reported positive changes in their health as a result of the care they received at the clinic.
  - **Pharmacy Team Experience**: Pharmacists highlighted some of the key lessons they have learned about providing effective CDM to patients. They noted the importance of patient engagement in their own health and working with patients to build understanding of their health condition and readiness to change; providing patients with information and supporting shared decision-making; building strong relationships with patients; reviewing and managing multiple health needs, especially for complex patients; effectively managing appointment time, follow-up, and non-patient facing clinical time; and determining how and when to refer patients to another provider. Key factors that support pharmacists in providing CDM include training, guidelines, and access to laboratory tests to monitor patients.
- **A1c and Lipids Point-of-Care Testing**: There were 3,323 point-of-care tests (POCT) for A1c and 1,631 POCT for lipids (cholesterol) reported in the pharmacy billing data from February 1, 2023, to October 31, 2024. Pharmacists most often used POCT during visits for CDM (initial and follow-up) and prescribing for a diagnosis already established. Patient feedback on this service was positive. Pharmacists reported that POCT is useful for monitoring the effectiveness of therapy changes, helping patients understand and manage their condition, initiating a conversation about CDM, and to provide immediate results, especially for A1c. Pharmacists indicated they do not use POCT when patients need more testing that would justify a lab requisition or to support a diagnosis. It was also identified as a challenge that other providers cannot access POCT results.

Impact for Pharmacy Teams

❖ Outcomes

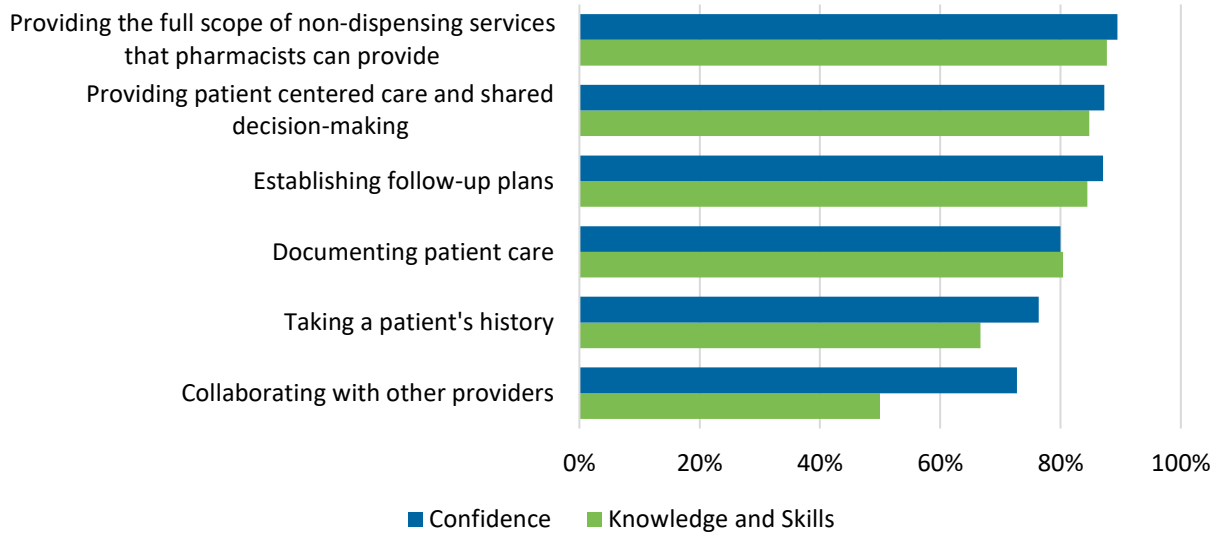
Demonstrated Ability to Support Patients with a Range of Primary Care Needs within Pharmacist Scope of Practice

Many pharmacy evaluation participants discussed how their knowledge, confidence and skills across different aspects of patient care have improved since the clinics began (see Figure 6). Pharmacists shared that they have developed their skills and confidence through first-hand experience and delivering the

same services many times. Pharmacists also indicated that they are more confident in making recommendations or decisions in the best interest of the patient, while still taking into consideration patient needs and preferences. Improvements in skills and confidence have also supported pharmacy clinic staff to become more efficient at working in the clinic over time. These skills also help pharmacists to more effectively deliver care in the dispensary. Factors that helped support building knowledge, skills and confidence included consulting with other pharmacists, previous experience including time working in the clinic, access to the CPPCC NPs, and training.

> *I was a lot more uncertain in the beginning and would grab a colleague for a second opinion. Now, I feel like I'm way more confident in my diagnoses and am able to provide better and more efficient care. (Pharmacy team)*

Figure 6: Changes in pharmacist knowledge, skills and confidence



Improved Capacity and Efficiency in Pharmacies to Support Primary Care

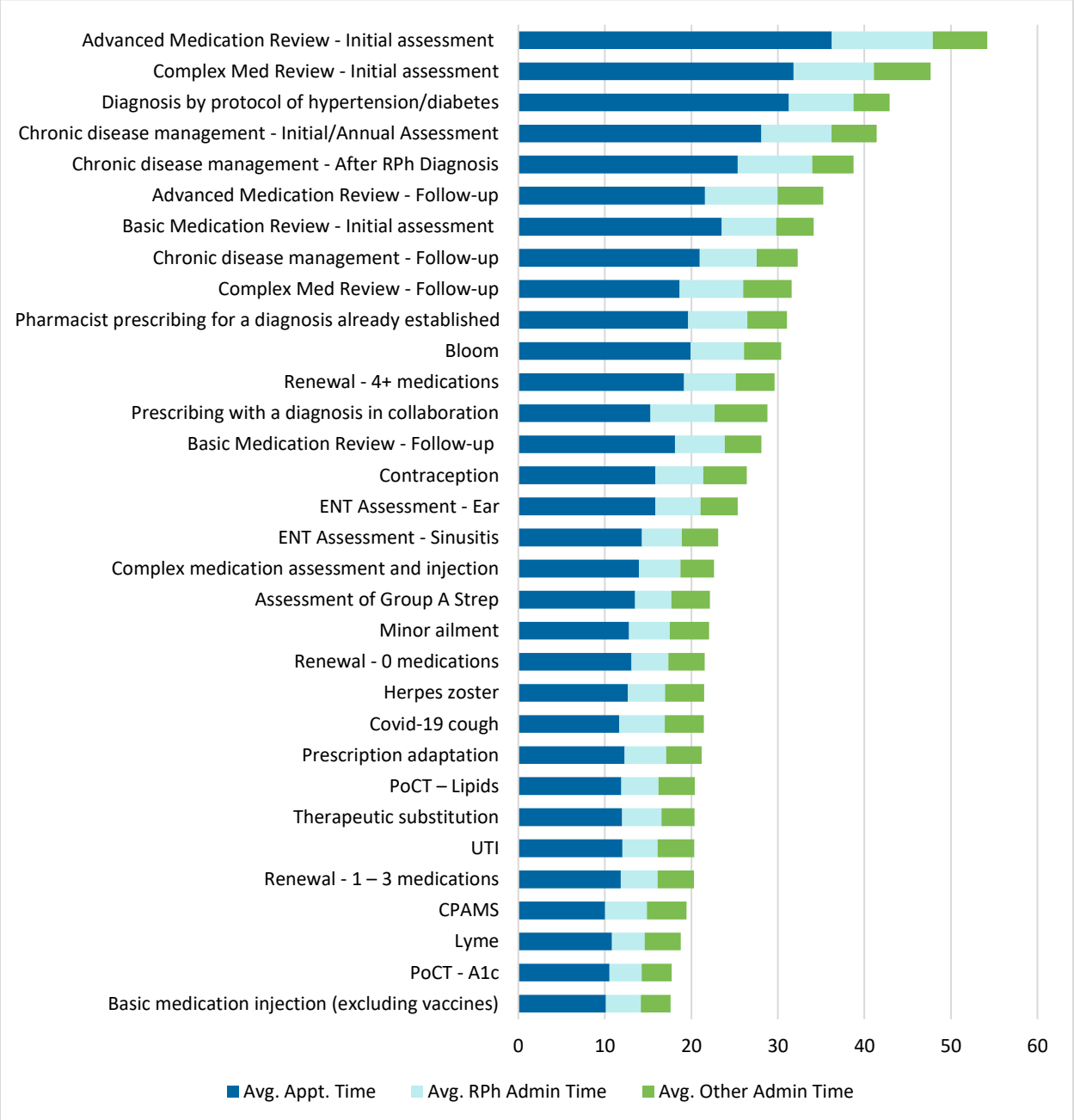
> *The dispensing pharmacist isn't getting interrupted as much with requests for clinical consultations because patients can be referred to the clinic. (Pharmacy team)*

Some pharmacy evaluation participants discussed how having separate workflows for dispensing and clinical services has supported improved workflow in the dispensary. They noted that having the ability to provide more time-consuming and complex services in the clinic relieves some of the pressure in the dispensary. Key enablers include separate infrastructure (e.g., office, phone and fax lines), dedicated clinic time for staff, and support from pharmacy technicians. Although the clinic removes more complex services from the dispensary, it may increase pressure on the dispensary in other ways, primarily through the volume of phone calls and through increased volume of prescriptions being filled. Some pharmacies are still providing clinical services in the dispensary, especially when the clinic is closed or if the clinic is full, though this was not consistent across pharmacies.

Service Delivery Times

Pharmacy clinics reported the time required to complete an appointment and the time spent by pharmacists and administrative staff to conduct any necessary administrative, follow-up and prep work for a number of different services. The total average combined pharmacist time reported across all services is 20 minutes (appointment time plus administrative time). The average combined pharmacist time per service ranged from 14 minutes for basic medication injections to 48 minutes for initial advanced medication reviews (see Figure 7). For most services, the average time decreased slightly between the interim evaluation (August 2023) and the final evaluation (October 2024).

Figure 7: Average service delivery time



Improved Work Satisfaction

> *You develop quite a relationship with the patients, and when you've done a lot to help them, they're just so appreciative. It makes you feel good. (Pharmacy team)*

Many pharmacy evaluation participants consistently indicated that that pharmacy staff working in the clinic have increased their level of job satisfaction with their work. About two-thirds of respondents to the clinic team survey indicated that their level of job satisfaction (63%) and professional identity as a pharmacist (64%) had improved since they first began working in the pharmacy clinic. A few evaluation participants highlighted that having the clinic helps with recruiting pharmacists, and felt that the clinics are contributing to advancing the pharmacy profession by taking on new scope and clinical roles.

Although most evaluation participants reported improved job satisfaction, a few noted that not all staff enjoy working in the clinics (13% of survey respondents indicated their job satisfaction was worse). They reported that the clinics can feel busy and frustrating at times, and that pharmacists may feel additional pressure related to the clinical care they are providing, which can contribute to burnout and stress.

❖ Lessons Learned

This section discusses the key lessons learned related to IT supports, human resources, support and training for clinic teams, communication and collaboration within the pharmacy, time and appointment management, and financial sustainability.

IT Supports

> *Because we are running minimum two systems (we have had three in the past, which was even worse) . . . this is inefficient, requiring double the time to make one patient file, and has increased risk for errors or mismatched information over time. (Pharmacy team)*

In the summer of 2024, the digital health team at DHW conducted a gap analysis of pharmacy primary care digital solutions and developed recommendations for how the systems can be improved. The biggest challenge identified is that clinic pharmacists and admin staff have to use multiple applications/tools/systems for the different tasks they need to do in the pharmacy clinics, including preparing for appointments, understanding patient needs, reviewing patient history, developing and updating the care plan, documenting the visit, monitoring and supporting the patient, and billing. Tasks are not always being completed in a consistent manner across pharmacies. This leads to gaps in interoperability (e.g., no unified system with all necessary functionalities, no centralized booking), in charting (e.g., barriers to shared care, lack of standardization), and messaging (e.g., inefficient communication tools).[4] Participants in this evaluation

[4] Department of Health and Wellness (August 2024). *Gap Analysis: Pharmacy Primary Care Digital Solutions Discovery*. Government of Nova Scotia, Halifax, NS.

discussed similar challenges and gaps. For example, most respondents to the clinic team survey (80%) agreed that greater integration between various platforms is needed.

The Gap Analysis report provided the following recommendations:[5]

- Centralize workflow around an EMR with improved configuration and additional training
- Leverage existing initiatives to improve centralized patient needs assessment, appointment scheduling, eConsults, and eReferrals
- Define and implement minimum standards for charting and requirements for sharing key encounter information with the broader digital health system
- Design, develop and deploy a standard patient summary (leveraging the national standard supported by Canada Health Infoway) that can be shared, with consent, to providers
- Provide appropriate implementation supports to improve the shared understanding and trust of pharmacists' role in primary care, execute a comprehensive communication plan and a focused effort on improving pharmacists' efficiency with EMR systems

Human Resources

Key lessons learned related to HR include:

- It is helpful for staff to work in both the clinic and dispensary to balance workload and share knowledge and lessons learned. Consistency in staffing in the clinic also important.
- It is essential to identify pharmacists who are most interested and engaged in working in the clinic setting and not require all pharmacists to work in the clinic.
- Effective support for the clinics is critical, including strong clinic admin staff, management support, and regular team communication (e.g., staff meetings).

Many pharmacy evaluation participants noted that maintaining staffing for both the clinic and dispensary has been challenging, and in some cases has led to reduced clinic hours. Staff turnover has also been a challenge as there is competition for staff, particularly pharmacists, from other healthcare settings where wages may be higher. It takes time to train and onboard new staff, which can temporarily reduce efficiency in the clinic. Pharmacies continue to recruit staff and efforts to increase the number of available pharmacists and pharmacy technicians are underway. Evaluation participants indicated that more staff will help ensure the clinics run smoothly and reduce pressure on current staff.

Support and Training

Most clinic team survey respondents agreed that they had the resources and supports needed to participate in the project (80%), and that it was easy to address any questions or concerns they had throughout the project (71%). Lessons learned include:

[5] Department of Health and Wellness (August 2024). *Gap Analysis: Pharmacy Primary Care Digital Solutions Discovery*. Government of Nova Scotia, Halifax, NS.

- **Training**: Evaluation participants noted that the training provided was helpful but a few identified the time required and in some cases lack of remuneration for training/learning time as a challenge. Participants indicated that training/learning must be ongoing, especially as scope or services change. Areas where pharmacists could benefit from more support included more opportunities for pharmacists, staff, and owners to learn from one another and gain practical, hands-on experience, training in clinical areas (e.g., changes to guidelines, new scopes of practice, patient case studies, clinical rounds), and billing. Supporting staff to participate in training (e.g., through paid time and more flexible training days/times/methods) is also critical.
- **Other Supports**: Other helpful supports identified by evaluation participants include other providers/services that pharmacists can consult with (e.g., clinical consult pharmacist, vaccine consult service, diabetes educators), clinical guidelines, and the Facebook CPPCC group provided by PANS.

Workload and Time Management

Many pharmacy evaluation participants discussed challenges related to workload and time management in the clinics. On the clinic team survey, only 44% of respondents felt that the pharmacist workload was manageable. it can be difficult to manage all of a patient's needs within a given appointment time, and some felt that the suggested appointment times were not realistic for some services, especially for patients with complex needs (e.g., chronic disease, complex renewals of multiple medications). A few respondents also highlighted the administrative burden of documentation that contributes to workload. Overall, pharmacists worked overtime in around 60% of reported weeks and administrative staff worked overtime in 46% of weeks. Strategies that help to manage workload and time include booking a variety of appointments (e.g., mix of shorter and longer services), blocking time for non-patient-facing clinical tasks such as reviewing lab results, setting clear expectations with patients for appointment times, and having effective admin support and preparation for appointments. Pharmacists also noted that as they gain experience, they are able to move through appointments more efficiently.

Management of Patient Appointments

- **No show and unbooked appointments**: Overall, 5% of all appointments reported by pharmacies were no shows and on average, 10% of appointment slots were unbooked, but this varied across pharmacies. The proportion of appointments slots that are unbooked has decreased over time, from a high of 18% in March 2023 to 7% in October 2024. The proportion of no show minutes has increased slightly over time, from 3% in March 2023 to 6% in October 2024. No shows and unbooked appointments lead to lost revenue for the clinics (i.e., the clinics need to be staffed regardless of whether there are patients) and to inefficient use of time. Effective strategies to reduce no shows are patient reminders and better managing patients that consistently do not attend appointments they booked.
- **Clinic capacity**: Estimated clinic capacity use from February 1, 2023 to October 31, 2024 was 94% (an increase from the interim evaluation in fall 2023 when it was 84%). There is also variation in capacity use across pharmacies. Since the beginning of the project, the bottom five pharmacies

were at only 53% capacity, while the top five were at 123%. Clinics that were over 100% achieved this by operating more efficiently and accepting additional last-minute bookings when this could be accommodated.

- **811 Appointment Booking**: As of early October 2024, 811 operators had the ability to directly book appointments for patients at the pharmacy clinics. In the month of October, 14 appointments were booked by 811.

Financial Sustainability

Some pharmacy evaluation respondents indicated that the financial sustainability of the clinics had improved substantially since the interim evaluation, particularly since the significant changes to Funded services in April 2024 (as described in the Changes to Scope of Services and Funding section). The vast majority of services delivered at the clinics are now in the Funded category (92%). This is a substantial change from the interim evaluation, where only 53% of services delivered at the clinics were in the Funded category. Actual pharmacy revenues from CPPCC have also increased substantially over time as a result of more services moving to the Funded category. At the interim evaluation, all pharmacies except for one reported that the clinics were running at a loss (revenue was less than wages) every month. Pharmacies noted that they are now able to break even or are close to this when considering ongoing wage costs (only) to maintain the clinic.

> *We only started breaking even in April 2024 when the majority of services started being covered. (Pharmacy team)*

While evaluation participants expressed appreciation for the funding changes that have improved clinic finances, they also still consistently identified the ongoing financial sustainability of operating the clinics as a challenge. Evaluation participants noted that the level of remuneration for some services is too low considering the amount of time and effort required to deliver the service (e.g., renewals, CDM follow-up). They also indicated that there is clinic work that is not able to be billed directly (e.g., time to collaborate with other healthcare providers, no show and unbooked appointments), and ongoing clinic management and infrastructure costs (e.g., staff training and increases to compensation, changes to clinic infrastructure) that are not addressed sufficiently in the pilot project funding model. These issues can make it challenging for pharmacies to pay wages that will help them recruit and retain staff and provide a fair rate of return to pharmacies.

Many pharmacy evaluation participants highlighted the need for a sustainable long-term funding model that reflects the time spent on services, overhead, and other expenses. Suggestions for improving the funding model included increasing funding for some services (especially more complex renewals and CDM follow-ups), continuing to provide support for clinic overhead (e.g., through a stipend), incorporating risk-sharing for unfunded activities (e.g., no shows, unbooked appointments), and improving clinic efficiency (e.g., incorporating pharmacy technicians into the workflow to maximize pharmacist time).

Change Management

There have been many changes to the CPPCC project over time (e.g., pharmacist scope, technology, billing and payment). Some evaluation participants noted that managing the ongoing change process can be challenging. Strategies to support change management include implementing changes more slowly (ensuring that people are comfortable with one change before introducing another), providing a "soft launch" for new services to build comfort before widely promoting the services, and clearly communicating changes well in advance.

> *I think we've gotten to a fairly stable point where we know what we're doing, we know what it looks like, but . . . whenever something new comes up, we've got to readjust. (Pharmacy team)*

Impact to the Healthcare System

❖ Lessons Learned

Perspectives of Other Providers

To gather input from other community providers, a survey (328 responses) and interviews (15 participants) were conducted. Community providers identified both benefits and challenges related to the clinics. Some of the limitations of this data include:

- It can be challenging for other providers to determine whether the care they were commenting on was provided in a pharmacy primary care clinic or another pharmacy, as some services can be performed by any pharmacy.
- A few respondents acknowledged that they mainly see situations where there is an issue with patient care and are therefore more aware of challenges rather than positive experiences of care.
- All healthcare providers sometimes lack information or make errors in the course of their practice. The evaluation does not have any comparative data against which to assess the quality of care provided by pharmacists against other providers.
- A few providers also acknowledged that some family physicians may have broader concerns about the erosion of family medicine and that this may be reflected in some of the negative feedback received about CPPCC.
- Some providers based their feedback on misperceptions or misunderstandings about the pharmacy clinics. This highlights the importance of continued education and communication about the clinics.

Summary of Feedback

- Many community providers discussed benefits of the CPPCC project including improved patient access to healthcare, especially for unattached patients; reduced burden on other parts of the system by providing services (e.g., INR testing and warfarin management, assessment and

prescribing for UTIs, renewals, minor ailments); and improved communication and collaboration between pharmacy clinics and other parts of the healthcare system. Some providers also indicated that the clinics provide good quality of care and strong pharmacist knowledge of medication is an asset.

> *Pharmacists have an important role to play. I really appreciate my pharmacy colleagues. They go above and beyond to serve a lot of my patients. (Community Provider)*

- Many healthcare providers that participated in the evaluation also identified challenges including barriers to communication and collaboration (e.g., lack of shared information systems); concerns about fragmentation and continuity of care; lack of confidence in pharmacist skills/training and concerns about quality of care (e.g., incidents where the provider felt the pharmacy clinic provided an inappropriate diagnosis or prescription); lack of understanding of the pharmacy clinics; and conflict of interest for pharmacies because they benefit financially from the sale of medications.
- Suggestions for improvement included continuing to build and enhance relationships and communication between pharmacy clinics and other parts of the healthcare system; developing/expanding referral pathways for clinics; providing additional training and support for pharmacists; increasing clinical oversight and error reporting for clinics; educating other providers on the skills, training, and experience of pharmacists; and continuing to build patient and provider understanding of the clinics and the services offered.

Nurse Practitioner Support for CPPCC Sites

Between July 21 and October 26, 2024, 260 consultations between NPs and pharmacists were completed. Most often, the NP established a diagnosis for the patient (35%), was consulted to discuss emerging or new symptoms or red flags (24%), or ordered a test for the patient (16%). On average, collaboration with a CPPCC NP took pharmacists 19 minutes. Having the NP support available has helped to build pharmacist comfort and confidence, and increase knowledge and skills, especially with new services such as diagnosing hypertension and diabetes. Access to the NPs also reduces the need for additional referrals as NPs can address issues that are out of scope for the pharmacist and sometimes have access to additional information to help inform patient care. It is helpful that the program provides quick and convenient access to the NP through the Virtual Hallway software, and pharmacists and NPs appreciate the collaborative approach to decision-making. Some of the challenges the program has experienced include lack of time for collaboration and in some cases limited collaboration between pharmacists and NPs, Virtual Hallway not working as anticipated, and limitations to what types of issues the NPs can support.

Referrals and Referral Pathways

Pharmacists reported referring patients to other sources of care (other than the CPPCC NP) at 3.2% of visits. Patients were most often referred to their usual PCP (46% of referrals) or to a walk-in clinic (41%). Most often, pharmacists referred patients because they suspected the patient had a condition that was out of their scope (71%) or the patient required a physical examination and/or procedure outside the pharmacist's scope (37%). There continue to be challenges for pharmacy clinics related to referrals as there are limited options for referring patients when they need care outside the pharmacist's scope. The

gaps included lack of ability for pharmacists to refer directly to specialists; difficulty accessing appropriate mental health care, especially for unattached patients that need restricted medications; and barriers to accessing other care options such as the ED, Primary Care Access clinics, and Virtual Care NS (e.g., long wait times, difficulty getting appointments, lack of access to technology). While some pharmacies have been successful in establishing relationships with other healthcare providers in their area for direct referrals and communication about patient care, ongoing work is needed to build direct referral pathways for pharmacy clinics at the system level.

Communicating and Collaborating with Other Providers

Factors identified in the evaluation that help facilitate communication and collaboration between providers include strong and established relationships; the ability to communicate directly and in a timely manner (e.g., sharing cell phone numbers for quick responses); being located close to one another; having mutual respect; and shared access to patient information (e.g., all have access to lab results through SHARE). The key challenges to communication and collaboration include lack of a shared information system; providers that do not respond in a timely way to communication; some providers that are not interested in collaborating with the pharmacy clinics; high workload or lack of time; and lack of compensation for collaboration.

> *I think every healthcare professional likes the idea of open communication, but unfortunately the nature of healthcare isn't super supportive of that. (Pharmacy team)*

❖ Outcomes

Improved Communication and Collaboration between the Pharmacy Clinics and Other Parts of the Health System

Communication and collaboration between the pharmacy clinics and other parts of the healthcare system is a critical aspect of providing effective care delivery through CPPCC. Some evaluation participants discussed improvements to collaboration with other providers, indicating that many providers have become more familiar and comfortable with the pharmacy clinics since they first opened, and as a result are more willing to communicate about patient care. Pharmacists also reported that they have developed many positive collaborative relationships with other healthcare providers (e.g., PCPs, Access Clinics, specialists, diabetes centres, EDs, INSPIRED program for COPD). There are mutual referrals between the pharmacy clinics and these providers and the clinics, and pharmacists and other healthcare providers reported that they share their time and expertise to answer questions, provide advice, and collaborate on shared patients. While these improvements in collaboration and communication between providers are helpful and important, many evaluation participants also acknowledged that there is more work to do to better support collaboration as discussed above.

> *We were a bit apprehensive early on, as maybe were the patients, about what the relationship [with doctors] was going to be like, but really found it to be much more productive and smooth than we would have anticipated. (Pharmacy team)*

Increased Awareness Among PCPs, Patients, and Payors of the Value Pharmacists Provide

> *Now patients might see the pharmacist in the dispensary and think "oh, my pharmacist can do a lot more than I pictured before. (Pharmacy team)*

Some evaluation participants indicated that the awareness of the value pharmacists provide to the healthcare system has increased as a result of the pharmacy clinics. Evaluation participants noted that patients and other care providers increasingly see the pharmacy as an important part of healthcare. Pharmacists reported that they generally feel patients respect them and their role and appreciate how pharmacies have stepped up to address gaps in the system and help patients with their healthcare needs. Pharmacists also said that other care providers are seeing pharmacists as part of the solution to the current challenges and lack of capacity in the healthcare system.

Quality of Care

Many pharmacy evaluation participants discussed how the clinic allows them to deliver high quality care to clinic patients. The appointment-based format of the clinic allows pharmacists to have uninterrupted time for patient care, and pharmacists are able to address many health issues of patients and provide longitudinal care, particularly for unattached patients. Pharmacists develop a care plan for their patients and then support its implementation through follow-up appointments. The pharmacy clinics share information about the care provided in the clinics with other providers to the extent feasible given the systems available to support communication and collaboration. Community healthcare providers that collaborate with the pharmacy clinics generally felt that the care provided at the pharmacy clinics was appropriate and of high quality. Patients are generally pleased with the care they receive at the clinics and provided examples of good quality care (e.g., being involved in decisions, feeling heard/listened to, helping them better manage their health conditions, providing non-judgemental care).

> *I think the clinics are phenomenal . . . The pharmacist knowledge is great, and they care about their patients, so it definitely makes a huge difference. (Community provider, case study)*

> *I liked how the pharmacist broke down everything so I understood it and that helped me make an informed choice on what to do. (Patient)*

Cost Comparison of Care Delivery Models

A few patients highlighted how the pharmacy clinics help to relieve the burden on other parts of the healthcare system, including PCPs and EDs. Based on the small number of patients triaged out at their clinic appointments (approximately 2.25 patients per week), the evaluation also found that there was relatively little duplication of services between the pharmacy clinics and other healthcare providers. Comparing the costs of the visits to pharmacy clinics to the cost of providing a similar number and type of visits at family physician offices suggest potential cost savings of at least $3.6 million.[6] While useful, it is recognized that this comparison is not perfect and some

> *Amazing service absolutely critical for NS healthcare crisis at the moment. (Patient)*

[6] Please see the full evaluation report for a detailed explanation of the assumptions underlying this estimate.

costs both from the physician compensation (e.g., benefits, continuing education, referral fees) and pharmacy perspective have not been captured (e.g., physician time reviewing pharmacy documentation, NP support time, potential duplication of care and costs) and direct comparison across different payment structures is not precise. There also would have been patients who visited a walk-in clinic (where physician fees are lower), used a higher cost access point, or not sought care at all. To better understand the cost effectiveness of pharmacy services on the system, a full cost-effectiveness analysis is required, assessing the types and scope of care provided and total system expenditures for those services. Increases to pharmacy fees, which pharmacies have indicated would be necessary to have a sustainable clinic model, would also change these estimates.

Established Model for Primary Care Support in Community Pharmacy Settings

One of the goals of the CPPCC was to develop a model for how primary care support can be provided in community pharmacy settings, and overall this has been done successfully. Throughout the 21 months that the project has been implemented (February 1, 2023 to October 31, 2024), PANS, the participating pharmacies, patients, other healthcare providers, and others in the healthcare system have learned many lessons about how to effectively deliver primary care in community pharmacies. Government commitment to the project is essential as government staff help to support communication with the public as well as with other healthcare providers and across the health system. The CPPCC model is also contributing to changing pharmacy practice overall in Nova Scotia and the clinics appear to be having a positive impact on the pharmacy profession and making it easier to recruit pharmacists.

> *We've made a huge contribution to care and evolution of the system, and patients have really benefitted from that. (PANS Project Team)*

Some evaluation participants emphasized that the clinics are providing a critical service and need to remain open. A few evaluation respondents suggested that the number of pharmacy clinics be expanded, that clinics should be provided in new locations, or that hours or availability should be expanded (e.g., more evening and weekend appointments). Three-quarters of owners/managers responding to the clinic team survey indicated that they plan to continue the primary care clinic at their pharmacy.

> *This is a tremendously valuable service which should be continued and expanded upon. (Patient)*

In terms of scaling up the model or further expanding it, Phase 3 of the project was launched in October 2024, with 14 additional pharmacies becoming CPPCC sites. Key success factors for maintaining and expanding the model discussed by evaluation participants include addressing staffing shortages (e.g., more pharmacists and more technicians), potential expansion of physical space for clinics in response to demand (e.g., adding a clinic room), expanding clinics only in areas of high demand, and supporting new clinics by allowing them to introduce aspects of the model more slowly. The learnings from this evaluation can also help to guide and inform expansion of CPPCC sites. Ultimately, the decisions about expansion will be made collaboratively by PANS and the Government of Nova Scotia.

Conclusion

This evaluation has assessed the implementation and outcomes of the Community Pharmacy Primary Care Clinic demonstration project. Overall, the clinics have been able to accomplish their expected outcomes for patients, pharmacies and pharmacy teams, and the health system. The benefits for patients have the strongest evidence including very high patient satisfaction with care, improved access to care, and improved physical and mental health outcomes for patients receiving care at the clinics. Pharmacies have been able to demonstrate the effectiveness of a workflow model that separates dispensing and clinical services, and most pharmacists working in the clinics have improved their knowledge, skills and confidence in delivering care, as well as their job satisfaction. Pharmacies have demonstrated their ability to deliver primary care services to patients in a community pharmacy setting.

Although there have been challenges in the implementation of CPPCC, this is to be expected in implementing a model that is changing how primary care is delivered in Nova Scotia. Important lessons have been learned through this process about how clinics should be structured and how patient care should be provided. Collaboration between PANS, the Government of Nova Scotia, other parts of the healthcare system, and pharmacies has been critical to helping to address these challenges. Most pharmacists are happy with their role in providing care through the clinic model and their improved ability to help patients with their healthcare needs. Most participating pharmacies and many patients would like to see the pharmacy clinics continued and expanded. Key considerations for the future sustainability of the clinics include the long-term financial model, staffing availability, and patient demand for services.

Recommendations

Although this is a final evaluation of the CPPCC, clinics are continuing to provide care going forward, and an additional 14 sites joined the project in October 2024 (they are not included in this evaluation). To support the clinics as they continue to operate, the following recommendations are provided based on the findings of the evaluation:

1. **Continue work to establish collaborative relationships and referral pathways**: Work to build relationships and referral pathways between the clinics and other healthcare providers has been ongoing throughout the project and should continue. Established relationships between the clinics and other care providers help to support communication and collaboration on patient care when needed. Clear referral pathways for pharmacy clinic patients that require care outside the pharmacist's scope will help to reduce duplication of services and improve efficiency and access to timely care across the system. Allowing pharmacists to refer directly to specialists could be one important referral pathway. The NP program is an important support in this area as well. Continued efforts to improve understanding and acceptance of the clinics by other healthcare providers are also important.

2. **Continue to educate and build awareness about the clinics**: Knowledge and understanding of the scope of services available at the clinics among both patients and healthcare providers has improved over time. However, education and communication in this area must be ongoing to ensure that patients are seeking appropriate care at the pharmacy clinics, especially as services available at the clinics may change over time. The general public and healthcare providers and others that may refer patients to the clinic need continued information to help them understand the services available.
3. **Implement strategies for improving the efficiency and integration of IT systems**: The recommendations of the Gap Analysis of Pharmacy Primary Care Digital Solutions should be implemented to ensure that IT systems support efficient care and communication.
4. **Provide clinics with structure to support quality patient care but also allow some flexibility**: Providing pharmacy clinics with a structure in which to work is helpful to support high quality patient care and integration with the rest of the healthcare system. For example, clinics can benefit from standardized tools and approaches such as a common booking platform and standardized charting. However, working with clinics to help them implement the clinic in a way that meets their needs, and the needs of their community is also important. This may include providing flexibility on how the clinics are staffed (e.g., including pharmacy technicians where appropriate), clinic hours (e.g., allowing pharmacies to increase/decrease hours in response to patient demand and staffing needs), and how patient appointments are managed within a given clinic to meet patient and organizational needs.
5. **Continue to provide support and training to pharmacy clinic staff**: The evaluation identified the importance of providing ongoing support and training for staff working in the pharmacy clinics. This includes topics related to clinic management as well as clinical areas. Pharmacy clinics would benefit from opportunities to learn from one another as well as additional clinical learning opportunities.
6. **Continue the CPPCC with a sustainable long-term funding model**: This evaluation has demonstrated that the pharmacy clinics are providing a valuable service and helping to improve access to primary care. The model should be continued, taking into account the considerations and suggestions for improvement identified in this evaluation. One key element is the financial viability of the clinics going forward. A long-term sustainable funding model should provide fair compensation to pharmacies for the care they are providing in the pharmacy clinics.