

Evaluation of the Pharmacist Initiative in White Rock-South Surrey



White Rock-South Surrey
Division of Family Practice
A GPSC initiative

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Executive Summary

Program Overview

From July 2013 until June 2014, the White Rock-South Surrey (WRSS) Division of Family Practice funded the Pharmacist Initiative through its Attachment funding. A seasoned clinical pharmacist was seconded from Fraser Health to be available four days per month for General Practitioner (GP) requested consultations with their patients who had complex medication needs. The pharmacist rotated amongst four GP host clinics, attending one of these weekly. Medical Office Assistants at the four host clinics coordinated patient consultations with the pharmacist, for both patients from their own clinics and patients referred by other clinics in the Division. The pharmacist met with the patients at the host clinics to review their medications and any concerns, and then made recommendations to the patients and/or their physicians, relative to medication challenges.

Purpose of the Evaluation

The evaluation of the Pharmacist Initiative was undertaken to document its implementation, determine its impact, and surface any lessons learned. The Division intends to use this information to make decisions about the type of initiatives that will best support Attachment.

The following questions were addressed in the evaluation:

1. How does the initiative support the goals of the Attachment Initiative?
2. To what extent is the initiative contributing to the achievement of Attachment goals?
3. What is working well, what are the challenges, and how can the initiative be improved?
4. Is there a continuing need for this initiative?
5. How can the initiative be sustained?

Evaluation Approach

The evaluation was guided by a steering committee composed of Division staff and physicians. A mixed method design was used to explore the implementation, effectiveness, and lessons learned. The findings draw on document reviews, quantitative data collected by the pharmacist, and qualitative data from interviews and focus groups with the pharmacist, physicians, Division staff, and the Attachment Initiative Working Group. Seventeen people participated in the interviews or focus groups which were conducted during the summer of 2014. A clicker survey was conducted with 34 practicing physicians attending a Division All Members meeting; this represents about 50% of practicing Division physicians. It should be noted that the findings from the clicker survey under-represent the true impact of the initiative as physicians who had not participated in the program answered questions about the service.

Findings

How does the Pharmacist Initiative support the goals of the Attachment Initiative?

Of the three goals of the Attachment Initiative: confirming and strengthening the GP/patient relationship, including better support for vulnerable populations; enabling those who want a family physician to find one; and increasing the capacity of the primary care system, the provision of a skilled clinical pharmacist can contribute to two goals: confirming and strengthening the GP-patient relationship – including better support for the needs of vulnerable patients; and increasing the capacity of the primary care system. The pharmacist provides direct service to vulnerable patients and can increase the capacity of the primary care system through increasing physician knowledge of medication management and by increasing opportunities for inter-professional practice.

To what extent does the initiative confirm and strengthen the GP-Patient relationship – including supporting vulnerable patients?

Pharmacist Initiative Provides Support for Vulnerable Patients

Over the course of the year, the pharmacist consulted with 98 patients. Statistics collected by the pharmacist, feedback from physicians who had referred patients to the program, perceptions of Division staff, as well as those of the pharmacist himself all indicate that the program was very valuable to WRSS patients and physicians. Notably, patient acceptance of pharmacist's recommendations was very high.

While the initiative was highly valued by those who used it, the service was not utilized to the available capacity. Stakeholders believed this was because of a lack of awareness of the potential benefits of the service; having the pharmacist rotate amongst clinics; a limited demand/need for the service and, to a small degree, a lack of understanding of the referral process. The strategy of locating the pharmacist at designated host clinics was successful in that the large majority of referrals came from these clinics, however, it appeared to act as a barrier to non-host clinics.

To what extent did the initiative increase the capacity of the primary care system?

Improved medication management

One way that the initiative increased the capacity of the primary care system was through enhancing medication management. The pharmacist's records show that the majority of patients he consulted with had accepted his recommendations. Physician interviews revealed that their ability to manage patient medications was enhanced "*Good, practical advice to me about how to help patients with medication issues*". From the perspective of the pharmacist, opportunities for him to confirm and explain in detail why physicians had prescribed particular medications resulted in an increase in patient trust of their physicians. This was confirmed in physician interviews and could be expected to lead to increased compliance. Responses from physicians participating in the clicker survey speak to a more modest impact of the program on

medication management. Just over half of these physicians (55%) indicated that the initiative had resulted in an increase in the management of medications within their practices.

Increased inter-professional practice

A second area where the initiative had an impact on the primary health care system was inter-professional practice. Physicians interviewed indicated that the pharmacist was very good at liaising with them and that his suggestions and reports were very helpful. Data on the uptake of recommendations by physicians showed that 54% had been accepted, 44% of recommendations were “pending”, and only 2 recommendations had been refused. While the pharmacist saw no need for physician “education” as such, he indicated that his consultations with patients often revealed new information that he was then able to share with physicians and that they are now more aware of what a dedicated pharmacist can offer.

Key success factors

It was generally acknowledged that the qualities the pharmacist brought to the initiative were key to its success, including his breadth of knowledge, flexibility, and ability to gain the trust and confidence of patients. Stakeholders cited the pharmacist’s keen understanding of his role in collaborating with and supporting physicians within their practices.

Suggestions for improvements

Stakeholders believed that there is continuing need for the initiative and suggestions for improvements centred on the manner in which initiative could best be delivered; increasing awareness of the benefits of the service, and increasing communication between the pharmacist and referring physicians.

Conclusions

In conclusion, this initiative did contribute to Attachment Goals. It resulted in better support for the needs of vulnerable patients, as well as increased capacity in the primary care system. Locating the pharmacist onsite at GP clinics was effective in supporting pharmacist-physician interactions and resulted in increased uptake of the service and an increased awareness of the value of the service amongst users.

The initiative was not used to the expected capacity and this was due to a variety of factors including a lack of knowledge of how it could enhance patient care, the model of service delivery, and to a lesser degree, a lack of awareness of the initiative.

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1 Introduction

1.1 Overview of the Pharmacist Initiative

Research has shown that integrating pharmacists into direct patient care can result in favourable outcomes across health care settings and disease states. As found in one study:

“Pharmacists with larger roles in patient care improve outcomes, increase access to care (especially for medically underserved and vulnerable populations), shift time for physicians to focus on more critically ill patients in need of physician based care, improve patient and provider satisfaction, assure patient safety, enhance cost-effectiveness, and clearly advance and improve health care delivery”.¹

Following a 2011 survey of physicians by the White Rock-South Surrey (WRSS) Division of Family Practice where 52% of 48 respondents believed it would be beneficial to have access to a pharmacist on a routine basis, the Division provided a \$25,000 grant from its Attachment Funding to Fraser Health to second a seasoned clinical pharmacist to be available for GP requested consultations with patients who had complex medication regimes. The grant funds were used by Fraser Health to cover the costs of the pharmacist assigned to the initiative for one day a week and for travel from Peace Arch Hospital to WRSS clinics. The objectives of conducting medication reviews for the targeted populations were to:

- Optimize therapy
- Optimize health outcomes
- Reduce medicine-related problems
- Reduce health care resource utilization, and
- Reduce over-prescribing.

The pharmacist seconded for the project was highly qualified. His experience included a hospital residency, 7 years of hospital practice in teaching hospitals, 22 years providing long term care services to seniors in facilities, and 3 years working with the Specialized Seniors Clinic and Medication Management program at Peace Arch Hospital.

It was decided to co-locate the pharmacist at family practice clinics with the expectation that regular exposure to the pharmacist would familiarize physicians with the unique services a dedicated pharmacist can offer. Family physicians could refer patients they believed would benefit from a medication review for consultation with the pharmacist, either to assist with

¹ Giberson S, Yoder S, Lee MP. (2011). Improving *Patient and Health System Outcomes through Advanced Pharmacy Practice*. A Report to the U.S. Surgeon General. Office of the Chief Pharmacist. U.S. Public Health Service.

education and compliance, or to identify and address other factors such as potential interactions with non-prescription over-the counter medications that could impact the effectiveness of the physician prescribed medications.

Four GP clinics that had capacity to accommodate the pharmacist were chosen as host sites, with all other clinics referring patients to these clinics. Beginning in July 2013, the pharmacist was based in each of the four clinics one day per month. In January 2014, three clinics discontinued hosting the service and three new host clinics were established.

Up to six appointments per day were available. After booking appointments, physician's offices faxed a referral form, patient summary and medication list to the pharmacist, at least 48 hours before the appointment. The pharmacist then accessed hospital and PharmaNet records for each referred patient.

The pharmacist met with patients, discussed their medications and any concerns they had, reviewed the appropriateness of any supplements and herbals they were taking, and provided patients with education and information. Subsequently, he completed a Medication Management Program Visit Summary which included summary notes for the physician, recommendations, and justification for his recommendations.

1.2 Purpose of Evaluation

As an Attachment prototype community, the WRSS Division of Family Practice is evaluating a number of its Attachment Initiatives. The information from the evaluations will help the Division make decisions about how to continue to support Attachment goals in the midst of funding changes. This report examines the implementation, impact, and lessons learned from the Pharmacist Initiative.

1.3 Evaluation Questions

The following questions are addressed in the evaluation of the Pharmacist Initiative:

1. How does the initiative support the goals of the Attachment Initiative?
2. To what extent has the initiative contributed to the achievement of Attachment goals?
3. What is working well, what are the challenges, and what can be improved?
4. Is there a continuing need for the initiative? and
5. How can the initiative be sustained?

A program logic model showing inputs, activities, outputs, anticipated outcomes and indicators was created to capture the intentions of the initiative and guide the evaluation (see Appendix A for a copy of the logic model). The logic model was developed in consultation with the pharmacist and WRSS staff and physicians; was based on the overall Attachment Logic Model

that is being used across WRSS Division Attachment Initiatives; and incorporates outcomes consistent with IHI Triple Aim. It should be noted that not all outcomes or indicators in the logic model were examined in this evaluation.

2 Methods

A mixed method design was used to explore the implementation, effectiveness, and lessons learned. The findings draw on document reviews, quantitative data from the initiative and qualitative data from interviews and focus groups with the pharmacist, physicians, and Division staff. A “clicker” survey was also conducted with physicians attending a Division All Members meeting. “Clicker” surveys enable groups of people to respond to close-ended questions during a live meeting. Clicker survey technology requires that each person select a response to every question. This meant physicians who had participated in the program and those who had not responded to all the questions. Although non-participants were instructed to select “not applicable,” it appears that this did not always take place. For example, of the 20 physicians who had responded to a particular question, only 15 had actually referred patients, however, less than 5 physicians chose “not applicable”, as instructed. For this reason, the findings on the impact of the initiative based on the clicker survey are under-estimated.

Seventeen people participated in the interviews and focus groups which were conducted during the summer of 2014 and 34 practicing physicians attended the Division All Members meeting where the clicker survey was administered. An overview of the data collection methods and sample sizes is shown below:

Figure 1: Overview of Data Collection Methods and Sample Sizes

Method	Respondents	Sample Size
Focus Group	Attachment Working Group	5
Focus Group	Division staff	3
Survey	Practicing physicians attending the White-Rock South Surrey (WRSS) Division All Members Meeting on April 10, 2014	34
Interviews	Pharmacist	1
Interviews	Physicians	8 (6 of these physicians also attended the Division All Members meeting)
Total		49

3 Findings

This section presents the evaluation findings according to the evaluation question addressed.

3.1 How does the Pharmacist Initiative contribute to the objectives of the Attachment Initiative?

The goals of the Attachment Initiative include:

1. Confirming and strengthening the GP-patient relationship – including better support for the needs of vulnerable patients;
2. Enabling patients that want a family doctor to find one; and
3. Increasing the capacity of the primary care system.

The Pharmacist Initiative had the potential to contribute to two Attachment goals:

1. Strengthening the GP-patient relationship - including better support for the needs of vulnerable patients, and
2. Increasing the capacity of the primary care system.

It can contribute to providing better support for the needs of vulnerable patients by providing patients and physicians access to a seasoned pharmacist. Increases to the capacity of primary health care system can be achieved through increasing physician capacity for medication management and by providing a venue for increased inter-professional interactions between pharmacists and family physicians.

3.2 To what extent is the program contributing to the achievement of Attachment goals?

Increased support for vulnerable patients

The pharmacist was able to increase support for vulnerable patients. Between July 19, 2013 and June 23, 2014, 98 patients were seen by the pharmacist. It appears, however, that the service was not utilized to the expected capacity. Over the course of the initiative, the pharmacist was available to the various clinics for 45 days. Patients were booked to see him on 36 of these days, however of these 36 days, there were only 4 days when the pharmacist's time was fully booked with 6 patients. There were 9 days where only one patient was booked and 9 days where no patient appointments were booked. Overall, only 36% of a potential of 270 consultations were used.

Utilization by host clinics varied, as can be seen in Appendix B. One clinic routinely filled the roster of 6 appointments between July and November; dropped to 4 appointments in December

and 1 in January, after which this clinic was discontinued as a host site because the clinic was moving. At another clinic, appointments dropped from 4 to 1 over a period of months, then moved back up to 4 for the last two appointment days scheduled. A third clinic, which was the only one to host the pharmacist throughout the project, consistently booked 1-3 appointments.

A variety of factors may have affected the variable referral patterns, including the size of the practice and the types of patients that are attached to the clinics. It was interesting to note that the clinic that made the most referrals and was most consistent in filling the day's schedule was the clinic where the pharmacist had an opportunity to meet with the physicians over lunch. At the new host sites which were added in January 2014, utilization was initially low and dropped off after only 2 or 3 appointment days. While not shown in these tables, it is important to note that only five referrals came from non-host clinics.

Stakeholders cited a variety of reasons for under-utilization of the service. These are described below.

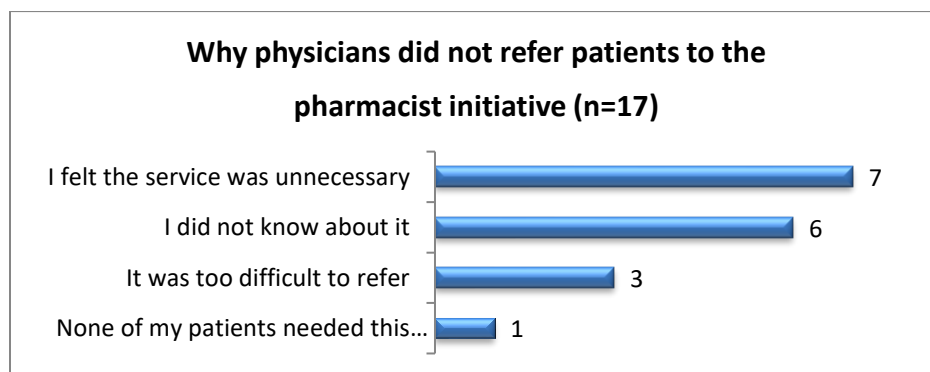
Lack of awareness of the initiative

Division staff put forth considerable effort to inform physicians about the initiative and the availability of the pharmacist. GPs were notified by email, details of the program were included in the Division newsletter and on the website several times through the year, and clinics were phoned weekly to remind them to refer patients. In spite of this, six participants participating in the clicker survey (see Figure 2) indicated that they did not know about it as did two physicians interviewed:

"It was not on my radar...maybe I got emails"

"Sometimes you get an email about something, then you don't really think about it."

Figure 2: Reasons for Non-Referrals



One physician mentioned that although some of her colleagues had told her that the program was really helpful, she just didn't think of making referrals at the appropriate time. It was also mentioned by Division staff that not all physicians had it "*top of mind*" to refer patients.

Rotating clinics

While having the pharmacist rotate amongst clinics had the benefit of exposing him to staff and physicians on site and provided a familiar venue for patients to meet with him, this presented some challenges. One physician mentioned that determining where the pharmacist was going to be located on any particular day proved difficult:

"He was at different clinics at different times – figuring out where he was and when was difficult".

Division staff concurred that there may have been some difficulties keeping track of where the pharmacist was on different days, in spite of their weekly reminders.

Lack of understanding of the potential benefits

Some physicians may not have been aware of exactly how the pharmacist could assist them to manage patient medications. As shown in Figure 2 above, seven respondents (41%) participating in the clicker survey indicated that they felt the service was unnecessary. Additionally, when asked if there was a continuing need for the program, 43% of respondents (16) chose "don't know".

One physician interviewed said that she did not have need of the service because her patients saw the pharmacist at the local pharmacy. Some physicians may not have been aware of how the services offered through the initiative differed from those of a commercial pharmacy. As Division staff explained:

- The FH pharmacist is selected because of his particular skillset. He reviews all pharma information and has access to the physician's electronic records before meeting with the patient and developing a tailored analysis of the drugs
- The GP receives a 2 page report after the FH pharmacist consults with the patient, and
- The FH pharmacist provides comprehensive patient education.

Division staff indicated that it was apparent to those who had interacted with the pharmacist that he clearly understood the boundaries of inter-professional practice. Physicians interviewed who had used the service concurred however, as this was the first time this service has been available in the area, it is not unexpected there may have been a lack of understanding of how the role of a dedicated pharmacist intersects with and supports the role of the physician within the family practice environment.

Limited need

Utilization statistics compiled by the pharmacist indicate that there may have been a more limited need for the program than was originally expected. Division staff noted that clinics with an in-house pharmacy or a pharmacy close-by with which physicians already had a relationship, tended not to refer patients. It was also mentioned by a physician interviewed that some patients did not want to discuss their medications with anyone other than himself. Another physician commented that her medications are “*not that unusual*” and that patients don’t ask for this service. A third physician commented that the nature of her practice was such that she “*did not have a lot of use for the program*”.

Some clinics may have also experienced saturation among their rosters. They had a limited number of patients who would benefit from the service and once these patients were referred, the clinic had no immediate need for more service. As commented by one physician:

“At times it became a chore for MOAs to try to find patients to fill the schedule.”

A saturation effect was also mentioned by members of the Attachment Working Group:

“It’s like many things in primary care; you may have a need for a cluster level period and then all of a sudden nothing for quite a while”.

Division staff concurred, believing that the clinics attended by the pharmacist reached a saturation point after which referrals dropped off:

“... it seems like he’s busy initially at each of the clinics and then they just run out of patients to refer to him.”

While saturation may in part explain the lower than expected uptake, as we saw, the utilization data (shown in Appendix B) show that saturation did not occur amongst all the clinics.

Effectiveness

Despite the lower than expected utilization rates, statistics collected by the pharmacist, feedback from physicians who had referred patients to the pharmacist, perceptions of Division staff, and perceptions of the pharmacist himself all indicate that the program was of great value to WRSS patients.

Of eight physicians interviewed, four had referred patients to the pharmacist program. They indicated that the program had been very valuable to their patients:

“My patients received really good care”.

“He was phenomenal – did repeat check-ins or a home visit”.

One physician interviewed referred to a particular situation where the pharmacist had been exceptionally helpful to a patient with mental health challenges, who had been prescribed different medications related to two disorders. The patient was confusing the medications and the physician said that he had really benefitted from the pharmacist's guidance. A second physician commented that the pharmacist was particularly good at working with patients in the community (as opposed to a pharmacist at a drug store):

"Pretty well all of them told me that they now understood more clearly why they were on these meds and why they needed to stay on them".

A third physician noted that patients who were reluctant to let him know that they were not taking their prescribed medications felt comfortable confiding in the pharmacist who was then able to advise them about how to minimize side effects and maximize medication effectiveness. The pharmacist's experience in the program confirms this. He articulated that at times, patients appeared to have a lack of understanding or trust of the physician's recommendations, leading them to make decisions on their own. He further commented that sometimes, patients seek out their own information and don't always fully understand what they find. After fully explaining the reasons for physician's choices of medications, he encouraged patients to communicate their concerns to their physicians, in the hope that improved communication would lead to timely handling of negative side effects and better relations between the patients and physicians. Two physicians interviewed confirmed that their patients had told them how much they appreciated the service and said that they now understood more clearly why their medications had been prescribed and why they needed to continue to take them.

Division staff felt that the pharmacist service was well received:

"He's very knowledgeable, he is very engaging with the patients, he's thorough, he takes the time, he spends time, like an hour with the patient".

"... the physicians said that the feedback they got from their patients about him was just tremendous".

The pharmacist himself believes that patient acceptance of the service was really good and said that the initiative had helped to improve the patient/physician relationship; it provided him with a venue to increase patient's trust that their physicians were making good decisions, relative to their health status. He speculated that better understanding by the patient would lead to better management of their conditions, and that perhaps better outcomes will mean a lesser burden to the healthcare system.

While there was no opportunity to survey patients about the impact of the service, data collected by the pharmacist, as shown in Figure 3 below, indicates that the majority of patients accepted his recommendations.

It is important to note the following about this table:

- ‘No valid indication’ mostly involves supplements that were not beneficial or duplicated the prescription medications that the patient was already taking.
- The recommendations made by the pharmacist to patients *were directed toward their usage of non-prescription medications*, with the exception of the row indicating ‘not receiving drug’.
- The patient’s verbal response to the recommendation was obtained after the consultation and was placed in the category of acceptance, refusal or “*they would think about it*” (pending). Many of the recommendations involved Acetaminophen, Vitamin D, Calcium, or laxatives.
- For the row “Not receiving drug”, the suggestions may have involved a prescription medication that the patient had stopped on their own, or an over-the-counter medication that was prescribed by the physician and listed on their chart.

Figure 3: Overview of Medication Reviews and Outcomes of Recommendations to Patients

Patient Recommendations Related to	Accepted	Refused	Pending	Total # of recommendations
No valid indication (for the drug they are taking)	35	1	2	38 (30%)
Requires drug therapy (may need additional drug)	16	3	2	21 (17%)
Improper drug selection (causing side effects, etc.)	0	0	0	0
Sub therapeutic dose (not taking enough)	25	0	0	25 (20%)
Supratherapeutic dose (taking too much)	12	1	3	16 (13%)
Not receiving drug (not taking as prescribed and affecting outcome)	18	0	0	18 (14%)
Adverse effect	5	1	1	7 (6%)
Drug interaction (if clinically significant)	0	0	0	0
Total	111	7	8	126

It is clear from all the data presented that the Pharmacist Initiative was successful in increasing support for vulnerable patients, despite the less than expected uptake.

3.2 To what extent is the program increasing capacity in the health care system?

There are two ways the Pharmacist Initiative increased the capacity of the health care system:

1. Improved management of medication needs, and
2. Increased inter-professional interactions.

It had little impact on overall practice capacity and improving practice environments.

Increased management of medication needs

While the pharmacist saw no need for physician education as such, the time that he was able to spend with patients often provided new information he could share with the physician, such as information about over-the-counter medications patients were self-administering that could affect such things as compliance with prescriptions and drug interactions. The pharmacist felt that the interactions he had with the physicians he had worked with had increased their awareness of what a pharmacist can offer and they are now “*more in tune*” with how a pharmacist evaluates medications.

Data collected by the pharmacist indicates that the program enabled him to share his expertise related to medications. The data show that very few recommendations made to physicians were refused. The recommendations made by the pharmacist to physicians were considered to be accepted if verbal or written acceptance was received, or if follow-up review with the patient or of the PharmaNet profile revealed that the changes had been accepted. Many of the suggestions were noted as pending, which allowed the physician time to review the patient’s status and the recommendation at a future office visit. The pharmacist continued to monitor pending recommendations for one month, either through contact with the patient or through PharmaNet records. For recommendations not acted upon within the month, it is not known if these recommendations were eventually accepted, however, none of the physicians interviewed indicated that any recommendations had been inappropriate. While the use of some medications was reduced or stopped in some instances, additional medications were recommended. This evaluation did not examine whether there were any net savings to PharmaCare.

As shown below, between July 2013 and June 2014, 126 recommendations were made to physicians. Of these, 63 were accepted, 2 were refused, and at the time data was submitted for the evaluation, 51 were pending.

Figure 4: Overview of Medication Review Findings and Outcomes of Recommendations to Physicians

Recommendations to physicians related to:	Accepted	Refused	Pending	Total # of recommendations
No valid indication (discontinue medication)	9	1	12	22 (19%)
Requires drug therapy	16	1	17	34 (29%)
Improper drug selection	5	0	0	5 (4%)
Sub therapeutic dose	12	0	11	23 (20%)
Supratherapeutic dose (most recommendations to stop a medication)	13	0	11	24 (21%)
Not receiving drug (patient not taking medication as prescribed)	6	0	0	6 (5%)
Adverse effect (medication stopped)	1	0	0	1
Drug interaction (medication stopped)	1	0	0	1
Total	63	2	51	116

Please note the following about this table:

- The five recommendations in the row ‘improper drug selection’ were all related to suggestions for long-acting analgesics for pain management in place of shorter-acting agents.
- The ‘no valid indication’ row indicates instances where the recommendations were to discontinue medication, as were most recommendations in the ‘supratherapeutic dose’ row.

Physicians interviewed said that the initiative had increased their ability to manage patient medications. A physician who had referred a number of patients commented that the pharmacist’s suggestions to him about how to deal with side effects and interactions (which he was not previously aware of) were practical and helpful. Another physician who has a practice that serves older patients with complex needs and who often take multiple drugs, said that the recommendations were good and that the pharmacist’s suggestions had enabled him to taper off or change some medications:

“He was very thorough.... Identified some things that I needed to spend more time with the patient on.”

“Good practical advice to me about how to help patients with medication issues.”

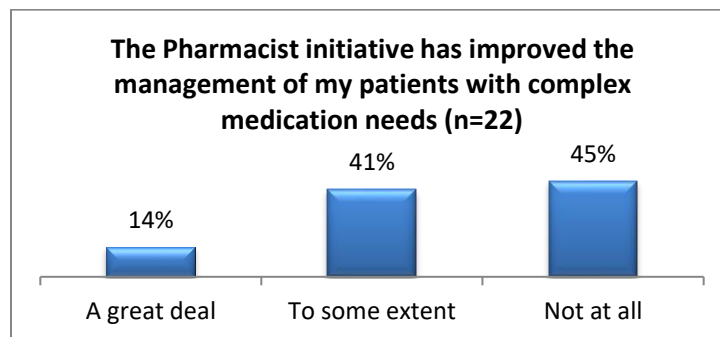
The pharmacist reported that one physician had told him that his patients had reported that they have more information about their medications and side effects and this feedback from patients has improved his own ability to provide patient care.

At an evaluation meeting, a physician made the following observation:

“...It is collaborative care. Doctors don't have time to do that work with the patients. It strengthens attachment because it provides useful information that helps the GP move forward with the patient. The patient is pleased with the service and with the doctor for having sent them to the pharmacist”.

The qualitative data demonstrate that improvements were realized in medication management. However, responses obtained through the clicker survey indicate a more modest impact of the initiative on the management of patients with complex medication needs. As shown below, just over half of the physicians reported that the initiative impacted their ability to manage medications (55%, with 41% reporting it had “to some extent” and 14% reported it had to “a great extent”). A sizable percentage of physicians (45%) reported the initiative had not impacted their ability to manage medications. As mentioned, these findings likely under-represent the true impact of the initiative as this question appeared to be answered by physicians who had not referred patients.

Figure 5: Impact of Initiative on Management of Patients with Complex Medication Needs



As shown below in Figure 6, most physicians participating in the clicker survey (91%) reported no increase in capacity within their practices as a result of the initiative. This could be expected as this was not intent of the program.

Figure 6: Impact of Initiative on Practice Capacity

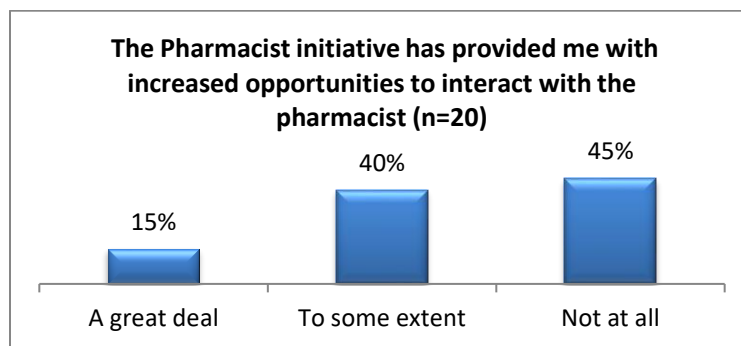


Overall, the data indicate that the initiative had a modest effect on increasing physician capacity for medication management. It appears that for those who used the service, it was very effective; however, the low utilization may have contributed to the overall findings of only modest impacts across practicing Division members.

Increased inter-professional practice

The second area where the initiative had some impact on the capacity of the primary health care system was inter-professional practice. As shown in Figure 7, just over half the physicians participating in the clicker survey (55%) indicated that the initiative increased their opportunities to interact with the pharmacist. Fifteen percent indicated it had increased their interactions “a great deal” and 40% indicated their interactions were increased “to some extent”. Forty-five percent said the initiative did not increase their interactions with the pharmacist. Once again, this finding should be viewed with caution as it may be under-representing the actual impact in this area.

Figure 7: Impact on Inter-professional Interactions



Interviews with physicians who had used the service revealed appreciation of the pharmacist’s liaison, recommendations and reports, and the pharmacist himself commented on the positive level of collaboration with physicians he worked with. Division staff believed that the pharmacist’s professionalism was instrumental in building collaborative relationships and noted that he well understood the physician’s role and how to support their work.

The collaborative relationship appeared to be most enhanced at clinics the pharmacist attended. Division staff indicated that having him working at physician practices resulted in more referrals and this is borne out in the utilization data. They also commented on the flexibility of the pharmacist in collaborating with the clinics:

“He was flexible on his days sometimes, and when that was needed, which was good, and he also, when he wasn’t available he did have somebody that stepped in and kind of did it for that time, which I think sort of kept the continuity of it, of the programming happening rather than him all of a sudden not being available”.

The pharmacist noted that partnership between himself and physicians, which enabled him to access their patient records, contributed to the success of the work by enabling him to: “*follow their train of thought and direction from one appointment to the next*”, as did the situation at the one clinic where he was able to talk to the physicians over lunch:

“...the face-to-face time allowed for quick simple questions that one wouldn’t take the time to telephone the pharmacist; and for the back and forth questioning that gave a better understanding of the thinking process of the pharmacist and the direction that the physician wanted to take.”

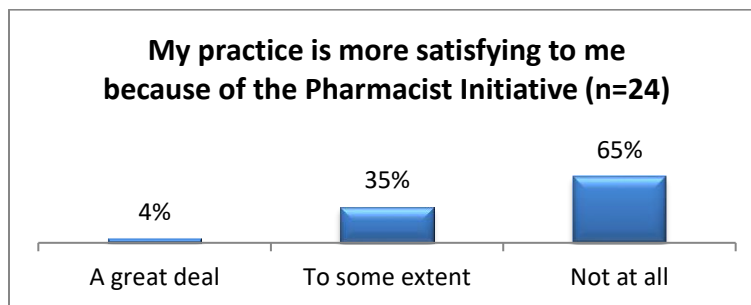
He also noted that his reports to the physicians enabled him share research on different approaches to medications where appropriate – for example new information on why it would be safer for patient taking two blood thinners to only take one. The pharmacist also mentioned that the initiative had helped to increase his own understanding of patient beliefs and values that can influence medication compliance.

When asked if the program had increased his motivation to engage in inter-professional practice, the pharmacist responded that he has always engaged in inter-professional practice at a high level; however he noted that a program such as this could certainly increase motivation for a new graduate or someone who was looking to expand their scope of practice.

Limited impact on improving practice environments

As shown in Figure 8 below, only 39% of physicians participating in the clicker survey reported that the initiative improved their satisfaction with their practices.

Figure 8: Impact of Initiative on Satisfaction with Practice



Summary

In sum, the Pharmacist Initiative was able to contribute to increasing the capacity of the primary health care system through the increased management of medication needs and increased inter-professional practice; however, it had little impact on other aspects of capacity such as

increasing overall capacity and a modest impact on improving practice environments. In the words of a member of the Attachment Working Group:

“While the initiative did not really enable physicians to attach to new patients, physicians don’t have time to spend with their patients discussing medications in-depth and having someone to do this decreased stress and may improve their sense of work enjoyment”.

3.4 What worked well, what were the challenges, and what could be improved?

What worked well?

Access to a seasoned clinical pharmacist

In speaking to program stakeholders, it was very clear that this particular pharmacist has the qualities needed to make a program like this work well; he is knowledgeable, committed, diplomatic, and well understands and can deal with potential barriers to his acceptance by physicians. The physicians interviewed were impressed with the pharmacist’s ability to work with patients - gaining their trust and confidence as well as his ability to educate and inform them. Division staff also commented on the pharmacist’s breadth of knowledge and ability to engage successfully with both patients and physicians.

Patient acceptance

Division staff and physicians indicated that patient acceptance of the pharmacist was outstanding. The pharmacist himself was very satisfied with patient acceptance of the service and as shown previously, patient acceptance of the pharmacist’s recommendations was very high.

Collaboration

Physicians who had accessed the pharmacist’s services, Division staff, and the pharmacist himself commented on the high level of collaboration that existed in the initiative. At the one clinic that closed for lunch, where the pharmacist was able to meet with physicians during this time, collaboration was enhanced by the opportunity for the pharmacist to meet with physicians informally. As Division staff mentioned, once physicians had actually worked with the pharmacist, they saw him as a resource for themselves as well as for their patients.

Challenges

Limited utilization

There was agreement amongst stakeholders that main challenge with the program was that it was not utilized to the expected capacity. Lack of utilization was due to a variety of factors including: a lack of awareness of the program itself; the rotating schedule which meant that the pharmacist was in different clinics throughout the month; a lack of understanding of the benefits of the program, or a feeling that it was unnecessary; and a limited need for the program. Almost all referrals (with the exception of five) were from clinics that the pharmacist attended and Division staff speculated that there may have been some issues related to physicians being reluctant to send their patients to another practice. It was not possible or necessary to schedule the pharmacist for every clinic in the Division, as some did not have space where he could meet privately with patients and some did not have a need because they had an existing relationship with a pharmacist within their building.

Communication

From the perspective of the pharmacist, communication with physicians presented some challenges:

- Often the referring physicians were not in on the day he visited their clinics, or there was not time during the clinic visit to drop in to see them to discuss their patients, or the physician's day was so busy with urgent duties and call-backs that a time to talk did not present itself.
- Although it was not always necessary for him to know, the pharmacist did not systematically receive feedback on his reports and consequently he was not always aware of the final outcome of his recommendations. This resulted in incomplete data relative to his recommendations to physicians, with 44% of these noted as "pending", one month after the patient consultation.

Additionally, the pharmacist believed that there may have been some misunderstanding regarding the role of the pharmacist in the initiative. Division staff concurred and noted that the initiative was more successful when the pharmacist had the opportunity to schedule an initial meeting with the staff at the clinics; however, this was not always possible.

How could the program be improved?

Suggestions for improvements to the program from physicians participating in the interviews included having the pharmacist based at one location, as opposed to rotating amongst clinics. Two physicians indicated that having the program available at one location would be an improvement; one suggested the hospital; the second suggested a central location such as the Primary Care Access Clinic.

The pharmacist and Division staff were asked what advice they would give to other communities who want to implement this type of program. Division staff indicated that they would recommend setting the program up in a similar way, rotating through practices, perhaps also going to smaller practices and allocating a half day, rather than a full day.

The pharmacist and Division staff were in agreement that the pharmacist providing services should meet with the clinics prior to start up; letting them know about his services and how he/she can support their work. The pharmacist suggested preliminary meetings (prior to launching the program) with host clinic staff including the physician(s). This would allow the pharmacist and clinic representatives to discuss and clarify the role that the pharmacist could play at their clinics – i.e., education and information to the patient; providing a schedule and structure for medication administration; reviewing the appropriateness of supplements and herbals, *but not the prescribed therapy*. These meetings would also provide the opportunity for the pharmacist and clinic representatives to clarify how communication would be handled – e.g., how urgent concerns would be dealt with; communication with the patient about the medications plan; follow-up after reviewing the report or after the next physician visit and patient follow-up by the pharmacist. He also suggested that it would be useful to have a meeting with clinics every 60 or 90 days, to review the program data (types of patients being seen, medication issues being addressed, and successes/challenges) and felt that had he been able to share this data on a regular basis, it would have helped to increase awareness of what the program can offer.

One physician interviewed concurred that a preliminary meeting would be helpful:

“Would be good if he had come round and introduced himself – it might have stuck in my mind”.

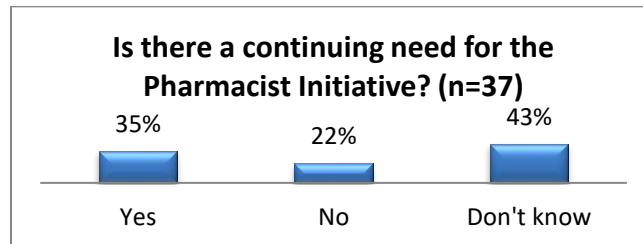
The pharmacist and Division staff agreed that it is important to have a pharmacist who was a good “fit” with the clinics. The pharmacist also suggested that prior to program start-up, it would be helpful to determine and agree upon data collection and reporting needs and to develop and use a questionnaire to assess patient and physician satisfaction and outcomes.

3.5 Is there a continuing need for the program?

Views on whether or not there is a continuing need for this initiative are mixed. Five of eight physicians interviewed believed there is a continuing need and two of the physicians said it was particularly useful for chronic care, multi drug patients and/or people with compliance issues. Of the remaining three physicians interviewed, two felt that there was a limited need and one physician said that although she felt there was a need, she would like to be able to access the program when she needed it, rather than when she knew the pharmacist was going to be at a clinic close by. The pharmacist himself believes that there is “absolutely” a continuing need. Division staff concurred that there is a continued need for the program, likely at a reduced level: *“...once a month - at the most”.*

In contrast, when asked if there was a continuing need for the initiative, the most frequent response of physicians participating in the clicker survey was “don’t know”. As shown below, only 35% of physicians said there was a continuing need.

Figure 9: Perspectives on Continuing Need for Pharmacist Initiative



This data may reflect the fact that only 15 physicians participating in the clicker survey had used the program.

Information obtained from the pharmacist in his review of this report shows that there is a continuing need for the service. Prior to this initiative, WRSS family practices were able to refer patients to him for consultation at the outpatient facility at the hospital. Prior to this initiative, he received about 2-3 referrals per month from GPs. Since the initiative ended, the pharmacist has observed that the number of referrals he receives has about doubled over those received prior to the initiative.

3.6 How can the program be sustained?

Suggestions for sustaining the program included external funding and in-kind support. The pharmacist suggested collaborative funding – some from clinics, some from PharmaCare, and some from the hospital. He mentioned that there are two other models that could be looked at – one at the University of British Columbia and one at the Mid Main Clinic in Vancouver. Division staff were in agreement that some sort of collaborative funding could sustain the program, possibly in partnership with Fraser Health; perhaps with Fraser Health funding the pharmacist’s salary and the Division taking on an administrative role. The cost of the program was not high and it would be useful to demonstrate the cost-savings to the health care system. It was mentioned that the cost of the program is not that high and in order to make the case for continued funding, it would be useful to demonstrate cost savings to the health care system. This could be done through the examination of patients who were on medications that were creating drug interactions, or who had reduced the number of medications they were taking. As mentioned by the pharmacist:

“...you need to show, like you averted one ER visit for medication whatever, side effects, then you’ve paid for it”.

Division staff pointed out that savings in costs was not the only factor to be considered: “...it’s not only just about being cost neutral, it’s about adding a value”.

One physician suggested that Medical Services Plan could potentially fund the program for chronic care, multi drug patients. Another physician suggested that it would be important to create more awareness of the benefits of the program in order to sustain it.

Given that the pharmacist is able to receive GP referrals through his work in the outpatient clinic, efforts may need to be put into sustaining the outreach and physician education component of the initiative.

4 Limitations

While this evaluation did gather data from a variety of stakeholders including the seconded pharmacist, Division staff, the Attachment Initiative Working Group, and physicians in the White Rock-South Surrey Division of Family Practice, it did not gather data directly from patients who accessed the service. The administration of the physician survey through “clicker technology” also added challenges. As mentioned, findings based on the survey results may under-present the true impact of the initiative as there was no ability to filter out data from physicians who had not used the service. Further the findings of improved medication management were not verified through an analysis of PharmaNet data.

5 Conclusions

The available data show that the initiative contributed to two of the goals of the Attachment Initiative:

1. Confirming and strengthening the GP-patient relationship – including better support for the needs of vulnerable patients;
2. Increasing the capacity of the primary care system through increasing the management of medication needs and increasing inter-professional practice.

Over the course of the year, the initiative provided access to 98 patients at 7 different clinics. The program worked well with stakeholders indicating that it was really valuable to both patients and WRSS physicians who utilized it. The main challenge of the program was its under-utilization.

A major benefit of the program was for patients who were very appreciative of the service and accepting of the pharmacists recommendations. While the system of having the pharmacist rotate regularly amongst clinics was not completely successful in that the roster was not always filled, this strategy was effective in increasing awareness of the value of the benefits of such a program and increasing uptake.

While successful in contributing to Attachment goals, the initiative was not used to the expected capacity. This was due to a variety of factors including a lack of awareness of the program and how it could benefit patients, and a limited demand particularly from non-host clinics. However, even among host clinics, there were variable patterns of use with some clinics experiencing at least temporary saturation and others showing a continuing, albeit lesser need than anticipated.

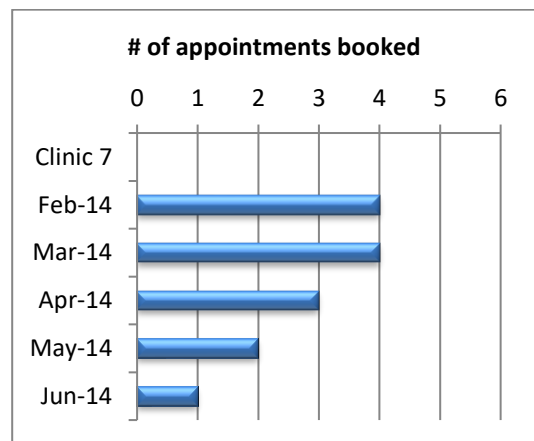
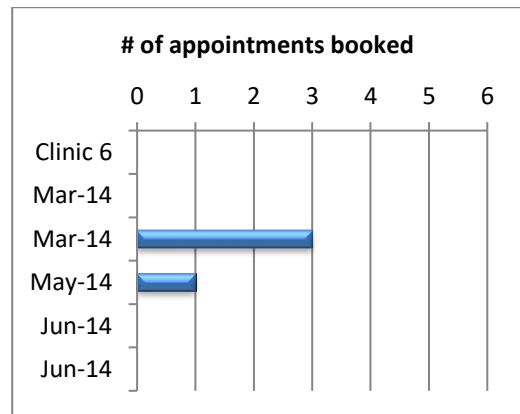
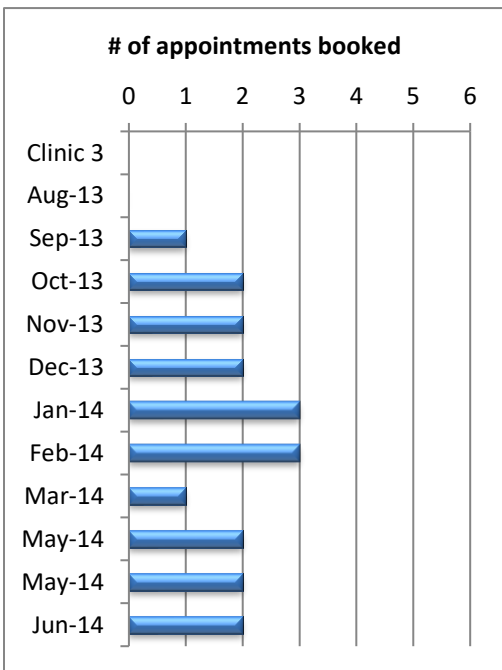
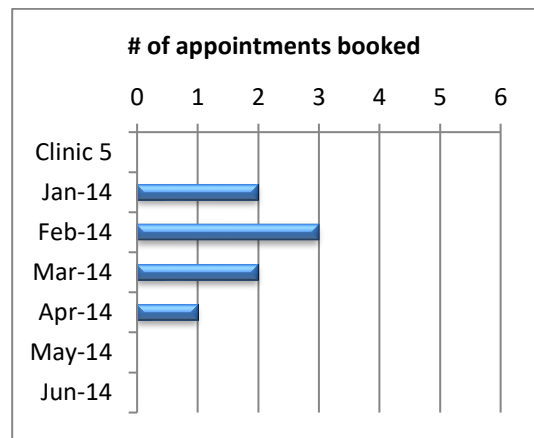
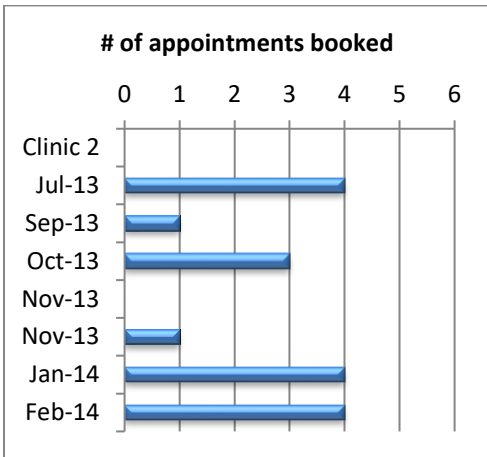
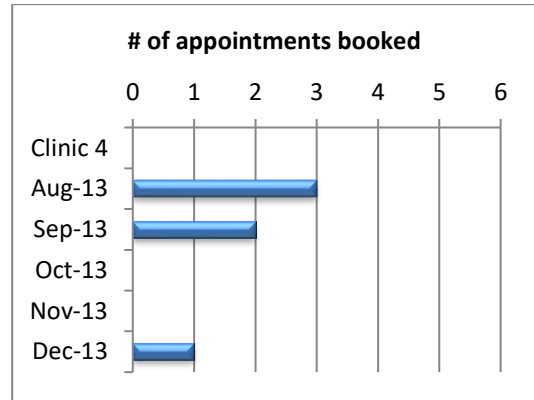
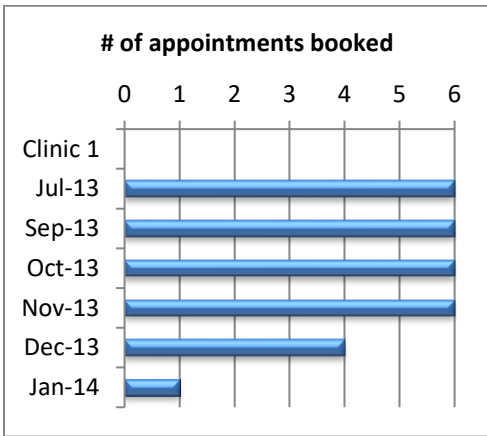
Suggestions for improvements centered on how the program could best be delivered; how to increase awareness of the program and how to increase communication with physicians using the program. Those who used the program reported a continuing need for the program, perhaps delivered in a different manner at a reduced level. Suggestions for how the program could be sustained related to co-funding arrangements, MSP funding, doing some work to demonstrate savings achieved through the program, and increasing awareness of the benefits of the program.

Appendix A – Logic Model

Attachment Goals: **Increased Support for Vulnerable Patients**; **Increased Attachment**; **Increased Capacity of Primary Health Care System**

Inputs	Activities	Outputs	Short Term Outcomes	Medium Term Outcomes	Long Term Outcomes (Triple Aim)
<u>Personnel</u> Pharmacist time/travel Physician time Clinic staff time to book appointments and complete paper work <u>Space</u> Clinic space in 4 clinics Funding From WRSS <u>Needs</u> Patient's motivation and time	Physician referrals Pharmacist review of files Patient/pharmacist meetings Recommendations to physicians Recommendations to patients Monitoring and evaluation	# of host clinics (7) # of referring clinics/% of all clinics in WRSS # of Physicians referring/% of total WRSS physician pool # of patients referred and seen/% of patient rosters Amount of time contributed by pharmacist	<u>Patients:</u> Improved access to care <ul style="list-style-type: none"> Patient perceptions of improved access to pharmacist services Increased ability to engage in self-care <ul style="list-style-type: none"> Increased knowledge of their medications (purpose; how to use) Increased motivation to comply with recommended drug therapy # and % of patients who accept recommendations Satisfaction with care <ul style="list-style-type: none"> % of patients reporting satisfaction with care <u>Providers</u> <u>Pharmacist:</u> Increased capacity of primary care system <ul style="list-style-type: none"> Increased access to patients Increased understanding of patient beliefs and values that may impact medication compliance Increased opportunities to educate physicians about medications and other medication support resources Increased ability to educate patients about medications <u>Physicians:</u> Increase capacity of the primary care system <ul style="list-style-type: none"> Increased understanding of medication needs Increased knowledge of how to advise about medications <u>Health Care System:</u> Improved inter-professional practice <ul style="list-style-type: none"> Increased motivation to engage in inter-professional practice Strengthened relationship between pharmacist and physicians. 	<u>Patients & Families</u> Improved health and well-being <ul style="list-style-type: none"> Increased compliance with prescribed medication Reduced side effects and drug interaction problems Perceptions of improved health <u>Pharmacist:</u> Increased ability to achieve full scope of practice <ul style="list-style-type: none"> Extent to which pharmacist has been able to educate patients and physicians Perceptions of impact of initiative on scope of practice <u>Physicians:</u> Improved care provision <ul style="list-style-type: none"> Increase in appropriate medication selection Increased ability to optimize therapy Increased satisfaction with practice environment	Increased patient-centred care Improved provider experience Improved population health Improved health system sustainability Reduced resource utilization

Appendix B – Program Utilization Data



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