



Shared Care Final Project Report

Project Title	Improving the Patient Journey for Respirology Patients in the Fraser Northwest For Better Health Outcomes (SCC2286)
Project Timeline	March 1, 2021 - October 31, 2024
Fundholder / Organization	Fraser Northwest Division of Family Practice
Physician Leads	Dr. John Yap, Family Physician Lead Dr. Shaun Ong, Respirologist Lead (December 2023 - Completion) Dr. Samir Malhotra, Respirologist Lead (March 2021 - September 2023)
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Date of Submission	October 31, 2024



ABSTRACT

Introduction

The Respiriology Shared Care sustainment project began due concerns with increased wait times for pulmonary function testing as a result of the COVID-19 pandemic. Wait times increased due to a 3 month closure of the diagnostic clinics across the region and a reduction in tests being completed once services restarted. In 2017, an Expression of Interest (EOI) project was explored to develop a process to switch Pulmonary Function Tests (PFTs) over to pre and post bronchodilator spirometry as it required less time, is less costly and is more appropriate for COPD and asthma diagnosis. Whereas, a full PFT is indicated when there are more complex concerns such as particular lung diseases or if a patient is being considered for surgery. Hence, the aim of this project was to refresh primary care providers' knowledge regarding pulmonary function testing, in particular, choosing the right test for the patient and guidance on how to make that decision, as well as, community management of Chronic Obstructive Pulmonary Disease (COPD) and COVID-19 impacts.

Methods

The project hosted 2 educational workshops targeted at engaging primary care providers in the Fraser Northwest Division to ensure transparent information sharing of wait times, ways to reduce strain on the community's Pulmonary Function Testing clinics, and how to manage COPD patients while waiting for care. To evaluate project outcomes, a mixed-methods design of collecting both qualitative and quantitative data was used.

Results

The outcomes of the project showed an increase in primary care providers' knowledge and awareness regarding how to choose the appropriate respiratory function test for patients to ensure efficient usage of resources in the community. 95% (n=37) of attendees agreed or strongly agreed that the education session improved their confidence in knowing when to refer patients to PFT versus spirometry testing and similarly at a follow up session, 91% (n=53) of respondents were confident or very confident in determining when to order a PFT versus a spirometry test. As a result of the workshops, primary care providers are able to provide better care for their patients in managing and diagnosing COPD. An increase in understanding of available resources and therapies to trial is likely to lead to an increase in the utilization of appropriate resources to better support their patients.

Conclusion

Overall, the project accomplished its goal of refreshing primary care providers' knowledge regarding respiratory diagnostic testing and how to manage COPD in the pandemic environment. Existing resources are operating at maximum capacity and efficiency, however,



recent news of additional resources for pulmonary function testing brings optimism for improvements in the community, with the expectation of reduced wait times as a result.

INTRODUCTION

The Fraser Northwest Division of Family Practice (FNW DoFP) encompasses family physicians in New Westminster, Coquitlam, Port Coquitlam, Port Moody, Anmore and Belcarra representing the catchment area of the Royal Columbian and Eagle Ridge Hospitals. The FNW DoFP deeply respects and acknowledges the privilege of being able to work on the ancestral and traditional territories of the Coast Salish Nations, including the K^wik^wə^łəm (Kwkwetlem) and Qiqéyt (Key-Kayt) nations.

The Respiriology Shared Care sustainment project began due to concerns with increased wait times for pulmonary function testing as a result of the COVID-19 pandemic. Wait times increased due to a 3 month closure of the diagnostic clinics across the region and when service resumed, a reduced volume of tests were conducted to allow for proper cleaning procedures to occur. This sustainment project builds on the EOI project in 2017 which aimed to reduce wait times resulting in inappropriate tests being ordered. The EOI project focused on switching full Pulmonary Function Tests (PFTs) over to pre and post bronchodilator spirometry instead, as the latter required less time, is less costly and is more appropriate for COPD and asthma diagnosis. Whereas, a full PFT is indicated when there is concern for interstitial lung disease, restrictive lung disease, evaluation for pulmonary hypertension or if a patient is being considered for surgery such as lung cancer resection.

The aim of this project is to refresh primary care providers' knowledge regarding pulmonary diagnostic testing, in particular, choosing the right test for the patient and guidance on how to make that decision, as well as, community management of Chronic Obstructive Pulmonary Disease (COPD) and COVID-19 impacts.



METHODS

Interventions, Activities, and Deliverables

In the beginning, the physicians leads and project team met with the Fraser Health Pulmonary Function Working Group to understand the current state and align efforts with improving access at the outpatient and primary care level. People involved in these meetings included respiratory therapists, practice leads, managers and physician leads of the Pulmonary Function Testing clinics at the Royal Columbian Hospital and Eagle Ridge Hospital. Meetings were on an operational level to identify priorities and updates in service changes across the two hospital sites. Some of the discussion topics included: adding extra hours to reduce the backlog, addressing the increased cancellations as a result of the pandemic, and identifying ways for primary care providers to help.

From the quality improvement perspective and relationship with respirologists and family physicians, it was important to communicate to primary care providers in the community about the delays and ensure referrals for respiratory testing were appropriate to reduce strain on the Pulmonary Function Testing clinics. Information and educational learning sessions were prioritized so that primary care providers could support their patients while waiting for testing.

A “Reimagining Respiratory Disease” engagement event was held virtually on October 19, 2021 through the division’s Ask the Expert education series. The goal was to provide primary care providers with resources and tools to manage COPD patients during the pandemic. Family physician lead, Dr. John Yap provided their expertise and practical tips in primary care and respirologist lead, Dr. Samir Malhotra, provided clinical pearls. As well, the session provided guidance on the diagnostic approaches and created an understanding that the referral form has guidance around when to order spirometry and PFT testing. A total of 44 primary care providers attended the event.

The project encountered an unforeseen delay when the respirologist lead took a sabbatical and was unable to re-engage in the project after returning from sabbatical. There were challenges with securing a replacement respirologist lead, which resulted in the project being temporarily placed on hold for almost 2 years.

After the project resumed, a workshop on COPD was held through the division’s Ask the Expert education series on September 13, 2023. 2 respirologists, Dr. Randy Chung and Dr. Kevin Liang and family physician, Dr. John Yap presented. Dr. Kevin Liang presented information on the environmental impacts of inhalers and shared ways to mitigate impact in practice. Dr. Randy Chung presented on managing COPD through case studies, guidance on when to order spirometry versus PFT testing, along with key referral information to ensure staff do not spend unnecessary time following up for additional information. Dr. John Yap, shared insights in his



own practice as well as how to find resources on Pathways and utilize HDC data. A total of 78 primary care providers joined the virtual event.

Target Population

The target population is patients requiring a respiratory function test and family physicians, nurse practitioners and respirologists in the FNW region.

Engagement Strategy

As mentioned above, the Fraser Health Pulmonary Function Working Group helped to identify the current state of respiratory testing in the community and collaborated to provide updates on solutions that were being implemented. Family physicians were invited to the learning sessions via email invitations and the division’s recurring newsletter. 3 respirologists provided their expertise and evidence-based information around COPD, asthma, COVID-19 and respiratory testing in this project.

Data Collection Methods

The evaluation approach included a mixed-methods design (i.e. collection of both qualitative and quantitative data) with family physicians, specialists, and program administrators. Average wait time data and referral data were tracked and self-reported by the clinic administrators at Fraser Health. Physician feedback was collected through pre and post workshop surveys and through committee meetings.

RESULTS

Improved Patient Experience

Goal/Anticipated Outcome	Results
Increase patient satisfaction on accessing care for respiratory testing and COPD	<p>There were no direct mechanisms implemented to evaluate the patient experience. However, it can be inferred from the feedback provided by the primary care providers who attended the learning sessions that patients are likely to benefit from the increased confidence and knowledge gained. The resources shared in the learning sessions can equip physicians to offer education and resources to their patients. This can help patients better manage their conditions and lead to improved satisfaction with accessing care at the primary care level.</p> <p>When asked about the anticipated benefits of attending one of the learning sessions, providers linked their learnings to how it could help their patients in practice:</p> <ul style="list-style-type: none"> • <i>“Trial therapy whilst waiting for spirometry”</i>



- *"It is hopeful that with providing pt better support and links on how to use inhaler properly that this will aid in better copd control".*
- *"I was able to acquire more knowledge on how to provide health teachings to my patients with COPD in terms of medication management."*
- *"Having a reliable resource for different puffers along with their coverage and price. sharing information on proper use of inhalers with pts."*

Improved Provider Experience

Goal/Anticipated Outcome	Results
<p>Increase in family physician's knowledge on managing COPD patients</p> <p>Increase in family physicians confidence in determining appropriate respiratory tests needed and how to refer</p>	<p>Reimagining Respiratory Disease Event - October 19, 2021</p> <p>A total of 37 responses were received in the post-workshop survey. The event evaluation visual is included in the appendix labelled Figure 1 to summarize the results of the survey. The graph in Figure 2 of the appendix also shows the attendees level of agreement on all the learning objectives. Below are some highlights:</p> <ul style="list-style-type: none"> • 95% of attendees agreed or strongly agreed that the session improved their confidence in knowing when to refer patients to spirometry versus PFT. • On average, 94% of attendees agreed or strongly agreed that the session improved their confidence, satisfaction and ability to provide care for patients with respiratory concerns. • Some feedback shared from attendees include, <i>"Very helpful review of the basics of COPD, feel more confident treating my COPD patients"</i>, and that they will, <i>"Apply [their] knowledge of inhaler choices."</i> <p>Ask the Expert on COPD - September 13, 2023</p> <p>A total of 58 responses were received in the pre-event survey and a total of 53 responses were received in the post-event survey. An event evaluation visual can be found in Figure 3 of the appendix, which was created to summarize the results of the survey. On average, a score of 8.7 out of 10 was given for how informative the event was. After attending the workshop:</p> <ul style="list-style-type: none"> • 91% of respondents were confident or very confident in determining when to order a full PFT versus a spirometry test <ul style="list-style-type: none"> ○ There was a 24% increase in level of confidence from pre-event to post-event.



- There was a 16% increase in understanding how to manage patients with early stages of COPD and a 17% increase in understanding when to refer patients to a respirologist.
- One attendee said that the event, *“Enhanced [their] knowledge about necessary tests and how to narrow differential diagnosis”*.
- Another attendee said, *“I thought I knew when to order a full PFT until I attended the session. Dr. Liang’s presentation re: environmental impact of MDIs was eye-opening. I look forward to using the resources he mentioned in the presentation.”*

Improved Population Health

Goal/Anticipated Outcome	Results
Reduced wait times for appropriate respiratory tests	Wait times for spirometry and PFT testing at Royal Columbian Hospital is now 4-6 months, as opposed to the 9 month wait during the pandemic. Wait times for spirometry testing at Eagle Ridge Hospital is now 1-2 months (with geographical restrictions) compared to the 5-8 month wait during the pandemic.

Reduced per Capita Cost of Health Care

Goal/Anticipated Outcome	Results
Improvements in the number of correct and appropriate respiratory tests ordered to ensure efficient use of services	<p>Overall, there have been improvements in the quality of referrals received at the Respiratory Function Testing clinics. Anecdotal feedback reported by the Pulmonary Function Technical Lead at Royal Columbian Hospital recently has said that the number of referrals that do not have the necessary information have <i>“reduced significantly”</i>. As well, the need to convert inappropriate referrals that requested a full PFT to the more appropriate spirometry test <i>“have also reduced significantly”</i>.</p> <p>Data tracked manually by the clerical staff indicated that there can be anywhere from 3 to 16 referrals that are missing pertinent information which can delay the referral process. The clinic books around 400-450 referrals per month, which means approximately 4% of referrals could be improved. Unfortunately, there was no baseline referral information tracked before the project began to be able to quantitatively compare if this has changed.</p>



DISCUSSION

In general, wait times for PFT and spirometry testing reduced as a direct result of the re-opening of the Respiratory Function Testing clinic and the increase in service availability. The outcomes of the project show an increase in primary care providers' knowledge and awareness regarding how to choose the appropriate respiratory function test for patients to ensure efficient usage of resources in the community. This allows the booking clerks at the Respiratory Function Clinics to triage referrals and ensure patients receive a timely appointment without delays caused by lack of referral information. Through the education sessions, primary care providers are able to provide better care for their patients in managing and diagnosing COPD. An increase in understanding of available resources and therapies to trial is likely to lead to an increase in the utilization of appropriate resources to better support their patients.

A total of 104 unique healthcare professionals were engaged in one or more learning sessions throughout the project. This accounts for approximately 21% of the division's membership.

Below is a breakdown of the providers engaged:

- 92 family physicians
- 5 nurse practitioners
- 7 registered nurses in practice

Although reducing wait times was not within the scope of the project, it's important to note that current wait times for a full PFT are still long when compared to the wait times reported during the EOI project in 2017. The EOI project focused on reducing wait times by converting inappropriate full PFTs to spirometry tests, which saw a decline in wait times from 5 months to 2 months. The current wait times for a full PFT is a 4-6 month wait on average. One physician noted, *"Even though it's supposed to be better than before the pandemic, it's still a long wait for patients. Patients and myself are frustrated with the wait."* Although strategies to increase efficiency and optimize resources of the system was the approach of the project, the physician leads agreed that capacity for full PFT testing in addition to access to spirometry needs to be increased to see further reduction in wait times.

Lessons Learned

A key challenge of the project was the lack of clear data collection processes. Data from the Pulmonary Function Clinics were only obtained mid-way and anecdotally throughout the project. Establishing clear metrics and data collection mechanisms at the beginning of the project would have helped the project team to have baseline referral information. As well, it would have enhanced the evaluation of how effective the educational efforts impacted the referral patterns to the Pulmonary Function Clinics in the community. The departure of the original members involved in the project also resulted in a loss of background information. Important



documentation processes have been since put in place to ensure knowledge is retained across the organization and projects.

A success of the project was the involvement of different respirologist experts in the community, who were introduced to primary care providers to foster relationships and share learnings. Involving the family physician lead in the education sessions to share practical tips also proved to be effective for peer learning. The educational workshops were well received overall, and it was an efficient way to ensure primary care providers remain up to date with important information to support their practice and patients.

Opportunities for other communities to explore could include directing spirometry tests from hospital clinics to community labs instead, which was brainstormed as a potential long-term solution at the beginning of the project but was not followed through given prioritization of the activities and length of time required.

CONCLUSION

Overall, the sustainment project accomplished its goal of refreshing primary care providers' knowledge regarding respiratory diagnostic testing and how to manage COPD in the pandemic environment. The positive feedback and changes in primary care providers' confidence levels after attending the educational workshops highlights the demand for ongoing information sharing between respirologists and primary care providers. Recordings of the workshop and presentation slides are posted on the division's website to ensure that primary care providers have access to them if needed. Positive news shared by one of the respirologists around the recent approval for an additional pulmonary function box at Royal Columbian Hospital is suspected to improve testing capacity significantly and improve timely access to care. The respirologist also reported there is ongoing work to incorporate patient education as part of the testing to ensure patient care is optimized.



APPENDICES

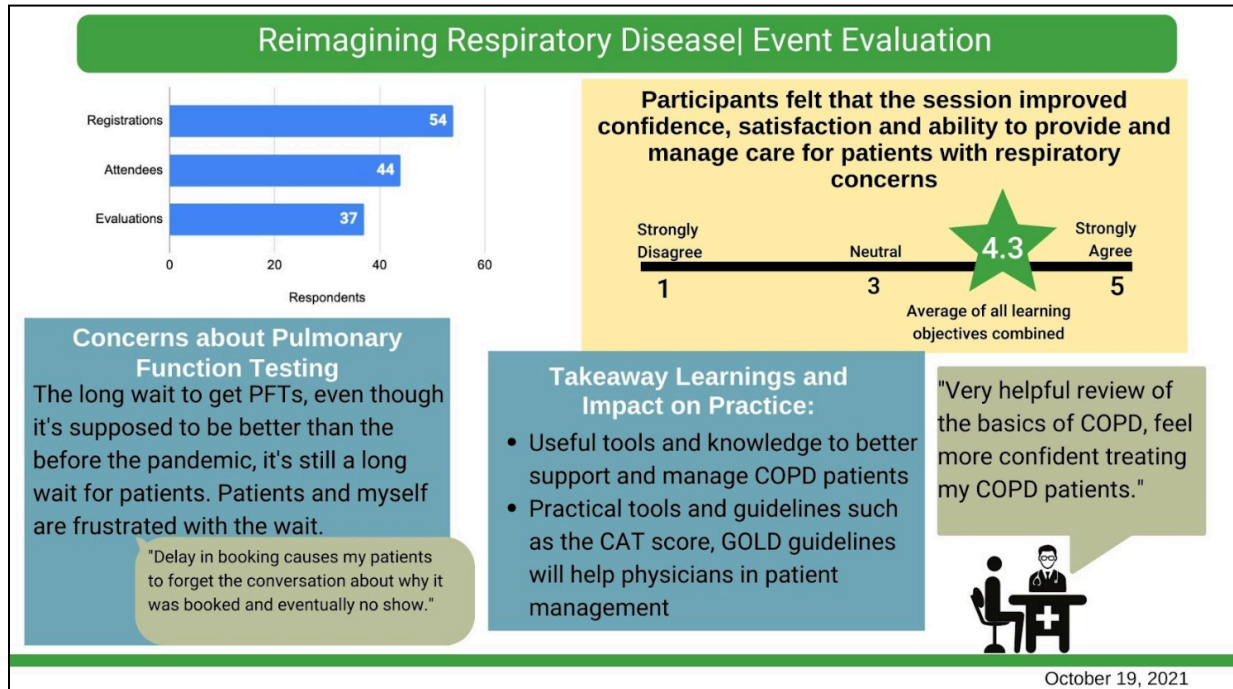


Figure 1: The event evaluation summary for the Reimagining Respiratory Disease Event.

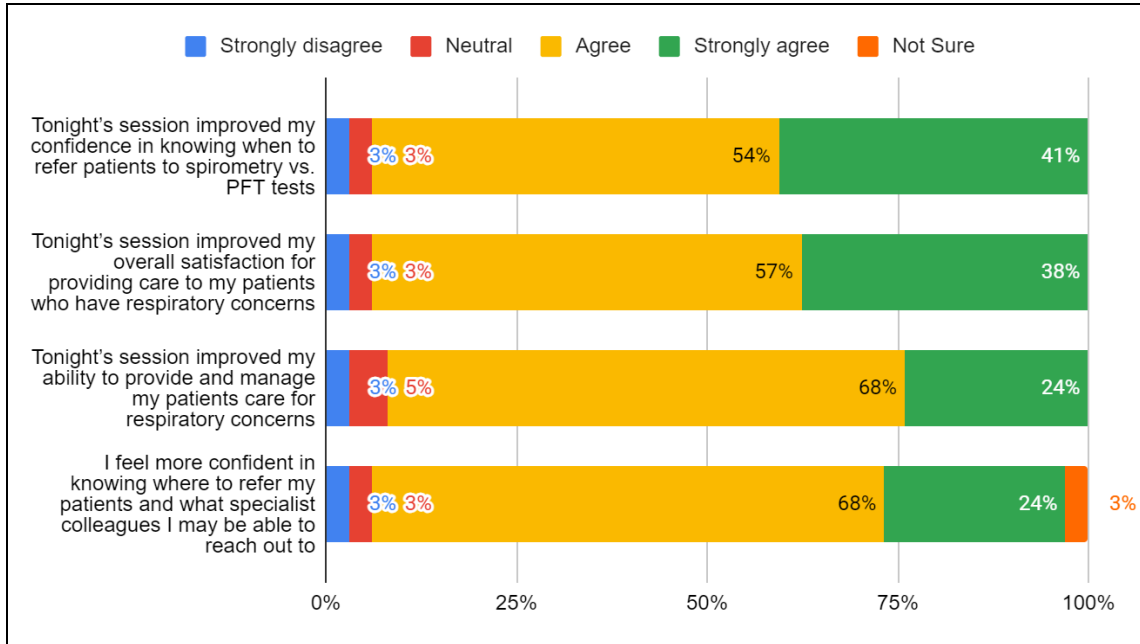


Figure 2: Attendee's level of agreement on the learning objectives after attending the Reimagining Respiratory Disease Event.

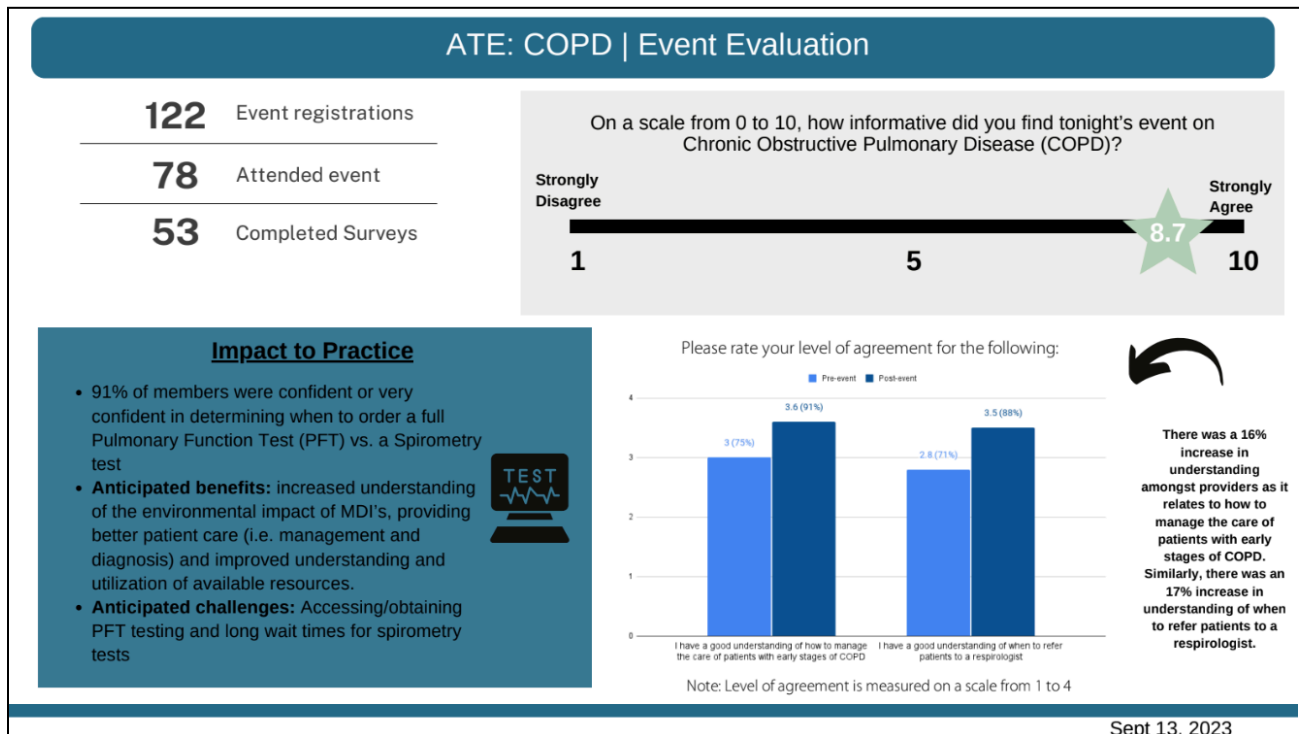


Figure 3: The event evaluation summary for the Ask the Expert on COPD Event.



TEMPLATES AND FORMS

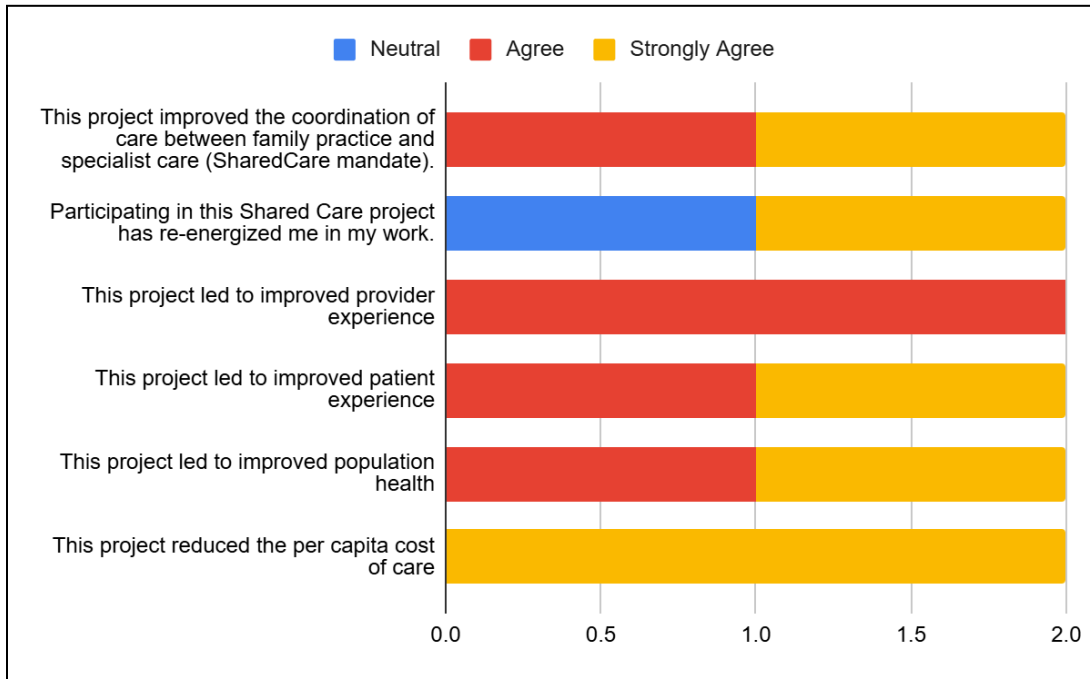


Figure 4: The responses from the Shared Care Physician Lead End of Project survey.