

“Whatever the needs were, we just rolled with it”

Public Health Mobile Units in Nova Scotia: Evaluation Report

Evaluation activities conducted from
November 2022 – September 2023

For more information contact PHMobileUnit@nshealth.ca



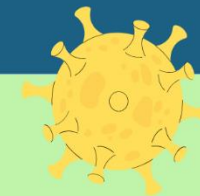
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PUBLIC HEALTH MOBILE UNITS (PHMU) IMPLEMENTATION & DEPLOYMENT

LESSONS LEARNED, ENABLERS, AND BARRIERS



LESSONS LEARNED

GOVERNMENT & HEALTH AUTHORITIES



- **Prioritization and Resource Allocation**
 - Strategically prioritize health system resources based on epidemiological data and community needs
- **Infrastructure and Logistics**
 - Proper infrastructure and logistical support are necessary for effective functioning of PHMUs, including location selection and provincial operations
- **Integration and Coordination**
 - Integrate PHMUs within the broader healthcare system to streamline processes, avoid duplication of efforts, and ensure effective coordination

PUBLIC HEALTH

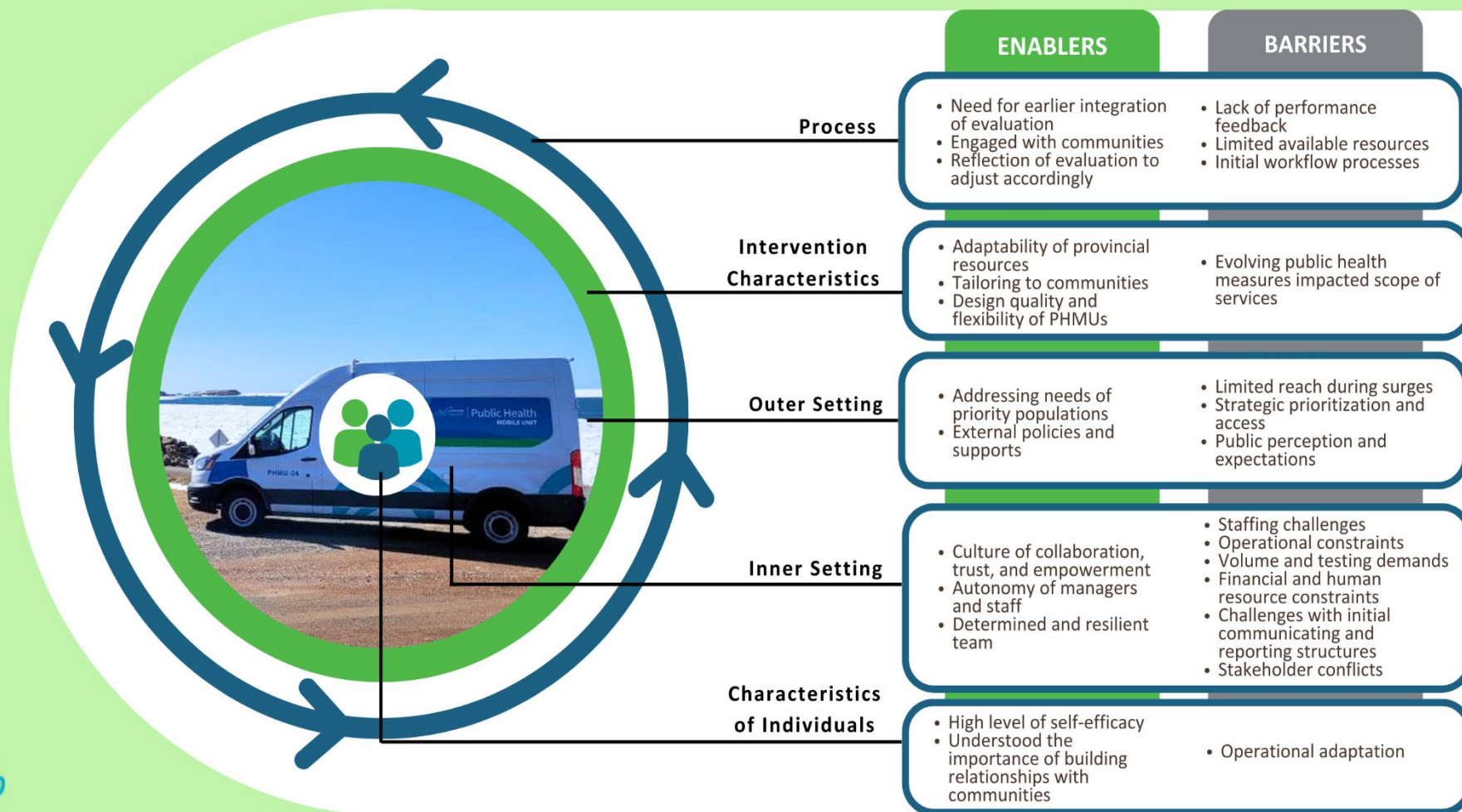


- **Adaptability and Flexibility**
 - Adaptability and flexibility are crucial for the success of in responding to the dynamic nature of public health measures during a pandemic
- **Workforce Resources**
 - Provide support and prioritize staff safety to retain qualified personnel
- **Working with Primary Care**
 - Appreciate the balance between public health and clinical roles, recognizing the collaboration between PHMUs and other healthcare providers to ensure comprehensive care
- **Continuous Learning and Improvement**
 - Provide training, stay up-to-date with best practices, and continuously evaluate and adapt strategies

COMMUNITIES



- **Communication and Engagement**
 - Early, clear & ongoing communication & engagement with communities to:
 - Address concerns early and manage expectations
 - Educate the public about the role and limitations of PHMUs
 - Build trust



Executive Summary

This report provides the findings and its implications of the provincial Public Health Mobile Unit (PHMU) implementation during the COVID-19 pandemic over the period of December 2020-June 2023. In-depth qualitative interviews and focus groups with a comprehensive set of internal and external stakeholders, as well as a set of surveys to clients, providers, staff, and community collaborators provided the data for this evaluation. The evaluation aimed to assess the effectiveness, acceptability, and appropriateness of the PHMU implementation and deployment, as well as the impact on the health system, and the provider and client experiences.

The implementation of the PHMU as a provincial public health response was characterized by an iterative and resilient approach, allowing for adaptability and flexibility in responding to the evolving demands of the COVID-19 pandemic. The PHMU team demonstrated a willingness to mold themselves to the needs of the moment, including local community contexts, which contributed to the early and ongoing success of the initiative. This adaptability was facilitated by strong leadership support, a learning climate that embraced trial and error, and access to epidemiological data for informed decision-making.

The importance of community engagement and trust-building was highlighted by stakeholders. The PHMU worked closely with community leaders, accommodated services based on community requests and feedback, and employed a tailored approach to meet the unique needs of each community. This approach fostered positive relationships and improved access to care for vulnerable populations. Public Health Senior Leadership, policymakers, and decision makers should prioritize community engagement strategies and partnerships to ensure that PHMUs are responsive to community needs.

The evaluation emphasized the significance of supportive leadership, cross-departmental collaboration, and a learning culture. Courageous leadership and a willingness to make mistakes were key factors in the success of the PHMU implementation. Strong relationships with senior leadership allowed for rapid response to staff feedback and created a sense of support and empowerment. Cross-departmental collaboration facilitated the sharing of knowledge and resources, promoting a sense of unity and collective effort. Public Health Senior Leadership, policymakers, and decision makers should continue to prioritize the development of supportive leadership models and foster a culture of collaboration and continuous learning within public health organizations.

Future learnings include a need for early evaluation to enhance implementation effectiveness and adaptability. The PHMU was successful as, in the absence of formal evaluation, leadership implemented an ongoing continuous learning cycle to inform PHMU implementation: plan, do, study, act. At times these were very short cycles to implement changes as required of the pandemic conditions. Policymakers should integrate formal evaluation into the implementation process to assess implementation processes and support continuous learning, reflection, and strategic pivoting.

The evaluation also highlighted the positive experiences of PHMU staff and providers, who expressed a strong sense of fulfillment and engagement in their work. The PHMU staff and leadership were a provincial team delivering a provincial program locally. Autonomy and freedom to adapt roles and

responsibilities, as well as support from management and cross-departmental collaboration, contributed to their positive experiences. Public Health Senior Leadership, policymakers, and decision makers should prioritize workforce satisfaction and well-being through strategies such as professional growth opportunities, recognition of staff contributions, and a supportive work environment.

This evaluation presents ideas for expanded and sustainable PHMU services, providing valuable insights for Public Health Senior Leadership, policymakers, and decision makers and stakeholders involved in the implementation and expansion of similar initiatives. The findings emphasize the importance of adaptability, community engagement, supportive leadership, collaboration, and early evaluation.

By addressing implementation barriers and leveraging facilitators identified in this evaluation, Public Health Senior Leadership, policymakers, and decision makers can enhance the sustainability and scalability of the PHMU, ultimately improving preparedness and response capabilities for future opportunities for public health response.

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Introduction

In the fall of 2020, the Public Health Mobile Unit (PHMU) initiative commenced as a provincial support for Nova Scotia's COVID-19 provincial testing strategy. Funding for the PHMU originated with the Nova Scotia federal-provincial-territorial Safe Restart Agreement. Implementation involved the development of the vans, equipment, staffing, and processes to deliver COVID-19 services in a provincial model. The services offered by the PHMU initially focused on providing COVID-19 PCR and/or rapid testing to communities across the province experiencing COVID-19 outbreaks, or in areas where testing was not otherwise easily accessed through existing Nova Scotia Health (NSH) care pathways or infrastructure. The PHMU initiative was also characterized to provide “rapid services” and “flexibility” in Nova Scotia's health system COVID-19 response¹.

Since its inception, the PHMU provincial initiative has evolved to meet identified needs. At the current stage of the pandemic and NSH COVID-19 response, there is an opportunity for the PHMU to begin to consider and understand the opportunities for the future state the PHMU services. This report is focused on describing the PHMU initiative and key learnings, as well as to understand future directions for the PHMU.

Components of the PHMU

The PHMU is a provincial initiative and consists of several core components which outlined the activities supporting implementation. These are: 1) planning and leadership; 2) PHMU community clinics; 3) communication; and 4) partnerships and engagement. These components are described in detail over the following sections and can also be viewed as a Logic Model in Appendix 1.

Component 1: Planning and Leadership

The PHMU initiative involved procuring vehicles and designing and outfitting them to transport testing supplies, samples, and equipment. Ten dedicated vans for COVID-19 testing and response are part of the PHMU fleet, which are staffed by a collaborative team of 40-60 staff, including Public Health Nurses (PHNs), emergency support aides (ESAs), administrative professionals, drivers, and management. In 2021, three vans were designated to local public health outreach in Eastern, Northern and Western Zone. The PHMU program maintains seven vans to support COVID



response. The responsibilities of the on-site PHMU staff are described in Appendix 2. Staff at the PHMU do on-site PCR testing, offer rapid test kits, and can assist clients in finding answers to their COVID-19 queries. They also monitor supply and inventory and support venue identification. The PHMU developed documentation for policy and procedures. In practice, these benefited from continuous quality improvement. Planning and leadership also involved recruitment and onboarding of staff, leadership, and a team to support the PHMU COVID-19 services.

Component 2: PHMU community clinics

Current testing priorities and activities of the PHMU include symptomatic PCR testing and rapid test distribution within settings or communities that have barriers to accessing testing centres. Until winter 2023, the work included supporting communities with outbreaks in areas with risk of developing serious disease. The choice of clinic location was a proactive and reactive process and was based on: 1) government priorities and epidemiology 2) gaps identified by testing strategy groups with prioritization on



vulnerable communities 3) testing requests in response to outbreaks or potential exposures, and 4) PHMU capacity and logistical considerations including staffing, travel times, and volume. Within the multi-pronged COVID-19 testing strategy for Nova Scotia, the testing approach for PHMU included the following: 1) testing that targeted Nova Scotians of all ages – either asymptomatic or symptomatic; 2) offering booked appointments, drop-in appointments, or targeted in-home testing; and 3) offering PCR tests (priority), rapid tests conducted by PHMU staff, or handing out rapid tests to the public. PHMU “clinics” fall under one of these categories: 1) community 2) facility and/or hotel, and 3) in-home testing. Trained interpreters were accessible for clients or communities with non-English language needs. Community sites where the PHMU is active include community hubs (Legions, community centres, libraries, spiritual halls, fire halls) and outdoor spaces (parking lots, exhibition grounds). Outbreak testing supports were identified for long-term care/retirement facilities, residential care facilities, shelters, and in-home testing. Past outbreak testing settings included schools, religious communities, and multi-unit dwellings (apartment buildings).

As part of broader COVID-19 response, the PHMU also supported SPO2 (pulse oximeter) drop off to individuals with confirmed COVID-19 infection and supported the immunization strategy once COVID-19 vaccines were available. The PHMU is intended to provide proactive/reactive responses to identified needs.

Component 3: Communication

Communication is a foundational component for the PHMU – both internal communications and communication with external partners. As part of internal communications, the PHMU works across departments to ensure that those within public health, NSH and the broader partnership are aware of PHMU roles so they can support clinics and refer clients as appropriate/required. Internal communication is also important to support awareness of PHMU deployment. For external communications, PHMU works with communities to ensure that enough notice is given in advance for the PHMU community locations so clients are aware of where and when they can access services and the type of services provided. Media can be leveraged for this purpose to support awareness of the PHMU among the community.

Component 4: Partnerships and engagement

The PHMU collaborates with many departments or services across Nova Scotia Health, including Communications, Laboratory Services, Information Management, Information Technology (IM/IT), COVID-19 services, Nova Scotia Digital Services, Interprofessional Practice and Learning (IPPL), Infection Prevention and Control (IPAC), Occupational Health Safety and Wellness, Project Services & Performance Improvement, initial COVID-19 Primary Assessment Centres, Facilities, Finance, Housekeeping, and Security. The PHMU also collaborates with Nova Scotia government departments, such as the Department of Public Works, Department of Health and Wellness Public Health Branch for various aspects of the initiative.

Through the pandemic, the COVID-19 work originated at the Department of Health and Wellness Testing Strategy working group and was connected for community implementation through the Nova Scotia Health COVID-19 Network.

Evaluation Goals and Objectives

The overarching goal of this evaluation was to assess the extent to which the current provincial PHMU approach, policies and processes are functioning effectively, and to identify opportunities for improvement and innovation within the PHMU model.

Specific objectives for the evaluation were:

- (1) To assess the **feasibility, acceptability, and appropriateness** of the implementation of expanded PHMU services
- (2) To assess the **impact of the** PHMU on provider and client experiences, and utilization
- (3) To examine **scalability and sustainability** of the PHMU; and
- (4) To understand the **impact** of PHMU implementation on the organization, and diverse communities and populations served.

Approach

Study Design

This was a mixed method evaluation that employed a hybrid inductive/deductive qualitative content analysis approach² to explore the implementation and early operation of the provincial PHMU in NS. The analysis was guided by both the Consolidated Framework for Implementation Research (CFIR) which provides a comprehensive framework for understanding factors influencing implementation processes and the Quintuple Aim which provides outcomes related to health system improvement. The CFIR was used as a guiding framework to ensure that the evaluation considered the contextual factors that can influence implementation³. The five domains of intervention, process, individuals, inner setting, and outer setting allow for the identification of factors that can affect implementation outcomes. The Quintuple Aim framework for health system performance was used to assess the PHMU's contribution across five core aims of health systems: improving population health, improving patient experience, improving the work life of clinicians and staff, reducing costs, and supporting equity^{4,5}.

Data Collection

Interviews (1:1 and Focus Groups) were conducted with key stakeholders involved in the implementation and early operationalization of the PHMUs. Participants were purposefully selected based on their roles and responsibilities with the PHMU. All interviews were audio-recorded with participants' consent and transcribed verbatim for analysis using Microsoft Teams transcription function.

Surveys with PHMU clients, staff, and stakeholders

Surveys were sent to clients, staff, and providers during the evaluation period to gather information relating to experience and to identify what is working well, what is not working well and ideas for improvement. Online surveys were distributed via email to PHMU clients, staff, internal and community stakeholders from March 2023 to June 2023 using the REDCap survey platform.

Client Surveys

Clients were prompted to complete an electronic survey (through the REDCap platform) after visiting the PHMU. The surveys collected data on basic demographics, whether the client had a regular medical provider, services received at the visit, where they would have accessed care without the service, overall experience, experience of aspects of the service, how they found out about the PHMU and whether there were any services they wished the PHMU offered. See Appendix 3 for the complete client survey.

Staff Surveys

The staff survey collected data on the staffs' role, overall experience delivering the program, efficiency of operations, whether they had the resources needed (i.e., medical supplies), if they felt that clients received the care and information needed, what could be improved and what were they proud of. See Appendix 4 for the full staff survey.

Stakeholder Experience

Surveys were sent to internal and external stakeholders identified by the PHMU leadership. Stakeholders were asked to report on their overall experience working with the PHMU, what worked well, the challenges, recommendations, additional benefits of the collaboration with the PHMU, overall success of the collaboration, and aspects that contributed to the success. See Appendix 5 & 6 for the complete internal and external surveys.

Data Analysis

For the survey data, descriptive statistics were used to summarize most of the survey data, including means, proportions, and frequencies. Graphics such as pie charts and bar graphs were also used where appropriate to facilitate interpretations.

The qualitative content analysis for the qualitative data followed a systematic process in applying the CFIR framework. The analysis involved the proceeding steps:

1. *Development of a coding framework.* Based on the CFIR constructs, a deductive coding framework was developed a priori. The framework included the five major domains of CFIR:

intervention characteristics (innovation), outer setting, inner setting, characteristics of individuals, and intervention processes (see [Appendix 7](#)) Each domain consists of specific constructs and sub-constructs relevant to the implementation context.

2. *Coding.* Transcripts were coded using the predetermined coding framework. Two researchers independently coded a subset of transcripts and discussed any discrepancies for resolution.
3. *Identification of themes.* Themes were generated deductively by systematically reviewing the data within each construct and relating them to evaluation objectives. Patterns and relationships between constructs were examined to identify commonalities, variations, and emerging themes.
4. *Theme refinement and naming.* Themes were refined through iterative discussions among the research team. Themes were named descriptively to capture their essence and align with the CFIR constructs.
5. *Mapping to CFIR framework.* The final themes were mapped back to the CFIR framework to provide a comprehensive analysis of implementation factors within each domain.

While analysis of 1:1 and focus group interviews took place separately, themes were similar and cut across both groups of participants, and thus an integrated approach to reporting findings was deemed appropriate.

Quality Assurance

To ensure the rigor and trustworthiness of the analysis, strategies such as member checking, peer debriefing, and reflexive journaling were employed⁶. Member checking involved sharing preliminary findings with participants to validate the interpretation of their perspectives. Peer debriefing involved regular meetings with the research team to discuss and challenge emerging themes. Reflexive journaling facilitated the exploration of researchers' biases and preconceptions throughout the analysis process.

Findings

Participants for both the quantitative and qualitative components of this evaluation are described below. Findings are then described in accordance with each evaluation objective. Five focus group interviews were conducted with the PHMU team members from December 2022 to January 2023 (n=47 participants). Focus groups were organized according to role in the PHMU (see Table 1). One focus group included PHMU management (current and past, n=10), while the other four focus groups included a total of 37 PHMU current staff, whose roles included nurses, emergency support aides (ESAs), admins and drivers. No focus group had more than eleven participants. All five focus groups had very positive feedback regarding the PHMU.

Table 1: Focus group participants.

Focus Group	Participants
A	9 Nurses
B	11 ESAs
C	7 Administrative Staff
D	6 Administrative Staff and 4 Drivers

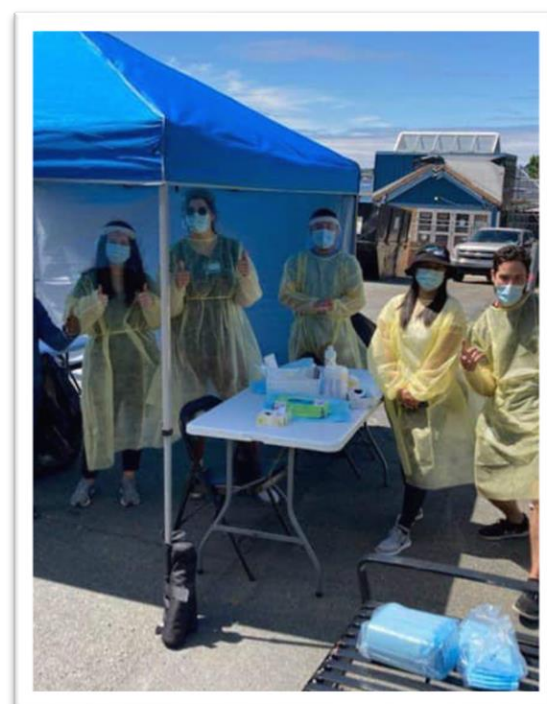
E	10 Managers
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Fifteen 1:1 interviews were conducted in May 2023. Invitees for these interviews were identified for their role as key collaborators/stakeholders who were involved in strategy, planning, and rollout of the PHMU. These individuals were less involved in the day-to-day operations of the PHMU. Eight (n=8) participants were operational collaborators, being involved in deployment and/or on the ground modifications and planning of the PHMU. One (n=1) participant was identified as a key operational collaborator as they were heavily involved daily in the deployment, oversight, and progression of PHMU goals and initiatives. The other six participants (n=6) were strategic collaborators, with involvement at a policy, process, and/or budgetary approval level.

Evaluation Objective 1. To assess the feasibility, acceptability, and appropriateness of the implementation of expanded PHMU services

An iterative, resilient approach to Public Health during times of uncertainty: “[the PHMU team] molded themselves to the needs of the moment”

The implementation of the PHMU as a provincial initiative was characterized by an iterative, fluid deployment approach during a time of tremendous uncertainty. Adaptability, the degree to which an intervention can be tailored or revised to meet local settings³, patient needs, and changing infrastructure, was a prominent CFIR intervention construct, that facilitated the implementation of PHMU. The PHMU needed to operate in a fast-paced, fluid environment with continuously evolving demands of a public health emergency and staff and providers were required to be flexible and adaptable within this context. The PHMU team was focused on success of the initiative and demonstrated comfort with, and resilience for, working during a difficult environment that were key enablers to the PHMU implementation. The PHMU team was recognized for its ability to respond in an agile manner. Stated an operational collaborator:



“[the] team excelled as they were doers. If they were given a change in direction, they were then able to take it to the operational tables where all the Nova Scotia Health zone COVID directors were meeting to say ‘Ok, how will this actually roll out in our different testing centres? And then as a mobile unit?’” - Operational Collaborator

and

"I think everybody on the team kind of shares the same passion to make do whatever you can. It doesn't need to be part of your role, you do whatever you can to help the client. And no matter what role you have on the team when you're at clinic, you're just a part of that team. Everybody kind of helps out and jumps in, everybody's got everybody else's back, which is great. It's a great environment to be out in." – Administrative Focus Group

This adaptability contributed greatly to the early and ongoing success of the PHMU. One of the administrators stated, "when the needs of the epidemiology and everything changed, we just changed along with it. So just whatever the needs were, we just rolled with it."

A Responsive, Pro-Active Team That is Ready to Learn: "We had courageous leadership and a willingness to make mistakes and a willingness to try"



Focus group participants reported that while responding to the crisis of the COVID-19 pandemic, there wasn't time for strategic future planning. The PHMU implementation was deemed successful thanks to courageous leadership and the team's willingness to make mistakes and try different approaches. These characteristics of the PHMU implementation align with the CFIR construct of 'learning climate' within the inner setting domain³. The learning climate refers to the organizational culture and attitudes towards learning, improvement, and innovation. Implementation is often an iterative process that involves trial and error. Organizations that embrace a willingness to make mistakes recognize that initial attempts may not always yield the desired outcomes. They understand that mistakes are part of the learning process and provide valuable insights for refining and adapting implementation strategies. This iterative approach allows for continuous learning and improvement over time.

"A big part of the success of PHMU has been that we didn't have time to do all this planning and that; we had courageous leadership and a willingness to make mistakes and a willingness to try and then being responsive when things didn't work and also our teams with management support being not stuck in their roles and just saying, here's the work that needs to get done. Let's just get it done." – Managers Focus Group

Within this learning climate, PHMU leadership relied on the use of data to inform direction and decisions. The team used the process of continuous learning and improvement to inform approaches and maintain relevance by adapting to current needs and priorities. The provincial initiative was guided by the provincial testing strategy and management were flexible to quickly change locations, rapidly responding to emerging needs and localized outbreaks. Enablers for this were access to epidemiological data and having a strong surveillance system in place.

“[One of the PHMU leaders] was always in the know when there was ... outbreak and making sure the mobile units were mobilized to go up there. So really able to sort of go with the flow and move people around pretty quickly, but not just in a reactionary way ... [they] really think and have sort of data-driven sort of planning around where the units should be and some of the heat mapping and stuff that [they were] doing or mapping was pretty interesting in terms of understanding sort of where our gaps were.” – Strategic Collaborator

The provincial PHMU teams were constantly learning on the go and needed to pivot their services and processes to best meet the needs of the communities that they served. The CFIR concept of ‘outer setting’ consists of factors that are beyond the direct control of the organization or individuals involved in the implementation. The outer setting can significantly influence the implementation process and outcomes. The PHMUs had to adapt to the outer setting at various time points, including when they were initially supporting the COVID-19 testing strategy but throughout implementation, and as the COVID-19 pandemic evolved with new variants and the availability of vaccines, the units expanded their role to include COVID-19 immunizations and supporting primary care clinics that were deployed later in the pandemic.



“It was all very timely. It had to happen quickly. We didn't have weeks to analyse the process. It was really just learning, actioning, learning, actioning and that constant loop. That was a big part of pivoting early on.” – Manager Focus Group

To meet the needs of the communities where services were delivered, team compositions changed from solely nurses doing testing, to also include emergency support aides (ESAs). Onboarding ESAs was key in enabling the ability of the clinics to support the mass testing and immunization demands. Each staff group reported that they did not feel stuck in their roles and that they were able to adapt their scope of practice and responsibilities as they needed to fit the needs of the community.

Despite these successes, the PHMU leadership did report that they wished that evaluation was integrated earlier on during implementation of the units to allow for more thought-out reflections, learnings, and strategic pivoting.

“We could spend years trying to plan mobile services for Nova Scotia Health, or we could just start trying stuff and be humble when it doesn't work and have courage support the teams when mistakes are made, or we could plan it to death and spend a lot of money doing it and not actually doing any work for the community.” – Manager Focus Group

The absence of early evaluation suggests the PHMUs' deployment was missing a critical component for assessing implementation processes, examining intervention outcomes, identifying barriers and facilitators, informing decision-making, and supporting continuous improvement. It may have provided valuable insights and evidence to enhance implementation effectiveness; however, it may also have inhibited the adaptability of the units.



Staff and provider end-of-shift reports were established early on and demonstrated benefits by providing valuable insights and feedback about the day's work. In some situations, this led to location changes to better serve the needs of the community as well as changes to the clinic composition as per community requests, and through the identification of barriers to successful deployment. Some examples of changes included developing paper forms for populations that had difficulties with technology use and considerations for security personnel – either adding them as required for staff safety or removing them when requested by the community.

“We've read end of shift reports and the notes that come in from the staff say, ‘we're not really in good view, why don't you try the fire hall?’, So we move around the community based on what our last end of shift report, from feedback from the team, for what works for the community.” – Administrative Focus Group

Evaluation Objective 2. To assess the impact of the PHMU on provider and client experiences

Provider and staff experiences

There were 42 respondents to the provider survey. Most respondents were in administrative roles (66.7%) with the PHMU (ESAs accounted for 19%, drivers 9.5%, and public health nurses 4.8%). Over 75% were very satisfied with their overall experience and there were no negative ratings (Figure 1).

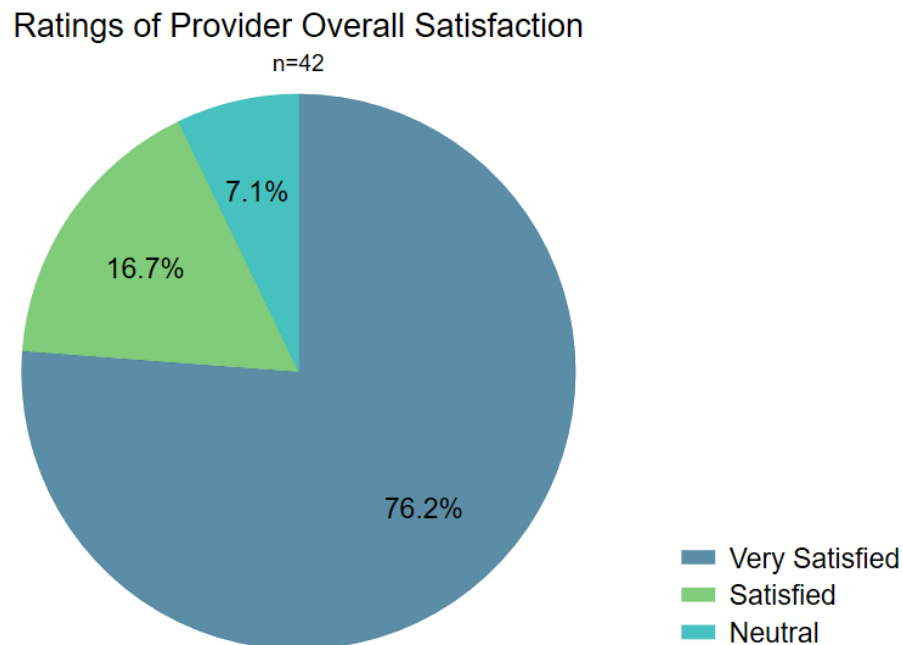


Figure 1: Provider survey ratings of overall satisfaction with PHMU.

Providers also rated aspects of running the PHMU clinics positively (Table 2). Most (73.8%) strongly agreed that the days went as planned. Over 80% strongly agreed that the PHMU was sufficiently stocked and that clients received the care and information they needed. There were no negative ratings.

Table 2: Provider ratings of aspects of running the PHMU clinics (n=42).

Aspects of Running Daily Clinic	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	N/A
The day went as planned and everything ran efficiently	0%	0%	0%	26.2%	73.8%	0%
The PHMU was sufficiently stocked with supplies.	0%	0%	4.7%	7.1%	80.1%	7.1%
The clients received the care and information they needed	0%	0%	7.1%	9.5%	83.4%	0%

Fostering innovation, learning, and action: "... everybody just pulling together across departments and across zones just to make it happen and make it happen fast"

Within the PHMU managers' focus group, participants emphasized the need for courageous leadership, a willingness to make mistakes, and responsiveness when things didn't work. This reflects the PHMU

leadership's role in creating an environment that fosters innovation, learning, and action. It demonstrates the importance of leaders supporting their teams and encouraging a culture of flexibility and continuous improvement. The implementation of PHMU was supported through an effective and responsive leadership model, which was perceived as unique compared with usual NSH operations. Participants reported that strong relationships with senior leadership and policymakers allowed for staff to have their concerns rapidly addressed. This direct line from staff to management set the foundation for the PHMUs' success, allowing for requests to be responded to instantly and both managers and staff reported that they always felt supported. Trust from management fostered leadership, empowerment, and autonomy among staff.

The autonomy and freedom for managers and staff to be attentive to community leaders and make changes as they deemed appropriate allowed for relationships with communities to further develop and for trust to be built. The autonomy given to managers and staff also allowed for problems to be resolved on the fly without needing to keep going up and down the ladder.

"It was the first time I think in my career with the organization that I felt there was such freedom for us as managers to really listen to the community and listen to those community leaders that we were connecting with on a daily basis, and we really valued how much they knew about the people that were in their community." – Manager Focus Group

Cross departmental support allowed for PHMU goals to be accomplished quicker. Focus groups highlighted the support received from various departments, such as IT, environmental services, and health privacy, which contributed to the success of the work. This collaboration enables the sharing of knowledge, resources, and expertise, promoting a sense of unity and collective effort in achieving implementation goals.

"It just felt like every department was coming on board, supporting it in a timely manner ... everybody just pulling together across departments and across zones just to make it happen and make it happen fast." – Managers Focus Group

Support, encouragement and expressed appreciation from different departments and leaders, created a sense of community and support for front line workers during uncertain times.

"I think the fact that we had cheerleaders supporting this work helped the team get through the level of exhaustion, which was unlike something I've ever worked in, and the teams never worked in, and the uncertainty. I think having it from all of the levels, having senior leaders stop out at clinics and support us; in scary times when we were told not to leave our houses, but show up with a bag of apples or a cup of coffee and support us or send us some virtual treats. Those relationship processes helped the leadership, all of us, and I think definitely helped the team stay engaged in a different way." – Manager Focus Group

The approach to implementing the PHMU impacted the staff of the PHMU in a profound way and created a sense of goodwill towards their work. Participants in each focus group repeatedly expressed how much they loved working for the PHMUs, they felt valued, and experienced one of the best jobs they have ever had. This was echoed by PHMU staff who had worked within NSH in previous roles.

“We all wanna be here, this is the best job ever. We travel Nova Scotia and see places I never even heard of before and we could pay to do that and show up in communities ... there's no job out there like this.” – ESA Focus Group

Contributing to their sense of value and love of the work was the perception that the PHMUs were a success. One focus group participant articulated this perception,

“If we're talking about the success of the mobile unit and what it was set out to do, we've met all of the expectations and go above and beyond. It was designed to make testing are accessible, and we've certainly done that with temporary foreign workers and shelters and rural communities, and basically anywhere we have been needed ... we've never said no to an opportunity, and then we've assisted with immunizations, and pulse oximeter drop offs and all of the different things describe how the mobile unit has been successful in what it was designed to be initially.” – ESA Focus Group

Client experience and utilization

The client experiences collected from surveys are summarized below. A total of 121 client experience surveys were collected and the respondents' demographics, utilization of PHMU services and where clients heard about the clinic are summarized in the table below. Respondents were more likely to be female (61.2%) and over the age of 65 (54.5%). The most common service received was PCR testing (60.3%).



Table 3: Client experience survey questions responses on demographics, utilization of PHMU services and clinic discovery (n=121).

Client Experience Survey Questions	n (%)
Gender	
Male	47 (38.8%)
Female	74 (61.2%)
Age	
Under 18	3 (2.5%)
18-24	2 (1.7%)
25-34	7 (5.8%)

Client Experience Survey Questions	n (%)
35-44	8 (6.6%)
45-54	10 (8.3%)
55-64	25 (20.7%)
65 and over	66 (54.5%)
<i>Do you have a primary care provider?</i>	
No	42 (34.7%)
Yes	78 (64.5%)
Missing	1 (0.8%)
<i>What services did you receive?</i>	
PCR testing	73 (60.3%)
Immunization	44 (36.4%)
Rapid kit pickup	29 (24.0%)
Rapid test	0 (0.0%)
<i>How did you find out about the PHMU clinic?*</i>	
Radio	3 (2.5%)
811 directory	5 (3.8%)
Other clinic	1 (0.8%)
Emergency Department referral	2 (1.5%)
Social media	23 (17.3%)
Friend/Family	23 (17.30%)
COVID site	10 (7.5%)
NS Health website	25 (18.8%)
Other	41 (30.8%)

* Participants could choose multiple responses

Survey respondents reported high levels of satisfaction with the PHMU experience. Just over 90% indicated that they were very satisfied with their experience. Clients also reported very high levels of satisfaction with the hours of operation, location, and communication about the service (Figure 2). Additionally, 95% of survey respondents strongly agreed or agreed with the following statements: “I received the type of care I wanted/expected at the PHMU”, “I received information for the questions I had” and “I received the service(s) I needed” (data not shown).

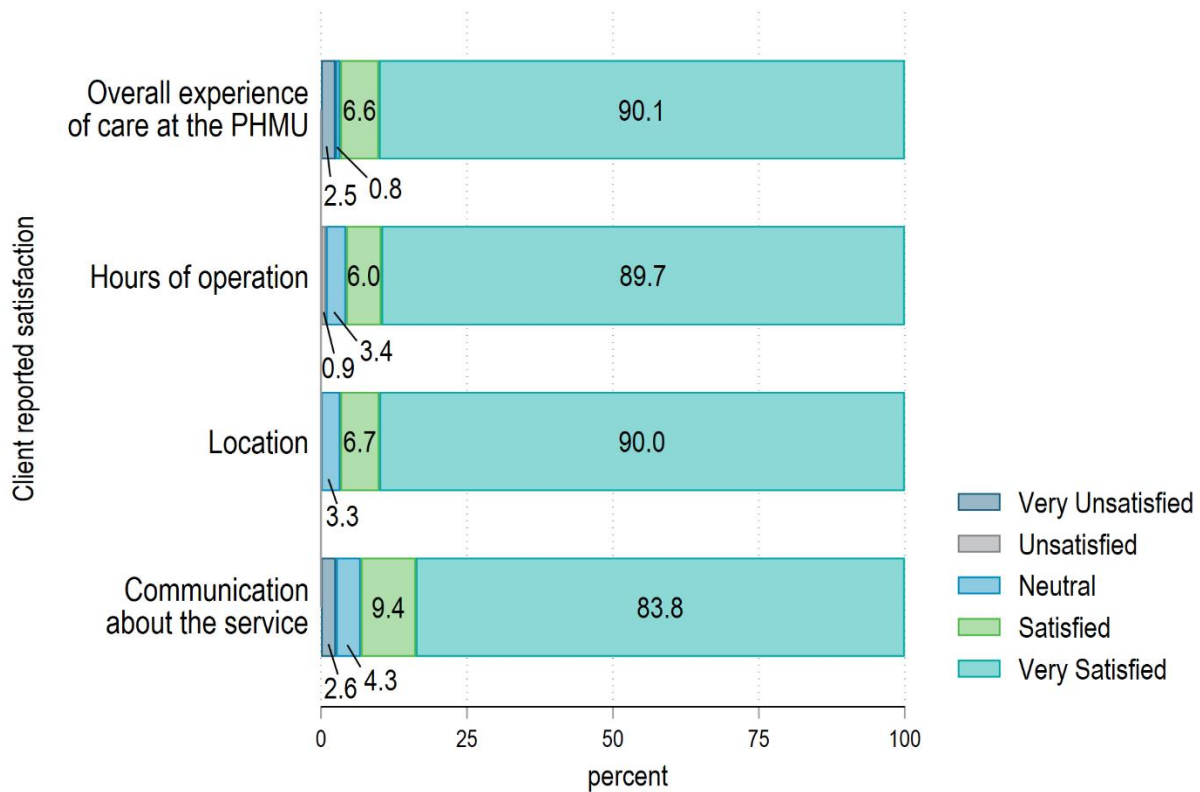


Figure 2: Client reported satisfaction with aspects of the PHMU program (n=121).

In the survey, clients were asked where they would have gone for COVID testing and immunization if the PHMU service was not available. Clients mentioned several alternatives for COVID testing, such as obtaining rapid tests from different testing centers, community distribution sites, or using their own home supply. They also mentioned receiving PCR tests at other locations or using unspecified methods for testing. Almost 17% indicated that they would not have gotten tested at all if the PHMU service had not been available (Figure 3).

If this service had not been available where would you have gone for a vaccination?
(n=63)

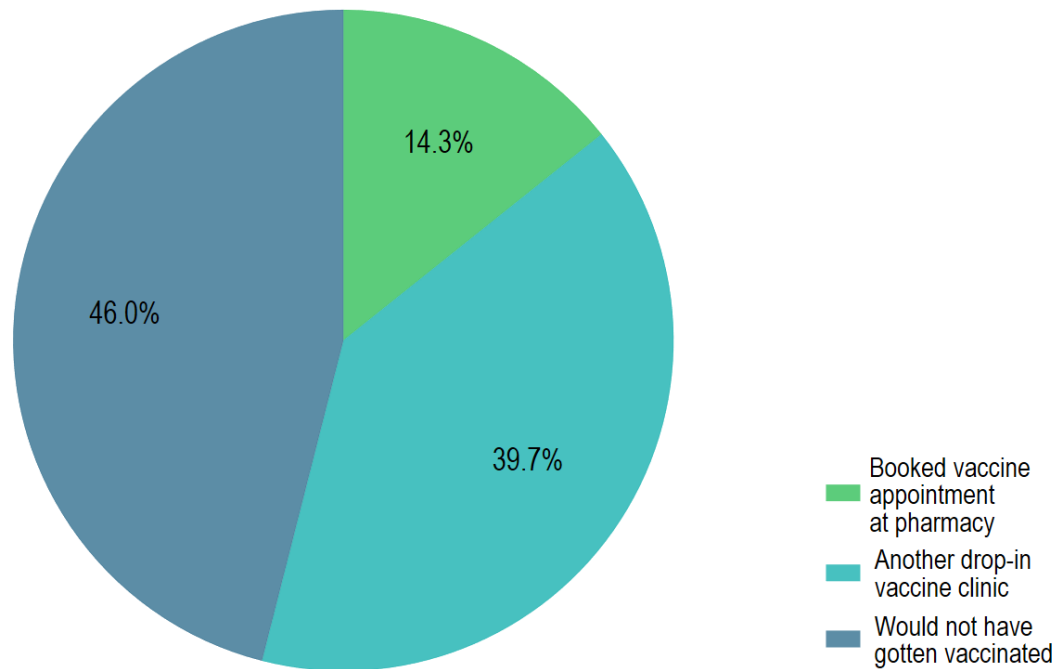


Figure 3: Client responses to survey question “If this service had not been available where would you have gone for a vaccination?” (n=121).

Regarding COVID immunizations, 54% of the clients stated they would have obtained the vaccine through other means, such as pharmacies or drop-in clinics, if the PHMU service was not available. However, 46% of the clients indicated that they would not have received a COVID-19 vaccine if the PHMU service was unavailable (Figure 4).

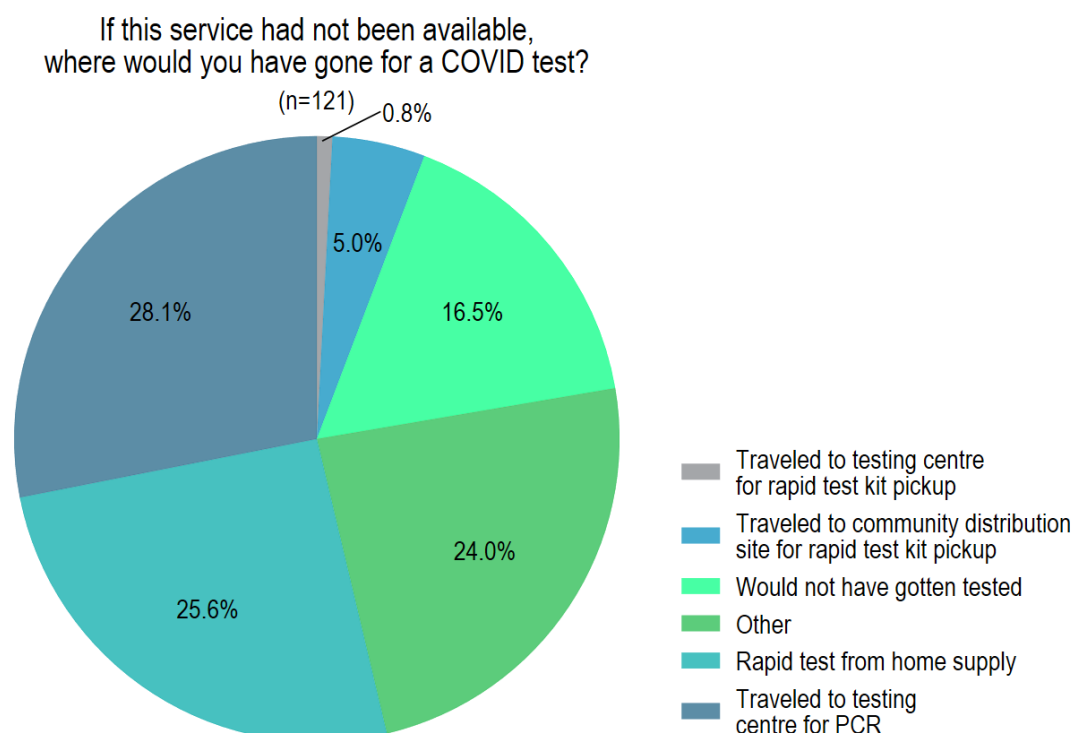


Figure 4: Client responses to survey question “If this service had not been available where would you have gone for a COVID test?” (n=121).

Evaluation Objective 3. To examine scalability and sustainability of the PHMU

Implementation barriers and facilitators play a crucial role in determining the sustainability and scalability of innovations. Barriers can hinder the successful adoption and long-term viability of an innovation, while facilitators can enable its widespread implementation and expansion. Barriers can impede the progress of an innovation and limit its potential impact. On the other hand, facilitators provide the necessary foundation for successful implementation, ensuring that the innovation can overcome barriers and thrive in the long run. By addressing implementation barriers and leveraging facilitators, organizations and initiatives can enhance the chances of sustaining and scaling their innovations, ultimately achieving greater impact, and transforming their respective fields. The CFIR framework was used to identify implementation factors that may influence the success of sustainability and scalability⁷.

Implementation Enablers

Analysis of qualitative data regarding the sustainability and scalability of the PHMU evaluates various factors contributing to the success of the PHMU, including leadership support, community engagement, innovation, resource availability, and collaborative partnerships.

Leadership support and collaboration

Participants highlighted the critical role of leadership support in the success of the PHMU by emphasizing the empowerment provided by the public health leadership, enabling the PHMU leadership

team to make informed decisions regarding resource allocation. Political support is also a key factor in the sustainability of PHMUs.

“bringing people with different roles that we haven't traditionally had in in public health. So along with the van comes a bunch of other different people that they need to be seen as any valued equally as part of the public health team.” – Strategic Collaborator

Strategic partners and operational collaborators underscore the importance of leadership involvement and collaboration for the sustainability and scalability of PHMUs.

Community engagement and support

The involvement and support of the community have been instrumental in the success of PHMUs. Participants noted the overwhelming response from smaller rural communities, demonstrating the high demand and appreciation for the services provided by the PHMUs.

“you need community to make it work. So, you need to be able to engage with community. It's not just yes, you need to be able to provide the healthcare that you're gonna provide when you get there and have that clinical background, but you actually need that community engagement background as well with these.” – Operational collaborator

Community support has substantially contributed to the sustainability of the PHMUs by ensuring their relevance and utilization during the pandemic. To ensure sustainable relevance of PHMUs, ongoing community support will be required.

Innovation and risk tolerance

The ability to innovate and take risks has been crucial for the scalability and adaptability of PHMUs. Operational collaborators mentioned the service-oriented mentality and value of equity as enabling factors for innovative approaches. A strategic collaborator highlighted the greater tolerance for risk during the pandemic, which facilitated the implementation of novel strategies with less red tape.

“It seems always so cliché to be, like, leadership that's willing to let you take risks, but really that's what it like. We were all were like, why not? Let's try it. Let's think of the like real serious potential risks that let's cover ourselves there. Let's try to mitigate those. But because of the situation, our tolerance for risk was able to be quite elevated and that was one of the keys to success.” – Strategic collaborator

This suggests that a culture of innovation and higher risk tolerance was critical to the growth of PHMUs and may continue to be an important facilitator of growth.

Resource availability and financial support

Resources include the human resources (workforce) and fiscal resources to support the work. The availability of both dimensions of resources, particularly during a crisis, has played a significant role in

the success of PHMUs. Strategic collaborators emphasize the extraordinary investment in public health during the pandemic, which facilitated the establishment of PHMUs.

“we all have the advantage of all focus and resources being on COVID at that point in our lives. So, you know obviously that's an enabler because we basically could ... look and say, this is what we need and it would happen. There was no argument over funding ... Effectively unlimited resources.” – Strategic Collaborator

The success of the PHMU was supported through multiple operational roles, including the Emergency Support Aide (ESA) role that was a new role for NSH and specifically developed to provide human resource capacity for the PHMU. ESAs (now known as health support aides) continue to provide additional important roles within the health system under the direction of licensed health professionals (refer to [Appendix 2](#) for a description of all PHMU roles, and the NSH Health Support Aide Education and Competency Checklist for more information).

Before the ESA role was developed, only licensed care providers (e.g., nurses) would have been eligible to work within the PHMU clinics and these roles were at capacity during the COVID-19 response, thus ESAs fulfilled a crucial implementation enabler within the PHMU to support scale, spread, and sustainability. As stated by a member of the PHMU manager team, the importance of thinking innovatively with respect to roles is critical to support continued health system work.

“I think we have a huge reliance on certification and scope of practice that I think really slowed down health work as a whole. ESAs are extremely capable folks. And of course, you can't have everyone doing stuff, I mean, we have safety considerations and lots of other reasons why there a very defined scope of practice. I'm going to use the word medical here...the majority of the work that we were doing [in the PHMU clinics] wasn't medical work – people only get the [swab] in their nose for 2 seconds of their entire experience, right? And a lot of this work is just talking to people, understanding their barriers, giving them information, planning. So there's so much. And I think the same could be said for even acute care or primary care settings. So I would just say a key learning, and this isn't specific, but people can do amazing work if we allow them to do that work and not narrow their scope, and narrow their scope, and narrow their scope.” – Operational Collaborator

The operational collaborators also noted the absence of budget constraints and the availability of federal funding, which expedited the implementation of PHMUs. Continued financial resources will be vital in supporting the scaling and ongoing operations of PHMUs.



In addition to the qualitative feedback, 41 internal stakeholders (45 were invited to respond) responded to a survey asking about overall experience collaborating with PHMU and aspects of work that contributed and impeded the success of the collaboration. Respondents indicated that overall, the internal collaborations with PHMU were successful at reaching their goals which aligns well with the qualitative feedback. Most respondents (69.2%) indicated that it was very successful, 17.9% said it was completely successful. Only 2.6% indicated that the collaboration was only somewhat successful and the remaining 10.3% indicated that it was successful.

When asked what aspects of the collaboration contributed to its success, a variety of aspects were indicated with a relatively equal distribution (Figure 5).

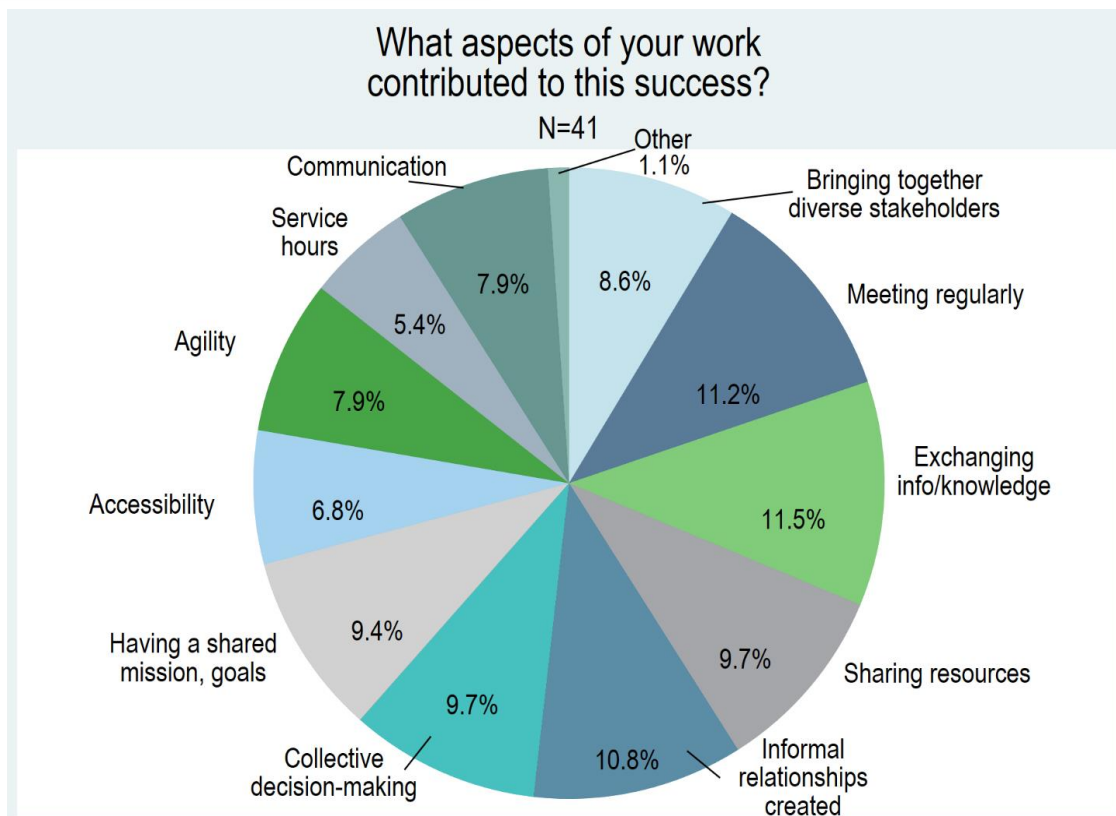


Figure 5: Internal Stakeholder responses to “What aspects of your work contributed to this success” (n=41).

Implementation Barriers

The qualitative analysis identified barriers in the context of their impact on the effectiveness and efficiency of the PHMU. By understanding these barriers, policymakers and stakeholders can address the challenges and enhance the long-term viability of the PHMU.

Shifting public health measures and demands

Changes in public health measures and the evolving needs of managing cases and contacts may impact the role and responsibilities of the PHMU. This can create challenges in aligning the unit's objectives with the changing requirements.

"As our public health measures changed and what was needed in terms of cases and particularly contacts in terms of management, that really impacted what the mobile unit was being asked to do." – Operational Collaborator

As new PH programs and services are developed, consideration should be given to ample planning time and operational supports which can be offered by the PHMU. It's important to note that while rapidly changing environments are a barrier, the strength of the PHMU's adaptability should continue to be seen as an enabler.

Capacity limitations and prioritization

The mobile units faced the task of prioritizing requests from different communities. Predicting areas with the highest need required collaboration with epidemiologists, but balancing demand and capacity remained a challenge. During periods of high demand, such as the Omicron surge, there may be more demand for PHMU services than the capacity available to reach all areas in need. One stakeholder commented on this challenge.

"More demand than capacity at times, and then, you know, having to sort of really set some strategic priorities." – Operational Collaborator

Prioritizing ongoing requests from the community will become crucial, and strategic decisions must be made to allocate resources effectively, which includes attendance to best practice and evidence, and managing expectations to support prioritization.

Staffing challenges

Staffing issues can hinder the sustainability and scalability of the PHMU. The shortage of healthcare workers, hesitancy among staff, upskilling or training needs, and the need for specialized skills like drivers and nurses can create difficulties in maintaining operational effectiveness. Additionally, the characteristics of effective staff may be a challenge to find. While staffing was noted as a potential challenge, as described previously, the addition of non-licensed roles to support health system work may be a critical innovation to support sustainability of PHMU and other initiatives.

"You also need staff that's pretty comfortable ... moving around workspace and stuff like that, we all know some folks aren't. They wanna, like, have their space the same

way every day. And so, you need to have some pretty adaptable staff too on, I think if you're doing more mobility and stuff.” – Operational collaborator

Communication and coordination

Structures that support effective communication and coordination among different stakeholders, including government entities and public health officials, are essential for smooth operations. Some participants reported that initial challenges in reporting structures and accountability, as well as conflicts arising from different perspectives and priorities, affected the functioning of the PHMU. One participant noted,

“it was a really stressful time when they finally kind of hit the ground and they also had to hire staff and such and it was a different way for the public health folks to be working, like it was much more frontline than I think they've generally worked in the past. So, there was a bit of chaos. And then also like where they didn't report directly up into at one point, but the senior director of COVID, it was a little kind of wonky at first around who were they kind of accountable to and reporting to? And who were they kind of taking their direction from?” - Operational collaborator

Therefore, scaling and sustaining the PHMU will require consideration of governance and operational structures across partners, including considerations for communication and reporting mechanisms, and accountability.

Infrastructure and logistical constraints

Infrastructure requirements, such as suitable locations for PHMU setups and the availability of vans, can pose challenges to the scalability and sustainability of the units. Delays in acquiring vans, the need for proper infrastructure for testing, and logistical complexities can impact their effectiveness.

“they struggled sometimes in terms of like infrastructure because even though you know they are vans, they actually needed a place ... I think very often like infrastructure was needed so that would have been a challenge ... they had challenges, challenges with that [infrastructure].” – Strategic collaborator

and

“the mobile units ... had to set up their infrastructure first and there seemed to be a lot of challenges with that.” – Operational collaborator

Public perception and expectations

Public perception and expectations can impact the sustainability of the PHMU. There may be misunderstandings regarding their role, visibility, and the rationale behind certain decisions. Managing community expectations and addressing negative perceptions can be crucial for the successful operation of the units. Even as the pandemic urgency lessened there were some concerns over the public seeing the need of the PHMU, one participant noted

“People don't have the same sense of urgency.” – Strategic collaborator

To support the sustainability and scalability of PHMUs, it may be necessary to ensure that the public is aware of its necessity and its functions.

Internal stakeholders were asked in the survey which aspects of their work impeded their success (Figure 6). Here, gaps in knowledge exchange (17.9%) and miscommunication (20.5%) stand out as the most common challenges which was also highlighted in the communication and coordination section above.

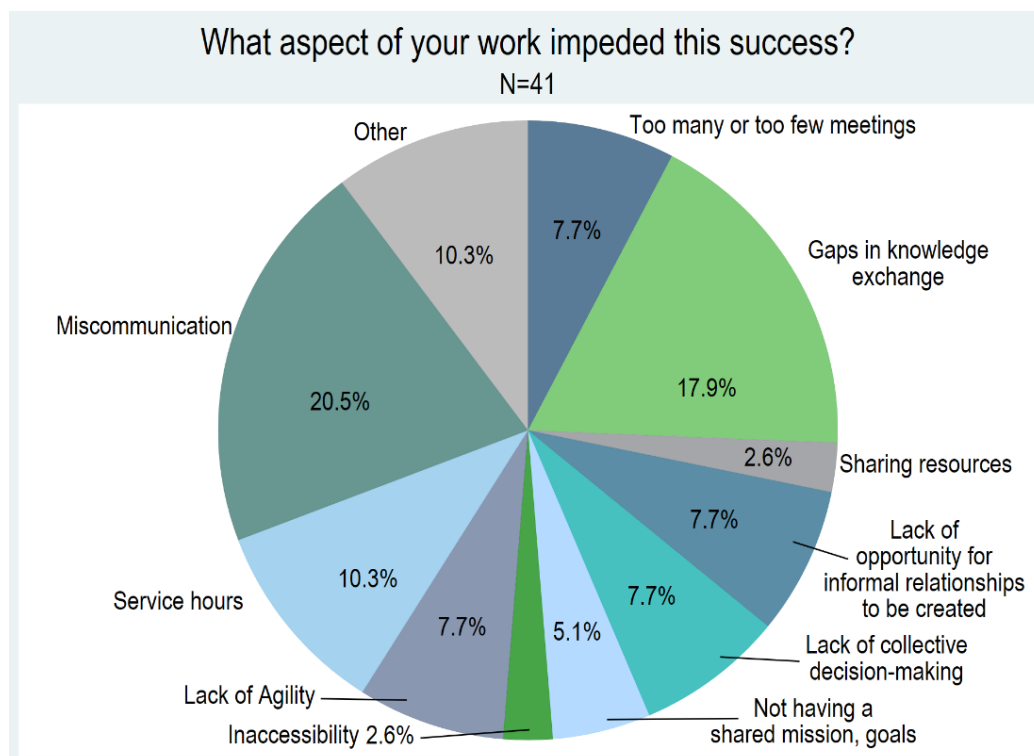


Figure 6: Internal Stakeholder responses to “What aspects of your work impeded this success” (n=41).

In summary, the sustainability and scalability of the PHMU are influenced by various implementation barriers and facilitators. Barriers can impede the adoption and long-term viability of innovations, while facilitators enable widespread implementation and expansion. Factors such as leadership support, community engagement, innovation, resource availability (new HR roles and financial), and collaborative partnerships have been identified as critical facilitators for PHMUs. Leadership support empowers PHMU teams to make informed decisions, while community engagement ensures relevance and utilization of services. Innovation and risk tolerance enable adaptability, and resource availability,

particularly during crises, plays a significant role in success. Collaboration among stakeholders and effective communication are crucial for smooth operations. However, barriers like shifting public health measures, operational capacity limitations, staffing challenges, communication issues, infrastructure constraints, and public perception can hinder sustainability. Understanding and addressing these barriers are vital to enhancing the long-term viability of the PHMU. By replicating success factors and overcoming implementation challenges, public health systems can improve preparedness and response capabilities for future crises.

Next Steps/Future Direction of PHMUs

Now that the needs for the immediate COVID-19 response have passed, participants across both focus group and 1:1 interviews described several areas where the PHMU could offer value for future delivery of services within the community. Some future services that were suggested by participants are described in the proceeding table (Table 4).

Table 4: Participants suggestions for future PHMU services.

Service	Description	Supporting Quote
Immunizations	Supporting immunizations including annual flu shots, routine childhood vaccines, or other vaccines and boosters. Deploying the PHMU to offer these services within rural communities (where accessibility to other health services is limited) or to the school community were suggested by participants.	<i>"During COVID, [public health] were so far behind in the grade 7 vaccinations. We could be going to the schools, pull up the Unit, pull it up to [school], and help with all the immunizations of the kids." - Administrative Focus Group</i>
Public Health Information/Education	Providing communities with up-to-date information on public health practices and services, specifically in rural areas, or navigation for other wellness supports within public health's mandate	<i>"I think just providing education for the rural community, so it's kind of like if we bring the unit there, it's kind of like the old school bookmobile that you're driving to the community and you offer every service that you can. So, whether that's providing the information that can give people the resources that they need or providing them with their flu shot or their vaccines or boosters or whatever they need to bring that to the rural community and for anybody that doesn't have Internet access or can't use it, providing those services, it's huge."- Administrative Focus Group</i>
Blood collection	Supporting blood collection sites. Logistically, a solid foundation would need to be in place to have the infrastructure to implement this, however it would help bring access closer to home and be beneficial for those who require routine blood work but have challenges accessing existing collection clinics. This service would need to be considered in relation to the role of public health.	<i>"[Primary Care Clinics] can't offer blood work right now, but even just like mobile blood work clinics, if that was somehow feasible down the road because I know that is also an issue for rural communities. I come from oncology and those patients require such frequent blood work and trying to get them actually scheduled for their blood work so they can get treatment, all of this takes hours. I think that's something that Nova Scotia needs as well, having these vans is something that we could do in a perfect world." - Nurse Focus Group</i>
Sexually transmitted and blood-borne infections (STBBI) testing	Supporting sexually transmitted and blood born infections testing. Can focus this testing on communities that are at higher risk. Educating can reduce stigma around testing and will be an important component of this pivot/expansion of services.	<i>"asymptomatic screening is one thing and I think there might be a role for public health there. If you start to get into symptomatic testing, well, you know, if you have a female who has pelvic pain in your testing, her for chlamydia and gonorrhea, frankly, you also should be doing a pelvic exam to be looking for clinical signs and symptoms of pelvic inflammatory disease. And so then it gets into, well, what sort of practitioners do you need?" - Operational Collaborator</i>

Supporting primary care	Supporting primary health care access and primary care clinics. This can happen in a way that bridges gaps in care and supports some of the intersections between primary care and public health.	<i>"I definitely think that there is a need for some sort of Primary Health secondary clinics, just with so many people that don't have a doctor and overwhelming ER's, being over capacitated and not being able to deal with the people." - Driver and Administrative Focus Group</i>
Outbreak support	Support communicable disease outbreaks or in emergency situations to support the crisis response (e.g., the Nova Scotia wildfires). Considerations for the Continue to support future outbreaks, for other disease other than COVID as well (measles, meningitis etc.) and other emergency situations to support other organizations in crisis response such as during wildfires.	<i>"We recently had a measles case in Halifax. You probably saw that in the news, and there were questions around, well, could public health not just do the nasal pharyngeal swab, which is the same test that we did for COVID? And the answer is we couldn't because that's what needs to be done under airborne precautions, which is just not feasible on a truck. You need a negative pressure room to do that, like it's a very different setup." - Operational Collaborator</i>
Mental health nurse practitioner	Provide mental health care to patients suffering from mild to moderate mental health issues	<i>"Dreams with PHMU is they hire a mental health nurse practitioner, someone who specializes a mental health and then another pediatric as well. And then those would encompass a lot of issues in rural communities." - Nurse Focus Group</i>
Additional services: oral health, well-babies, harm reduction, and other infectious diseases	Provide select services within the scope of public health that are traditionally offered in a brick and mortar setting based on local community needs.	<i>"We all know COVID testing isn't forever work and the work that we are doing as a pandemic response will close...if you talk to infectious disease docs, they have ideas and ideas around how public health can partner. If you talk to each of the four public health zones, they all have probably some different ideas and responses. So, we need to go back to those pieces and think about what to do and then how to do it and what is the best structure." - Manager Focus Group</i>

Additional analysis using the CFIR analysis provided further considerations in support of the future direction of the PHMUs including:

- Strengthening staff training and education, including cultural competency training and condition-specific training, to enhance their capacity to serve specific populations.
- Continuously monitoring and evaluating the implementation process to inform ongoing improvements and strategic decision-making.
- Addressing implementation barriers such as the shortage of nurses and clinic resources, safety concerns, community resistance, and communication challenges in specific communities.
- Expanding partnerships and collaborations with community leaders and organizations to enhance community engagement and trust-building efforts.
- Leveraging technology and addressing Wi-Fi issues to ensure smooth operations and data connectivity in all locations.

In addition to the above service proposals, participant narratives revealed tensions in how these services could be deployed and the role of public health within them. In considering the design of future services, participants raised the following points:

- Aligning the right practitioner(s) for the right service
- Appropriateness of the current design of the PHMU for additional (new) services (e.g., IPAC requirements)
- Seeking some services may be stigmatizing to the client such as mental health and addictions or STBBI testing
- Role clarity (particularly the role between public health and primary care) and defining the role that public health will play in PHMU services moving forward

Continuing to adapt the PHMUs, whether it be testing, immunizations or primary care integration, has been identified as critical in meeting the needs of people by key stakeholders during interviews and focus groups. Expanding the ways in which the PHMUs can be used to provide care to populations will allow Nova Scotia Health to effectively adapt to the existing and changing health needs and to bring the right health services closer to home for all Nova Scotians.

Evaluation Objective 4. To understand the impact of PMHU on the organization, and diverse communities and populations served.

Supporting community needs

PHMU leadership recognized the importance of working with communities to ensure that the implementation was fit for purpose, within the consideration of each community's unique context. This was accomplished by following the expertise of community leaders, accommodating services to each population, and supporting them with the supplies and resources they needed. The implementation of the PHMU was supported through relationships that were established or strengthened with community partners. Having a leader on the team that was able to network and build positive partnerships was an important factor that helped the PHMU access and provide support for hard-to-reach populations. The approach to engage with communities and have them take ownership and leadership within the PHMU service helped build trust where previously communities may have experienced negative associations with the health system and/or public health.

“Because again, we didn't show up in ways that we maybe would have traditionally showed up. We showed up with ‘this is your clinic, this is yours to plan’. We are here to support you in that with the capacity that we have in the in the mobile unit. So, I like to think that the relationship changed as a result of that. I don't have a view to that in terms of the like what's been the long-term impact. But I like to think that based on just what I witnessed in the few clinics that I attended, people were leaders in those communities ... Like they had organized this, and we were just there to help them. And that's how it should be, right? That's exactly how it should be. So, I like to think that that's had a lasting impact in terms of trust building.” – Operational Collaborator

and

“I think the pandemic did enable some really rapid lessons learned on how we work with priority populations ... there were some mistakes up front, right, like early on that public health and others had to had to work hard to come back from. And the result of that, I think, was a lot of new relationships. And a lot of learning and growth and you know, coming a long way and in ways that will hopefully allow us and the PHMU and our other outreach services to work effectively in the long term.” – Strategic Collaborator

There were 20 community stakeholders that responded to the survey (129 were invited to respond). The respondents were mostly very satisfied (80%) or satisfied (15%) with their experience of PHMU in their community. One group (5%) indicated they were very unsatisfied. When asked “How successful has this collaboration been at reaching its goals?” most respondents (40%) indicated that it was successful (Figure 7).

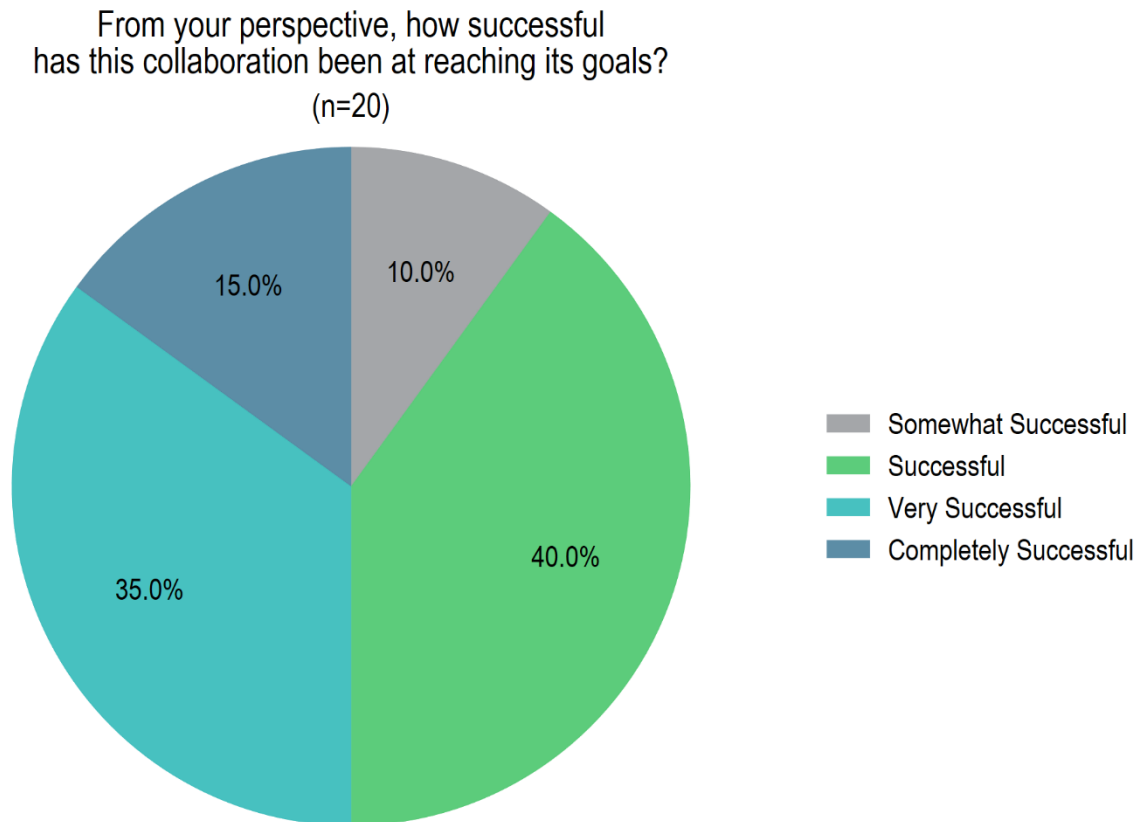


Figure 7: Community stakeholder responses to “How successful has this collaboration been at reaching its goals?” (n=20).

The ability for PHMU to ask for help from communities and community leaders was very useful. This also helped in continuing to build/foster partnerships/relationships throughout the pandemic and going forward. Participants reported that the PHMU was impactful when the community could see adaptations made to the service based on community requests and feedback.

“I think in the big scheme of things, the red tape that really got broken down for us to actually respond to community, with them and for them, and listening to what they had to say and for them to then see that we actually were listening and responding in a way and showing up in a way that was reflective of what they had been telling us. It was really quite magical for me to see.” – Manager Focus Group

When community stakeholder respondents were asked “What aspects of collaboration contributed to this success?” There was a wide variety of responses, but communication (16.5%) and accessibility (19%) were the most selected characteristics (Figure 8) which aligns with the comments above.

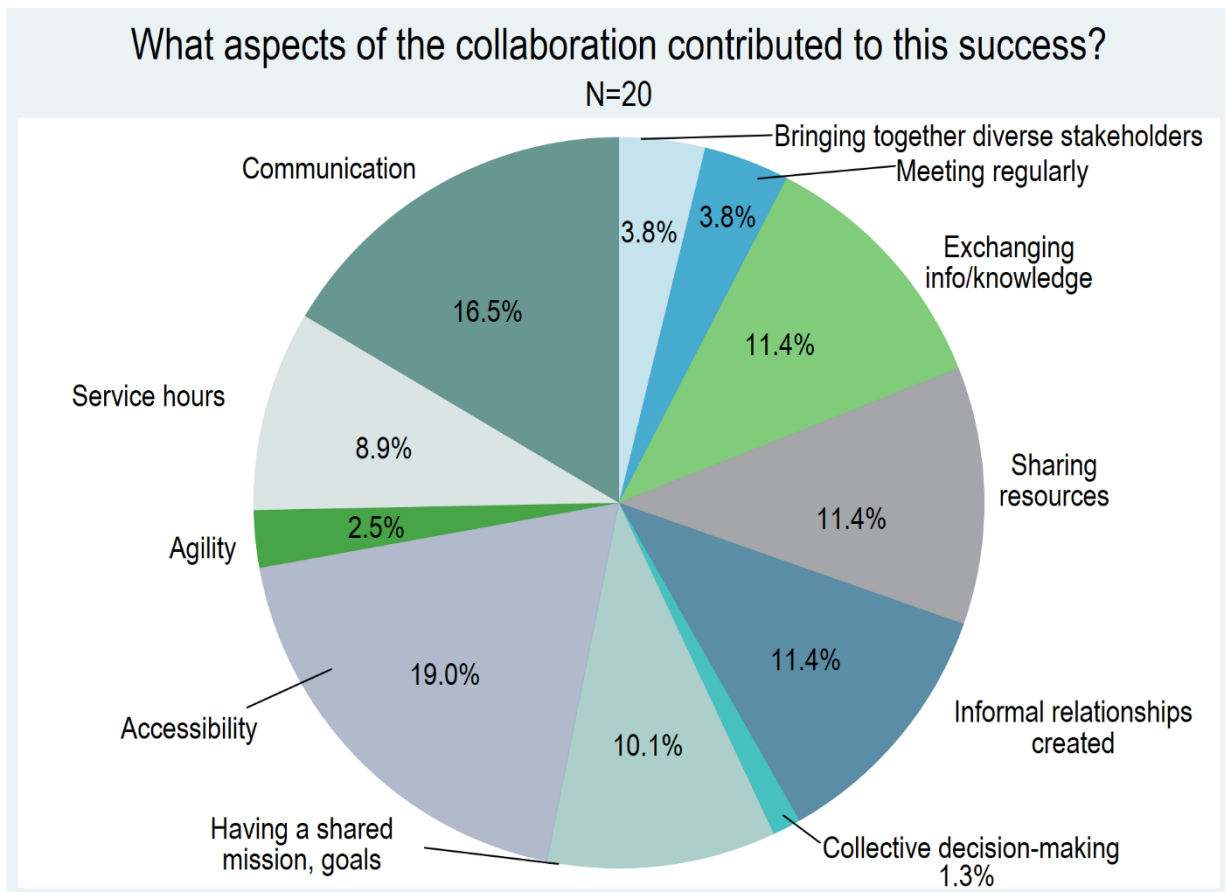


Figure 8: Community stakeholder survey responses to “What aspects of the collaboration contributed to this success” (n=20).

All respondents either strongly agreed (60%) or agreed (40%) that the PHMU had a positive impact on their community. When asked to identify the additional benefits seen in the community, there was almost an equal distribution across a wide variety of responses (Figure 9). Most of the aspects relate to improved knowledge sharing, awareness, and additional supports.

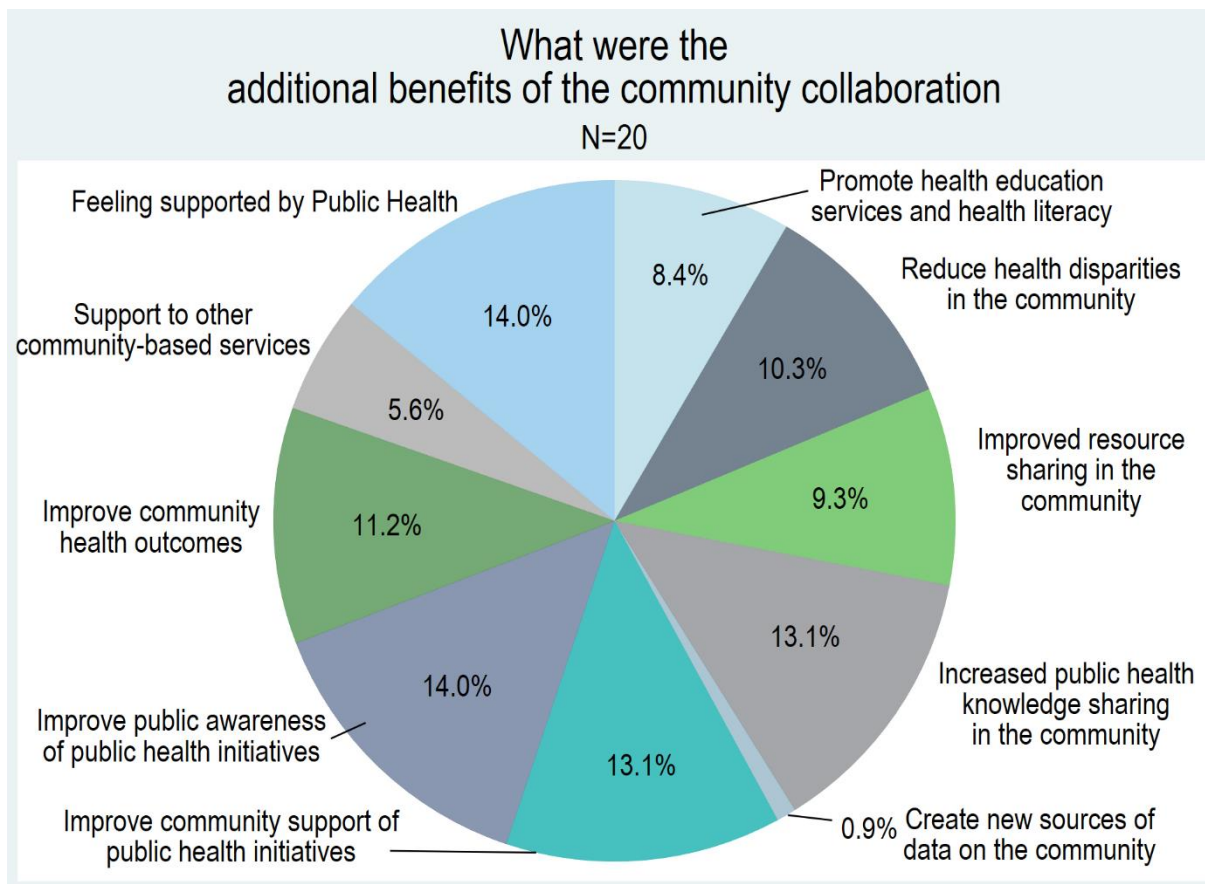


Figure 9: Community stakeholder survey responses to “What were the additional benefits of the community collaboration” (n=20).

Ensuring an equitable response

Being present in communities, that do not usually have a Nova Scotia Health presence, builds visibility, and reassures the public that health care is accessible for them closer to home. The PHMU employed an outreach approach to their work in communities.

“The local outreach teams work really hard to get out and be visible. And so, getting out be visible it actually was not only just make it more accessible but it gave people the cover, like I could do that, I could see my neighbor Joe going. So, Joe's going to go, I'm going to go, and so just being closer to people's communities they felt more comfortable going out where they get tested or to get the vaccine.” – Key Operational Collaborator

Participants reported that most of their work was talking to people, understanding the barriers they face, giving them information, and planning collaboratively. PHMUs were able to support communities and clients by providing direct services, but they were also able to provide support by being a sounding board for healthcare information that individuals may otherwise have not been able to receive.

“A lot of this work is just talking to people, understanding their barriers, giving them information, planning, there's so much and I think the same could be said for even acute care or primary care settings. So, I would say a key learning is people can do amazing work if we allow them to do that work and not narrow their scope.” – Manager Focus Group

and

“Really and truly the public health mobile units were grounded in community development. They were engaging at the community level to meet the needs of the population and adapt it based on the communities they entered. They came with an access point for services. But what that looked like was very different in different communities. And that was because they were responsive to the needs.” – Strategic Collaborator

Participants described that clients perceived the PHMU clinics to offer a “less medicalized” approach than going to a traditional clinic for care. For those that have experienced racism in healthcare, they may have responded better to receiving care through the PHMU because the healthcare system was meeting these individuals where they were at (i.e., in their community), while also making efforts to build trust (i.e., community leaders mobilizing the PHMU roll-out in their own communities). This allowed these clients to obtain a different sense of comfort at the PHMU clinics that they may not have received from healthcare in the past.



“With some of the African Nova Scotian communities ... they really felt they hadn't been supported by the health system for many, many years and then through this journey with COVID and us responding to an outbreak certainly helped to start to mend some of those unfortunate experiences they had had in the past.” – Manager Focus Group

and

“In relation to that equity piece, I hope that you know there's a lot of lack of trust in the healthcare system from [First Nations and African Nova Scotian] populations, rightly so from their experience of racism and discrimination, and I hope that having this more tailored approach that was at the request of community ... would move that trust needle a tiny bit.” – Strategic Collaborator

Building community trust

To address the needs of diverse populations, trust had to be built with these communities, and adjustments in services needed to be made based on what made each community and client setting felt to be most comfortable. This was particularly important for communities where, historically, harm was experienced by members of these communities caused by practices and policies enacted by the health

system. African Nova Scotian and First Nations communities experience structural racism and there is a lack of trust in the healthcare system, and yet they have worse health outcomes and more hospitalizations. The PHMU applied a more tailored approach than traditional healthcare. The desire was to make this a community-led partnership, allowing the community to take a lead role in directing the PHMU strategy. Working with identified community leaders was an approach that was employed by the PHMU to guide considerations for speech, electronics needed, or to build direct relationships with people from the community to encourage testing. In a specific example, the decision was made to not bring the physical mobile unit into certain priority communities and instead, PHMU personnel went to these communities with just their supplies. This approach received the best response from members of this community and was suggested by a local community leader as a method to build trust and make the community members feel more comfortable seeking services.

"We didn't even bring the units into the [community] because they didn't want anyone from outside knowing that we were there. They're just a very quiet community to themselves, but we had to go down there a few times and I think that was a benefit to them because we could do that [go in without the unit]." – Administrative Focus Group

Focus group participants reported that one of the greatest successes of the PHMUs were the relationships that were built/strengthened with communities by being visible, bringing care closer to clients and building trust by altering how the PHMU showed up, listening to the community, and accommodating based on each population/community.

"The visibility of having us in different communities and the unit being so visible and people being aware that Nova Scotia Health is there and that we're offering a service." – Nurse Focus Group

and

"I think just building relationships with the community, whether we're out there testing or immunizing or whatever our future holds with these units, I think that's success, when we can go to these communities, and they see us there and are happy and they trust us and why were there: to help them." – Administrative Focus Group

Staff suggest providing education/training and support for staff before going into specific population settings. Cultural competency training or training in working with clients with dementia or specific conditions would increase the capacity of the staff to best work with specific clients.

"That was something that could have [been] done better. We should have provided the education and the support before actually going into these centers. Because in the moment, the reliance was so heavy on the PHNs, conducting the tests because of comfort levels." – Nurse Focus Group

Increasing awareness within communities

To best to support clients and communities, they need to be aware of the PHMU and the services it can provide. There were some concerns with how the PHMUs activities were communicated within NSH and to clients and communities. For example,

“The communications were a gift [but] they were sometimes scrappily packaged and not a gift. I remember being in Sackville when [government announced] everybody in Nova Scotia should get a COVID test and we ended up doing 17,000 tests that day and we weren't prepared.” – Manager Focus Group

To increase awareness, it is important that continued work goes into advertising clinic locations, times, services, etc. and collaborating with community contacts to ensure best practices and approach appropriate to their specific community. Participants suggest that moving forward, a focus is made on improving coordination efforts among partners, as the PHMU has often had to reach out separately to public health, community members, community leaders, housing isolation teams et. In future outbreak situations, communication pathways between Public Health and PHMU staff should also be streamlined, allowing all levels to be aware of what information will be going out to the public prior to press conferences, and providing clarity on testing recommendations to PHMU staff.

Strengthening network collaborations

The PHMU should continue to build and nurture community relationships to further develop the networking infrastructure for working with priority populations to best implement care with a health equity lens. Participants expressed that they didn't always get it right with respect to the community outbreak response, which they attributed to the need to strengthen relationships with communities and

better understand their needs using a health equity lens. Efforts need to be made to continue to collaborate with vulnerable populations and better understand the barriers specific to each community that the PHMU interacts with and to continue to build trust. Improved data collection methods co-developed with underrepresented groups may support this, ensuring that collected data will be helpful to these communities in understanding their barriers and gaps in care. Cultural competence training for health system staff may also help ensure that future PHMU services are delivered respectfully and in consideration of the diversities and



intersections within the populations served.

Building and fostering relationships with communities can allow for collaborative work with community leaders to find venues and accommodations based on community needs and preferences. Listening to the needs of the community and responding to these needs will help to continue to build trust. In

addition, staff expressed that they would like to see more educating the public on PHMU services, why they are important, how they can help, and how they can be accessed and when.

“I think just providing education for the rural community, so it's kind of like if we bring the unit there, it's kind of like the old school bookmobile that you're driving to the community, and you offer every service that you can. So, whether that's providing the information that can give people the resources that they need or providing them with their flu shot or their vaccines or boosters or whatever they need to bring that to the rural community and for anybody that doesn't have Internet access or can't use it, providing those services, it's huge.” – Administrative Focus Group

Discussion

This evaluation used a mixed-method approach to elicit understanding of the implementation of PHMU during the COVID-19 response, and to support planning for mobile health services provided by NSH public health beyond the pandemic. The findings from this evaluation have important policy and public health implications for the implementation of mobile health services in Nova Scotia. Specific factors that supported (or hindered) PHMU implementation, and lessons learned from them can be found in both table 5 and 6, respectively.

The iterative and resilient approach adopted by the PHMU team allowed for adaptability and flexibility in responding to the evolving demands of the COVID-19 pandemic and helped to tailor its related response and the role of PHMU within it. This adaptability was a key enabler for the successful implementation of the PHMU and contributed to their early and ongoing success. Innovation and risk tolerance were identified as enabling factors for the scalability and adaptability of the PHMU, supported through a culture of learning and the use of data to support decision-making. Policymakers and public health practitioners should recognize the importance of adaptability and resilience in implementing innovations in support of public health goals during times of uncertainty.

Leadership support was identified as a crucial facilitator for the sustainability and scalability of PHMU services. Strong leadership was characterized by being accessible, responsive, and communicative, and empowering the PHMU operational leadership with autonomy to make decisions that were in the best interests of the communities served and the innovation itself. These leadership characteristics should be prioritized for similar initiatives to ensure their long-term viability and impact. Collaboration and partnerships among public health agencies, community organizations, and other stakeholders were also crucial for the success of the PHMU. Policymakers should encourage and foster these partnerships to enhance the implementation and expansion of the PHMU, to ensure that the design and operations of services meets the needs as intended.

PHMU implementation was enabled through a strong health equity lens to ensure that diverse needs of the population were at the forefront of decisions. This approach helped develop new relationships with

communities and strengthened relationships with communities who have traditionally experienced negative encounters with the health system.



Community engagement and support were identified as crucial factors contributing to the success of the PHMU. Policymakers should prioritize community engagement strategies and ensure that the PHMU services are tailored to meet the unique needs of each community. Resource availability and financial support played a significant role in the success of the PHMU. Policymakers should prioritize adequate and sustained funding for similar initiatives to ensure their scalability and ongoing operations. However, several implementation barriers were identified that can hinder the sustainability and scalability of the PHMU. Policymakers should address these barriers by developing strategies

to align the PHMU with changing public health measures, prioritize resource allocation based on community needs, address staffing shortages, improve communication and coordination among stakeholders, invest in necessary infrastructure, and address public perception through education and awareness approaches.

In consideration of the future state for PHMU services, participants provided several service delivery options that merit further exploration (refer to previous Table 4). Other jurisdictions have explored the use of mobile health services during the immediate COVID-19 response and plans for transition to services post-pandemic and there are many similarities with this evaluation, including exploring a transition to laboratory services, immunization or vaccination clinics (beyond COVID-19), supporting aspects of primary care, and mental health and addictions⁸ (RR – Mobile Health Unit and Services, 2022). And although evaluative outcomes are not published frequently, the overall benefits of mobile health units are informally reported to save money, free up other public services such as police and hospitals, and build valuable connections with community supports⁸ (RR MHU and services, 2022). Participants also cautioned that where the PHMU was built and fit for COVID-19 response purpose, pivoting to new and future services will require careful planning and consideration of roles, design, alignment with PH mandates, and unintended consequences (e.g., stigma).

In conclusion, the findings from this study provide important policy and public health implications for the implementation of the PHMU within Nova Scotia. Policymakers should prioritize leadership support, collaboration, community engagement, innovation, and resource availability in the design and implementation of public health interventions. By addressing implementation barriers and leveraging facilitators, policymakers can enhance the sustainability and scalability of similar initiatives, ultimately improving preparedness and response capabilities for future crises.

Table 51: Implementation factors that have influenced the success of PHMUs.

Implementation factors that have influenced the success of PHMUs
<i>Intervention Characteristics</i>
Enablers • Adaptability: The PHMUs demonstrated adaptability by tailoring their services to meet the evolving demands of the COVID-19 pandemic. They expanded their role from COVID-19 testing to include immunizations and supporting primary care clinics. • Tailoring: The team compositions of the PHMUs changed based on the needs of the communities they served, incorporating emergency support aides (ESAs) in addition to nurses. • Design Quality & Packaging: The PHMUs were designed to be flexible and responsive, allowing for on-the-go learning, action, and continuous improvement.
<i>Outer Setting</i>
Enablers • Needs & Resources: The PHMU focused on supporting communities that do not typically have access to Nova Scotia Health services, addressing the specific needs of priority populations such as First Nation communities, African Nova Scotians, temporary foreign workers, shelters, schools, religious communities, and long-term care facilities. • External Policies & Incentives: The PHMUs adapted their services based on the historical harms experienced by certain communities and built trust by involving community leaders in decision-making processes. Barriers • Limited Reach during Surges: During peak periods, such as the Omicron surge, the demand for services surpassed the capacity of PHMU services, resulting in an inability to reach all areas in need. • Prioritization Challenges: The mobile units faced the task of prioritizing requests from different communities. Predicting areas with the highest need required collaboration with epidemiologists, but balancing demand and capacity remained a challenge. • Strategic Prioritization and Access: the PHMU encountered situations where communities requested services despite the availability of testing centers nearby. This created a strategic dilemma and necessitated prioritization to maximize access and resources. • Public Perception and Expectations: Some community members had misperceptions about the role and capabilities of the PHMU, resulting in unrealistic expectations or negative reactions. Balancing visibility, logistical needs, and community education became an ongoing challenge. • Shifting Public Health Measures: The constantly evolving public health measures, particularly in terms of case management and contact tracing, have impacted the scope of services required from the PHMU. This dynamic nature of requirements creates challenges for the mobile units in adapting their operations accordingly.

Inner Setting

Enablers

- **Culture:** The PHMU fostered a culture of collaboration, trust, and empowerment. Strong relationships with senior leadership and policymakers supported staff in responding to concerns and creating a sense of community and support during uncertain times.
- **Structural Characteristics:** The autonomy given to managers and staff allowed for quick problem-solving and decision-making. Positive feedback from the community and staff played a role in guiding the ongoing work of the PHMU.
- **Implementation Climate:** The PHMU had a team that was determined, resilient, and focused on patient-centered care. Staff felt supported by management and expressed a high level of job satisfaction.

Barriers

- **Staffing Challenges:** The PHMU faced difficulties in recruiting and retaining staff due to various factors, including hesitancy, workforce shortages, and concerns about safety and burnout.
- **Operational Constraints:** The operational demands placed on PHMU staff and leadership, such as driving long distances during challenging weather conditions, added to staff burnout and presented logistical challenges.
- **Volume and Testing Demands:** The surge in cases during the Omicron variant posed challenges for the PHMU in managing increased demand for home-based testing and visits, potentially leading to a decrease in testing frequency.
- **Resource Constraints:** The PHMU faced difficulties in finding drivers and obtaining necessary infrastructure, such as suitable locations for testing or vaccination clinics.
- **Communication and Integration:** Initial communication and reporting structures caused some challenges and confusion within the PHMU, but improved as the pandemic progressed. Integration within the broader healthcare system allowed for smoother operations.
- **Stakeholder Conflicts:** Conflicts arose between infectious diseases, public health, and healthcare providers regarding testing strategies, resource allocation, and pandemic response. These conflicts highlighted the need for effective collaboration and coordination among stakeholders.

Characteristics of Individuals

Enablers

- **Knowledge & Beliefs:** Participants emphasized the importance of being present in communities, building relationships, and listening to community members to address their needs effectively.
- **Self-efficacy:** The PHMU teams demonstrated a high level of self-efficacy, adapting their scope of practice and responsibilities to fit the needs of the community. They also showed resilience in overcoming challenges such as language barriers and hostile community members.

Barriers

- **Operational Adaptation:** Public health faced challenges in adapting to the operational demands of testing.

Process
Enablers • Planning: Focus group participants expressed the need for earlier integration of evaluation during the implementation phase to facilitate reflective learning and strategic pivoting. • Engaging: The PHMU actively engaged with communities, responding to community requests and feedback, and adapting services accordingly. • Reflecting & Evaluating: End-of-shift reports and feedback from staff and community members were used to adjust locations, clinic composition, and service delivery methods. Barriers • Lack of performance feedback: an absence of a formal evaluation strategy reduced the ability to provide evidence based, ongoing feedback to staff, providers, and stakeholders. • Limited available resources • Initial workflow processes

These lessons can guide future planning and implementation of PHMU services, helping to address barriers and enhance their sustainability and scalability in supporting public health responses during emergencies. Based on the analysis, here are some key lessons learned (Table 6):

Table 6: Lessons learned from PHMU Implementation and Deployment.

Lessons learned from PHMU Implementation and Deployment	
Adaptability and flexibility	The dynamic nature of public health measures and evolving needs during a pandemic can significantly impact the role and responsibilities of the PHMU. The ability to adapt and adjust to changing requirements is crucial for their success.
Prioritization and resource allocation	The PHMU may face challenges in meeting the demand for their services due to limited capacity and resources. Strategic prioritization, based on epidemiological data and community needs, becomes essential to ensure efficient utilization of available resources.
Staffing challenges	The PHMU may encounter staffing challenges, including staff burnout, shortage of healthcare professionals, and hesitancy to join the mobile units. It is important to address these challenges by providing support, ensuring staff safety, and offering incentives to attract and retain qualified personnel.
Communication and community engagement	Clear and effective communication is vital to address community expectations, educate the public about the role and limitations of the PHMU, and build trust. Engaging with community groups and addressing concerns can help manage expectations and improve the public's understanding of the unit's services.
Infrastructure and logistics	The PHMU require proper infrastructure and logistical support to function effectively. This includes having suitable locations for testing and vaccination sites, addressing challenges related to transportation and equipment, and ensuring appropriate storage conditions for vaccines.

Integration and coordination	Integration of the PHMU within the broader healthcare system is essential to streamline processes, avoid duplication of efforts, and ensure effective coordination with other stakeholders. Establishing clear reporting structures and lines of accountability can contribute to smoother operations.
Public health versus clinical roles	The PHMU may face challenges in navigating their role within the healthcare system, particularly when their responsibilities overlap with primary care or clinical services. Balancing the need to provide immediate services with the broader mandate of public health requires clear delineation of responsibilities and collaboration with other healthcare providers.
Continuous learning and improvement	The ever-changing nature of a pandemic necessitates continuous learning and improvement. The PHMU should invest in ongoing training, staying up-to-date with best practices, and continuously evaluating and adapting their strategies to enhance their effectiveness.

Limitations

Participation in all surveys was voluntary so the findings are susceptible to self-selection bias, where individuals with strong opinions or experiences are more likely to participate, leading to an overrepresentation of certain perspectives. Additionally, response rate on internal and community stakeholder surveys was relatively low. Data collection for the provider and client surveys took place between March and June 2023; several years after the PHMUs were initially launched. These data should be interpreted as a ‘snapshot’ of the PHMU experiences and not a cumulative result of experiences over the entire duration of the program. Cost-related data has not currently been collected and was left out of this evaluation, although we recognize it is a component of the quintuple aim. This analysis may be forthcoming. Finally, interviews and focus groups were conducted over a year after some of the events participants were asked to recall and describe, this time gap may affect and limit responses.



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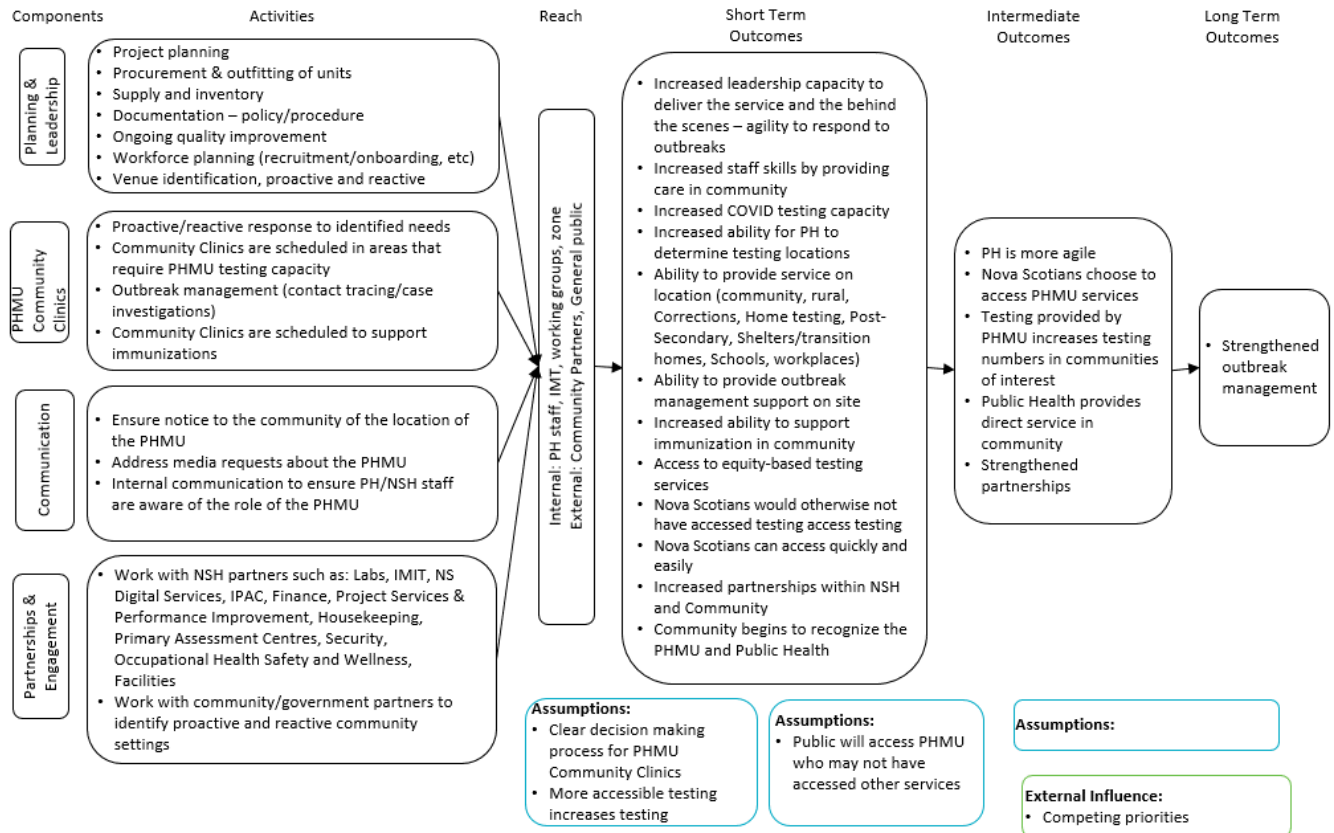
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Appendixes

Appendix 1: PHMU Logic Model (PHMU, 2022)

Public Health Mobile Unit Logic Model

The Public Health Mobile Unit (PHMU) was developed to provide rapid services directly to areas that require service and supports and provide flexibility in the COVID response. The PHMU will support easier access to services (testing/outbreak management/immunization) which is intended to increased uptake of services in communities where access may otherwise be challenging.



Appendix 2: PHMU Roles and Role Descriptions

Role	Responsibilities
Charge Nurse	▪ A PHN assigned to each clinic ▪ Oversees daily flow of mobile clinic ▪ Initial “go-to” for troubleshooting clinic issues ▪ Manages specimen packaging and preparation for transport ▪ Reinforces established processes & procedures (e.g., PPE, IPAC) ▪ Daily reporting of clinic volumes, successes and challenges. ▪ Are part of the team supporting clinic set up and take down
Public Health Nurse	▪ A regulated care provider that has a scope of practice as defined in its governing statute and is guided by standards of practice and a code of ethics, in addition to the Care Directive ▪ Collects COVID-19 specimens ▪ Provides supportive collaboration with unregulated care providers (ESAs) ▪ Are part of the team supporting clinic set up and take down and may have other tasks (e.g. flow, inventory) ▪ Connects with facilities and partners; provides clinical perspective to Leadership team
Emergency Support Aide (ESA)	▪ COVID-19 specimen collection for people ages 4+ ▪ ESAs seek further collaboration in scenarios identified in the care directive ▪ Individual Unregulated Care Providers (UCP) are always accountable for their actions (which includes inaction) and the decisions they make within their scope of employment. ▪ Are part of the team supporting clinic set up and take down and may have other tasks (e.g. flow, inventory) ▪ Supports supplies and stock shifts
Administrative Support	▪ Often the first interaction the public has with the Mobile Unit ▪ Assists with both clinical logistics and supporting supplies and stock shifts ▪ Assembles and disassembles registration systems, troubleshoots IT issues, and reviews the days booked appointments ▪ Registers clients on van or in facilities, prepares labels for specimens and organizes requisitions. ▪ Enters information from Support and Report forms ▪ Provides print outs when needed ▪ Are part of the team supporting clinic set up and take down and may have other tasks (e.g. flow, inventory)
Drivers	▪ Performs daily pre-and post-trip inspections ▪ Drives vans to and from clinics ▪ Help set up safe work zone around van (if used for clinic) ▪ Supports clinic flow or other clinic functions according to their role. ▪ Fills gas tank ▪ If van is being used for registration (as part of clinic set up), one designated person must monitor it throughout the clinic

Appendix 3: PHMU Client Survey

Page 1

Public Health Mobile Unit (PHMU) Patient Satisfaction Survey

Please complete the survey below to help us learn about your experience on Public Health Mobile Unit (PHMU).

Thank you!

Gender	☐ Male ☐ Female ☐ Non-binary ☐ Prefer not to say ☐ Other
Please specify	
Age	☐ Under 18 ☐ 18-24 ☐ 25-34 ☐ 35-44 ☐ 45-54 ☐ 55-64 ☐ 65 and over
Do you have a primary care provider?	☐ Yes ☐ No
Clinic location	
Please specify	
Home postal code	
What services did you receive - check all that apply.	☐ PCR testing ☐ Immunization ☐ Rapid kit pickup ☐ Rapid test
If this service had not been available, where would you have gone for a vaccination?	☐ Another drop-in vaccine clinic ☐ Booked vaccine appointment at pharmacy ☐ Would not have gotten vaccinated
If this service had not been available, where would you have gone for a COVID test?	☐ Rapid test from home supply ☐ Traveled to testing centre for PCR ☐ Traveled to testing centre for rapid test kit pickup ☐ Traveled to community distribution site for rapid test kit pickup ☐ Would not have gotten tested ☐ Other
Please specify	

Please rate your overall experience of care at the PHMU.

- ☐ Very Satisfied
☐ Satisfied
☐ Neutral
☐ Unsatisfied
☐ Very Unsatisfied

I received the service(s) I needed.

- ☐ Strongly Agree
☐ Agree
☐ Neutral
☐ Disagree
☐ Strongly Disagree

I received the type of care I wanted/expected at the PHMU.

- ☐ Strongly Agree
☐ Agree
☐ Neutral
☐ Disagree
☐ Strongly Disagree

I received information for the questions I had.

- ☐ Strongly Agree
☐ Agree
☐ Neutral
☐ Disagree
☐ Strongly Disagree
☐ N/A

How satisfactory were the following:

	Very Satisfied	Satisfied	Neutral	Unsatisfied	Very Unsatisfied
Location	☐	☐	☐	☐	☐
Hours of operation	☐	☐	☐	☐	☐
Communication about the service	☐	☐	☐	☐	☐

How did you find out about the PHMU clinic - check all that apply.

- ☐ Radio
☐ 811 Directory
☐ Other Clinic
☐ Emergency Department Referral
☐ Social Media
☐ Friend/Family
☐ COVID Test Booking Site
☐ NS Health website
☐ Other

Please specify

.....

Please list any services you wish the Public Health Mobile Unit offered in your community.

.....

Please let us know what worked well and what could be improved.

.....

Appendix 4: PHMU Staff Survey

Public Health Mobile Unit (PHMU) Evaluation Staff Survey ^{Page 1}

Please complete the survey below to help us understand the day-to-day successes and challenges and help us to improve the process as we move along.

Thank you!

Date

Role

- ☐ Public Health Nurse
- ☐ Administrative
- ☐ Driver
- ☐ ESA
- ☐ Other

Please describe

Clinic location

- ☐ Cobeguid
- ☐ Kentville
- ☐ Other

Please describe

Overall Experience Rating

- ☐ Very Satisfied
- ☐ Satisfied
- ☐ Neutral
- ☐ Unsatisfied
- ☐ Very Unsatisfied

The day went as planned and everything ran efficiently.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

The PHMU was sufficiently stocked with supplies.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree
- ☐ N/A

The clients received the care and information they needed.

- ☐ Strongly Agree
- ☐ Agree
- ☐ Neutral
- ☐ Disagree
- ☐ Strongly Disagree

Please list any services that clients requested this week that you were not able to provide.

What can be improved?

What are you most proud of?

Public Health Mobile Unit (PHMU) Partner/Stakeholder Survey

As a stakeholder and leader who has supported the Public Health Mobile Unit (PHMU) development, implementation and/or operations, we are interested in understanding your perspective of the successes and challenges you have experienced throughout your work. This survey will help us better understand aspects of the partnership that worked well and those that could have been improved. Your feedback will aid us in accurately assessing the program so that we can continue to provide services that meet the needs of the community and enhance the implementation of future Public Health initiatives and partnerships.

Thank you!

Date:

Position/organization:

When did your partnership/work with the PHMU begin?

Since the PHMU was launched in December 2020, how often have you connected with the PHMU in your role?

- ☐ 1-3 Times
☐ 4-5 Times
☐ 6-10 Times
☐ Greater than 10 Times

Please describe your involvement in the development, implementation and/or operations of the PHMU.

When considering your work with the PHMU, what has worked well to achieve your organization/department goals?

What challenges did you observe/experience during the PHMU development? August 2020- December 2020.

What challenges did you observe/experience with regards to PHMU implementation/operations? December 2020- present day.

Do you have recommendations for improvements of PHMU implementation, service delivery and/or operations?

What kinds of activities does your relationship with the PHMU involve? (choose all options that apply)

- ☐ None
☐ Cooperative activities: Exchanging information/ideas, attending meetings together, and sharing resources
☐ Coordinated activities: Deliberately working together to enhance each other's capacity for mutual benefit
☐ Integrated activities: Working together in a unified team/program that supports shared goals

From your perspective, how successful has your work been at reaching its goals?

- ☐ Not Successful
☐ Somewhat Successful
☐ Successful
☐ Very Successful
☐ Completely Successful

What aspect of your work contributed to this success? (choose all options that apply)

- ☐ Bringing together diverse stakeholders
☐ Meeting regularly
☐ Exchanging info/knowledge
☐ Sharing resources
☐ Informal relationships created
☐ Collective decision-making
☐ Having a shared mission, goals
☐ Accessibility
☐ Agility
☐ Service hours
☐ Communication- internalComm
☐ Other

Please describe:

What aspect of your work impeded this success? (choose all options that apply)

- ☐ Insufficient stakeholder engagement
☐ Too many or too few meetings
☐ Gaps in knowledge exchange
☐ Sharing resources
☐ Lack of opportunity for informal relationships to be created
☐ Lack of collective decision-making
☐ Not having a shared mission, goals
☐ Inaccessibility
☐ Lack of Agility
☐ Service hours
☐ Miscommunication
☐ Other

Please describe:

Would you like to be contacted for an interview to discuss your experience working with the PHMU team/service?

- ☐ Yes
☐ No

Please list your email address:

PHMU Community Stakeholder Survey

As a stakeholder and leader who has had the Public Health Mobile Unit (PHMU) in your community, we are interested in understanding the successes and challenges you have experienced with the PHMU service. This survey will help us better understand aspects that you believe functioned optimally and those that could have been improved. Feedback will aid us in accurately assessing the program so that we can continue to provide services that meet the needs of the community.

Thank you!

Date:

Community Organization/partner:

Since the PHMU was launched in December 2020, how often have you connected with the PHMU in your community?

- ☐ 1-3 Times
☐ 3-5 Times
☐ 5-10 Times
☐ Greater than 10 Times

Please indicate the main purpose(s) of your organization/program/department partnership with the PHMU (choose as many as apply).

- ☐ Planning/strategizing PHMU visit
☐ Increase community awareness of PHMU services
☐ Increase uptake of PHMU services
☐ Prevent spread of COVID-19 infection
☐ Develop PHMU-community relationship/connection
☐ Other

Please specify:

Please rate your overall experience with the PHMU in your community:

- ☐ Very Satisfied
☐ Satisfied
☐ Neutral
☐ Unsatisfied
☐ Very Unsatisfied

When considering your partnership with the PHMU, what has worked well?

What challenges have you experienced or observed with having the PHMU in your community?

The PHMU positively impacted your community:

- ☐ Strongly Agree
☐ Agree
☐ Neutral
☐ Disagree
☐ Strongly Disagree

Please elaborate on the ways that the PHMU collaboration has positively impacted your community in your experience.

Do you have recommendations for improvements of PHMU service delivery?

What other services would you like to see the PHMU providing in your community?

What kinds of activities does your relationship with the PHMU involve? (choose all options that apply)

- ☐ None
- ☐ Cooperative activities: Exchanging information/ideas, attending meetings together, and sharing resources
- ☐ Coordinated activities: Deliberately working together to enhance each other's capacity for mutual benefit
- ☐ Integrated activities: Working together in a unified team/program that supports shared goals

Beyond Covid-19 testing and vaccination, what were additional benefits (perhaps unintended) of the community collaboration with the PHMU? (choose all options that apply)

- ☐ Promote health education services and health literacy
- ☐ Reduce health disparities in the community
- ☐ Improved resource sharing in the community
- ☐ Increased public health knowledge sharing in the community
- ☐ Create new sources of data on the community
- ☐ Improve community support of public health initiatives
- ☐ Improve public awareness of public health initiatives
- ☐ Improve community health outcomes
- ☐ Support to other community-based services (e.g., 211, 811)
- ☐ Feeling supported by Public Health
- ☐ Other

Please specify:

From your perspective, how successful has this collaboration been at reaching its goals?

- ☐ Not Successful
- ☐ Somewhat Successful
- ☐ Successful
- ☐ Very Successful
- ☐ Completely Successful

What aspects of collaboration contribute to this success? (choose all options that apply)

- ☐ Bringing together diverse stakeholders
- ☐ Meeting regularly
- ☐ Exchanging info/knowledge
- ☐ Sharing resources
- ☐ Informal relationships created
- ☐ Collective decision-making
- ☐ Having a shared mission, goals
- ☐ Accessibility
- ☐ Agility
- ☐ Service hours
- ☐ Communication

Appendix 7: Consolidated Framework for Implementation Research (CFIR) Domains

CFIR Domains (Major)	Description of Domain
Intervention (Innovation)	The “thing” being implemented. Subdomains focus on describing this intervention or innovation more fully (e.g., evidence-base for the innovation, advantage of innovation relative to others, complexity, design features, cost, among others)
Outer setting	The setting in which the inner setting exists (e.g., hospital, school, other institution, province). There may be both multiple outer settings and/or levels within the outer setting (e.g., community, health system, jurisdiction). Subdomains focus on describing the interrelations that exist between the outer and inner setting that can influence implementation (e.g., attitudes, conditions, policies and laws, external pressures, among others)
Inner setting	The setting in which the innovation (or intervention) is being implemented. Similar to the outer setting, multiple settings and/or levels can exist (e.g., units, departments, jurisdiction). This is considered the unit of analysis of implementation and features of the inner setting are important influencers on implementation. Subdomains focus on identifying these features of the inner setting that may be important contextual factors influencing implementation (and would exist otherwise in the environment irrespective of implementation – e.g., culture, relational connections, communications, structural characteristics) or factors within the inner setting that are directly related to the implementation of the innovation itself (e.g., relative priority, tension for change, alignment, incentives, available resources, among others)
Individuals	This domain identifies both roles and characteristics of individuals who are involved with implementing, delivering, and/or receiving the innovation.
Processes	This domain focuses on the strategies and processes that are used to support implementation. Subdomains focus on activities such as teaming, assessing needs, assessing context, planning, engaging, and tailoring strategies (among others) that are put in place to support implementation of the innovation.

Source: [Updated CFIR Constructs – The Consolidated Framework for Implementation Research \(cfirguide.org\)](https://cfirguide.org/)