REPORT NO 2
MAPPING DETERMINANTS OF ADOPTION OF PrEP WITH IMPLEMENTATION STRATEGIES IN PUBLIC HEALTH SETTINGS

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SUMMARY OF MAIN FINDINGS AND KEY RECCOMENDATIONS

Using the consolidating framework or implementation research, we have delineated, in Ontario's public health settings, mainly sexual health clinics, the determinants of PrEP adoption. We found that those determinants operated at multiple levels as follows.

Characteristics of intervention: PrEP is widely acknowledged as an effective, evidence-based intervention, with its source and strength of evidence posing no barriers to adoption. Its relative advantage as a strategy to reduce new HIV infections is recognized, although some settings note that the low HIV incidence—coupled with higher rates of syphilis and gonorrhea—could shift priorities. Adaptability is a facilitator, as existing practices allow for alternative approaches such as referrals, use of the web, and local pharmacy involvement; however, these practices may need to be further tailored for populations like people who inject drugs, the homeless, and aboriginal communities. Complexity is managed through clear guidelines and medical directives, which aid in the adoption process, but the multiple steps involved still present challenges that can be mitigated through additional training and the use of medical directives. The overall design of the intervention is positive, bolstered by favorable attitudes towards PrEP and supportive directives. **Cost remains the primary barrier**, with uncertainties about the full expenses of implementation and how costs for clients will be managed. In response, strategies such as conducting cost-effectiveness analyses, seeking new funding sources, and better navigating current funding mechanisms have been recommended.

Outer setting: One critical theme is the **impact of COVID-19**: while some settings have successfully adapted their services through innovative methods like mobile clinics and outreach, the pandemic has also led to staff reductions, shifts to online work, and the elimination of some programs, complicating service delivery. Local attitudes generally view PrEP positively among at-risk populations; however, primary care providers often exhibit a lack of interest and limited capacity, compounded by ongoing HIV and PrEP-related stigma. Rising HIV and syphilis rates, along with a perceived need for PrEP to mitigate HIV incidence, underscore its importance, yet social challenges—particularly among homeless individuals, people who inject drugs, and aboriginal communities—create barriers to access. Rural areas and small cities, where access to PrEP resources is limited and many residents lack primary care providers, further exacerbate these challenges, suggesting a need for targeted reach-out programs and mobile service provision.

Policies and guidelines are seen as a strong foundation, as public health standards facilitate the management of sexually transmitted infections, yet weak provincial support and minimal external mandates hinder broader adoption. Networking and partnerships, including collaborations with community-based organizations, research projects, and inter-agency learning networks, have enabled more effective referral pathways and resource sharing, although some organizations still struggle with establishing robust connections. Finally, **financing remains a significant concern**: program cuts due to COVID-19, unclear funding sources for PrEP, and limited free access underscore the urgency for clear financial strategies, including PrEP navigation funding and upstream commitments to support program sustainability.

Inner setting: Several key factors influenced PrEP adoption across organizational domains. Structural characteristics are favorable, as clinics with a clear trajectory and internal organization—especially those serving priority populations—are well positioned to implement PrEP, with no notable barriers in this area. Within internal networks, well-established communication and teamwork facilitate effective collaboration; however, in some settings, limited proximity between partners and programs restricts access to PrEP prescribers. The organizational culture is a strong facilitator, characterized by values of

respect, dedication to comprehensive care, and a commitment to evaluating and adapting programs, with no barriers identified. In terms of tension for change, positive experiences—such as successful adaptations during COVID-19 and a clear need to reduce HIV incidence—support PrEP adoption, although some clinics cite capacity constraints and shifting priorities as challenges that could be addressed through targeted training.

Regarding compatibility, PrEP is generally seen as fitting well with current public health mandates, but there is some concern about its placement within primary care settings; recommended strategies include increasing personnel capacity, hiring new staff, and leveraging telehealth options. Similarly, relative priority varies; while some clinics have prioritized PrEP during the pandemic, others have scaled back services, suggesting a need for enhanced capacity and resources. Organizational incentives are less prominent, as some feel they are more applicable to primary care, yet there remains uncertainty about how best to implement them. The area of objectives and feedback is supportive—with frequent reviews of guidelines and active committee participation—but suffers from a lack of data on population needs, indicating a need for more robust needs assessments and client evaluations.

A positive learning climate exists, marked by openness to innovation, willingness for tailored training, and prior research experience, though some settings still require more localized training efforts. The availability of resources is generally favorable due to interdisciplinary teams and existing expertise in HIV and STI testing and counseling, yet some clinics need additional prescribers, lab support, and time. Finally, while there is clear interest in accessing and sharing information, some clinics must further build their capacity to fully leverage these resources, as detailed in Report No. 1.

Process: The findings indicate that organizations implementing **PrEP programs have established strong connections with a diverse range of partners**—including primary care providers, online resources, researchers, and other PrEP providers—which fosters effective teaming. Adopters have utilized available data on HIV and other STIs to prioritize their initiatives, although the assessment of local context has generally relied on guidelines or online resources like CATIE rather than localized assessments. In terms of planning, roles and responsibilities have been clearly defined through the use of medical directives, and organizations have demonstrated adaptability by working with online providers, local pharmacies, and primary care practitioners. Engagement efforts have successfully involved local and provincial PrEP leaders, community organizations, research institutions, and universities, creating robust partnerships that facilitate implementation. While practical examples of program execution have been documented, there remains a clear need for systematic reflection and evaluation to measure intervention success—particularly in reducing HIV acquisition risk—and to determine overall program impact. Lastly, adaptations are urgently required to better serve specific populations, such as people who inject drugs and indigenous communities, especially in remote settings.

Key strategies : We used the ERIC tool to identify which determinants were relevant to specific implementation strategies. The endorsed strategies were then mapped against identified barriers and facilitators for PrEP adoption. This process generated a set of rapid implementation strategies The first strategy focuses on building capacity by designating PrEP champions and enhancing education and partnerships. The second and third strategies emphasized service innovation, adaptability, and securing new funding to overcome cost barriers. The fourth and fifth strategies stressed the importance of local assessments, community involvement, and ongoing evaluation and networking to refine PrEP programs

MAPPING DETERMINANTS OF ADOPTION OF PrEP WITH IMPLEMENTATION STRATEGIES IN PUBLIC HEALTH SETTINGS

1. Background

This study was conducted as part of the PrEP-SEO project, which aims to identify key determinants influencing the adoption of PrEP (pre-exposure prophylaxis) by primary care providers in Ontario. The project focuses on various practice settings, including sexual health clinics (SHCs), group practices, student health services, and solo practices in suburban and rural areas. Currently, PrEP adoption in Ontario is limited, with most prescribers concentrated in Ottawa and Toronto. Despite its presence in some SHCs, local partners have highlighted a significant gap in adoption, particularly in these clinics, where little is known about the contributing factors.

This report addresses three specific objectives:

Barriers and Facilitators for PrEP Adoption: Using the Consolidated Framework for Implementation Research (CFIR), we analyze the challenges and enablers for PrEP adoption in SHCs. This analysis complements the broader overview provided in Report No. 1, thereby achieving AIM 1 of the project.

Key Strategies to Facilitate PrEP Adoption: We identify actionable strategies to improve PrEP uptake in SHCs, further contributing to AIM 1.

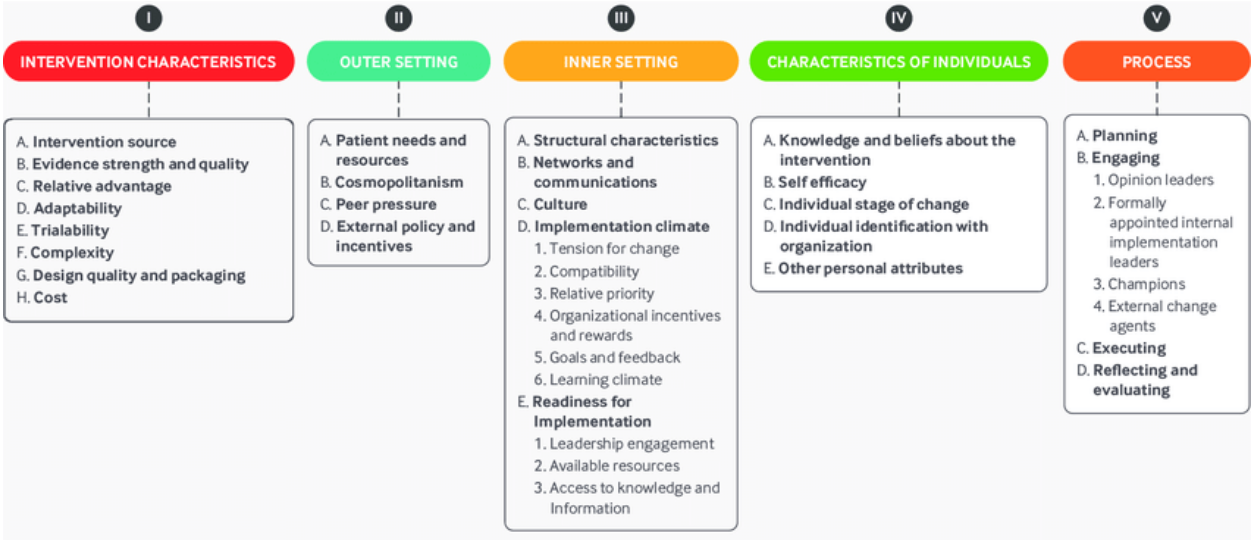
Planning Next Steps: We outline the next steps to implement these strategies, meeting AIM 2 of the project.

2. Methods

Methods for participant recruitment, data collection, and establishing trustworthiness for the process evaluation are detailed in a separate report. Briefly, we conducted online semi-structured interviews with managers and public health nurses working in public health settings (See Table 1). Interviews were recorded and transcribed using otter.ai. In this report, we presented an analysis conducting a rapid review of interviews using the CFIR which is our thematic analysis (report no 1).

Conceptual framework: We have chosen the Consolidated Framework for Implementation Research (CFIR) to identify barriers and facilitators to practice change and to provide the tools to design the implementation strategies for PrEP adoption and uptake. The CFIR was selected a priori to guide the identification of facilitators (what worked well) and barriers (opportunities for improving implementation) for the overall process evaluation. There are five main domains in the CFIR model each of which may affect the implementation of PrEP (**see Figure 1**). The first domain pertains to the *characteristics of the intervention* which refers to PCP's perceptions of PrEP sources, adaptability, and complexity among others. The second domain addresses the *outer setting*, which includes the economic, political, and social context in which the organization resides. In our case, it refers to the political and health systems of which public health settings are a part. It also includes how organizations incorporate the needs, resources, and preferences of people at risk of acquiring HIV (PHRA), guidelines, and other external pressures. *The inner setting* refers to the characteristics of the organizations, that is, sexual health clinics. Here, we study aspects related to the organizational structure, the connections with community organizations, the culture, and the implementation climate. The fourth domain deals with the *characteristics of the individuals*, which refers to knowledge, self-efficacy beliefs, etc. that different actors in the implementation of PrEP have or need. The last domain refers to the *process of implementation*, which involves planning, engaging relevant stakeholders, executing the plan, and

reflecting on and evaluating the effort. In this case, we study the different factors that have facilitated the adoption of PrEP in some settings.



Interview guide: With input from the research team, we iteratively developed tailored interview guides to suit the roles of participants—either sexual health clinic staff or primary care providers. The questions were open-ended, designed to elicit comprehensive and nuanced responses regarding participants' interest in PrEP adoption, as well as their attitudes, beliefs, and perceptions about its implementation.

From a PrEP adoption perspective, the interview aimed to uncover structural characteristics, barriers, and potential facilitators. Each question was carefully mapped to specific domains and constructs of the Consolidated Framework for Implementation Research (CFIR) to ensure the interview covered the most pertinent aspects of the framework.

The guides were pilot-tested with two academic and two healthcare providers. Their feedback helped refine the questions to enhance clarity, relevance, and comprehensiveness before commencing data collection.

Rapid assessment Step 1: The initial step in the analysis involved creating a templated summary table to organize and synthesize data extracted from interview transcripts, including illustrative quotes. To design this table, the qualitative lead (BEA) used the CFIR-based interview guides as a foundation, structuring the table in Microsoft Word as follows:

First Column: Listed the pre-specified interview questions from the guide.
Second Column: Summarized the key points and insights from participants' responses.
Third Column: Mapped responses to corresponding CFIR domains and included illustrative quotes to provide context and support for the analysis.

The draft summary table was collaboratively developed by two team members (EN, BEA) to ensure accuracy and alignment with the study's objectives. This framework enabled the systematic organization of data, facilitating a structured and comprehensive analysis.

Rapid assessment Step 2: The second step of the analysis involved synthesizing the 18 interview summaries generated in Step 1. This process was organized by the domains and subdomains of the CFIR, with a focus on identifying key themes and actionable insights. For each domain and subdomain, the team:

Reported Summary Aspects: Highlighted what aspects were perceived to work well and those needing improvement.

Identified Opportunities for Improvement: Documented specific suggestions or opportunities for enhancement as reported by participants.

Included Supporting Quotes: Added illustrative quotes from the interviews to highlight barriers and facilitators for each CFIR subdomain. These quotes provided depth and context to the summarized findings, ensuring participant perspectives were authentically represented.

Rapid assessment Step 3: The third analytic step of the analysis involved consolidating the 18 interview summaries (step 1) by each setting (n=11), reporting a summary of each domain categorizing if the domain or subdomain is a barrier, a facilitator, or a neutral factor in adoption of PrEP. To do this, we used information from the transcript summary tables to create a new matrix in MS Excel.

3. Results

3.1. CHARACTERISTICS OF PARTICIPANTS

Participants from the public health settings had different roles in their organization, including managers of sexual health clinics, public health nurses providing services, and directors of infectious disease teams and harm reduction programs.

Table 1. Characteristics of Participants from public health settings

ID	Organization	Stage of PrEP implementation	Role in the organization
P001	No 1	• Have implemented PrEP by diverting resources from other services	• One year of experience in public health practice • Involved in PrEP implementation
P006	No 10	• Refer clients for PrEP • Early stages of prescribing PrEP on site	• Public health nurse • 21 years of experience • Communicable and sexual diseases team
P007	No 10	• Refers clients for PrEP • Early stages of prescribing PrEP on site	• Team lead sexual health programs with 7 years of experience in that role • ensure directives, and promote evidence-based practices
P009	No 1	• Has implemented PrEP by diverting resources from other services	• Public health nurse with 28 years of experience in sexual health and communicable disease.

			• Involved in PrEP implementation
P011	No 2	• Refer clients to PrEP providers, interested in PrEP on-site • Uses a PrEP referral pathway	• Public health nurse • Promotes PrEP in the clinic • Five years of experience in a sexual health clinic
P013	No 2	• Refer clients to PrEP providers • Interested in bringing PrEP on-site • Uses a PrEP referral pathway	• Managerial role overseeing a clinical team • Two years of experience in public health
P017	No 3	• Does not prescribe PrEP • Low familiarity with PrEP	• Public health nurse • Manager of a sexual health clinic • Harm reduction
P018	No 3	• Does not prescribe PrEP • Some familiarity with PrEP	• Public health nurse • Works in a sexual health clinic • Experience in harm reduction
P019	No 12	• Refers PrEP clients • Does not prescribe PrEP • Low familiarity with PrEP	• Public health nurse for 17 years • Works in sexual health and harm reduction
P021	No 4	• Has implemented PrEP since 2022 • Uses mixed approaches for PrEP provision	• Program manager of a sexual health clinic for 5 years • Developed and implemented a PrEP program in a sexual health clinic
P022	No 5	• Refer clients to PrEP providers • Has no plan to prescribe PrEP on-site	• Manages a sexual and communicable disease team • Oversees public health nurses • Performs case management • Writes policies and planning role
P023	No 6	• Refer clients to PrEP providers within the same unit	• Public health nurse and involved in communicable diseases, including sexual and blood-borne infections • care management, 12- years of experience
P024	No 11	• Refer clients to PrEP providers • Has no plan to prescribe PrEP on-site	• Manages a communicable disease team without a there is not sexual health clinic
P025	No 7	• Offer PrEP information • Does not do PrEP referrals • Has no plan to prescribe PrEP in-site	• Public health nurse and works in a sexual health clinic
P026	No 7	• Offer PrEP information • Does not do PrEP referrals • Has no plan to prescribe PrEP in-site	• Manages a communicable disease team • Oversees nurses and sexual health clinic • Does not participate in direct care provision

P027	No 8	• Refers clients to PrEP providers • Has no plan to prescribe PrEP on-site	• 15 years of experience in public health • Manages a sexual health clinic
P028	No 8	• Refers clients to PrEP providers • Has no plan to prescribe PrEP on-site	• Harm reduction manager • Experience in managing a sexual health clinic manager • Planning and implementation experience
P029	No 9	• Refer clients to PrEP providers • Has no plan to prescribe PrEP on-site	• Public health nurse • 43 years of experience developing programs and outreach activities

- Colours reflect different levels of adoption with green those in more advanced and red those less advanced

3.2. STAGES IN ADOPTION OF PrEP

As shown in Table 1, participants' experiences with PrEP adoption vary significantly across sites, reflecting diverse levels of implementation:

- **Established On-Site Implementation**: Two sites have fully integrated PrEP into their services and are actively prescribing it on-site.
- **Planning for On-Site Provision**: One site has implemented a referral system and is in the process of planning on-site PrEP provision.
- **Referral-Focused Models**: Six sites rely on established referral pathways for PrEP, expressing no interest in on-site prescribing. Their decision is primarily attributed to the effectiveness of their current referral systems.
- **Weak Referral Pathways**: Two sites refer clients for PrEP but report that their referral pathways are insufficient or ineffective.
- **Low Familiarity with PrEP**: Two settings have limited knowledge about PrEP. They discuss it with clients but lack both established referral systems and pathways for PrEP access.

The following sections contrast narratives from these different levels of adoption, providing insights into the facilitators and barriers shaping PrEP implementation across these settings.

Participant	Narrative
P021	"We also complete all of the routine testing components for continuing within our clinics, we can also work with some of the virtual care providers for PrEP as well, so we can generate the scripts or we can do the testing and have the clients receive their PrEP medication from those like Go, Freddie and Tara PrEP clinic. Some of the different more virtual models as well, depending on the client's need and what kind of method they prefer. If they prefer to receive it at a pharmacy, locally, or through a virtual option."
P029	"I don't see any prescribing of PrEP anytime soon in our clinics, but we are a great link to making sure people have access to it."

P23	"We assessed maybe for maybe candidates also for PrEP. We're actively ensuring either they've had a PrEP conversation with that healthcare provider …if they're not on PrEP, we've seen that they've had either a conversation with that healthcare provider on accessing PrEP or we're calling them actively looking to connect and to review, PrEP and potentially link them with resources. We are telephone based. It's a very different. Clients aren't calling us to actively seek PrEP. we are connecting with them related to another health issue. So we're having to pivot with the, OK, I'm having a dialogue with you related to infectious syphilis and getting that managed. And then from there having to pivot or trying to pivot as well. In addition to the infectious syphilis management pivot to having it PrEP conversation, it may not always be the ideal time and clients aren't. We're not specifically connecting with us for PrEP, so we do actually offer a follow up call."

Examples of the different referral paths implemented in the participating sites are presented in the table below.

Participant	Narrative
P006	"And there is one related specifically to PrEP for HIV and referring out like when to how to all of that that our clinic nurses follow and refer."
P027	"Well, it's already the referral process is already implemented, I think kind of given the epidemiology that we're seeing with really high syphilis rates and the changing in multidrug resistance, we have very low rates of HIV and Hamilton. They're not very high."
P019	**"We can probably connect it to getting you some PrEP, but we don't have that capability here**. And that's when we were reaching out, working with [community organization] to get some clients on hep C treatment. They were the ones that saying, yeah, we can help get your clients on PrEP and they know the paperwork to like, apply to Trillium to get the funding and things like that. So That was really helpful. And really, that's where I learned the most."
P022	"So **we just act as that referral source to sites that actually dispense PrEP.** we also work closely with our local ASO to get our clients linked, our scope is more so the case management, but we do partner with care to form a lot of the linkages to help our clients address their needs as well. Just the case management piece, so just the public health follow-up, and it's all telepractice for us."
P011	"On the referral pathway for PrEP it'll basically list everywhere that you can access PrEP. The contact information. The hours of operation. if you have a drug plan. It's pretty comprehensive. We can print them off through client or e-mail them because they have hyperlinks to them"

Settings that have not yet implemented PrEP have started to have conversations about PrEP

Participant	Narrative
P017	I've met with a couple an ID specialists from Southern Ontario nurse practitioner out of [city], so I'm I'm just kind of in the beginning of learning about all of that and I'm **coordinating some education sessions** with our health care providers in this area because our knowledge is low.

3.3 INTERVENTION CHARACTERISTICS

In this domain, we summarized narratives that document the perceptions of participants about PrEP as an intervention, its effectiveness, its evidence base, its adaptability, its adoption advantages vs other strategies for HIV prevention, and the cost of implementation. Table 2, summarizes the main determinants according to how each subdomain may act, either as a barrier or as a facilitator.

Table 2. Intervention characteristics, Barriers, and Recommendations for the Implementation of PrEP according to interviews with PHU and SHC personnel

SUB-DOMAIN	What facilitators did we find?	What barriers did we find?	Possible implementation strategies recommended by participants
Source of the intervention	PrEP is considered a therapy of proven effectiveness.	None	None, this is not a barrier
Strength of evidence	PrEP is considered a therapy with proven effectiveness	None	None, this is not a barrier
Relative advantage	PrEP is an important strategy for reducing HIV new cases	Few cases of HIV. Syphilis and gonorrhea are more problematic	None, this is not a barrier
Adaptability	Demonstrated adaptability concerning PrEP. If direct provision is not available, they use referrals and connections, use the web available and local pharmacy in some cases.	For some populations, such as people who inject drugs, the homeless, and aboriginals, further adaptations are needed because the available practice and resources may not work for some populations	Innovation in PrEP delivery models- free, more accessible, injectable, outreach
Complexity	Guidelines and medical directives seem to make the adoption process easier	There are many steps and paths to adopting PrEP	Medical directives, training
Intervention design	All positive attitudes towards PrEP. Interviewers have		Medical directives, training

	positive perceptions about the use of guidelines and use of medical directives		
Costs	Some narratives indicate that cost will reside in one person managing the program or having resources for tests. Few give estimated cost, mostly a full-time nurse.	Cost of PrEP implementation is unknown There uncertainty about how to cover this for clients.	Planning: Cost-effectiveness analysis Access new funding Navigation of current funding

Facilitators

Participants generally expressed confidence in the effectiveness of PrEP and demonstrated an understanding of its various usage modalities. Some participants had experience prescribing on-demand PrEP, reflecting a level of familiarity with different strategies for its use. Relevant narratives illustrating these experiences were previously detailed in Report No. 1.

Among those who have already prescribed PrEP, there were few concerns about the complexity of implementation. These participants found the implementation steps to be appropriate and straightforward, with existing guidelines and medical directives supporting the simplicity of the process.

Participant	Narrative
P019	"I know [PrEP] because we followed the Canadian STI guidelines, right, so and we work under medical directives through our nurse practitioner and our Medical Officer of Health to be able to do these treatments. So, to me, we need to really… I'm an advocate of PrEP, so I'm thinking how can we make this a bit easier for people to get? Kind of like naloxone, right?"
P022	"It's the evidence is very compelling that, you know, this is something that's working."
P028	"we are also having tools available such as PrEP for prevention is quite astounding "
P021	"So I'll just confirm that there's, you know also the just the Canadian guidelines, right, so are the Canadian HIV PrEP guidelines are super important because that does guide the work we do by and large."

Participant narratives reflect a high degree of adaptability in the adoption of PrEP. Providers demonstrated resourcefulness in addressing barriers and facilitating access by:

- **Redirecting Available Resources**: Leveraging existing staff, infrastructure, or workflows to integrate PrEP-related services without requiring significant additional investments.
- **Linking to PrEP Providers**: Establishing and strengthening referral pathways to connect clients with PrEP-prescribing providers, ensuring continuity of care.

- **Utilizing Generic Medications**: Promoting the use of generic PrEP options to reduce costs and improve affordability for clients.

Participant	Narrative
P001	"One thing that we did was we switched over to having clients do all of their testing at [name of the organization] at our regular sexual health clinic, we draw the specimens at our clinics so that it's just a one-stop shop, which is, you know, good client-centered care, but with the [name of the organization] testing"
P021-.	"Canadian guidelines know that there's a couple different models or types of PrEP out there right now. We tend to focus mostly on the Truvada or generic equivalent prescriptions here. If someone requires discovery, we tend to refer to some of our virtual partners to provide that medication. Just because our clientele tends to not be able to have the financial access for that more expensive PrEP option."
P022-	"Recent change I'm going to say, uh, most recently. It's our connection with [name of institution], the [x] study, and it really helped us to define having PrEP conversations with our clients. So being able to identify which clients we should be having this conversation with and being consistent about making sure that those discussions about PrEP were happening and those referrals about PrEP are happening so that that's one of the biggest, the biggest changes that we had."

Several participants highlighted PrEP's relative advantage compared to other available programs or current practices. Their narratives emphasized PrEP's effectiveness as a preventative measure, particularly in the context of rising HIV cases. Participants who recognized this advantage noted that PrEP offers a proactive approach to HIV prevention, filling gaps that other interventions or programs may not address as effectively. For these individuals, the increase in HIV cases reinforced the importance of adopting PrEP as a superior and timely solution in their practice settings.

Participant	Narrative
P011	"would like to be able to offer PrEP at the public health unit. That's for a number of reasons. we read before COVID especially we're seeing I think quite a lot of GBMSM people at risk of HIV. We have some sex trade workers as well"
p017	"I think that in our population it might be one of the only things, especially with ongoing risks. So with what we're seeing with the IDU, sex trade and the and the types of You know, behaviors of barriers that the people that we're seeing with each of you are facing I think PrEP might be really needed within that population to stop spreading the infection."
p019	"I think that if we can get people on PrEP that we can decrease the burden of HIV in our communities, especially with especially in our IDU community right now."
P024	"I think PrEP in general is not very known to the Community, but I think given the number of syphilis rates and you know the sexual health rates in Ontario, it's only a matter of time that that's going to need to happen."

For many participants, the cost of implementing PrEP was not seen as a significant barrier. In some sites, the financial considerations were primarily associated with the need to allocate modestly costly human and material resources to support the program's operation.

Participant	Narrative
P006	"And like I say, we're already hiring a nurse practitioner, but if it was someone else that we were using or some other model, you know there's been a bit of talk about that to access a physician like any cost, if there were any costs with that, it would just be those. So in terms of actually doing it, if our nurse practitioner was able or if we had something set up. Umm, that did not cost. **We could do the rest within our usual clinic capacity and there wouldn't be additional cost.** Other than the medication, the cost of the medication, right, of course."
P011	"I don't think we would. **I don't think there would be a lot of cost to it**, there would be some time and planning. But I can't anticipate what the cost would be or the budget there would be some advertising costs and maybe a bit of training? But aside from that, we already have the clinical space. We already know how to collect the samples except for the one which is the blood draw. **We know [the] how to do, we just don't have the tubes etcetera. I don't think there would be a huge cost, it would be time and resources that way."**

Barriers

For some participants, the cost of implementing PrEP was perceived as a significant barrier, both in terms of client access and the operating costs associated with the program. Narratives from these participants highlighted the challenges faced by individuals with low resources in accessing PrEP, as detailed in Report No. 1. Additionally, some participants expressed uncertainty regarding the actual costs of implementing PrEP, particularly the human and material resources required. One participant specifically noted that a full-time public health staff member might be necessary to support the program effectively. Some participants even estimated the potential costs associated with human resources for administering PrEP, emphasizing the need for clarity around these expenses.

Participant	Narrative
P013	"Probably one nurse. Yeah, good question. I that's a hard one to answer. Just like that there. I mean there would be there would be administrative costs, there would be staff costs, there would be, yeah. So yeah, it's I'd say it would probably take a a .1 FTE of a of a public health nurse. Umm. Guesstimate of for managing something like that. Since they operate at around 90,000 plus benefits and everything, probably 100,000. "
P007	"The key component that I would like to add that again I think would just require a little bit more assessment and data collection around would be accessibility in regards to the individual's financial means to whether it is fully covered. I know I've had a lot of people asking us this. Is this covered by OHIP and is not? And again, I'm not 100% familiar on that. So, we would want to be aware of that and cognizant of umm, you know the financial uh aspect in regards to our clients and then what that would potentially mean for us? Is that something that we would have to look at helping cover or things like that, right? Because it's great to have this all done and put in place. And then it's another thing where if people can't actually afford it then…"

P009	"And then the cost of PrEP. So and maybe I don't know, **I know it's still expensive**, but I also know that the HIV medications that they're using have come down drastically in price over the last 20 years for sure. So I would say it's pretty poor that way."
P027	"But I think again the knowledge gaps with nursing, the human resources and the other thing too is you know, **need additional funding for us to do this because our FTE full-time equivalent has been the same for many, many years."**

A key barrier identified by participants was that typical PrEP practices do not always align with the needs of specific populations, such as people who use drugs (PWUD), Indigenous communities, and the homeless. These groups face unique challenges that may require adjustments to the standard PrEP practice. As detailed in the individual characteristics section of Report No. 1, these challenges include issues related to access, affordability, and support for adherence. One participant suggested that alternative forms of PrEP, such as injectable or on-demand options, could be particularly beneficial for these populations, offering more flexible and accessible treatment options. Additionally, addressing the broader social needs of these groups—such as covering costs, improving access to PrEP services, and providing support for consistent adherence—was seen as essential for ensuring that PrEP is effective and sustainable for these vulnerable populations.

Participant	Narrative
P001.	"Uh, if? There comes a time when we have an injectable PrEP like you get an injection once a week or once a month. Then I think that would be extremely helpful for people who use substances."

3.4. OUTTER SETTING

This domain describes the narratives of participants concerning determinants that are outside the organization that could either facilitate or hinder PrEP adoption. Here, we included critical incidents, local attitudes and conditions, policies and partnerships of the settings with other PHU u other institutions, and policies and regulations. Table 3 summarize each subdomain in terms of barriers or facilitators.

Table 3. Outer settings, Barriers, and Recommendations for the Implementation of PrEP according to interviews with PHU and SHC personnel

SUB-DOMAIN	What facilitators did we find?	What barriers did we find?	Possible implementation strategies recommended by participants
Critical incidents	COVID-19 has affected services but some settings have adapted their services for PrEP adoption	COVID-19 has changed the work they do, reducing staff, going online, and even eliminating programs.	Innovation in the delivery of services- mobile clinics, outreach activities
Local attitudes	The general perception that PrEP is a positive intervention among risk populations	PCP lack of interest in, and capacity on PrEP. PrEP and HIV Stigma.	Increase awareness in primary care providers Education in populations at risk

Local conditions	Rise in HIV cases Increase in syphilis cases Perceived need for PrEP to reduce HIV incidence	Some populations will have difficulty accessing PrEP for social issues, Homeless, IDU, and aboriginal populations Increase in the proportion of the population lacking primary care doctors Rurality or small cities with low access to PrEP resources	Reach-out programs\mobile provision of PrEP Human resources: PrEP providers in-site
Policies and laws	PrEP guidelines provided a good start for adoption; Public health standards facilitate the management and care of STIs	Lack or weak provincial support and ministry of health	Increase awareness. PrEP as mandate
Networking/ partnerships	Being part of a research project to facilitate PrEP adoption SHC obtain resources with CBOs and this facilitates PrEP discussions and referrals Networks with other PHU have facilitated learning about PrEP formed referral pathways for PrEP clients	Some organizations have weak or start recently links with researchers or universities.	More upstream commitments More outreach activities More support from other organizations or providers of PrEP
Financing		There has been a cut in programs due to COVID-19 There is not clear information on where funding from PrEP will come from.	Free access PrEP navigation funding strategies
External pressure	Most of the pressure was from local actors and leaders who see PrEP as an effective strategy Recognize the role of OHTN and its resources	They had not perceived pressure from outside the organization until recently.	More upstream commitments

	and local leaders in Ottawa and Toronto		

Facilitators

In the subdomain of local conditions, we found a few aspects facilitating the adoption of PrEP. As in the case of relative advantage, the increase in HIV cases in some settings prompted consideration of PrEP

Participant	Narrative
P017-	"I've really just started getting into all of that. So the last couple months have been. Focused on getting the cases that we had found, I think we have 17 right now. Under control and I have started conversations with some of the healthcare providers in our area on on PrEP."

The increase in the number of immigrants, international students, and other populations at risk in the region also enhanced the interest in PrEP in some settings.

Participant	Narrative
P011	"would like to be able to offer PrEP at the public health unit. That's for a number of reasons. We read before COVID especially we're seeing I think quite a lot of GBMSM people at risk of HIV. We have some sex trade workers as well "

The most important facilitator identified in the analysis was the strong partnerships and connections that organizations have developed. External pressure from provincial organizations played a significant role in driving the adoption of PrEP in some settings, influencing both the decision to implement PrEP and the initiation of related training programs in others. In addition to provincial support, connections with researchers, organizations, and PrEP providers who have led adoption efforts were pivotal. These partnerships helped to create and strengthen referral pathways, with two settings establishing effective referral routes through research collaborations. Leadership also emerged as a crucial factor in driving PrEP adoption in one setting, underscoring the importance of having strong, committed leadership to champion and guide the implementation process.

Participant	Narrative
P021	"as well as figure out how to **work with some of the other PrEP agencies**. So we've done a really good job with the PrEP clinic and how we can work with them. They sort of allow us to take on the testing components and then they can take on …. you know providing the medication and helping clients access financial pathways to PrEP. Same with our local also care, they support our clients, basically referral-based support for accessing financial pathways to navigate."
P006	"The **Ministry of Health**. Yeah. Because like I say, they write all of our guidance documents and all of our standards and protocols, so yeah and they've done it for PrEP, for like for example, our PrEP for Monkey Pox came out as a guideline right directly from the provincial government. TB comes from the provincial government."
P017	"Well, we've been working **with the ministry a lot since December**, so through the HIV and hepatitis C team. Also, the public health branch or the medical officer of

	health has been working with them. That's been helpful as well. They came here recently with a local or with the ASO to learn about our area and they're looking to put in some funding through. Ohh. And to get a position for us. So very helpful."
P027	"We have a lot of new people orienting, so we haven't participated in anything beyond kind of hearing, you know any PrEP conversations that are happening at the ministry level, where others have presented."
P023	"since 2019 our team is also **participating in the PrEP study**, which is scaling up…… so for that part we as we receive positive say particularly Rectal, chlamydia, gonorrhea labs, infectious syphilis, where we have candidates that we assessed maybe for maybe candidates also for PrEP.

Leadership within institutions has been a positive factor for the adoption of PrEP, particularly in settings where leaders have a strong interest in PrEP or possess the authority to prescribe it. In these environments, leadership played a crucial role in championing the integration of PrEP into the clinic services. Leaders who are personally invested in PrEP or have the capability to prescribe it helped to drive the adoption process, ensuring that the necessary resources and support were in place.

Participant	Narrative
P001	"He [referring to a community leader] was a huge advocate, and without him, I don't think we would have implemented the program."
P022	"So as a team, you know, we put forward these changes to our manager, and as the policy evolved we worked closely with our associate medical Officer of health. So it's like our PNS manager director and then you have alongside is one of the associate medical officers of health and then above that would be our medical Officer of health. But with the associate medical officer of health that works with the scope of our team, you know, getting their approval about making these changes in the policy".
P027	"we both have the **physician and the supervisor there for support as well**, which has been helpful. The other folks that we really work with are primary healthcare and specialists are mostly who we collaborate with to connect people with services."
P019	" right now, unless something changes with the Ontario government. I mean, we're having a team meeting in two weeks, so and it's face to face. So, this is up actually part of the conversation [talking about PrEP]. So, we'll talk to our manager, our medical Officer of Health is quite aware of what's going on with HIV in our region. "

The availability of external resources has been another positive facilitator for PrEP adoption. For example, access to pharmacies that provide PrEP and online platforms like GoFreddy have been valuable connections that support referral processes. These resources make it easier for healthcare providers to refer patients to PrEP services, especially when these services are not directly available within the clinic.

Additionally, the proximity of PrEP clinics has further promoted the referral process, providing convenient options for patients and encouraging timely access to care.

Participant	Narrative
P006	"We partner in terms of referrals, and you know collaboration to find ways to improve access and equity, you know with a lot of our local partners"
P021-	"So as far as PrEP goes, it's really our ASO care. And then our collaboration with the PrEP clinic we have consulted with other PrEP agencies. There of course is government programs that we promote. So you know the three months of free PrEP through the [name of the clinics], you know there's different things we have linkages as it relates to different ways for clients to access PrEP."
P011	"We can connect our clients with those other people. I'm not saying it's always successful or that they're always interested. The clients, but I think the thought now is well they can get it at the online PrEP clinic and they can get it at the **county drug store.** So we can just let them know that those places are available, they can access pattern that way this is."
P027-	"The other folks that we really work with are primary healthcare and specialists are mostly who we collaborate with to connect people with services."
P026	"Umm, like so we will occasionally reach out to other health units for their like, especially around when we're developing our medical directives that have helped to shape our program while they direct the work that we do."
P027/p028	"So we have a PrEP clinic in [city] by Doctor [name] and so we do referrals for all the individuals who require PrEP. we also have that really close relationship with the clinician who provides PrEP here in [city] and as well, our staff also connect with goFreddy quite a bit. Uh, in case management and in clinic around PrEP and we have pathways with our local providers to connect them and to prescribe them PrEP."
P019	"so what I do to get access if somebody wants PrEP, I will set them up to. We can either do, we can call Freddie out of my office, or we can call [community organization] of my office and consult with the nurse practitioner at [name of the organization]….. So they're quite willing to have a conversation with us, do the blood work and if somebody doesn't have funding support, they'll go to Trillium to get the funding to get them started. "

Many participants highlighted the importance of connections with community-based organizations and AIDS service organizations (ASOs) as key facilitators in working with at-risk communities. These partnerships helped to strengthen outreach efforts and engage directly with populations at high risk for HIV, increasing awareness and access to PrEP. Participants noted that these collaborations allowed for more targeted and effective outreach to the communities that would benefit most from PrEP. While connections with ASOs and community organizations were seen as beneficial, there was recognition that

further work is needed to ensure that these populations not only have access to PrEP but also remain engaged and adhere to the treatment.

Participant	Narrative
P006	"If we aren't able to do a path, we have a partnership with our local-- with [inaudible] community health services. So with our there's like CHC basically that's right next door to our health unit and we are able to refer. Umm, you refer for some things we can refer to them. "
P009	"we're sort of, we have a relationship with [name of a clinic]. So, we have some ability to make referrals if needed, consult as needed and [name of the organization] itself would be probably likely to refer clients to us although like really again, we should be decentralizing and they should be, you know, doing that is, is that kind of who you're getting at for partners or more government agencies."
P013-	"think worked closely with our ASO to get some feedback on some of our programs and some of our initiatives or campaigns. You know, when we're when we're trying to share messaging around our clinics and the services that we offer. We have reached out and we have in the past now not routinely, but in the past, we have to get feedback and support that would, you know, give us, give us some insight into our messaging, what's going to land well with our target populations. So again, it's not a, it's not a one-size-fits-all, but we certainly know that we partner out there that could provide us with some good feedback so it's something we probably need to do more routinely, but we have in the past for sure."
P029-	"We have liaisons and community partnerships with other organizations are ASO. Our agencies that serve underserved populations for example, are associations are formal and informal and fluid. So for example, reaching some of our community partners that are government funded, we might be meeting with them regularly to set up programs or we might be reading, meeting with them irregularly. "
P022-	"Another thing that works well is that connection with our community organization of care. So just knowing that we have a go to place for our clients, that relationship has made things a lot smoother for our clients as well to get the help that they need."
P021	"Umm, so they were formerly the [name of the organization]. So they rebranded 2019. I think we worked closely with them to, you know, refer clients to them to be able to provide additional support as needed. "
P027	"Assessing the epidemiological data in the city and taking a look at who else we can partner with. So as part of this clinic review, I'm looking at partnering with our local post-secondary institutions to kind of see what their needs are and also our indigenous partners and our sex trade workers."

Barriers

A common narrative among participants was the significant impact of COVID-19 on the services they provide, including PrEP adoption. In some sexual health clinics (SHCs), the pandemic allowed for a reprioritization of PrEP services, with efforts directed toward increasing access and support. However, in other settings, such as P009, the changes brought by COVID-19 had a negative effect, delaying the implementation and availability of PrEP. These delays were largely due to constraints in human resources, limited time to offer services, changes to phone services, and a reduction in the number of clinics available.

Participant	Narrative
P009	"Ah, the capacity. **We just diverted resources**. We reprioritized the resources and then in terms of knowledge, the one resource that we didn't have was knowledge about PrEP. So there was the onboarding of all of our staff and, you know, making sure that everybody was up to speed with what needed to be known about it and how you cared for patients who were on that. "
P011	"don't know our team has gone from at least **we had 9 or 10 nurses were down to 5**. Hmm our program assistant is retiring, and I think they're only hiring someone half time so we have less resources than we did before."
P013	"At one point in time prior to the pandemic, we actually had considered operating or potentially operating a PrEP clinic ourselves with the support of a local physician who at that point was working sort of through our public health, sexual health clinics. But that is something that we never actually made the next step to. And presently it's not on our immediate radar. "
P022-	"or quite a while, a long time. So we're in the health promotion planning phase right now, umm, throughout COVID, we've had nothing. So I would say like for a good, uh, quite a few years **we've been on pause due to COVID."**
P027-	"So with COVID, it had a significant impact on services. So Pre-pandemic, the city of [Location] used to run 6 sexual health fixed-site clinics and three different locations within the city. So one in the East End of the city, one on [Location], and one of the downtown core due to the COVID response and a lot of staff deployment, we did divert the vast majority of our staff over to help with case and contact management. So at this point, we're just looking at reopening clinical services because we're still very much in the COVID recovery mode and a lot of staffing challenges and so that is our main priority for 2023. "
P026	"So I think our focus right now very much has been building back some of those basics. So I think one barrier or something that's pulling us back from really taking much on of anything else right now, whether it be PrEP or other, just sexual health reproductive Wellness services is just trying to build back that program."

Two other subdomains appear to act as barriers. These relate to local conditions and local attitudes: Participants felt that HIV and PrEP stigma, social determinants of health such as poor mental health, lack of housing, rurality, and residing in an indigenous reservation are barriers to reaching populations in need and availability of services and resources. Report No. 1 provides more details on this topic.

Participant	Narrative
P007	"And because we are such a large geographical area, I know in the past we tried to initiate a mobile clinic in conjunction with hers out of [city]. So traveling to the even smaller communities **where people have barriers to accessing our clinics**. So that was something that happened pre-COVID. And then I'm not exactly sure what happened with that. I don't know if it was COVID it kind of stopped it or funding, I'm not sure, And I would say we're not reaching priority populations. I don't feel so at-risk populations. And again, as much as we try and you know, we have our clinics that they're established locations, we know that we're missing a huge chunk of the at-risk or priority population."
P007	"As much as we try and you know, we have our clinics that are established locations, we know that **we're missing a huge chunk of the at-risk or priority population. So people who are using, You know, substances and people who are under-housed** and things like that. And I don't feel like maybe we're reaching them to the best of our ability and that would, you know, in my opinion, come back to lack of resources and staffing"
P017	**"A lot of stigma and discrimination** in [city]. Umm. Especially towards indigenous people, which is typically what we like…. You're either white or indigenous. We don't have exposure to other cultures, we don't have. It's bad here. It's like the racism is really pretty horrific here. So and like I said, almost all of the people that we're dealing with are indigenous people. A lot of mental health issues that have come with it. So the typical person that would be in any of our communities that is at greater risk is indigenous. Probably between 20 and 40 injection drug users, so all of our cases have been injection drug users. And then related to that addiction sex trade, we've seen a lot of that. I think I said indigenous homeless under-housed. Almost, almost all of them And **on reserve that be the other piece that you know we don't have jurisdiction on reserve,** but our indigenous communities especially ….. Do not have needle distribution programs. They don't all promote condom use, they And so on. **Reserve is another huge risk** that you know is a bit outside of my work, but I am still trying to help them a little bit."

Some participants pointed out that rurality is accompanied by limited access to PrEP awareness and information for the community and the institution as well as limited PrEP provision.

Participant	Narrative
P017/p018	"And so we don't ... we're limited in the amount of service providers that are even willing to see this population, like ... most of our family doctors work at a clinic outside of town. But you booked by appointment. You have to drive to get there. So they're not seeing the population that needs to be seen."
P026	"I can say for sure again being just based on where we are in this our program progression like our program initially was very much to target youth as well as **people without health care providers in our area** though we have a massive population of people without health care providers."
P019	"I don't know if you know our geographical area. ….. And it has about 5500, but they service a lot of the First Nations communities north of US, which there's roughly 30,000 people in that though that area. And we have seen HIV up there. And in some of those communities,"
P023	"**We don't have enough local healthcare providers and** we definitely know that from our case management point of view. We're definitely asking for our clinic services to be wanting to have this option."

3.5. INNER SETTING

In this section we cover aspects internal to each setting, its structure, resources, connections, and their interest in adoption by collecting information on its compatibility, mission, and vision and how it relates to PrEP. We emphasize aspects related to the learning environment to capture barriers and facilitators for training PrEP providers. Table 4 summarizes the determinants of the inner setting in terms of barriers and facilitators.

Table 4. Inner setting, Barriers, and Recommendations for PrEP Implementation by PHU and SHC personnel

SUB-DOMAIN	What facilitators did we find?	What barriers did we find?	Possible implementation strategies recommended by participants
Structural characteristics	• Clinics with adequate trajectory, and internal organization to implement PrEP. • Settings working with priority populations,		• None, it is not a barrier

	who have identified needs of populations.		
Internal networks	• Networks and communication are established between administrative and healthcare personnel. • Work well as a team. • Connection between teams and do complementary work.	• In few settings partners and programs are not close limiting access to PrEP prescribers	•
Culture	• Values: respect, passion for work, recognition of work, comprehensive care. • Felt compelled to address the needs of their populations and increase access. • Culture of evaluation of programs and adaptation	•	• None, it is not a barrier
Tension for change	• Some positive experiences of change such as adaptation to COVID in relation to provision of PrEP • Felt the need to decrease HIV in their communities, and felt that this can lead to prioritization of PrEP	• Some clinics report that need to build capacity before doing a change in provision • Priority has changed because of lack of resources, because of COVID or because of scope of the clinic	• Training
Compatibility	• PrEP is compatible with current work, felt that the clinic is the right place for PrEP. • Compatibility with mandates as public health	• Although many felt that PrEP is important, few felt that the place of PrEP is in primary care	• Service provision: increase capacity of the current personnel and hire new personnel, offer telehealth and connection with doctors or nurse practitioners.

Relative priority	• Some clinics have prioritized provision of PrEP over other services especially with COVID	• Other SHC have done the opposite:- have reduced services and gone online. Plan for PrEP was stopped- see outer setting	• Service provision: increase capacity of the current personnel and hire new personnel, offer telehealth and connection with doctors or nurse practitioners.
Organizational incentives	• Some felt this is not needed; incentives will work better in PCPs.	• There are no incentives, they do not know how this could be implemented and useful.	•
Objectives and feedback	• The organizational climate in settings allows proposing work objectives that are reviewed. • Medical directives and guidelines are reviewed frequently in most of the organizations. • Organizations are part of committees that foresee PrEP	• Lacking information on need and demand of PrEP in populations	• Needs assessment and evaluation in potential PrEP clients
Learning climate	• Openness for innovation and change. • Willingness for training. • Research experience. • Have resources in place to promote learning		• Training adapted to local needs
Availability of resources	• Presence of interdisciplinary health teams • Have resources in terms of experience with populations,	• some clinics need more resources for PrEP, mainly prescribers • Some need lab support.	• Service provision: increase capacity of the current personnel and hire new personnel, connection with doctors or nurse practitioners.

	medical directives, HIV and STB testing, and counseling	• Time and capacity reported as low by some clinics	
Access to information and knowledge	• Have an interest in learning, have spaces for this. • Have access to resources through networks. • Have positive perceptions of resources	• Some clinics need to build more capacity for PrEP	• Recommendations in report no 1

Facilitators

Sexual health and harm reduction clinics have a strong structural foundation, mission, and organizational culture that serve as facilitators for PrEP adoption. These clinics have been operating for many years and are integrated within public health units, receiving mandates from Public Health Ontario to address sexual health and HIV prevention. Their long-standing presence and established protocols provide a solid platform for the introduction of new health initiatives like PrEP. Additionally, these clinics work collaboratively with other health units and community organizations, fostering a networked approach to care that enhances service delivery. The alignment of their mission with harm reduction and sexual health priorities creates a supportive environment for the integration of PrEP, making these settings well-positioned to lead adoption efforts.

Participant	Narrative
P011	"Open and not judgmental, so I think that's been really helpful."
P013	"Sure so in the past we had some good feedback that we were a very LGBTQ+ friendly organization, we had lots of individuals with potential risk factors for HIV that would come to our clinic for regular testing and screening."

The experience and expertise of personnel in Public Health Units (PHUs) and Sexual Health Clinics (SHCs) in managing HIV, sexually transmitted infections (STIs), and case management serve as key facilitators for PrEP adoption. These staff members bring valuable knowledge and skills that support the effective integration of PrEP into existing services. While some settings may have gaps in their structure or service offerings, they generally possess the foundational infrastructure needed for successful PrEP implementation..

Participant	Narrative

P029	"I'm conventional testing, so we certainly offer a point of care testing on demand and we have in the past and are hoping to start up again, rapid testing clinics where it's focusing just on HIV testing and at that time what we incorporated and this is pre pandemic and we're just opening up again some of our services. But when we did our rapid testing focus clinics for HIV, we started to introduce the concept of PrEP."
P027	"We are also exploring some things such as expedited partner therapy for some of our other STI's in terms of HIV, we do a lot to bring folks in who are considered the most responsible physician. Physician, who provide them with a diagnosis and then connect them to care."
P022	"Right now what we're doing we're working together with care .. to distribute HIV self test kits. So that's something that we were that we could we distribute to either clients directly. We, I mean, obviously our PrEP work, we're trying to find ways to promote PrEP within the community. So as I mentioned, there's not many community uh providers that prescribe PrEP. So that's part of our planning right now."
P023	"our primary function is case management. So with reportable infections including Claudia gonorrhea, syphilis, HIV, hepatitis B and hepatitis C, we receive all positive lab reports in our health unit part of our case management will be to follow our policies and procedures on investigations."
P029	"…more immigrants are coming in and we also have a large number of foreign students who are attending primarily colleges who don't have service access to their primary healthcare practitioners. And so we service them a lot. So, our agency is large, geographically limited access to service and urban and rural mixed."

However, some settings have a more restricted scope of services than others.

Participant	Narrative
P027	"We currently don't offer any syphilis or hep C point of care testing, but it is something that harm reduction I know has been exploring, at least for syphilis, HIV point care or sorry hep C point of care testing is offered through a few other community partners at this point, but we do the venue puncture on site for hep C, syphilis, HIV as well."
P026	"So our focus really is STBBI testing and then treatment, but treatment primarily for community gonorrhea and syphilis local here for HIV care. Really, if we do have folks who test positive, it usually results in a referral for specialized care outside the area."

Closely related to the experience and expertise of clinic personnel is the supportive culture within the settings, which acts as a significant facilitator for PrEP adoption. Participants noted that staff members in these clinics are highly motivated to work with key populations, including those at higher risk for HIV and STIs. There is a strong sense of commitment to sexual health and a shared drive to reduce barriers to service access, ultimately aiming to decrease the incidence of HIV and STIs. This culture is further

reinforced by the public health mandate, which aligns the clinic's mission with broader public health goals.

Participant	Narrative
P006	" think our focus has been on, you know, filling those gaps, catching the people falling through the gaps, people with higher risk behaviors etcetera, Umm yeah so. ….population like that to go to be able to feel comfortable with the nurses that are in clinics and have a therapeutic relationship and be able to be honest with their disclosure and yeah, those sorts of things."
P007	"A significant part of what we do is reduction of transmission of infections within the community, **also ensuring that people have, you know, evidence based information** when it comes to acquiring and transmitting sexually transmitted infections and also when it comes to things like contraceptive methods and things like that. And ensuring that we have accessible and equitable care for our clients. And we are certainly, and we see people from all genders all ages. And so yeah, we're broad in that sense as well."
P011	"Uh obviously we don't want people to get infected with HIV in 2022, PrEP is a really excellent tool. So yeah, it health promotion education to targeted groups of about HIV prevention."
P028	"you know, in some lenses it would be around continued prevention, right? **We are outlined around prevention work in the standards.** I don't think it would be contrary. It's just continuing to understand. I think it we need to continue to look at our mandate. So we do have a specific mandate from the province around, you know, case and contact management and testing. So you know, first thing for us comes like resources to fulfill the mandate."
P022	**"Taking the holistic picture of the clients** into account and understanding that there's so many layers especially associated with the social determinants of health that factor into forming barriers for further access. And we really try to take that holistic picture of the client as our focus and understanding of where the client is at that certain time and working with them, where they're at and what their needs are at the time to help them to get to the best health."

Implementation of PrEP is compatible with their role in public health

Participant	Narrative
P007	" certainly, yeah, it is compatible. I don't there wouldn't be any barriers in regards to that really. "
P028	"you know, in some lenses it would be around continued prevention, right? We are outlined around prevention work in the standards. I don't think it would be contrary. It's just continuing to understand. I think it we need to continue to look at our mandate. So we do have a specific mandate from the province around, you know, case and contact management and testing. So you know, first thing for us comes like resources to fulfill the mandate."

P018	So I think as public health, I think we. In absolute role in, you know, at least being able to provide services like that.

Regarding incentives for PrEP adoption, no significant information was found in the interviews. Two participants specifically mentioned that, since prescribing and promoting PrEP is considered part of their professional role, they did not expect any personal incentives related to its implementation. This suggests that, in these settings, the motivation to implement PrEP is largely intrinsic, driven by professional responsibility and the broader public health goals, rather than external rewards or incentives.

Participant	Narrative
p022	"we don't provide incentives for the training…..We're all very motivated to promote PrEP and you know, we have it on our documentation tool like it's part of It's ingrained in us to have, you know, if we're having this, a client that has these infections, you know you're making sure that you discuss PrEP. So it's kind of just become part of our policy and habit as opposed to something that we're kind of incentivizing to do."

A less common but positively influential subdomain identified by participants was the importance of feedback. Few participants emphasized the value of receiving regular audits of their work, which helped ensure that PrEP implementation was effective and aligned with best practices. Being part of a PrEP committee that oversees activities also provided a structured approach to receiving and incorporating feedback, fostering continuous improvement. Additionally, participants highlighted the significance of obtaining feedback from clients on their programs. Client input was seen as a vital component for refining services, improving patient engagement, and ensuring that PrEP delivery met the needs of the population.

Participant	Narrative
p023	"we actually have a PrEP committee. Our PrEP committee, we've all had all our entire team has had in service a number of in services on PrEP. As part of the PrEP study, again to more literature and information is provided on PrEP part of our committees. Work is to ensure that all staff want are continuously assessing candidates and ensuring part of what we have."

One important aspect of the organizations is the **strong learning environment**, the interest in increasing their capacity to provide PrEP, and the support of the organization through medical directives and other forms of information to update their mandates and tasks.

Participant	Narrative
P028	"Umm, I would say in terms of PrEP as we work to formalize our pathways and certainly through our case management, we did do more formal training with all of the staff on PrEP. …..I would say they're really is kind of an annual training plan that we do specific to SMB's as well as to other public health competencies as. But if it is like a team training, then it is mandated then they do have to go and attend."

P29	"we are, but I can say confidently that we are engaged, enrolled in participating in a minimum of a webinar a week related to either birth control or STI related things."
P22	"We're all very motivated to promote PrEP and you know, we have it on our documentation tool like it's part of It's ingrained in us to have, you know, if we're having this, a client that has these infections, you know you're making sure that you discuss PrEP. **So it's kind of just become part of our policy and habit as opposed to something that we're kind of incentivizing to do."**
P027	"But I would say that they're all given pretty equal training, but it's so individualized to each nurse's background and experience that you know for, myself maybe I would have had more training on case and contact management."
P021	"So as new things as there's new guidance or new guidelines that come out, we do offer training to all of the staff in the clinic also we have, as we have new staff come on. We have requirement that they review certain all the PPS and medical directives and then certain related documents related to those medical directives and PMP. So that includes guideline current guidelines, those kinds of things."

Some have engaged in activities to improve their skills for PrEP

Participant	Narrative
P022	Receive training in mi, and develop an counseling guide.

Some others have less developed learning initiatives.

Participant	Narrative
P017	"We don't really have a formalized system for that, so within my team around anything to do with our services when there are new updates like so, the new testing guidelines, that kind of thing, they get emailed out to my team. We talk about them at our team meetings, we look at. Things we might need to change, right? So policies and procedures or medical directives or or processes that we use, but we don't have a formal method to do training on HIV prevention. It's the same with the needle distribution program. You know when things change or get updated or And then then we just we provide that to the team and look at what we need to change internally, but not not a formalized system for that."

Barriers

One of the main barriers identified by participants was the limitation of human resources, particularly the need for a nurse practitioner or a physician to prescribe PrEP. Many participants emphasized that the requirement for a licensed healthcare provider to prescribe PrEP can create bottlenecks in service delivery, especially in settings where such professionals may be in short supply. Additionally, participants noted the limited time available to provide PrEP services, which can hinder the ability to fully engage with patients, offer counseling, and ensure comprehensive care. The need for more education and on-site

materials to support PrEP provision was also mentioned, as some settings lacked sufficient resources to facilitate patient education and informed decision-making about PrEP.

Participant	Narrative
P013	"We don't have any dedicated **sexual health physicians** that are working with us. So, we have our medical officer of health, and we have the odd resident who is here that helps support some of the needs of our **clients.** But we don't have any hours of service to facilitate the ongoing thing that would need physician support."
P007	**"Our staffing for nursing is much less right now**. So we're we primarily are just managing to provide our clinics and our STI case follow up. And beyond that, right now, **we're having difficulty dedicating time**. We used to have, you know, nurses that on the side of doing clinic, they would have several days out of clinic during the work week and that time would be allotted to these program planning things and community engagement. And right now that's difficult."
P007	"But unfortunately, just knowing how about you know the follow up testing and things that occur in order to safely administer PrEP and we don't have the capacity here **because we don't have a physician in our clinic and things like that** Again we have very limited resources right now because of just things that have happened organizationally. So it is difficult to put a you know the appropriate amount of time, energy and resources into initiating a plan for this. And again that comes down to organization versus program."
P011	**"nurses would need a medical directive. We don't have a physician working in our clinics**. Like [name of setting] does the nurses do almost everything by medical directive we would need a medical directive to do there's also uh the creatinine we don't have the lab stuff to do that one piece of the testing we have everything else like we do full screens. We do all of that testing except for one test. I don't think that would be very difficult because I know when I spoke to someone in [name of the setting] about PrEP. You can arrange something with the lab that they come within a certain time frame."
P026	"So we do work under a physician consultant within the health unit, but her capacity at this time is stretched pretty thin, **so her availability or ability to really be involved directly in patient care consultation, things like that is quite minimal.** o I think we really need that reassurance that, yeah, we're at a point where, like I said, we have those basics down and we have internal capacity readiness. And then I think that position support whether or not we have a nurse practitioner just , some sort of higher level healthcare provider oversight within the clinic that would be able to walk through things at the nurses feel maybe that's outside their scope and capacity."
P017-	"Like our sexual health clinics in [city], which is our busiest and biggest community, it's 1 1/2 days a week of clinic. We have a nurse practitioner for only. Maybe three or four hours a week so we don't have that it. We're our role in public health, will be

	probably a little bit limited in that and actually providing that clinical service for PrEP."
P022	"A lot of our clients end up accessing in other regions, so we found through the OHTN research that's come back is showing that clients are not accessing in … region. **If** clinical work ever became under the scope of our program, then for sure that's definitely something that we would want to have. I guess we would. Like right now the way that it's structured it's doctors that are dispensing or prescribing, we're all public health nurses in our unit."
P029	"So in our clinics at the present time, **there isn't a good mechanism in place for the requisite serology that needs to be done aside from STI testing**. But as I say right now, we're limited to one part time position, so in that sense, I don't think we have the capacity at the present **time physical space.** We don't have the capacity to interpret the blood work that goes along with the regular testing, aside from at the STI testing, so we don't have the expertise or the training or the OR the legislation that allows us to interpret that we can recognize things that are abnormal and then pass it on to a healthcare provider. As the primary healthcare practitioners have decreased and we're down to one position, we have expanded the role of the public health nurses to try and to try and meet the needs of the clients in a better way. "
P027	"That's something I think we would have to again evaluate with all of our competing priorities and the limited resources that we have."
P021	"it does add, it does add work to our clinic coordinator. So we have each of our clinics have a clinic coordinator which is a public health nurse who also sees clients in the clinic, but they have the additional role of managing Lab reports following up on calling clients, booking them in if they have positive STI results, those kinds of things and it does add an element of work to that plate. Just because you're following up on different results that aren't going to public health lab, they're going to a private lab in some cases. So some of your creatinines and your CBCS things that aren't being done through public health lab, which predominantly most of our STI testing is done through public health labs. So it's adding another lab to the mix of following up on test results, which can create a bit of a bit more work, no need to increase staff, but we've **definitely increased workload on our coordinators."**

The lack of resources has been compensated by some settings by creating linkages with PrEP providers, thus, some settings that have been able to adopt PrEP have available human resources for PrEP prescription.

Participant	Narrative
P021	"It is a multidisciplinary project and program, but it the prescriptions are being written by our clinic physicians and we have a clinic physician attached to every one of our five clinics. "
P011	"We know how to do, we just don't have the tubes etcetera. I don't think there would be a huge cost it would be time and resources that way."
P029	" if we have a client who is requesting PrEP and wants to see a local physician for prescribing and does not have their own physician or need something locally, our physician from our clinic will see them in the other walking clinic. So our sexual health clinic can make a referral for our own physician to see the client in another location where there is a better opportunity and system in place to do the follow up blood work. "

One aspect related to the domain of feedback and monitoring is the lack of information on the demand of PrEP in clients of clinics, in this case some refer to the need of having a system to know the need of PrEP in their clients.

Participant	Narrative
P011	"I think we would have to start pulling reports. Documenting. We document when people are interested in PrEP, but we don't have just visits like on our drop down "prep visits" so it would be very helpful because then we could see how many people are asking, how many people have the means to call the online prevention clinic or drive to the county and how many people. You know how many people are we doing a disservice to, like our priority populations people in the downtown clinic that, they need to get it from you when they're there."
P025	"However, **again, we're not totally sure of the need. We** don't see a lot of need for it right now, so in order to actually think that would be a valuable piece to implement. I think we need to 1st go and do surveys in the community or something like that to really identify. Is this a gap that should be filled by public health or? Are people accessing it through their family health care providers or some other way? And so maybe it's not something we need to do."

In the domain of compatibility, most participants felt that PrEP aligns well with the role of public health units, given their focus on sexual health and HIV prevention. Many saw public health settings as an appropriate and effective place for PrEP implementation, viewing it as a natural extension of the services already provided. However, a smaller number of participants felt that PrEP should be integrated more directly into primary care settings, which they perceived as a more suitable environment for long-term management and follow-up of patients using PrEP.

Participant	Narrative
p017	"Yeah, I think ideally it would be. I think that there are, you know having that situated within primary care is also a huge benefit, right. So the person who's overseeing those individuals for all aspects of their life, it might be better suited there"
P027	"So when we're looking at adding something new, we always have to take into consideration what impact does that have on our mandated work that nobody else does, right? So is it appropriate even for us to take it on, especially with the increase in some of the other STI's?"

3.6. IMPLEMENTATION PROCESS

This section details the experiences of organizations that have adopted PrEP and offers recommendations based on participants' narratives, as summarized in Table 5.

The findings highlight factors that have facilitated PrEP adoption and the strategies proposed to promote it. Several participants outlined the process of implementing PrEP and identified common elements in both PrEP prescription and referral. For instance, participant P007 described the process in terms of assessment and data collection, designating an individual to manage lab work, implementing a medical directive, and receiving leadership support at the public health unit. Similarly, P001 emphasized the value of conducting a needs assessment, ensuring strong leadership, establishing connections with key figures, providing training, and adjusting priorities accordingly. Participant P021 mentioned additional factors, including Health Canada's approval of PrEP, its recognized benefits, consultations with key organizational stakeholders, gathering information on effectiveness and implementation, incorporating client feedback, engaging community partners, and developing a written PrEP policy.

Two remarkable narratives further illustrate these findings. One narrative highlights the importance of strong linkages with communities, underscoring how essential these connections are for successful implementation. The other narrative stresses the need for prioritizing PrEP and ensuring that sufficient resources are allocated to create and sustain effective referral pathways.

Participant	Narrative
P021	"we also started to hear we do **routine ongoing customer satisfaction surveys**. So client set come into our clinics can always provide feedback services. We offer what we're doing great, what we can do better, what services that we're not offering that we should and we started to see that on some of our customer satisfaction that PrEP was something that we should be looking at so. That, coupled with you know, consulting with our community partners in HIV as well, we decided to start looking at PrEP. "
P011	"Oh, that's a great question so just before COVID, **I had done a lot of research on PrEP** and why public health should be offering PrEP and it went through planning cycle and our foundational standards team did their piece of it and we agreed that it would be a really great thing for public health to offer but then COVID hit and then the county drug store in [region] is offering PrEP and the online PrEP clinic is offering also offered PrEP and they have like barrier free, they're incredible."

P022	**"So a lot of it was advocacy**. I'll say with PrEP. Ah, it's our attendance at that topic conference. So by attending that, we're able to see what the latest research is happening and that knowledge transfer helped us to advocate for making these changes."
P001	"- I think just convincing stakeholders and leaders and decision makers within the agency. But then once that happened, it was just a matter of getting it done."

Among the settings that have initiated conversations around PrEP, training has emerged as a key factor in getting started with its implementation. Participants highlighted the importance of providing comprehensive training to staff to ensure they are knowledgeable about PrEP, its benefits, and how to incorporate it into their services. This training often includes familiarizing staff with medical directives and protocols for prescribing or referring PrEP. Additionally, establishing connections with experienced PrEP providers was mentioned as a critical step in facilitating the adoption process.

Participant	Narrative
P017	"So like I said, OHTN is is going to help with some of that for our entire catchment area to get work with healthcare providers because at this point our healthcare providers like our General practitioner doctors downtown have very little knowledge on this. Umm so for my team, it's something that we're talking about at all of our team meetings and I'm sharing information. I think that it would probably help for us to have some of those agencies that do this all of the time."
P018	"I think in terms of transitioning into a clinical setting that provides PrEP or connects people with PrEP, I think, medical directors, education and training as well. I think we would need an increase in both Yeah, like nurse clinician, as well as, like nurse practitioner or physician time as well."
P019	"Well, probably if we get good at this, **we need a medical directive.** If we can work under a medical directive so that we know what we have to do to get somebody on.Umm, PrEP like what? Blood work needs to be done and if they need to see a physician or a nurse practitioner,"

Another narrative came from those who have not adopted PrEP and gave some recommendations for adoption regarding training, assessment of community needs, and necessary staff.

Participant	Narrative
P025	So we've started talking about how we can look into what the need is and then if we're seeing a huge need in the community, what then do we do? What do we need to build our capacity to be able to do that? I **think we need to 1st go and do surveys in the community or something like that to really identify. Is this a gap that should be filled by public health or**? Are people

	accessing it through their family health care providers or some other way? And so maybe it's not something we need to do. I think we would need a nurse practitioner or a physician that is there regularly.
P027	I think having like **a ready package that is complete and ready**, you wanna offer this? This is how you know what has worked in past or presentations or even resources that we can connect with. I think that is always helpful whenever we're trying to do some program planning and implementation and evaluation.
P029	**A directive**. Which to allow the public health nurses to prescribe, as I know, has been done in some areas and with that we would need more available oversight for us testing and interpreting the serology that that's required on an ongoing basis, we can do the STI testing easily. Well, I guess more staff would come down to it, more staff, more money. But then that's a standard concern nationally, provincially, locally.

Examples are also provided by participants regarding current activities to promote PrEP awareness, such as promotion campaigns, working with community partners, and updating clinic web site (P021).

Participant	Narrative
P21	We do have a robust policy and procedure around PrEP so that talks about what health teaching we would provide testing regimens, process for booking appointments, process for embedding this within our health counseling. All of those pieces, so that policy is reviewed annually and updated as guidelines change as processes change in clinic and then our clinic physicians who prescribe PrEP also you know are. Annual review of our P&P is required by all of our nursing staff as far as training being rolled out at a particular interval, we don't have a set interval where we're redoing the training, but definitely reviewing of the PNP and as training opportunities arise. So if there are webinars or different events that happen related to PrEP then we make sure that we have some attendance and report back like a train, the trainer type model. we've done a bit of health promotion campaigns around the services we offer in the clinics.

Table 5. Description of findings and planning needs in relation to implementation process.

Subdomains	Summary of findings of existent programs
Teaming	Organizations are connected with other organizations, and team with other PrEP providers including primary care providers, online resources, researchers, etc
Assessing need	Adopters have data on HIV prevalence and other STIs, and some have made use of this information to prioritize their programs.
Assessing context	Not previously done or at least not available at each local organization. Most of the information used came from guidelines or websites such as CATIE.
Planning	Definition of roles and responsibilities have been done through medical directives
Tailoring strategies	Adaptation included working with online providers, with local pharmacies, local primary care doctors or PrEP providers.
Engaging	They have engaged PrEP leaders, locally and/or provincially, have connected with community organizations, and have created partnerships with researchers, universities, and PrEP providers.
Doing	Implementation examples on how they achieve this and how we can translate those experience to others
Reflecting and evaluating	There is a clear need on this, need to identify success of intervention in those who have implemented PrEP, and assess the success in the intervention itself, such as decreasing risk of HIV acquisition
Adapting	Clear need for some specific populations, PWID and indigenous communities need to adapt to remote settings

3.7. CHARACTERISTICS OF INDIVIDUALS, ROLES

In this domain, we describe characteristics of the main actors identified by participants as having a role in PrEP adoption. First, they referred to different aspects of potential clients that should considered in PrEP planning and adoption. Report 1 summarize the relevant aspects of populations who need PrEP.

Clients of PrEP

Participants acknowledged the critical need for HIV prevention in high-risk populations, including gay, bisexual, and men who have sex with men (GBM), people who inject drugs (PWID), and sex workers. They recognized that HIV rates are increasing in these communities, along with a rising incidence of other STIs such as syphilis, which has become a growing concern. Participants reported low public awareness of PrEP in their local areas, which could hinder its widespread adoption. They also anticipated several social and logistical barriers to PrEP uptake, including the high cost of the medication, transportation difficulties, lifestyle barriers (such as lack of access to consistent care or irregular use of health services), and challenges with adherence.

Participant	Narrative
P018	I would say for the people who are interested who are not accessing **it cost is** generally the biggest barrier right now. So we're seeing young adults primarily **who use drugs by injection**, who are currently under housed or homeless with complex medical needs, generally sort of equal distribution between male and female.
P011	**Simply transportation** that's an hour away the appointment can be up to two hours and that's an hour back. We're having some difficulty with people making it there. People attending their appointments and that's why we're trying to look at a model where maybe we bring the service to us. Umm and then they help you know, we'll bring the clients to our health unit if we have to provide transportation.
P013	so I know that we have had a few individuals who you know, we have worked closely to try to, to support them to consider this, but because of lifestyle and because of their inability to really adhere to regular routines and probably taking medications, it just has not been something that we've been very successful with. There are individuals that that it's too much. **It's too much for them to think about and taking regular medications and** just being able to stay on top of that is too much for their regular day-to-day life. I think there's other individuals that it fits very well.
P028	I think it becomes difficult for individuals, who are sleeping rough or are experiencing homelessness around the requirements associated with PrEP.
P019	we do have a few that are homeless and are bouncing all over the place, which that's the bigger challenge and every time we see them we're educating them. We're trying to get them in here to get their blood work done so that we can get there, further testing done, and it's been a real struggle. They know about their diagnosis though. But even getting them to go see their family doctor, that's not been happening so. they just don't feel educated enough about the treatment for PrEP because they don't really understand it. I mean, yeah, there's been commercials on TV about it, but this population they don't have TVS. Some of them might have a cell phone one day and not the next.
P021	And stigma attached to PrEP, I think he's still exists. You know, some folks may not want to be in PrEP because they have a feel as if there's a certain connotation attached to that.

Community practitioners

Another significant barrier identified by participants is the limited involvement of primary care providers in the provision of PrEP. This limitation stems from several factors, including a lack of expertise or capacity among primary care providers to prescribe and manage PrEP. Many primary care providers may not have the necessary training or confidence to offer PrEP as part of routine care, which creates a gap in service delivery.Additionally, HIV-related stigma was mentioned as another barrier, with some primary care providers potentially feeling uncomfortable or unwilling to engage in HIV prevention efforts.

Participant	Narrative
P007	Doctors are simply not comfortable prescribing it or getting involved.
P007	w e also know that because of where we are geographically, people do have barriers. To accessing PrEP and we know also that people's primary care providers from what we hear anecdotally from our clients, a lot of people are not comfortable even requesting this from their family doctors.
P001	Umm, we had originally been exploring building competency among primary care providers to offer PrEP , but then in working with, {name of a community organization] They had done a very large reach out. They sent letters to all primary care providers in the area to sharing them the PrEP guidelines and encouraging them to start their clients on PrEP if eligible and the response back for most of them was like 'ohh, I don't have any gay clients.' Uh, which is unlikely.

Public health professionals

Participants provided extensive narratives regarding the capacity and resources required to enhance their contributions to PrEP implementation. Report No. 1 summarized these needs and recommendations. Building on these findings and the additional narratives, we highlight several key aspects that should be included in PrEP training to support its broader adoption. PrEP knowledge, the capacity to make effective referrals, and the ability to identify PrEP-eligible populations were identified as essential facilitators of PrEP adoption. Participants pointed to specific knowledge gaps, including:

Interpretation of Serologic Tests: Healthcare providers expressed the need for better understanding of how to interpret serologic tests, which are crucial for assessing eligibility for PrEP.

Patient Engagement: Engaging patients in discussions about PrEP and addressing concerns related to the medication were seen as critical for building trust and promoting adherence. Training should equip providers with strategies for initiating conversations about PrEP in a non-judgmental and empowering way.

Optimal Case Management: Participants emphasized the importance of learning best practices for managing PrEP patients, including monitoring adherence, managing side effects, and addressing any barriers to treatment.

Starting the Conversation: Many participants mentioned that a key skill in promoting PrEP was knowing how to initiate a conversation with potential candidates in a way that feels natural and is free of stigma.

P026	The discussion around the HIV guidelines, but I think they're additional information specifically around PrEP and I think for my group training that maybe has less focused on this is how we're going to do it internally, but ways to talk to clients about PrEP, maybe different avenues to direct folks like online resources as well as like something that we're, as I mentioned, going through newsletters, starting that discussion also with health care providers in our community, because if we're not looking to do it like can we build interest even building our own awareness to who's doing it within our community, if there is any uptake like that, something we don't know. Some sort of higher level healthcare provider oversight within the clinic that would be able to walk through things at the nurses feel maybe that's outside their scope and capacity.

3.8. SUMMARY OF MAIN FINDINGS AND KEY RECCOMENDATIONS

This study identified several key factors at multiple levels that influence the adoption of PrEP in public health settings in Ontario. These determinants are summarized below, with references to Report No. 1 where relevant.

Contextual Detrimental Factors:

HIV-related stigma, rurality, lack of leadership, and the impacts of COVID-19 were identified as significant contextual barriers to PrEP adoption. These factors were found to negatively affect the prioritization of PrEP services and the availability of necessary resources.

Organizational Factors:

A lack of resources, particularly human resources, and limited capacity were recognized as major barriers. Many settings will need to increase their resource capacity, both in terms of staffing and training, to effectively offer PrEP services.

Positive Partnerships:

The presence of strong partnerships, including connections with PrEP leaders, as well as the ability to secure additional resources or diversify existing ones, emerged as key facilitators. A supportive and collaborative learning climate within organizations also favored PrEP adoption. These factors were similarly highlighted in Report No. 1.

Guidelines, Medical Directives, and Mandates:

Having clear guidelines, medical directives, and a mandate promoting PrEP adoption were found to be critical in supporting the implementation process. These organizational structures provide clarity and direction, making it easier for providers to adopt PrEP as part of their services, as discussed in Report No. 1.

Comfort in Managing PrEP Clients:

Providers who felt comfortable managing PrEP clients, combined with accurate knowledge about PrEP, experienced fewer concerns about its use and were more confident in starting conversations about PrEP or making referrals. This confidence was identified as a significant facilitator in overcoming initial hesitations, and was similarly noted in Report No. 1.

Provincial Resources for PrEP:

Access to provincial resources, such as educational support from organizations like the Ontario HIV Treatment Network (OHTN) and CATIE, as well as online resources for PrEP, facilitated both the referral process and the adoption of PrEP. The availability of pharmacies and primary care prescribers also played a key role in enhancing the accessibility of PrEP, supporting its broader use across Ontario.

Partnerships with Community Organizations:

Collaborations with community-based organizations were identified as a significant facilitator for advocacy, linking populations at risk with PrEP services, and providing crucial information on PrEP. These partnerships help raise awareness and improve access, ensuring that high-risk communities are better informed and connected to PrEP resources.

Lessons Learned and Recommendations:

The experiences of settings that have fully adopted PrEP, coupled with the recommendations from study participants, offer valuable insights that can be applied to other settings. Identifying the key elements of successful PrEP adoption—such as fostering positive partnerships, securing necessary resources, implementing clear guidelines, and providing ongoing education—can serve as a roadmap for facilitating PrEP implementation in diverse public health environments across Ontario. These lessons highlight the importance of both internal and external factors, including leadership, resource allocation, and community engagement, in driving successful PrEP adoption.

Table 6. Recommendations for planning of adoption based on results on determinants.

Improving table clarity

The user wants me to improve the fluency and grammar of their provided table, which has two columns: Adoption Process stages and what's needed for new programs. I'll focus on enhancing clarity and flow, making sure each row has proper grammar. For example, I'll adjust "What is need" to "What is needed for new programs." I'll also ensure the wording for stages like Teaming, Planning, and Engaging flows better, and structure everything clearly. My goal is a polished table with refined wording across all categories.

Thought for 9 seconds

Adoption stage	Key requirements for new programs
Teaming	Partner with experienced researchers and other public-health units (PHUs) to share tools, medical directives, and service innovations such as e-consults and telehealth. Build community partnerships to reach populations facing greater disadvantage and to help them navigate PrEP costs and access.
Assessing need	Current information on the needs and preferences of at-risk populations is limited. Conduct structured needs assessments—especially in under-resourced settings—and provide practical tools to support this work. Training needs for public-health staff are well established; learning modules should be tailored to individual roles and skill gaps.
Assessing context	Use readiness scales and facilitated discussions with providers and managers to gauge organizational preparedness. Much baseline information is already being collected through the research project.
Planning	Develop a site-specific implementation plan informed by project findings, adapting tools to each setting. Combine online and in-person meetings to co-create the plan with local stakeholders.

Tailoring strategies	Prioritise strategies with the team, then adapt them to meet specific population needs. Ensure programmes remain accessible and affordable so they do not widen HIV-related inequities.
Engaging	While PrEP champions exist provincially and locally, some clinics must identify new leaders. Map potential partner organisations, engage peers, and design navigation support for vulnerable groups. Prioritise training for primary-care providers—including nurse practitioners—in areas with limited PrEP expertise.
Doing	Define clear, step-by-step actions for each clinic, beginning with targeted staff training where required.
Reflecting & evaluating	Create data-collection tools and processes to monitor PrEP delivery, using the RE-AIM framework to structure evaluation metrics.
Adapting	Modify medical directives and other strategies for specific populations—such as people who use drugs, individuals experiencing homelessness, and Indigenous communities served by public facilities—to ensure cultural and contextual fit.

3.9. KEY STRATEGIES ACCORDING TO BARRIERS IDENTIFIED IN CFIR FRAMEWORK

We matched contextual and individual barriers to PrEP adoption with implementation strategies using the CFIR-ERIC matching tool and the BCW taxonomy. The CFIR-ERIC tool, freely available at www.cfirguide.org, was developed by surveying 169 implementation experts to select and rank up to seven ERIC strategies best suited to address each CFIR construct. We used this tool to determine whether a particular determinant was relevant to a given implementation strategy, resulting in an output table (Table 6) that matched CFIR constructs with ERIC strategies, along with corresponding percentages. These endorsed strategies were then mapped against the identified barriers and facilitators for PrEP adoption, forming a mapping table. From this process, we generated a set of rapid implementation strategies (Table 7); among at least 40 strategies deemed suitable, the top five were preparing champions, conducting local discussions, assessing readiness, informing local opinion leaders, and altering incentives.

Preliminary results were then summarized into five main strategic themes. **The first theme** involves identifying and preparing champions, informing local opinion leaders, and identifying early adopters. This approach focuses on creating new capacity by designating a liaison within each setting who can serve as a PrEP expert, lead the implementation and evaluation process, and bridge communication among organizations and clinics. To achieve this, education and training of both public health staff and primary care providers is essential, as well as strengthening partnerships with community-based organizations to foster local advocacy for PrEP.

The second theme emphasizes promoting adaptability, innovating in service provision, and creating a learning collaborative. Many settings have already adapted to varying needs by establishing key partnerships; these partnerships should be further promoted and strengthened, and new service delivery innovations—such as e-consults, telehealth, or outreach for populations with limited internet access—should be explored. Additionally, the possibility of employing peer navigators and incorporating resource navigation training into educational programs is recommended.

The third strategy centers on accessing new funding and providing incentives to ensure free or easy access to PrEP. With cost-related barriers affecting both program implementation and client access, it is critical for providers to be aware of and explore all available funding avenues. Organizations must advocate for additional resources for populations unable to afford medications, while also pushing for universal free access to PrEP. This strategy also involves forming new coalitions with researchers and clinicians, considering peer navigator roles, and supporting outreach activities and mobile clinics.

The fourth theme focuses on conducting local assessments, involving the community, and promoting adaptability through innovative services. Recognizing the need for greater community involvement, settings should conduct needs assessments to identify local preferences and barriers related to PrEP. Evaluating current PrEP clients can inform strategies to enhance both awareness and acceptability of PrEP, while also ensuring that services are accessible and appropriately tailored. Establishing a monitoring and evaluation plan is crucial for gathering data that can guide these adaptations.

Finally, the **fifth strategy advocates** extending networking, involving the community, promoting evaluation, building coalitions, and conducting local discussions. Integrating monitoring and evaluation into the PrEP implementation process is vital to understand adoption rates, reach, and process indicators. This ongoing evaluation will enable settings to adjust programs in response to local needs and resource constraints. Facilitating knowledge transfer activities with key organizations will help identify community partners who can bolster awareness, assist with promotion, and streamline resource utilization.

Table 7. ERIC strategies that matched the main barriers identified

ERIC Strategies	Cumulative Percent
Identify and prepare champions	512%
Conduct local consensus discussions	400%
Assess for readiness and identify barriers and facilitators	344%
Inform local opinion leaders	318%
Alter incentive/allowance structures	316%
Build a coalition	308%
Conduct local needs assessment	288%
Promote adaptability	281%
Involve patients/consumers and family members	279%
Obtain and use patients/consumers and family feedback	270%
Involve executive boards	267%
Identify early adopters	251%
Access new funding	241%
Facilitation	234%
Use advisory boards and workgroups	224%
Capture and share local knowledge	221%
Tailor strategies	210%
Create a learning collaborative	209%
Recruit, designate and train for leadership	196%
Conduct educational meetings	192%
Develop a formal implementation blueprint	186%
Audit and provide feedback	183%
Conduct cyclical small tests of change	169%
Increase demand	168%
Use an implementation adviser	166%
Develop and implement tools for quality monitoring	166%
Fund and contract for clinical innovation	165%
Purposely reexamine the implementation	159%
Prepare patients/consumers to be active participants	148%
Obtain formal commitments	144%
Organize clinician implementation team meetings	143%
Conduct educational outreach visits	134%
Intervene with patients/consumers to enhance uptake & adherence	133%
Provide ongoing consultation	132%
Promote network weaving	131%
Visit other sites	123%
Develop educational materials	119%
Model and simulate change	107%
Facilitate relay of clinical data to providers	102%

As preliminary results, we summarize all strategies in five major strategies :

1. Identify and PrEPare Champions/Inform Local Opinion Leaders/Identify Early Adopters	Objective: Create capacity and identify key individuals within each setting to act as liaisons, PrEP experts, and leaders in implementation and evaluation.
Education and Training of Staff:	Goal: Increase PrEP capacity within settings where it is lacking, build confidence in PrEP provision where special skills are needed, and foster new leadership
	Action: Offer targeted training on PrEP, including clinical knowledge, communication skills, and the ability to address client concerns. In settings where new personnel are hired, prioritize hiring staff for a PrEP provider role. This can help identify individuals who could take on leadership roles for PrEP implementation.
Education and Training of Primary Care Providers:	Goal: Enhance the capacity of primary care providers to recognize PrEP-eligible patients and either prescribe PrEP or facilitate referrals to public health settings.
	Action: Provide specific PrEP education through workshops, webinars, or one-on-one training sessions, and foster collaborations between primary care providers and public health teams.
Strengthen Partnerships with Community-Based Organizations:	Goal: Engage community leaders in advocacy for PrEP.
	Action: Build strong, ongoing relationships with community organizations to create PrEP champions at the local level who can advocate for and promote PrEP within their communities.
2. Promote Adaptability/Innovate in Service Provision/Create a Learning Collaborative	**Objective: Foster adaptability in service delivery by creating partnerships and exploring new service models.**
Create Coalitions with Researchers, Clinicians, and Other Providers:	Goal: Foster innovation in PrEP delivery through collaborations.
	Action: Develop partnerships with researchers and clinicians to explore new service delivery methods, such as e-consults, telehealth, or staff visits to community-based organizations to increase comfort and capacity for prescribing PrEP.
Train Peer Navigators:	Goal: Leverage peer support to improve access and adherence.
	Action: Explore the implementation of peer navigators who can help clients access PrEP, navigate the healthcare system, and improve engagement with services.
Support Outreach Activities and Mobile Clinics:	Goal: Improve access to PrEP in hard-to-reach populations.

	Action: Develop outreach services, such as mobile clinics or community events, to provide PrEP directly in communities, particularly in rural or underserved areas.
3. Access New Funding/For Incentives and Free/Easy Access	Objective: Address financial barriers to PrEP by securing funding and increasing access for clients, particularly those with financial limitations.
Train Providers on Navigating Resources:	Goal: Enhance providers' ability to navigate resources for clients in need.
	Action: Incorporate resource navigation training into PrEP education so providers are equipped to assist clients in accessing necessary services, including transportation, insurance, and support programs.
Create Coalitions for Advocacy:	Goal: Advocate for funding to support PrEP access, especially for populations that cannot afford medications.
	Action: Build partnerships with researchers, clinicians, and other providers to advocate for funding dedicated to subsidizing PrEP for underinsured or uninsured individuals.
Peer Navigators:	Goal: Empower peer navigators to support clients in accessing PrEP.
	Action: Use peer navigators to help individuals access PrEP through local resources, including low-cost or free clinics, and assist with paperwork for funding or insurance options.
4. Conduct Local Assessment/Involve Community/Promote Adaptability/Innovative Services/promote evaluation	Objective: Increase understanding of community needs and adapt services accordingly.
Needs Assessment:	Goal: Understand local preferences and barriers to PrEP uptake.
	Action: Conduct assessments within the community to gather data on barriers to access, knowledge gaps, and client preferences. This information will guide future program adaptations and improve the relevance of PrEP services.
Evaluation of Current Clients:	Goal: Use data to inform improvements and advocacy efforts. Action: Regularly evaluate PrEP clients' experiences and outcomes to inform ongoing program development and adaptation, ensuring that services align with client needs.
Monitoring and Evaluation Plan:	Goal: Use data to inform improvements and advocacy efforts.

	Action: Implement a system to collect, analyze, and report on program data, which can be used to advocate for continued or increased resources and to adjust services as needed.to ensure they meet local needs and are adaptable over time.
5. Extend Networking/Involve Community /Build a Coalition/Conduct Local Discussions	Objective: increase and maintain collaborations that facilitate the adoption of services by building and sharing capacity
Create a community of practice	Goal: Facilitate learning and sharing of best practices.
	Action: Host regular networking events or webinars where community partners, healthcare providers, and researchers can share knowledge and experiences about PrEP implementation.
Involve Community Partners:	Goal: Ensure PrEP programs are community-oriented and meet local needs.
	Action: Partner with community-based organizations to increase awareness, promote PrEP, and support its integration into local health systems.
Alleviate Resource Burdens	Goal: Reduce the strain on healthcare providers and organizations.
	Action: Collaborate with partners to reduce the workload on providers, for example, by sharing resources, training, or staff support.