Models of primary health care for people living with HIV

Question

What are the models of primary health care (including health care providers' roles, provided services and features of services) for people living with HIV?

Key Take-Home Messages

- Person-centered features to include in primary care models are strong patient-provider relationships and culturally competent teams. Support roles such as community health workers and peer navigators are critical for enhancing trust and engagement while reducing stigma (1–6).
- Patient-centered medical home models use coordinated, team-based care—often including physicians, nurses, pharmacists, and case managers—to integrate medical and psychosocial services and to improve continuity, retention, and clinical outcomes (7–9).
- Integrated and co-located care models combine HIV care with non-HIV services (such as those for comorbidities, substance use, hepatitis C, mental health), allowing people living with HIV to access comprehensive, multidisciplinary care in one setting (10-17).
- Low-barrier, flexible service models offer drop-in appointments, housing support, transportation, and peer support to reduce access barriers and meet the complex needs of marginalized populations, including those who are experiencing homelessness or unstable housing (5, 6, 13, 14, 18–21).

Rapid Response: Evidence into Action

The OHTN Rapid Response Service offers quick access to research evidence to help inform decision making, service delivery, and advocacy. In response to a question, the Rapid Response Team reviews the scientific and grey literature, consults with experts if required, and prepares a review summarizing the current evidence and its implications for policy and practice.

Suggested Citation
Rapid Response Service. Models of primary health care for people living with HIV. Toronto, ON: The Ontario HIV Treatment Network; January 2026.

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The Issue and Why it's Important

Major advances in treatment and care have transitioned HIV infection from a life-threatening disease to a manageable long-term health condition, enabling people living with HIV to live long and healthy lives (22). As a result of this shift, HIV care has moved beyond specialist-led models to include primary care as a central setting for providing comprehensive, continuous care (23).

Literature suggests that the shift from specialists to primary care providers has not significantly affected overall patient outcomes, though additional training may be needed to enhance providers' knowledge and confidence in caring for people living with HIV (23). Primary HIV care models may be better positioned to address the complex and evolving health care needs of people living with HIV—particularly as this population ages and faces multimorbidities (23). In addition, the expansion of integrated care in primary health care settings may relieve the burden on clinics and hospitals but also improve patient experiences and treatment outcomes (10). In response to the landscape of HIV care changing and with declining availability of HIV specialists, primary care providers (such as physicians, residents, physician assistants, family nurse practitioners) are well-positioned to fill the health care gap (24).

In Ontario, the need for such integrated and responsive HIV care models is becoming increasingly apparent (25). For example, the Ontario Advisory Committee on HIV/AIDS Action (OACHA) outlined an action plan to increase the number of primary care providers (i.e. physicians, nurse practitioners) in all parts of the province skilled in providing culturally responsive HIV care and treatment (25). According to the Ontario HIV Epidemiology and Surveillance Initiative report, approximately 22,461 people are living with HIV in Ontario, with nearly 89% aware of their status, 86.7% of those on treatment, and 97.8% of treated individuals achieving viral suppression (26). These figures represent strong progress along the HIV care cascade (26). However, they do not fully capture the persistent disparities in care among key population groups—such as African, Caribbean and Black communities, Indigenous peoples, people who use drugs, women at risk of HIV, and newcomers—who continue to experience systemic barriers in accessing equitable, culturally responsive services across the HIV care cascade (25, 26).

These evolving care needs are further underscored by recent structural changes within the HIV service landscape in Ontario. A notable example is the closure of the AIDS Committee of Toronto (ACT), Canada's oldest HIV service organization (27). ACT's decision to cease operations reflects not a diminishing need for HIV care, but a shift in what that care entails (27). As the agency noted, "the future of HIV service delivery lies in coordinated, comprehensive models of care," such as those offered by HQ Toronto and Women's Health in Women's Hands—models that extend beyond clinical treatment to include mental health services, housing supports, harm reduction,

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and community-based programming (27). “Addressing the needs of people living with HIV has shifted toward addressing chronic disease management, as well as mental health, housing, aging and social supports” (28).

There remains a knowledge gap to better understand, evaluate, and strengthen models of primary health care that are equipped to meet both the clinical and socio-structural needs of people living with HIV. As the population of people living with HIV continues to age and becomes more diverse, identifying care models that are accessible, person-centered, and integrated with broader health and social systems will be essential to reducing disparities and improving long-term outcomes (23). This review looks at different examples of how primary health care is set up to support people living with HIV in high-income settings, focusing on the roles of health care providers, what services are offered, and how those services are delivered.

What We Found

Overall, we identified a vast array of research pertaining to delivery models of primary care for people living with HIV, including its important features (1, 2), organization of care (7, 8), clinical outcomes associated with models, integrated or co-localized models (10–12), and examples of real-world interventions (13, 14, 18).

Features of primary care models for persons living with HIV

Key features to include in the delivery of primary care

A 2018 systematic mixed studies review identified 13 themes from 44 articles focused on the features of care that facilitate access to comprehensive primary care, including HIV, comorbidity, and sexual and reproductive health care for women living with HIV (1). The authors placed these themes within a social-ecological framework, organizing themes across the health system level (e.g. care providers), clinical care environments, and social institutional factors (1). At the provider level, features enhancing primary care access included positive patient-provider relationships, availability of peer support, case managers, and/or nurse navigators to facilitate coordination of care (1). Within the clinic, features included appointment reminder systems, non-identifying clinic signs, women and family spaces, transportation services, and coordination of care to meet women’s HIV, comorbidity and sexual and reproductive health care needs (1). Thus, this review identified several features of care that facilitate care-seeking access to primary care for women living with HIV (1).

A 2024 update on primary care guidance for HIV providers from the U.S. HIV Medicine Association emphasized timely, accessible, and

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culturally safe HIV care with optimizing care engagement, medical adherence, and viral suppression (2). Furthermore, the guidelines recommend low-barrier models (e.g. extended or non-traditional business hours, walk-in acute or primary care, telehealth, alternate care venues, including street medicine), a diverse and representative workforce (e.g. a workforce that represents the patient population they service in terms of gender identity, sexual orientation, race, ethnicity, primary language, and a meaningful representation of people living with HIV), and multidisciplinary teams with an HIV-experienced primary clinician to support the development of a long-term, trusting relationship (2). These recommendations by the expert panel align closely with a 2016 systematic review by Cooper and colleagues, which found that people living with HIV in high-income countries highly value a strong patient-provider relationship, HIV specialist knowledge, continuity of care, and easy access to services (3).

Staffing—Community health workers and peer navigators

Recent research has highlighted the roles of community-based support roles like community health workers and peer navigators, play in delivering essential components of HIV care, particularly for populations facing structural barriers and stigma (4, 5). In a 2021 study, researchers engaged interest-holders (e.g., community health workers, people living with HIV, HIV providers) living in the Memphis Area to gauge perspectives on the barriers and facilitators for providing support for achieving viral suppression to the most at-risk groups and identifying opportunities to strengthen the health care system through the use of community health workers (4). Barriers included stigma, HIV criminality laws, lack of sex education, limited housing options, lack of transportation, medication cost, limited access to HIV case management and mental health services (4). Strategies to address these barriers include increased HIV education in public institutions and media, involving faith leaders, housing resources, transportation services (e.g., community health workers provide transportation and accompany people to their appointments), rapid start of culturally competent HIV medical treatment (4). Similarly, peer navigation has emerged as a powerful tool to bridge clinical care with psychosocial support (5). A 2022 study interviewed six general practitioners (GPs) in Queensland, Australia, and found that peer navigation was viewed as a valuable support for people living with HIV, particularly in addressing the complex psychosocial aspects of care (5). GPs saw peer navigators as helping to reduce stigma and bridge gaps between clinical and social services, but noted the lack of direct communication with peer navigators as a key challenge to integration (5). Supporting these findings, a U.S.-based multisite randomized clinical trial demonstrated that peer interventions can improve retention in primary care among subgroups of people living with HIV from racial/ethnic minority communities (6). Together, these studies underscore the importance of embedding community health

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workers and peer navigators within primary care models to advance equity, engagement, and culturally responsive support (4–6).

How to organize care: Patient-centered home model for people living with HIV

A policy paper of the HIV Medicine Association of the Infectious Diseases Society of America and the Ryan White Medical Providers Coalition (2011) outlines the essential components of an effective HIV care model, emphasizing goals such as early and sustained engagement in care, viral suppression, improved immune function, enhanced quality of life, and prevention of HIV transmission (7). The authors point out that in general these goals are best achieved through the "medical home" model, where HIV primary care teams coordinate both medical and psychosocial services tailored to individual patient needs (7). High-functioning examples like Ryan White-funded clinics demonstrate how integrated, patient-centered care supports treatment adherence and long-term health outcomes, particularly for those with two or more co-occurring conditions (i.e. syndemics) (7). The level of HIV care integration may vary based on the complex needs of patients, with coordinated care suitable for less complex cases, while co-located or fully integrated services—combining medical, mental health, and substance use treatment—are essential for patients with multiple co-occurring conditions to prevent gaps in care (7).

In relation to the Canadian context, a 2019 study found that HIV care in Canada is reasonably well aligned with the patient-centered medical home model (PCMH) (8). HIV care delivery in primary care had an average PCMH score of 7.99 out of 12, indicating the basic elements were implemented across eight domains (8). There were no significant differences between primary and HIV specialist settings in PCMH alignment (8). The strongest domain in primary care was team-based relationships, while the weakest domain was quality improvement strategies (8). Challenges around limited clinic hours, inadequate electronic medical records, and insufficient mental health services were opportunities for improvement in fully realizing the PCMH model (8).

A 2019 study evaluated the impact of the Patient-Centered HIV Care Model (PCHCM), which integrates community-based pharmacists with medical providers to improve retention in HIV care (9). Among 765 participants, retention in care saw a 12.9% overall improvement after PCHCM implementation, and the highest increase seen among non-Hispanic Black individuals (22.6% increase) (9). Factors associated with improved retention included being Black, receiving pharmacist–clinic developed action plans, and having three or more pharmacist encounters (9). The findings suggest that pharmacist–primary care provider collaboration can enhance care retention, particularly in populations historically underserved in the HIV epidemic (9).

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HIV care delivery models and clinical outcomes

We identified two reviews that focus on ways in which HIV care is delivered and the associated clinical outcomes for people living with HIV (23, 29).

A 2016 systematic review summarized evidence on patient-level HIV-specific and primary care health outcomes for people receiving outpatient care in the U.S. across four HIV care delivery models: 1) Specialty-based care: HIV care primarily managed by physicians who oversee most aspects of patients' health care needs, 2) Advanced practitioner-based care: Nurse practitioners or physician assistants provide comprehensive HIV and general health care, 3) Team-based care: Multidisciplinary, co-located teams deliver coordinated, patient-centered HIV and non-HIV care, 4) Shared care: HIV care is co-managed across different health care providers and locations, with systems in place for communication and coordination (29). Of the 13 studies identified by the authors, most (nine) evaluated specialty-based care (29). The majority of studies focused on outcomes such as mortality and antiretroviral use, showing that specialty-based care was linked to reduced mortality and increased antiretroviral use at the clinician level. At the same time, there was limited and inconsistent evidence on other HIV-specific and primary care outcomes. Notably, there were gaps in data on aging-related chronic care, diverse populations, and geographic settings (29).

Expanding on this, a 2022 review provided a narrative summary of the literature describing primary care models for the management of HIV and the patient outcomes associated with different models of care in Canada (23). In Canada, current practice recommendations outline that HIV care should be provided by a team of inter-disciplinary professionals (e.g., physicians, nurses, pharmacists, care managers, mental health care providers, and social services) with a good understanding of HIV care and wellness (23). When evaluating the evidence pertaining to clinical outcomes, the authors identified one systematic review by Mizuno *et al.* (2019) that examined the co-location of HIV care with other health care services (23, 30). Eight of ten studies found a significant positive association between co-located HIV and non-HIV-specific primary care and linkage to care, retention in care, and antiretroviral uptake (30).

Furthermore, the authors identified a study by Kendall *et al.* (2018) which examined the organization attributes of HIV care delivery models in Canada (23, 31). Kendall and colleagues conducted a cross-sectional survey of HIV care delivery models in Canada, revealing that most responding clinics (20 of 22; 90.9%) were urban, with 63.6% focused solely on providing HIV care (31). Primary care clinics were more likely than specialist clinics to offer preventive and procedural services—such as cervical cancer screening, birth control, needle exchange, and chronic disease self-management—with 95.5% of all clinics providing routine immunizations (31). This

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review highlights that integrating HIV care with broader health services improves outcomes, especially important as there is a growing need to manage HIV as a chronic condition alongside other health concerns like non-communicable diseases, sexually transmitted infections, and cancer screening (23).

Integrated and co-located care models for people living with HIV

Integrated and co-located care models which combine multidisciplinary services in a single or coordinated setting, are increasingly recognized as effective strategies to improve access, retention, and health outcomes for people living with HIV, particularly those with comorbidities like substance use disorders or hepatitis C virus infection (10–12).

A review by Rich and colleagues (2018) described models of integrated and co-located care for opioid use disorder, hepatitis C, and HIV (11). Medication-assisted treatment for opioid use disorder, HIV, and hepatitis C treatment, HIV pre-exposure prophylaxis, and behavioural health services were key components of these integrated and co-located models (11). While the authors identified 17 models in total, only three were delivered within the primary care setting (11). Notably, delivering treatment of opioid use disorder, HIV, and hepatitis C in primary care settings lowers barriers to access by integrating these services into familiar, community-based health care environments. In addition, allowing patients to receive comprehensive care in one location enhances continuity of care for these patients with complex health care needs (11).

Building on this, a narrative review by Beichler *et al.* (2023) described the current national and international innovative models of integrated care and their benefits for people living with HIV (10). The main advantages of integrated care included interconnected, guideline- and pathway-based multiprofessional, multidisciplinary patient-centered treatment for complex, chronic HIV infections (10). In addition, integrated care models have the advantage of continuity of care and reduction of cost (e.g. as services are uniformly offered at one-site) (10). As integrated care focuses on the holistic view of people living with HIV, considering medical, nursing, psychosocial, psychiatric needs, as well as the many interactions among them, these models may foster a motivation for adherence, unrestricted access to antiretroviral therapy, reduction and timely treatment of comorbidities (10). Overall, this review highlights how expanding integrated care within primary health care settings can help reduce the strain on hospitals while also improving patients' experiences and treatment outcomes (10).

While the previous reviews focused primarily on the structure and benefits of integrated models, a 2019 systematic review by Pinto *et al.* examined both provider and client perspectives on barriers

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to accessing integrated HIV and substance use services, using a client-centered framework to categorize barriers at the client-provider, client-organization, and client-system levels (32). The review included 23 studies across various settings—such as HIV primary care, substance use disorder treatment programs, and community-based organizations—featuring perspectives from providers (n=10), clients (n=11), and both (n=2) (32). Findings highlighted that barriers are not isolated but fluid across different levels, and that providers and clients often perceive and define barriers differently (32). The study emphasized that effective integration of HIV and substance use disorder services requires strong interprofessional and inter-organizational collaboration (32). Importantly, this review emphasizes the need for a client-centered relational framework that views barriers to service integration as fluid interactions within the relationships between clients, providers, organizations, and broader socioeconomic systems (32).

One real-world example of integration within a substance use setting comes from a 2017 study by Simeone *et al.*, which reviewed clinic data for methadone clinic patients living with HIV to evaluate patient outcomes along the HIV care cascade (12). Among 65 patients (63% male, 82% aged 45 or older, and 60% non-White), 77% (n=59) were retained in care, 80% (n=52) were virologically suppressed. Patients who received HIV care directly at the methadone clinic showed even higher rates of retention and suppression (93% retention; 93% viral suppression) compared to those receiving care at the HIV clinic (74% retention; 79% viral suppression) or community clinic (62% retention; 62% viral suppression) (12). These differences may reflect the "one-stop shopping" convenience and benefit of integrating HIV care within methadone treatment services (12). These findings align with qualitative evidence showing that co-located care models help reduce barriers and improve care engagement for populations often excluded from traditional systems (20). In a qualitative study conducted at an HIV clinic in Atlanta, interviews with 18 stakeholders, including providers, administrators, and members of a Community Advisory Board of people living with HIV who were out of care, highlighted co-location of HIV and non-HIV services as a key strategy to reduce clinic-level barriers and re-engage this population (20). Co-located models can minimize logistical burdens, streamline access to both HIV and primary care, and improve continuity for patients navigating complex health care systems (20).

Implementation of co-located or integrated primary care models for persons living with HIV

People living with HIV with substance use disorders

A 2018 study interviewed 25 providers regarding their substance use assessment and factors associated with antiretroviral therapy initiation (15). The findings highlight that although there is broad support for universal antiretroviral therapy regardless of substance use disorder, HIV providers often face challenges in consistently identifying and managing these disorders (15). HIV providers face challenges in consistently identifying and managing substance use disorders, highlighting the need for integrated addiction services (15). These provider-reported challenges are echoed by patients as well, who describe similar barriers and express a strong preference for integrated, co-located HIV and substance use services (16). A 2019 qualitative study interviewed 23 adults who use drugs and were enrolled in an inpatient detoxification program in New York City (16). Participants discussed their experiences across the HIV care continuum, including barriers to care, interactions with providers, and preferences for integrated HIV and opioid use disorder treatment model (16). Key factors affecting HIV care engagement included insurance issues, access to antiretroviral therapy, disruptions during detox admissions, peer support, stigma, and the availability of integrated services in primary care (16). Overall, participants supported co-located HIV and substance use care and emphasized the need for enhanced clinical and administrative support, including patient navigators, case managers, and peer networks, to improve care retention (16). Importantly, a 2025 study highlights the inclusion of a relational harm reduction framework (e.g., principles of harm reduction: humanism, pragmatism, individualism, autonomy, incrementalism, accountability without termination) for enhancing provider-patient relationships, particularly in the context of substance use (17).

POP-UP program for people living with HIV experiencing unstable housing / homelessness

A 2020 study in San Francisco explored what people living with HIV who experience homelessness or unstable housing value most in their health care, using a discrete choice experiment (18). This method allowed researchers to quantify patient preferences and trade-offs across several HIV service domains (18). Among 65 interviewed participants, the strongest preferences were for a patient-centered care team and for drop-in clinic visits (18). Participants were even willing to trade a hypothetical $32.79 in gift cards per visit just to have a more personal relationship with their care team, and around $11.45 for having drop-in versus scheduled appointments (18). These findings show that personalized, low-barrier care options are more important to this population than financial incentives or convenience factors like clinic location (18). In addition, these findings informed San Francisco's POP-UP program for people living with HIV who experience homelessness or unstable housing. This highlights the importance of integrated, co-located care models that are flexible, relationship-based, and designed to meet the unique needs of marginalized patients (18).

In a follow-up study, researchers reported on the early success in re-engaging people living with HIV experiencing homelessness or unstable housing who were not responding to usual care POP-UP program (13). Among 75 enrolled participants who were off antiretroviral therapy and viremic, over 75% restarted antiretroviral therapy within seven days, 91% returned for follow-up within 90 days, and 55% achieved viral suppression at six months (13). Extending these results over a longer timeframe, another related study found that the POP-UP low-barrier HIV care model led to an increase in viral suppression from 0% at baseline to 44% at 12 months among 112 people living with HIV experiencing housing instability, despite high rates of substance use (100% with a substance use disorder) and mental health issues (70% with mental health diagnoses) (14). However, persistent care gaps and a 9% mortality rate of participants after the 12-month post enrollment period—mostly due to overdose—highlight ongoing challenges in improving long-term outcomes (14). Taken together, these findings demonstrate that a low-barrier, high-contact primary care model offering drop-in services, housing support, and incentives can reach and significantly improve outcomes in this vulnerable population (13, 14, 18).

Hamilton Social Medicine Response Team (HAMSMaRT) in Hamilton, Ontario, is a mobile, inter-disciplinary service that strives to provide care to individuals who otherwise have difficulty accessing care in the mainstream system, at a location where they are most comfortable. HAMSMaRT aims to provide care where patients were most comfortable receiving it, for example, in their homes, shelter spaces, coffee shops and park benches (21).

What We Did

We searched Medline (including Ovid MEDLINE® and Epub Ahead of Print, In-Process, In-Data-Review & Other Non-Indexed Citations) using text terms HIV AND primary care AND (model* or service*). Searches were conducted on July 29, 2025 and results limited to articles published in English since 2015. Literature search was restricted to research conducted in high-income settings. Reference lists of identified articles were also searched. The searches yielded 702 references from which 32 were included.

Factors That May Impact Local Applicability

Even though the evidence summarized in this review is from high-income settings like the U.S., Australia, and Canada, its generalizability may be still limited due to different health systems and funding structures. In Ontario, variability in health care provider training, clinic resources, and access to wraparound services (e.g., housing, mental health, substance use support) may impact feasibility of implementing integrated or low-barrier care models. Cultural engagement strategies may need to be locally adapted to effectively reach key populations such as Indigenous communities, African, Caribbean and Black communities, and people who use drugs.