



FOCUSING OUR EFFORTS

CHANGING THE COURSE OF THE HIV PREVENTION,
ENGAGEMENT AND CARE CASCADE IN ONTARIO

HIV/AIDS STRATEGY TO 2026

ONTARIO ADVISORY COMMITTEE ON HIV/AIDS



Stephen Andrews was born in 1956 in Sarnia, Ontario, Canada. Over the last twenty-five years he has exhibited his work in Canada, the U.S., Brazil, Scotland, France and Japan. He is represented in public collections including the National Gallery of Canada, the Art Gallery of Ontario, the Belkin Art Gallery, the Schwartz Collection, Harvard as well as many private and corporate collections. He was diagnosed with HIV in 1985 and generously gave his blessing, with the support of Paul Petro Contemporary Art (Toronto), for the reproduction of his work for the cover.

.....
STEPHEN ANDREWS, BUTTERFLY EFFECT 5
2014, OIL ON CANVAS, 60 X 40 INCHES
.....

As explained by Stephen Andrews:

“Among the ideas behind the work is what is commonly known as the ‘Butterfly Effect.’ It is a theoretical supposition from chaos theory that considers how one small action like that of a mere flap of a butterfly wing can result in wildly differing consequences. Here it is played out in a painting game using a set of givens and allowing the changing placement of colour to reveal the myriad possibilities. This is all borne out of recent personal events that have led me to wonder how things might have been different had the slightest thing been different. If leaving on a different day or perhaps that chance encounter could have resulted in a completely different outcome.”

The Ontario Advisory Committee on HIV/AIDS (OACHA) and a working group of its members led the development of “HIV/AIDS Strategy to 2026: Focusing Our Efforts - Changing the Course of the HIV Prevention, Engagement and Care Cascade in Ontario.”

The insight and commitment of OACHA’s members was invaluable and demonstrated the excellence of Ontario’s HIV sector. These members included: Anita Rachlis (Co-Chair), Rick Kennedy (Co-Chair), Barry Adam, Philip Berger, Adrian Betts, Jean-Rock Boutin, Laurie Edmiston, Tom Hammond, Murray Jose-Boerbridge, Lynne Leonard, Gilles Marchildon, Fanta Ongoiba, Ryan Peck, Valérie Pierre-Pierre, Colleen Price, Ron Rosenes, Shannon Ryan, Rita Shahin and Michael Sobota.

We would also like to particularly acknowledge two members of OACHA who died during the time that the strategy was being developed:

John Plater

LaVerne Monette

Their wisdom was an important part of the discussion and is well integrated into the final document.

Many others across the province were also involved, including people living with HIV/AIDS, workers and volunteers of community-based AIDS service organizations, staff of local public health units, staff of HIV clinics, researchers, policy makers and others involved in sexual health and HIV prevention, care, treatment and support in Ontario.

We would especially like to acknowledge those who shared their lived experience to give better insight into the day-to-day realities of people living with HIV and people from HIV priority populations in Ontario.

Thank you to the Ontario HIV Treatment Network, whose staff time and energy ensured a strong evidence-base and visual representation of key concepts—particularly Dr. Mark Gilbert, Jason Globerman, David Gogolishvili, Greg Mitchell and Chris Carriere.

A very special thank you to author Jean Bacon, whose writing, editing and boundless commitment to quality ensured our strategy always drew on the best and most current evidence. Most importantly, Jean was able to make complex issues very simple and reflective of the conversation. Everyone felt heard.

We also wish to thank Frank McGee and staff at the AIDS Bureau in the Ontario Ministry of Health and Long-Term Care for their ongoing leadership and support through the development of the strategy: James Murray, Joanne Lush, Ken English, Lisa Jackson, Fiona Sillars, James Jezioro and John Goodwin.

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**Ontario Advisory Committee
on HIV/AIDS**

**Comité Consultatif Ontarien
de lutte contre le VIH et le SIDA**

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**A MESSAGE FROM THE CO-CHAIRS,
ONTARIO ADVISORY COMMITTEE ON HIV/AIDS:**

On behalf of the Ontario Advisory Committee on HIV/AIDS (OACHA), we write to introduce you to the **HIV/AIDS Strategy to 2026: Focusing Our Efforts - Changing the Course of the HIV Prevention, Engagement and Care Cascade in Ontario**. We are pleased The Honourable Minister of Health and Long-Term Care, Dr. Eric Hoskins, supports this strategy and ongoing work on implementing its recommendations, through the Ministry of Health and Long-Term Care, AIDS and Hepatitis C Programs. We are in an era where we have the scientifically proven tools to stop the transmission of HIV and to ensure that all those who have HIV have the opportunity to live a long and full life. “Focusing Our Efforts” is about ensuring access to prevention, testing, treatment, health services, community supports, and achieving freedom from stigma and discrimination.

The strategy includes a report on our progress in reducing HIV transmission and the onset of AIDS. In Ontario we have prevented thousands of infections through the work of community-based HIV testing, education and support programs, public health efforts, access to HIV treatment and the support and advocacy of people who are HIV positive. The rate of new HIV diagnoses has been trending downward for a decade, yet remains stubbornly above what the science tells us is possible. We have a world-class HIV clinical care system in which 94% of people with HIV who are receiving treatment obtain a suppressed virus. Yet, an estimated 19% of people with HIV are not diagnosed and not all who are diagnosed are on treatment. Effective services and tools exist, but not everyone has access to them.

So, what does it mean to “Focus Our Efforts”?

Within government, it means focusing collaboration across ministries whose work touches the lives of those most impacted by HIV, changing policies that act as barriers to the services and tools needed, and continuing the work of supporting a system that combines knowledge and action towards progressive change.

Within our services and communities, it means focusing our work, creating a response based on the social determinants of health that cascades through all the levels of HIV prevention, treatment and care. To prevent new HIV infections and ensure full, healthy lives for people with HIV, we must help people living with and at risk of HIV gain control over their health. We must provide the services and supports they need to avoid HIV and, if they do become infected, to be diagnosed and linked to care quickly, to have easy access to HIV medications as well as support to adhere to HIV medications over the long term, and to receive care and services to manage other health and social issues and comorbidities—including mental health and addiction issues.

We need to facilitate access for the 19% of HIV positive people who are undiagnosed and those who are not on treatment. To do this, we need to work together to harness our collective experience through integrated service networks that develop local strategies for people we aren't currently effectively reaching. At the same time, we need to engage key services to respond better to HIV. We need to work as allies to people who are HIV positive to help reduce stigma and discrimination and improve access for people who have often experienced the health care system as unwelcoming.

We work within a time of great optimism and hope. We developed as a sector within the context of a stigmatized and fatal illness that affected marginalized communities. This resulted in a highly committed community response and the need for knowledgeable providers. Due to the dramatic reduction in AIDS deaths, we are now serving an increasing number of HIV positive people, many of whom have complex health care and determinants of health needs. We can no longer be the predominant source of support for people who may require different or additional services. We must focus our work on the task of facilitating equitable access to health care. We need to create a cascade of care that engages the resilience of vulnerable communities in addressing life's challenges, reducing HIV transmission and living well with HIV. We must continue to work within our sector and work with broader community and health services to meet the needs of the people and communities we serve. We need to build the capacity of all who are engaged in receiving or providing prevention, treatment and care.

We can truly imagine a world where few acquire HIV and where no one dies from AIDS. We have the people and the knowledge to solve the problem of HIV. Let's focus our work and harness our collective experience to make that vision a reality.

Sincerely,



Dr. Anita Rachlis, Co-Chair
OACHA



Mr. Rick Kennedy, Co-Chair
OACHA

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I. HIV AND AIDS IN ONTARIO: 2016

It is 30 years and counting since the first person was diagnosed with AIDS (acquired immune deficiency syndrome). In that time we have seen how commitment and collaboration among people with HIV (human immunodeficiency virus), people at risk, service providers, researchers, the public health system and governments can change attitudes, policies, programs, research and care.

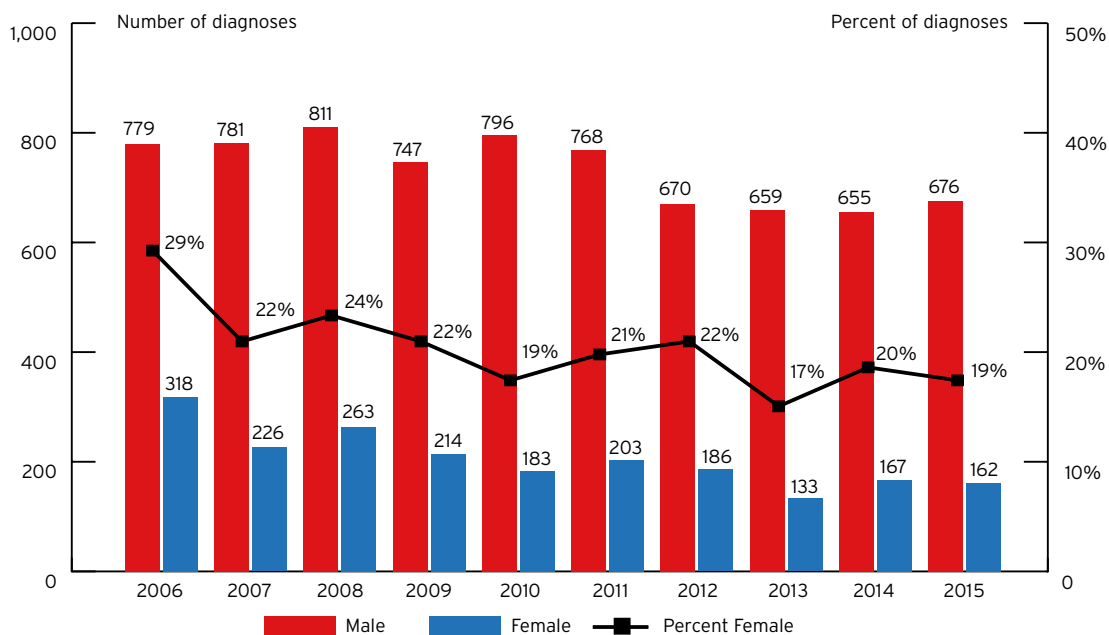
HIV IS A VIRUS THAT attacks and weakens the immune system. Left untreated, HIV infection can cause people to become very ill and die. AIDS is a late stage in HIV infection. To be diagnosed with AIDS, someone with HIV will have lost many or most of their immune cells and will be experiencing health complications from opportunistic infections. Today, when people with HIV have good medical care and access to treatment, a diagnosis of AIDS is rare.

PROGRESS AGAINST HIV

An infectious, stigmatizing disease that once robbed people of hope and killed many within a few months or years has become a more manageable, chronic illness. Today, the human immunodeficiency virus (HIV) is a treatable infection and AIDS is a rare medical condition.

FEWER NEW DIAGNOSES

Between 2002 and 2011, the number of new HIV diagnoses in Ontario plateaued at around 1000 a year.¹ In the four years from 2012 through 2015, Ontario had an average of about 832 new diagnoses a year. Four of every five new diagnoses each year are in men (81%) and about one in five is in women (19%). We have virtually eliminated vertical (i.e., mother to child) transmission.

FIGURE 1: NEW HIV DIAGNOSES BY SEX, ONTARIO 2006-2015

MORE EFFECTIVE TREATMENTS

Today, we have more effective and better-tolerated treatments for HIV. People infected in their 20s who are diagnosed early, engaged in care and receive treatment to suppress the virus (as well as high-quality care for other health issues) can expect to live into their early 70s: a life expectancy approaching that of the general population.² The prognosis is not the same for people who have other serious issues that affect longevity, such as an addiction, homelessness or comorbidities like hepatitis C. Uncertainties remain about the impact of living long term with HIV and its treatments; however, we are optimistic that, with the right care and support, people with HIV can expect to maintain their health, work, be active in their communities, create families and social networks, and dream and plan for the future. But our work is not done.

PEOPLE INFECTED in their 20s who are diagnosed early, engaged in care and receive treatment to suppress the virus (as well as high-quality care for other health issues) can expect to live into their early 70s.

HIV IS STILL A FORMIDABLE HEALTH THREAT

- Many Ontarians are still at risk: two to three people are diagnosed each day
- Many are not receiving the timely care they need to stay healthy
- Many are coping with mental health and addiction issues that threaten their ability to avoid or manage HIV
- Many struggle to adhere to daily treatments that suppress the virus—which is essential to protect their health and reduce the risk of transmission
- Many are living with both the effects of HIV and other comorbidities, such as heart disease, cancer, neurocognitive problems, osteoporosis, hepatitis co-infection, renal disease and liver disease, which can shorten their lives and rob them of opportunities
- Many are struggling with the challenges of living long term and aging with HIV
- All Ontarians with HIV live with the stigma of this infection

OF NEW HIV DIAGNOSES IN ONTARIO, ABOUT...³

- 60% are gay men and men who have sex with men
- 25% are people from African, Caribbean and Black communities
- 13% are people who inject drugs
- 1 in 5 people newly diagnosed are female
- 1 in 3 are age 45 or older; of these, 82% are men and most report sex with men as a risk factor

HIV IS PREVENTABLE, YET STILL A RISK

We have the knowledge and tools we need to prevent HIV transmission and to ensure that all people with HIV have the opportunity at a long, full life.

Yet new infections still occur. And there are still people living with HIV who are not benefitting fully from advances in HIV treatment. To make more progress towards controlling HIV, we must focus where the risks are greatest. HIV is not a generalized epidemic in Ontario. It is concentrated in a small number of marginalized populations that have high rates of HIV including:

- people living with HIV/AIDS
- gay, bisexual and other men who have sex with men, including trans men
- African, Caribbean and Black communities—including men and women from parts of Africa and the Caribbean where HIV is endemic
- Indigenous peoples
- people (men and women) who inject drugs (PWID)
- at-risk women (women who are sexual partners or drug-using partners of people with HIV), including trans women

Trans women are persons assigned “male” at birth who identify as women.

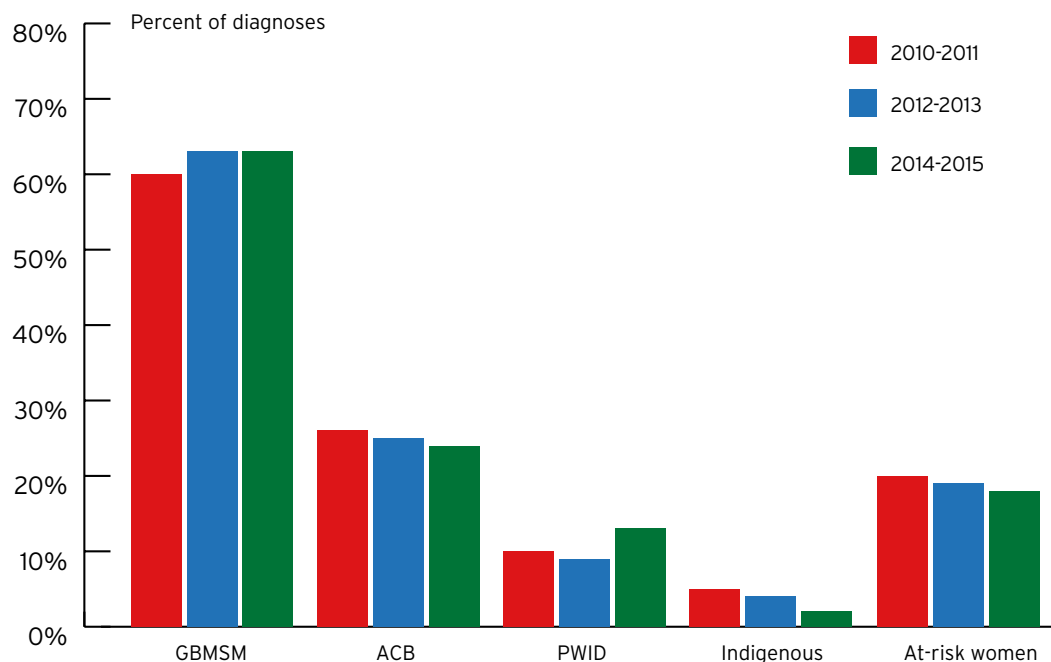
Trans men are persons assigned “female” at birth who identify as men.

Some trans people will not identify as a man, woman, trans man or trans woman; instead they identify in a way that does not distinguish between male and female, such as non-binary, gender queer, two-spirit or another identity term.

Some people within these communities and networks are more vulnerable to HIV and to HIV-related health complications because of other factors (e.g., social determinants) that affect their health. For example, people who are incarcerated, people who engage in sex work or people who are recent immigrants or without status also experience systemic, structural and social threats to their health and well-being.

With this strategy, we are focusing our efforts on reducing risk and promoting health for the populations most affected by HIV. To do that, we must understand the patterns of risk within each population. The following figure shows the proportion of new HIV diagnoses by population based on information from HIV test requisition forms.

FIGURE 2: PATTERN OF NEW HIV DIAGNOSES IN ONTARIO BY POPULATIONS AT RISK



Note: percentages add up to more than 100 because someone diagnosed with HIV may fall into more than one population (e.g., a gay man who also injects drugs).

Ontario does not have accurate data on the number of new diagnoses each year among Indigenous peoples or trans people because this information is not collected on the HIV test requisition form.

However, we do know that the risk in these populations is high:

- The prevalence of HIV is 0.43% in Indigenous peoples in Ontario or 1.7 times that of the non-Indigenous population.⁴ We also know that about one of every three Indigenous people with HIV is co-infected with hepatitis C.⁵ Among Indigenous people in Ontario diagnosed with HIV from 2009 to 2011, the most commonly reported risk factors were sexual exposure (64%) and injection drug use (45%)⁶
- Trans people, particularly trans women, are at high risk of HIV. In a meta-analysis of 29 published studies on trans people, 27.7% of trans women tested positive for HIV infection.⁷ We also know from research in Ontario that some trans men participate in sexual networks with other men who have sex with men, where HIV prevalence is particularly high⁸

This strategy includes a recommendation to change the HIV test requisition form to collect information on ethnicity, including Indigenous status, and gender identity. With this information, we will be able to understand the epidemiology of HIV in Indigenous and trans communities as well as in other ethnic communities in Ontario.

HIV IS MANAGEABLE, YET STILL NOT FULLY MANAGED

Although we have highly effective treatments for HIV—treatments that also reduce the risk of HIV transmission—not everyone infected with HIV is diagnosed, and not all those who are diagnosed are engaged or stay in care.

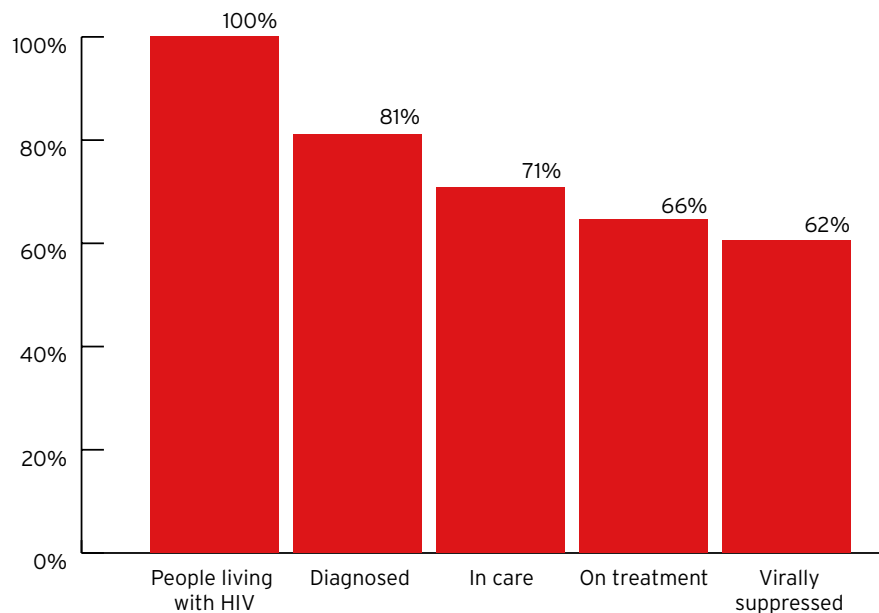
NOT EVERYONE INFECTED with HIV is diagnosed, and not all those who are diagnosed are engaged or stay in care.

Figure 3 illustrates the HIV care cascade. Based on an analysis of different sources of data in 2015,⁹ we can create a snapshot of the number of people infected with HIV who are diagnosed, linked to care, in care and have a suppressed viral load (i.e., low level of virus in their blood). For some steps in the care cascade (i.e., the number of people infected and the proportion diagnosed) we can only estimate the number, and show the range of possible values. For the other steps, we have linked

data on HIV diagnoses with data on viral load tests to develop our estimates. (**Note:** these estimates may change based on further analysis. An in-depth technical report will be released explaining the methodologies and assumptions used to develop estimates for Ontario.)

Although we do not know the exact number of people at each step of the cascade, we can estimate that, in 2015, about 62% of people in Ontario infected with HIV had a suppressed viral load. The gap between the estimated number of people infected and the number who are virally suppressed is mainly due to people with HIV not being diagnosed. This pattern is similar to that in other jurisdictions.

FIGURE 3: PROPORTION OF PEOPLE INFECTED WITH HIV IN ONTARIO AT DIFFERENT STAGES OF THE PREVENTION, ENGAGEMENT AND CARE CASCADE, 2015



Note: The “Diagnosed” proportion is based on preliminary estimates generated by the Public Health Agency of Canada on the number of undiagnosed/diagnosed people living with HIV in Ontario at the end of 2014. The “In Care,” “On treatment” and “Suppressed” proportions are based on data from the Public Health Ontario Laboratory. “In care” is based on the number of people who had at least 1 viral load test in 2015. “On treatment” is based on the number of people who were estimated to be taking antiretroviral treatment in 2015. “Suppressed” is based on the number of people with a viral load of <200 copies/ml of blood in 2015.

UNAIDS 90-90-90 TARGETS

Ontario is not the only jurisdiction working to improve the care cascade for people living with HIV.

To focus world attention on the importance of early, ongoing and sustained treatment, UNAIDS established the 90-90-90 targets¹⁰ for jurisdictions:

- 90% of people infected with HIV will be diagnosed
- 90% of those who are diagnosed will be on treatment
- 90% of those who are on treatment will be virally suppressed

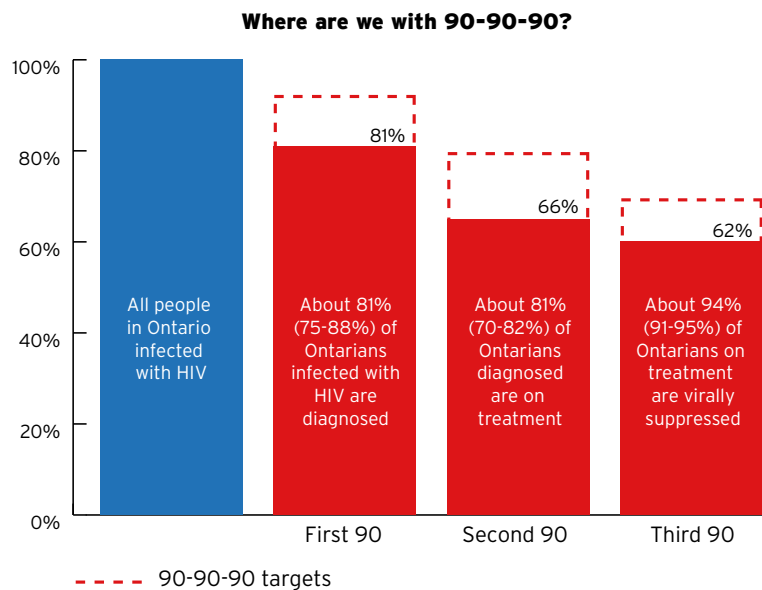
Each “90” target is a subset of the previous one. That means, if a jurisdiction were to meet all 90-90-90 targets, then:

- 90% of all people with HIV in that jurisdiction would be diagnosed
- 81% of all people with HIV would be on antiretroviral treatment
- 73% of all people with HIV would be virally suppressed

To support the monitoring of our progress, we can use the UNAIDS 90-90-90 targets.

Figure 4 compares the data from Figure 3 to the 90-90-90 targets.

FIGURE 4: ESTIMATED PROPORTION OF PEOPLE WITH HIV IN ONTARIO AT EACH STAGE OF THE CARE CASCADE, 2015



Note: Percentage of people diagnosed are based on 2014 modelled estimates provided by the Public Health Agency of Canada. Percentage on treatment and virally suppressed are based on 2015 data from Public Health Ontario.

How to read Figure 4:

The **first bar** is all people (100%) with HIV in the province

The **dotted lines** show where we would have to be to meet all the UNAIDS 90-90-90 targets

The **other bars** are our best estimate of where we are now for each “90” target:

- For the First 90, we estimate that 81% of people with HIV in Ontario have been diagnosed (based on modelling done by the Public Health Agency of Canada)
- For the Second 90, we estimate that 81% of the people diagnosed are on treatment (based on data from Public Health Ontario), which is equal to 66% of all people with HIV in the province
- For the Third 90, we estimate that 94% of Ontarians with HIV who are on treatment are virally suppressed (based on data from Public Health Ontario), which is equal to 62% of all people with HIV in the province. These are real people with HIV, in Ontario, doing really well

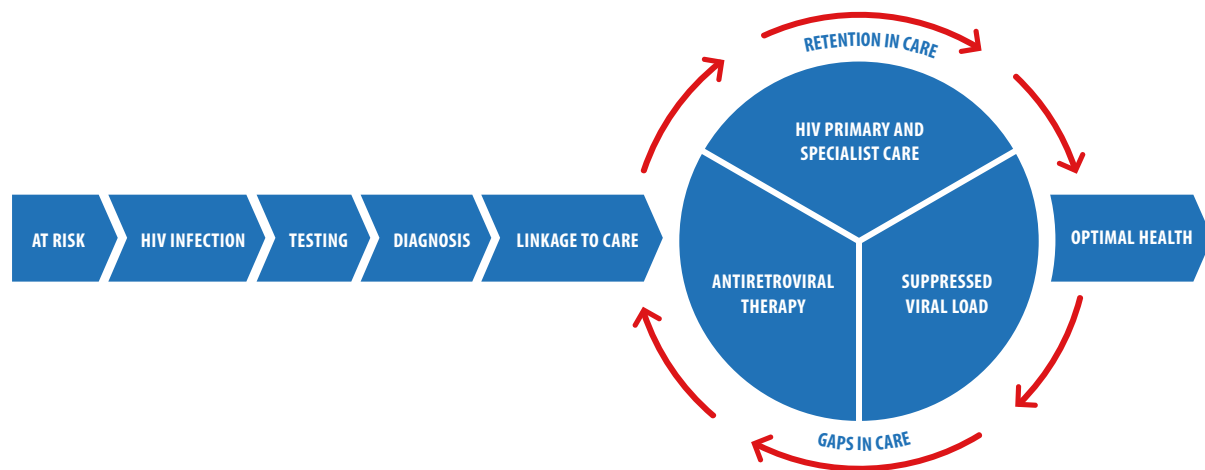
The UNAIDS 90-90-90 targets are ambitious but achievable. Figure 4 shows that we are on our way to meeting them but we still have work to do—particularly in getting people with HIV diagnosed and on treatment.

The good news is that, once people are tested, diagnosed and on treatment, most are likely to achieve an undetectable viral load, which is important to protect their own health and reduce the risk of HIV transmission. When people are engaged and stay in care, the system works to protect their health.

TO END NEW HIV infections and improve care for all in Ontario with HIV, we can and must do better.

FROM THE “TREATMENT CASCADE” TO THE “PREVENTION, ENGAGEMENT AND CARE CASCADE”

The challenge is getting all people with HIV diagnosed and linked to and retained in care, while increasing our capacity to prevent new HIV infections in the first place. To end new HIV infections and improve care for all in Ontario with HIV, we can and must focus our efforts.



In this strategy, we are expanding the concept of the treatment cascade to include “prevention,” “engagement” and “care.”

This change reflects our understanding of the broader determinants of health. To prevent new HIV infections and ensure full, healthy lives for people with HIV, we must help people with and at risk of HIV gain control over their health. We must provide the services and supports they need to avoid HIV and, if they do become infected, to be diagnosed and linked to care quickly, have easy access to HIV medications as well as support to adhere to HIV medications over the long term, and receive care and services to manage other health and social issues and comorbidities—including mental health and addiction issues.

In this, the fourth decade of HIV, we have great hope. While we are not yet able to completely eliminate the virus, we can reduce the harm it causes. We can prevent people from becoming infected, and we can strive to ensure that people with HIV lead long, full lives free from illness, stigma, discrimination and fear.

This approach is consistent with Patients First: Ontario's Action Plan for Health Care (2015), with its focus on engaging Ontarians in their health care, improving access to coordinated and integrated care, and informing Ontarians about their health and care so they can make healthy informed choices. It is also consistent with Open Minds, Healthy Minds: Ontario's Comprehensive Mental Health and Addictions Strategy (2011) with its focus on improving mental health and well-being for all Ontarians, creating healthy, resilient, inclusive communities, detecting problems early and intervening, and providing timely, integrated, person-directed services. Providing comprehensive support at all stages of the prevention, engagement and care cascade will require a strong, active, integrated network of HIV, health and social services—including mental health and addictions services.

II. HIV/AIDS STRATEGY TO 2026

VISION

By 2026, new HIV infections will be rare in Ontario and people with HIV will lead long, healthy lives, free from stigma and discrimination.

MISSION

To reduce the harm caused by HIV for individuals and communities and its impact on the health care system by ensuring timely access to an integrated system of compassionate, effective, evidence-based sexual health and HIV prevention, care and support services.

GOALS

1. Improve the health and well-being of populations most affected by HIV
2. Promote sexual health and prevent new HIV, STI and hepatitis C infections
3. Diagnose HIV infections early and engage people in timely care
4. Improve health, longevity and quality of life for people living with HIV
5. Ensure the quality, consistency and effectiveness of all provincially funded HIV programs and services

PRINCIPLES

The following principles drive our response to HIV:

RESILIENCE. People with HIV and populations at risk are resilient and have great strengths. All programs and services will use a strengths-based approach to increase resilience and create healthy inclusive communities.

GREATER INVOLVEMENT AND MEANINGFUL ENGAGEMENT OF PEOPLE WITH HIV/AIDS (GIPA/MEPA) AND PEOPLE AT RISK. The lived experience of people with and at risk of HIV drives and informs Ontario's response. We commit to the greater involvement and meaningful engagement of people living with HIV/AIDS (GIPA/MEPA) and people at risk. GIPA/MEPA puts people living with and at risk of HIV at the centre of our work and is grounded in human rights and the dignity of the full human being.¹¹

WE WILL ENGAGE PEOPLE living with and at risk of HIV in developing and delivering services consistent with the Ontario Accord on the greater and more meaningful involvement of people living with and at risk of HIV. By recognizing and including the full lived experience of people, we foster a more effective response and a more supportive society.

HARM REDUCTION. We support a harm reduction approach. HIV programs and services work to reduce the health and social harms associated with risk behaviours and with HIV infection.

SOCIAL JUSTICE/HUMAN RIGHTS. All in Ontario have the right to equitable access to stigma-free health and social services that will help them protect and maintain their health.

INTEGRATED, PERSON-CENTRED PREVENTION AND ENGAGEMENT IN CARE. All parts of the health and social service systems work together, using a systems approach, to provide integrated prevention and care programs and services that meet the needs of people with and at risk of HIV.

CHOICE AND SELF-DETERMINATION. People have the right to make choices about their care, and to have the information and support they need to make informed decisions.

PRIVACY AND CONFIDENTIALITY. People living with or at risk of HIV have the right to have their health information kept confidential.

RESPECT FOR DIVERSITY. Needs vary based on geography, culture, language, social context and individual heterogeneity. People living with or at risk of HIV have access to appropriate services that meet their diverse needs.

EVIDENCE, EXCELLENCE AND INNOVATION. HIV programs and services in Ontario are evidence-based, timely, accessible, safe, effective and efficient. We strive for excellence and are committed to contributing to new knowledge. We develop and support communities of practice. We use evidence from research and practice as well as lived experience to innovate and continually improve our programs and services.

THE EVIDENCE THAT GUIDES our work comes from three sources: research, practice and lived experience.

COLLABORATION. Government, communities and organizations collaborate strategically to ensure people living with and at risk of HIV have access to culturally appropriate, responsive, welcoming services when they need them. They actively share, promote and adopt evidence-based practices.

IMPACT. Public resources for HIV prevention, care and support are invested in programs, services and research that focus where there is the greatest need and the greatest potential to have an impact on health and to achieve our goals, objectives and targets.

ACCOUNTABILITY. Provincially funded programs are guided by provincial policies and standards and responsive to local needs. They are accountable to the communities they serve for providing high-quality, cost-effective, accessible and sustainable services and for helping to achieve the goals and targets of this strategy. They monitor and measure the impact of their services, and report on their progress and lessons learned.

STRATEGIC APPROACH TO 2026:

1. CHANGE THE COURSE OF THE PREVENTION, ENGAGEMENT AND CARE CASCADE

All along the HIV prevention, engagement and care cascade, people at risk and people living with HIV can face challenges that knock them off course (see diagram on page 20). We will help them address these risks/determinants of health and stay on the path to health. Working in partnership with people

living with and at risk of HIV, we will develop effective strategies and interventions so more people avoid HIV infection and people with HIV lead longer, healthier lives.

WORKING IN PARTNERSHIP with people living with and at risk of HIV, we will develop effective strategies and interventions so more people avoid HIV infection and people with HIV lead longer, healthier lives.

2. FOCUS ON POPULATIONS MOST AFFECTED BY HIV

We will focus our energy and resources on the populations most affected by HIV. By targeting the leading edges of the epidemic (e.g., populations with high HIV prevalence, sexual and drug-using networks with high prevalence and/or high-risk behaviours), we have the best chance to stop HIV and improve health.

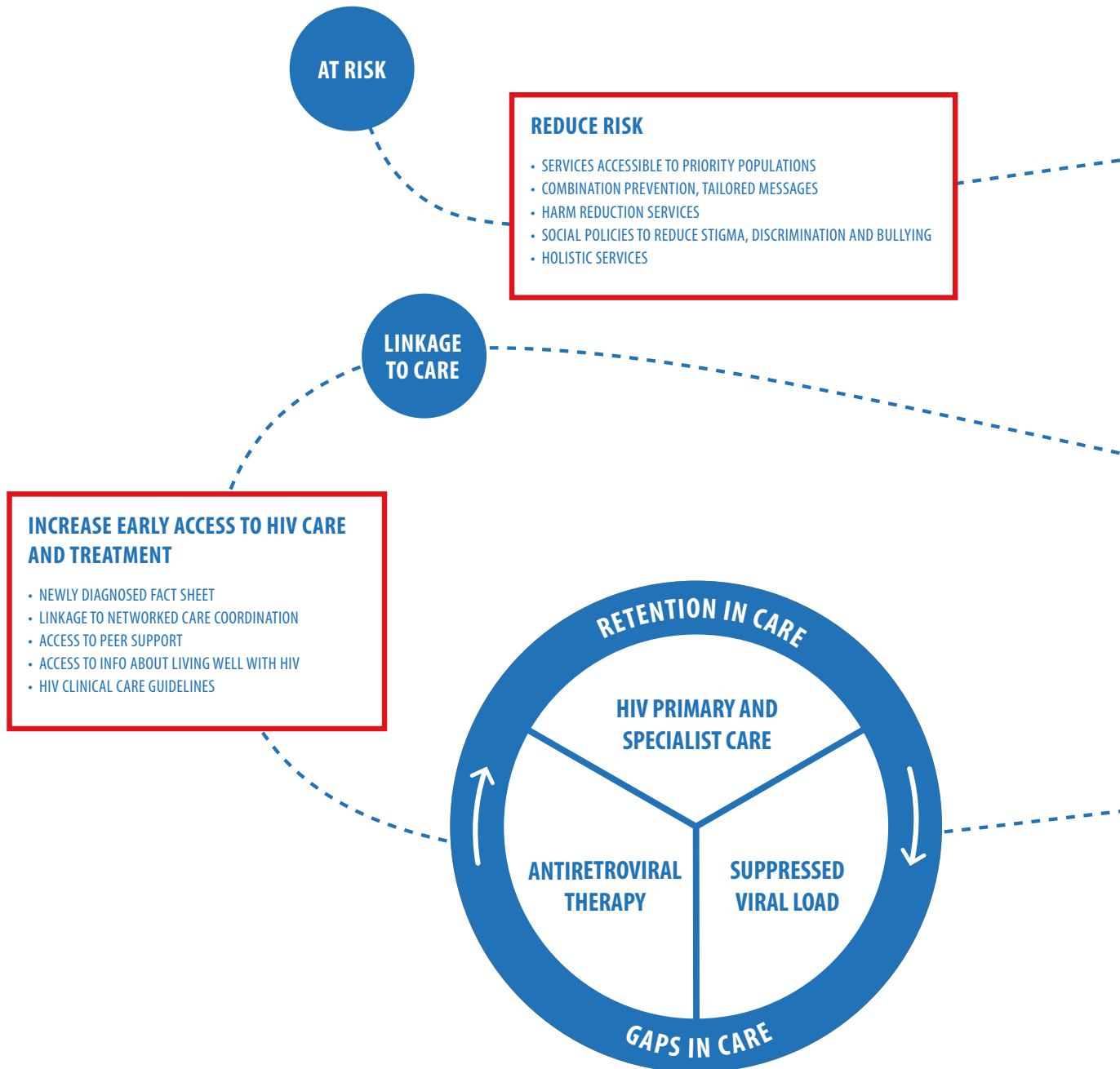
3. TAKE A SYSTEMS APPROACH

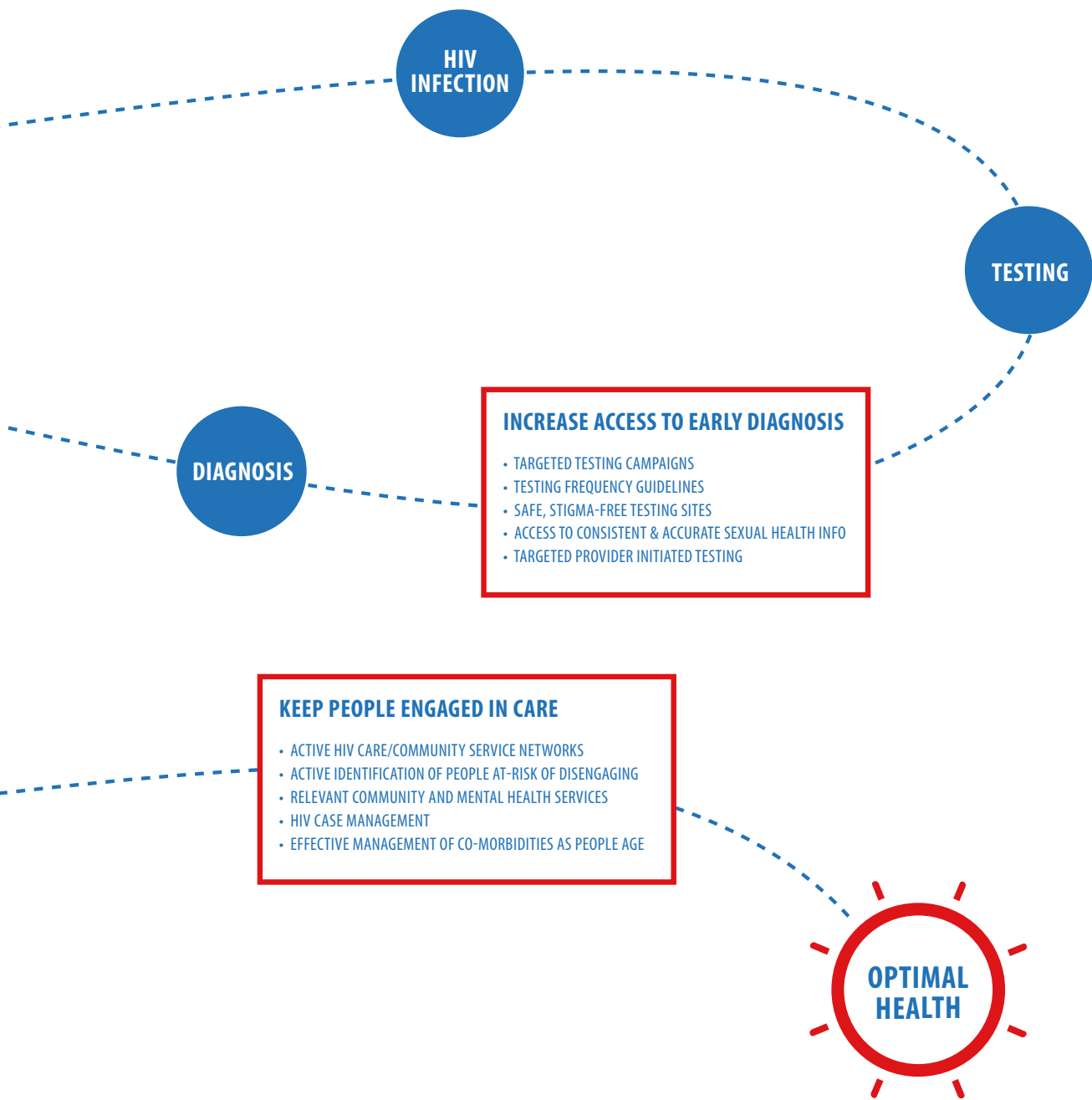
Over the past 30 years in Ontario, an effective network of HIV programs and services has developed (see page 23), with a strong research capacity and mechanisms to share information and develop new skills. We will need to find more and better ways to network HIV services with other health and social services, focusing on mental health and addictions services and on services to manage other health risks/comorbidities. Using a systems approach, we will ensure that wherever someone living with or at risk of HIV is in the system, they receive high-quality, supportive and stigma-free care.

Working together, we will eliminate any gaps in the prevention, engagement and care cascade.

WE WILL ENSURE THAT, wherever someone living with or at risk of HIV is in the system, they receive high-quality, supportive and stigma-free care.

CHANGING THE COURSE OF THE HIV PREVENTION, ENGAGEMENT AND CARE CASCADE

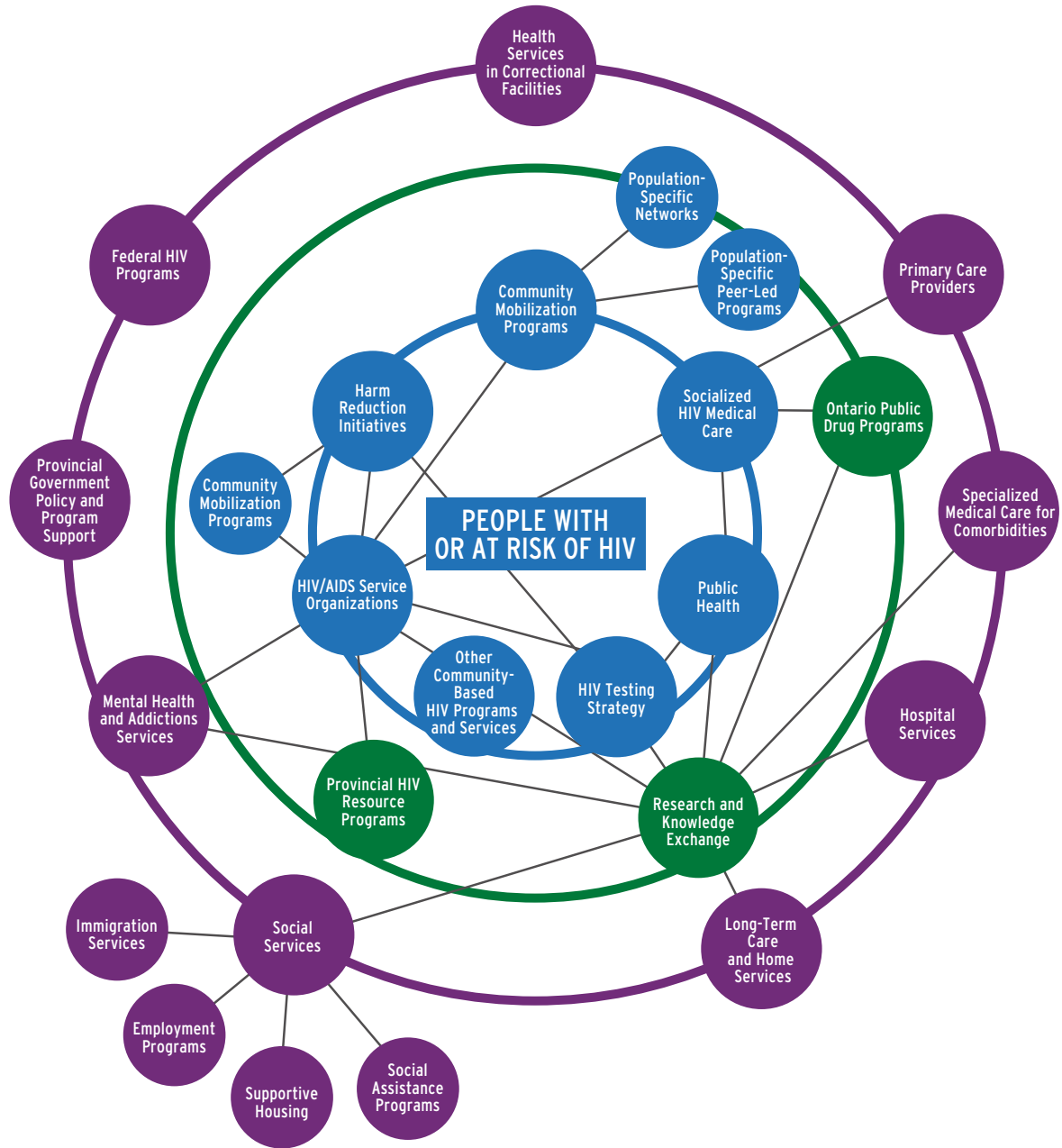




HIV SERVICE NETWORK AND ITS POTENTIAL

Ontario has a strong network of HIV services and organizations that include peer initiatives, prevention programs, testing services (including anonymous and point-of-care testing), support programs, clinical services, and research and epidemiology programs. We have also developed effective ways to share knowledge, provide training and build capacity. Our network has already had a significant impact in reducing and managing the epidemic.

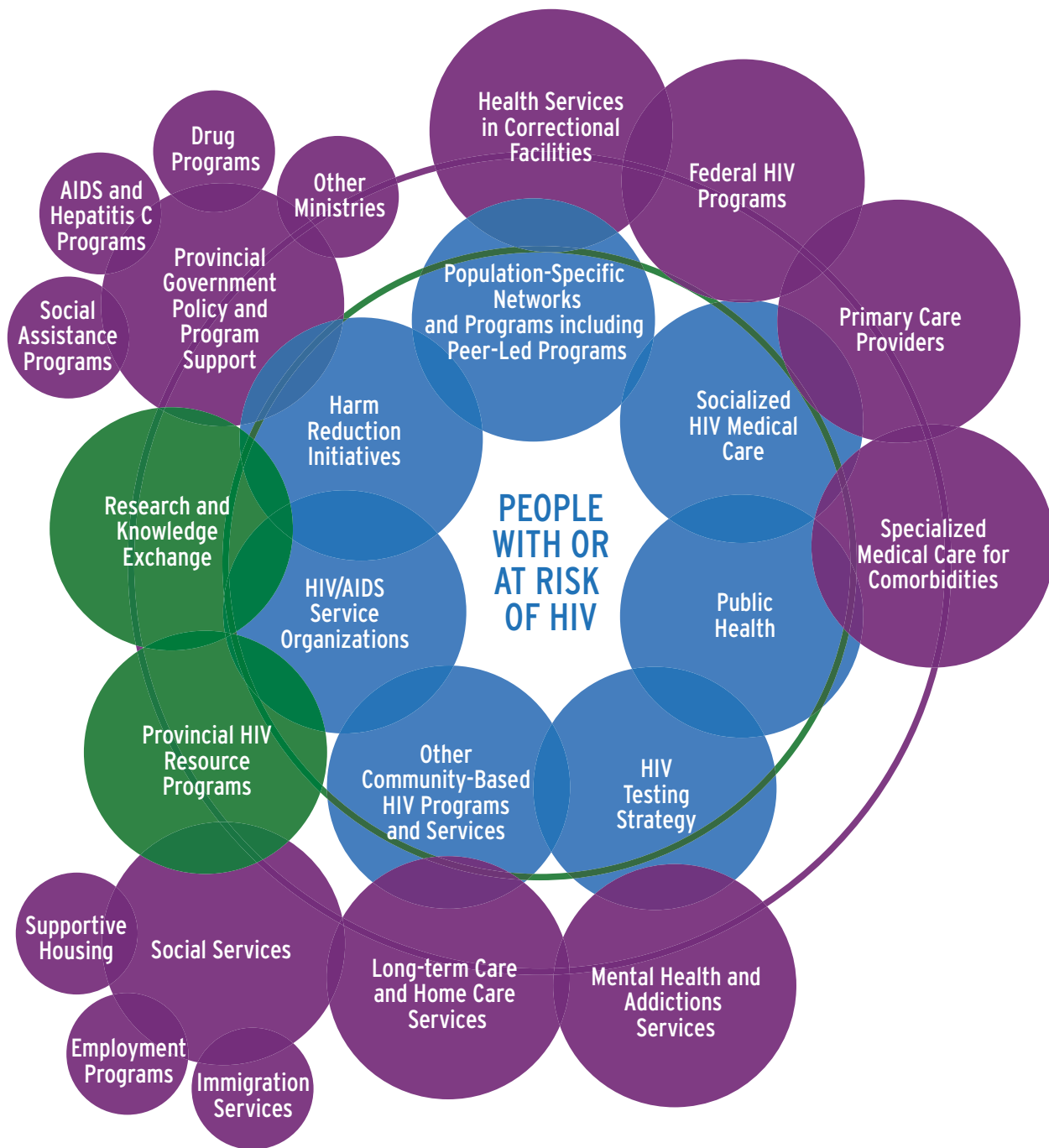
TODAY: A NETWORKED MODEL OF CARE



- Larger Health and Human Service Systems
- Support Organizations and Programs
- HIV-Specific Services to Clients

To implement this strategy, we will take our network to the next level and develop a more integrated model of care where health and social services work efficiently and effectively with one another to provide patient-centred, responsive, comprehensive prevention, care and support. Within our integrated referral and service networks, we will focus our efforts on improving access to the health and social supports that people living with and at risk of HIV need to improve their health.

OUR GOAL: AN INTEGRATED MODEL OF CARE



DESIRED OUTCOMES

By 2026, we will have an integrated system of health, community and social programs and services where:

- People living with or at risk of HIV have the knowledge, support, tools and technologies they need to enjoy good physical, mental, sexual and emotional health, and prevent the transmission of HIV, HCV and other sexually transmitted and blood-borne infections
- New infections are diagnosed early and people are quickly linked to care
- People with HIV and other comorbidities have the information and support they need to remain actively engaged in their care and to benefit fully from scientific advances in the treatment of all their health conditions
- Programs and services have the information and capacity to access and integrate evidence into practice in a timely way, and they strive to continually improve quality, responsiveness and effectiveness
- Services, communities and society are free of HIV stigma, discrimination and other forms of oppression that contribute to inequities in the social determinants of health, access to health care, and overall health and well-being
- Services partners actively collaborate to improve access for people living with and at risk of HIV who face the greatest challenges engaging in care and maintaining their health

III. FROM GOALS TO ACTION

The following pages describe how we will turn our five goals into concrete actions. For each goal we set out what we know, where we are now, where we want to be and how we can get there.

1. IMPROVE THE HEALTH AND WELL-BEING OF POPULATIONS MOST AFFECTED BY HIV

WHAT WE KNOW

SYNDEMICS DRIVE RISK AND CAUSE HARM

HIV is only one health issue facing the populations most affected by HIV. Most people living with or at risk of HIV are coping with a combination of health, social and structural factors—syndemics¹²—that affect their health. (See Appendix A)

For example, we know that people are more at risk of HIV if they have a history of being subjected to bullying, trauma and abuse; are unstably housed; or are in relationships where they lack power or control. They are more at risk if they struggle with mental health or addiction issues, have low incomes or face barriers accessing health information, services or supports. They are more at risk if they have other health problems, such as other sexually transmitted infections or hepatitis C. They are also more at risk when social and health policies, such as the criminalization of drug use or sex work, limits their access to harm reduction resources.

Syndemics play out differently in each population. But all communities with high HIV prevalence experience the disproportionate impact of social and structural inequities on their health and their ability to respond effectively to HIV.

SYNDEMIC THEORY: HOW A CONFLUENCE OF FACTORS THREATEN HEALTH AND COMPOUND HEALTH PROBLEMS



HIV STIGMA CONTINUES TO DRIVE THE EPIDEMIC

Despite 30 years of experience with HIV, this disease continues to be highly stigmatizing.¹³

People with HIV are often shunned by friends, family and others in their communities. HIV stigma and the fear of stigma keeps people from accessing services, such as testing, that could enhance their health.¹⁴ It also keeps them from disclosing their HIV status, receiving social support and being able to negotiate safer sex.¹⁵

Community, societal and policy-level interventions—such as providing welcoming services—can reduce HIV stigma as well as the discrimination associated with race, gender and sexual identity. For example, the recent public awareness initiatives of Canada’s Mental Health Commission, including education, social media and advertising campaigns, have helped to reduce the stigma associated with mental illness.

THE MOST EFFECTIVE anti-stigma strategies include peer-based programs, such as peer leadership initiatives and speakers programs, where people living with HIV are able to connect with members of the public, give a face and voice to the experience of living with HIV, and encourage greater understanding and tolerance.

HOLISTIC STRENGTHS-BASED APPROACHES CAN REDUCE HARM AND INCREASE RESILIENCE

Certain populations in Ontario are highly affected by HIV yet, even within these populations, HIV is not a generalized epidemic. Not all gay men or all members of African, Caribbean and Black or Indigenous communities are at risk. Despite high prevalence of HIV in their communities, most members of these populations avoid HIV. For example, although 1 in 4 gay men in Toronto have HIV, 3 in 4 do not.¹⁶

Populations at risk exhibit great strength. For example, Indigenous communities have demonstrated incredible resilience in the face of policies that worked systematically to destroy their language, culture and families. African, Caribbean and Black communities—as well as other newcomers—have demonstrated their ability to adapt and thrive in a new country. The LGBTQ community has a long history of overcoming stigma and discrimination, advocating for human rights and providing social support.

RESILIENCE IS THE EXTENT to which individuals believe they have control over what happens to them, the decisions they make and whether they are able to deal effectively with problems.

People are more likely to be healthy and resilient when they have strong social support networks; economic and education opportunities; access to health and social services; and a strong social safety net.¹⁷ For members of these populations who are francophone, access to and/or awareness of French-language services can make it easier to obtain quality HIV care and to stay engaged in that care over time.

WHERE WE ARE NOW

SYSTEM-BUILDING. Over the past 10 years, we have made progress in our efforts to address the social determinants of health. Community-based HIV organizations, HIV clinics and public health units across Ontario took part in community planning processes that helped build stronger referral networks with mental health and addiction services, supportive housing programs, employment programs, and other health and social services in their region.

MANY OF OUR prevention and support initiatives are strengths-based, and focus on building resilience.

POPULATION FOCUS. Ontario's HIV sector has developed priority population networks and initiatives, including:

- The Gay Men's Sexual Health Alliance (GMSH) and a network of outreach workers/educators in AIDS service organizations help gay, bisexual and other men who have sex with men maintain good sexual health
- The African and Caribbean Council on HIV/AIDS in Ontario (ACCHO) and a network of workers/educators in AIDS Service organizations help build community capacity to respond to the health needs of African, Caribbean and Black communities
- The Women's HIV and AIDS Initiatives (WHAI) supports a network of community development workers in AIDS service organizations across the province, strengthening the capacity of other health and social services to serve women living with and at high risk of HIV
- The Ontario Aboriginal HIV/AIDS Strategy (OAHAS) is an organization that employs Indigenous workers across the province who provide education and support to strengthen the capacity of Indigenous communities to respond to HIV
- IDU (injection drug use) outreach programs located in communities across the province employ outreach workers and peers to reduce harm and connect people who use drugs to other services

In addition, the Committee for Accessible AIDS Treatment (CAAT) works with HIV services across Ontario to strengthen their capacity to meet the health and social needs of immigrants, refugees and people without status.

STOPPING STIGMA. Ontario has been working for almost 30 years to stop HIV stigma. For example:

- The *HIVStigma.com* campaign spoke directly to the gay community about how stigma affects its members who are living with HIV and makes it harder for the community to successfully prevent HIV transmission
- The *Keep it Alive! Campaign* targeted to African, Caribbean and Black communities, raises awareness about HIV and HIV testing

- Tools developed by the Ontario Aboriginal HIV/AIDS Strategy (OAHAS) help Indigenous organizations provide equitable treatment for people with HIV
- Different initiatives have identified faith and other leaders in African, Caribbean and other ethnoracial groups who are helping to create more supportive, stigma-free communities
- The HIV and AIDS Legal Clinic (Ontario) (HALCO) helps people with HIV who experience discrimination take legal action and protect their rights

THE IMPACT OF OTHER SECTORS. To change the course of the HIV prevention, engagement and care cascade, we need to work closely with other health and social service sectors.

We have seen how policies in other sectors can enhance the health of populations most affected by HIV. For example, the Ministry of Education's anti-bullying legislation and support for gay/straight alliances in schools helps reduce stigma and early trauma, and contributes to HIV prevention and to gay men's health. Toby's Act (Bill 33, passed in 2012), which amended the Ontario Human Rights Code to include gender expression and gender identity as protected grounds against discrimination, will help reduce violence and discrimination against trans people and improve their health. Government efforts to address the social and economic disparities affecting many Indigenous communities and to affirm Indigenous self-determination, such as the First Nations Health Action Plan, can help improve health and reduce new HIV infections. When public health units distribute harm reduction equipment, they help reduce HIV and hepatitis C infections among people who use drugs.

POLICIES IN OTHER sectors can enhance the health of populations most affected by HIV, or they can compromise health.

We also have examples of how policies in other sectors can compromise health:

- Although changes to the Federal Immigrant Health program in 2012 did not stop funding for HIV treatments, they did reduce refugees' access to basic primary care and treatment for other conditions and affect the ability of those living with or at risk of HIV to maintain their health. (The program was reinstated in 2016.) The three-month waiting period for newcomers to be eligible for OHIP can also have a negative impact on people's health
- The provincial criminal justice system's decision to prosecute people with HIV who do not disclose their HIV status (even in cases where there is no intent to transmit HIV, HIV transmission is highly unlikely or transmission does not occur) stigmatizes people with HIV. It may also make them less likely to access health services, and undermines the relationship between people with HIV and the community and public health providers who could provide valuable support¹⁸

WHERE WE WANT TO BE

We have made progress addressing the complex biological, individual, social and structural/policy factors that threaten the health of populations most affected by HIV. But we can do better.

Over the next 10 years, we will focus our efforts on creating a comprehensive, integrated, responsive system of services that:

- promotes overall health and well-being
- empowers people to be more resilient and lead longer, healthier lives

All populations affected by HIV will have greater access to services that address their physical, mental, sexual and emotional health needs. People who use substances will have access to the full continuum of harm reduction tools and services in Ontario.

WE CAN ONLY STOP NEW INFECTIONS AND REDUCE HIV-RELATED ILLNESS WHEN WE focus on both the day-to-day health of people with HIV and the broader factors driving the epidemic: stigma, discrimination, other forms of oppression, socioeconomic inequities, lack of healthy housing, food insecurity, unemployment and mental health and addiction issues.

HOW TO GET THERE

To defeat HIV, we must look beyond the virus to the broader issues that affect the health, well-being and resilience of people most affected by HIV.

Ontario's highly skilled and dedicated HIV sector can do a great deal to change the course of the prevention, engagement and care cascade, but **we cannot achieve the broader goals of this strategy alone. All the systems that touch the lives of people living with or at risk of HIV—health, education, housing, social services, immigration services and correctional services—must work together.**

ONLY A FEW urban centres in Ontario will have the critical mass of gay men, African, Caribbean and Black populations, Indigenous populations, people who use drugs or other populations at risk to be able to provide population-specific, holistic primary care services. However, all parts of the province should have the capacity to provide culturally appropriate, comprehensive and integrated health and social services for people in their communities most at risk of HIV.

We will strengthen our capacity to provide integrated services by focusing the efforts of our local, regional and provincial networks. And we will continue to work to make services accessible, welcoming and relevant to the populations we serve. Within these networks, every door will be the right door for people living with or at risk of HIV, connecting them to the services and supports they need to enhance their physical, mental and emotional health and resilience.

1.1 PROVIDE COMPREHENSIVE, CULTURALLY APPROPRIATE, RESPONSIVE HEALTH AND SOCIAL SERVICES

- a. Engage people living with and at risk of HIV in a meaningful way in developing and delivering services—consistent with the Ontario Accord (<http://ontarioaidsnetwork.on.ca/ontario-accord/>).
- b. Enhance the capacity of HIV/AIDS service organizations, public health units and HIV outpatient clinics to provide culturally appropriate, responsive and welcoming care to populations most affected by HIV in their catchment area:
 - Identify tools that organizations can use to assess their capacity to provide culturally appropriate, responsive, welcoming services
 - Conduct at least one organizational assessment in each AIDS service organization and HIV outpatient clinic using the tool
 - Develop an organizational action plan to strengthen this capacity over time (e.g., develop population-specific services where feasible/appropriate, organizational policies, training programs, recruitment strategies, information tools)
- c. Work with stakeholders to increase access to French-language HIV services for Franco-Ontarians living with and at risk of HIV by:
 - Fostering an integrated network of French-language HIV services
 - Promoting these services to francophone populations

ALL POPULATIONS AFFECTED by HIV will have greater access to services that address their physical, mental, sexual and emotional health needs.

- d. Strengthen existing HIV and other health, community and social service networks (e.g., primary care, social services, immigration services, education, housing, corrections, and mental health

and addictions services) that address the psycho-social and structural factors that underlie risk and threaten health:

- Develop formal partnership agreements to support integrated networks of strengths-based, stigma-free services
 - Assess the need to further integrate those health, community and social services not currently within our service networks, such as some rehabilitation services, community care access centres, community health centres, youth services, long-term care homes and palliative care services
 - Identify strategies to integrate HIV prevention and care into other health, community and social services (e.g., co-locating programs, outreach workers, satellite services)
- e. Increase access to harm reduction, mental health and addictions services for people with and at risk of HIV, consistent with the province's mental health and addictions strategy: *Open Minds, Healthy Minds* (2011):
- Define the roles of HIV, mental health and addictions agencies in responding to the mental health needs of people living with and at risk of HIV
 - Identify evidence-based, culturally appropriate mental health interventions that can be delivered effectively by community-based AIDS service organizations (including support for clients on waiting lists for mental health and/or addictions services)
 - Build cross-training opportunities into service network agreements that will foster capacity-building among AIDS service organizations, population-specific networks, provincial HIV resources, HCV teams and mental health and addictions services
- f. Work with HIV/AIDS service organizations to create supportive spaces (e.g., peer support groups) for queer and trans youth in communities that lack these services.
- g. Conduct training with HIV services that builds their capacity to provide accessible, relevant and welcoming services to people with and at risk of HIV who are immigrants, refugees or without legal status in Ontario.
- h. Conduct training with HIV services that builds their capacity to provide relevant, accessible and welcoming services to trans people living with and at risk of HIV.

- i. Build partnerships among the HIV service sector, employment services and rehabilitation services to support people with HIV who are able to remain in, enter or re-enter the workforce:
 - Include employment and rehabilitation services in local community HIV service networks
 - Work with employment services and those with expertise in chronic disease and episodic disability to develop supportive social policies, including changes to social assistance, benefits and employer policies and practices (e.g., job sharing, workplace accommodation, anti-HIV stigma initiatives in the workplace and government services)

1.2 FOSTER PROVINCIAL POLICIES AND PROGRAMS THAT CREATE CONDITIONS THAT PROMOTE HEALTH AND RESILIENCE IN POPULATIONS MOST AFFECTED BY HIV

- a. Work with the Ministry of Education, public health and community stakeholders to support implementation of a physical and health education curriculum that:
 - Promotes sexual health and healthy relationships
 - Challenges HIV stigma, homophobia, racism, gender inequity and other social norms that contribute to HIV transmission and poorer health outcomes for people living with and at risk of HIV
- b. Work with public health immunization programs to expand the publicly funded routine HPV vaccination program, as recommended by current scientific guidelines, to include people with HIV and adult gay and bisexual men over age 26.
- c. Work with the Ministry of Citizenship and Immigration to provide HIV-related training opportunities for providers working in immigration services.
- d. Work with public health, the criminal justice system and community stakeholders to develop more effective responses to HIV non-disclosure:
 - Promote a consistent, evidence-based, stigma-free response to people living with HIV as set out in *Reducing HIV Transmission by People with HIV Who are Unwilling or Unable to Take Appropriate Risk Reduction Precautions: An Update to the 2002 Report by the Ontario Advisory Committee on HIV/AIDS* (June 2013)
 - Explore a dispute resolution process as an alternative to criminal charges
 - When criminal charges are laid, ensure prosecutorial guidelines reflect current scientific knowledge as well as the principle of the least intrusive, most effective response

1.3 STOP HIV STIGMA AND CREATE SUPPORTIVE COMMUNITIES

- a. Conduct a province-wide HIV awareness social marketing campaign that will “put a face” to HIV, increase general HIV knowledge, reduce stigmatizing attitudes and beliefs, and raise awareness of the harm caused by HIV stigma.
- b. Make reduction of HIV stigma an explicit goal in partnership agreements between AIDS service organizations and other local health and community services (see 1.1 c).
- c. Identify policies, training opportunities and/or other strategies to build capacity of service networks to increase HIV awareness and reduce HIV stigma.
- d. Promote research that will increase knowledge about the experience and impact of HIV stigma and interventions to reduce it.

2. PROMOTE SEXUAL HEALTH AND PREVENT NEW HIV, STI AND HEPATITIS C INFECTIONS

Sexuality is part of a healthy, fulfilling life. Sexual health programs should empower people to enjoy sexual pleasure and intimacy—free of coercion—while reducing their risk of acquiring HIV, other sexually transmitted infections (STIs) and hepatitis C. They should promote shared responsibility for sexual health within sexual networks and relationships, and foster a culture that encourages and normalizes open and clear communication between sexual partners. Sexual health programs should also:

- be accessible to people living with and at risk of HIV and meet their needs
- reinforce sexual/reproductive rights and responsibilities
- de-stigmatize sexual behaviours
- promote safe, pleasurable sexual practices

Over time, comprehensive health programs (Goal #1 of our plan) will help promote sexual health and prevent new infections. However, until we are able to develop these broad, systemic initiatives that address all the health, social and structural factors that drive the HIV epidemic, we must continue to invest in tailored HIV, STI and HCV prevention programs that meet the needs of populations most at risk.

WHAT WE KNOW ABOUT PREVENTION

THE WAY HIV IS TRANSMITTED HAS NOT CHANGED. HIV is a blood-borne infection that is transmitted during unprotected anal and vaginal sex and when people share drug use equipment.

SEXUAL HEALTH PROGRAMS should empower people to enjoy sexual pleasure and intimacy—free of coercion—while reducing their risk of acquiring HIV.

A VACCINE OR CURE IS STILL YEARS AWAY. Until we have a vaccine or cure, we must rely on prevention interventions to slow the spread of the virus.

PREVENTION WORKS. Because of investments in prevention and support programs, the number of new HIV diagnoses each year has dropped from a high of 2,069 in 1990¹⁹ to 842 in 2015.²⁰ It is also cost effective. Between 1987 and 2011, community-based HIV prevention programs prevented 16,672 infections and saved the health care system an estimated \$6.5 billion. Taxpayers saved about \$5 for every dollar invested in community-based prevention programs in Ontario.²¹

EFFECTIVE HIV PREVENTION REQUIRES A COMBINATION OF BEHAVIOURAL, SOCIAL AND BIOMEDICAL INTERVENTIONS. Knowledge alone is not enough to prevent the spread of HIV, other STIs and HCV. People also need the skills to negotiate safer sex and drug use, social supports for safer practices, and access to tools and technologies that reduce risk, such as condoms, pre-packaged safer injection kits and effective HIV treatment.

EFFECTIVE TREATMENT OF HIV REDUCES THE RISK OF TRANSMISSION. When people with HIV are on treatment, adhere to their regimen, maintain an undetectable viral load and do not have any other STIs, the risk of HIV transmission is minimal.²²

TREATMENT is one of several tools that play an important part in comprehensive prevention. In Ontario we are committed to the principle that treatment decisions are driven, first and foremost, by the needs and informed consent of the person with HIV. Within that context, we will work to reap both the broader prevention and other public health benefits of appropriate, person-centred treatment.

There is strong evidence that, for heterosexual serodiscordant couples (i.e., one partner HIV+ and one partner HIV-), the use of HIV treatments are highly effective at preventing HIV transmission during vaginal sex within that couple relationship when the partner with HIV has access to care, adheres to antiretroviral treatment and maintains an undetectable viral load; and neither partner has another STI.²³ New evidence has emerged suggesting that the same benefits of treatment also apply to

serodiscordant gay couples.²⁴ For people who can adhere consistently to treatment, treatment can be an effective individual prevention strategy. However, there is still much we need to know and do to fully capitalize on the benefit of HIV treatment as a population prevention strategy and ensure that individuals relying on treatment to prevent infection can do so with the greatest likelihood of success.²⁵ It's important to understand the many factors that affect viral load—including the presence of another STI or infection and other comorbidities and the challenges associated with adhering to treatment. According to research, people with HIV often miss doses,²⁶ which can affect their ability to maintain an undetectable viral load.²⁷

EFFECTIVE HIV TREATMENT can reduce the risk of HIV transmission; however, it does not reduce the risk of acquiring other STIs or HCV.

In sexual networks with high HIV prevalence, such as gay male casual sex networks, the higher baseline risk of HIV transmission through anal sex (i.e., 18 times higher than during vaginal sex) and the presence of other sexually transmitted infections may reduce the overall impact of treatment as a public health tool to prevent infection in the community.²⁸ Treatment of people with HIV will continue to be an important part of a combination approach to prevention; however, treatment alone will not be enough to prevent transmission by people who are undiagnosed or not on treatment. Prevention approaches that focus solely on treatment will also not be enough to address the other factors that affect viral load (e.g., adherence, other STIs, comorbidities). To realize the full potential of treatment as a prevention tool, we must address the broader determinants of health and support people who struggle to access or adhere to treatment.

*Defined by the Centers for Disease Control in the US as <200mL.

HIV TREATMENT AS PROPHYLAXIS (PEP, PREP)

People at high risk of HIV can take HIV drugs to reduce their risk of becoming infected (i.e., prophylaxis). There is sufficient evidence to support post-exposure prophylaxis (PEP) for people who have had a high-risk exposure (e.g., unprotected sex or a broken condom during sex with someone who is HIV positive).²⁹ There is also strong evidence that pre-exposure prophylaxis (PrEP)—that is, an HIV-negative person going on HIV treatment—significantly reduces the risk of becoming infected and may be an appropriate prevention strategy for individuals at high risk.^{30,31,32} Recent studies indicate that adherence does not appear to be an issue for high-risk gay men using PrEP and evidence is still being collected on the level of adherence required for PrEP to be effective.^{33,34} More research

is needed about the possible effects of being on PrEP long term (e.g., drug resistance, impact on renal function and bone health) as well as its overall impact on health outcomes given that it will not protect against other STIs or HCV.³⁵

Although Health Canada recently approved the use of a drug for PrEP, access is limited because the drug is not yet on the provincial formulary, which means that drug plans may not cover the cost. There are also few providers prescribing PrEP: the infectious disease physicians who are comfortable prescribing antiretrovirals are focused on caring for people living with HIV while most primary care providers are not comfortable prescribing or monitoring people on antiretrovirals.³⁶ These structural barriers must be addressed before Ontario can fully benefit from PrEP.

INDIVIDUAL PERCEPTIONS OF ACCEPTABLE RISK AND STRATEGIES TO REDUCE RISK

Some of the ongoing transmission of HIV, other STIs and HCV is due to misperceptions about risk. For example, many young gay men and newcomers to Ontario think that HIV is no longer a serious health problem or that there is little or no risk in Ontario. While HIV can now be managed, it is still a potentially life-limiting illness that requires life-long treatment, stigmatizes people and increases the risk of developing other life-threatening comorbidities.

TO PROMOTE SEXUAL health and prevent new infections, counsellors must be able to explain risk without stigmatizing people or their activities. They must also understand how different people perceive risk and the factors that influence their sexual health.

When making decisions about their sexual health, men who have sex with men report using a range of strategies to reduce their HIV risk such as serosorting (i.e., selecting partners with the same HIV status) and strategic positioning (i.e., choosing to be the insertive partner during anal sex, which is less risky).³⁷ The evidence indicates that these strategies are not as effective as consistent condom use, but they are more effective than doing nothing at all.³⁸ Gay men need education and support to use these strategies well. More research is required to determine what kinds of strategies heterosexual couples are using to reduce risk, the efficacy of these strategies and the ways these strategies succeed or fail, in order to ensure that people have the best available data to make informed decisions about the risks they are comfortable taking.

SEXUAL TRANSMISSION OF HCV

While sexual transmission of hepatitis C appears to be rare, there is growing evidence that HCV is being sexually transmitted within some networks of gay and bisexual men, particularly among gay men with HIV.³⁹ The exact mechanism by which sexual transmission occurs is still unclear. Common

practices associated with these clusters of infection include serosorting (i.e., HIV-infected men having sex with one another), group sex and the use of cocaine and other non-intravenous drugs during sex.⁴⁰ The risk increases with the number of partners, especially if those partners are infected with HIV or another STI. Apparent sexual transmission of HCV has been reported among HIV-infected men who have sex with men in multiple European cities⁴¹ and in New York City.⁴² In Ontario, we also have evidence of HCV transmission among gay men with HIV.⁴³

ONGOING SPREAD OF HCV AND HIV THROUGH DRUG USE

Sharing needles and other drug use equipment continues to be a highly efficient way to transmit HCV and HIV. Although Ontario has seen a significant drop in new HIV infections among people who inject drugs, the incidence of HCV in this population continues to rise.⁴⁴ Prevention programs must continue to promote safer drug use as well as addiction treatment and other services. Comprehensive harm reduction programs, including needle distribution and opioid substitution programs, should also be accessible to all people who use drugs across the province.

WHERE WE ARE NOW

RISING RATES OF STIs AND HCV

The number of new HIV diagnoses has dropped over the past three years, but too many people are still becoming infected. Approximately 25% of people living with HIV also have HCV⁴⁵; although rates of HIV/HCV co-infection vary significantly by population. For example, most people infected with HIV through drug injection are also co-infected with HCV, while rates of co-infection are extremely low in African, Caribbean and Black populations.

Rates of other sexually transmitted infections are increasing in Ontario—particularly among gay men with HIV.⁴⁶ Although most of these STIs are treatable, they can have a serious impact on health. Ontario has seen an increase in drug-resistant gonorrhoea, which is a significant concern.⁴⁷ Rising rates of STIs among people living with HIV and people at risk are an indication that some are not consistently practising safer sex and are not being tested regularly for STIs. Because the presence of STIs increases the risk of HIV and HCV transmission, this trend could lead to an increase in new HIV and/or HCV diagnoses.

RATES OF OTHER sexually transmitted infections are increasing in Ontario—particularly among gay men with HIV.

FOCUSED EFFORTS TO DEVELOP EFFECTIVE PREVENTION PROGRAMS

The primary responsibility for delivering targeted HIV prevention programs rests with community-based HIV organizations, public health sexual health clinics, needle and syringe distribution programs (funded through the public health system) and IDU (injection drug use) outreach programs. In addition to the needle and syringe distribution programs funded by public health, the Ontario Harm Reduction Distribution Program (funded by AIDS and Hepatitis C Programs of the Ontario Ministry of Health and Long-Term Care) provides a wide range of equipment to protect people who use substances from infection, including sterile water, alcohol swabs, filters and cookers and inhalation equipment. Public health units and community-based AIDS organizations also distribute millions of free condoms every year.⁴⁸

Historically, prevention materials and campaigns have been developed locally—perhaps with the support of materials provided by provincial and national organizations. In recent years, there has been more of an effort to coordinate prevention campaigns. Two of the priority population networks—the African and Caribbean Council on HIV/AIDS in Ontario and the Gay Men’s Sexual Health Alliance—have coordinated prevention or HIV awareness campaigns, tools and resources with their community partners across the province.

Information and awareness campaigns and the distribution of safer sex and drug use supplies are part of effective prevention programs; however, we also need interventions that help people develop the skills and supports they need to negotiate safer sex and safer drug use. A number of evidence-based prevention interventions have been developed, including two in Ontario and one in Quebec; however, most of these interventions have not been scaled up or rolled out across the province. In many cases, evidence-based interventions have to be adapted to the needs of local communities, and community-based organizations need education and training to be able to deliver them.

DELIVERING PREVENTION INTERVENTIONS IN A VIRTUAL WORLD

Over the past decade, there has been a radical change in how people connect socially and meet sexual partners. More gay men are now hooking up on the Internet rather than in community spaces, such as bars and bathhouses.⁴⁹ More heterosexual men and women also report using online dating to meet.⁵⁰ This shift away from meeting in physical places means that prevention programs, messages and support must now be delivered in virtual spaces. During the 2012 HIV testing blitz in Toronto and Ottawa, the use of Facebook and sites such as Craigslist were particularly effective at reaching gay men and persuading them to be tested.⁵¹

OVER THE PAST DECADE, there has been a radical change in how people connect socially and meet sexual partners. More people are now meeting over the Internet or through apps on their smartphones, rather than in community spaces, such as bars and bathhouses.

WHERE WE WANT TO BE

WE MUST UNDERSTAND who is at risk and learn more about effective prevention interventions and messages.

Our success in preventing new HIV, STI and HCV infections depends on our ability to provide an accessible combination of tailored interventions and strategies that will reach the sub-groups of individuals within affected populations who are at greatest risk and provide them with options that best meet their needs. To do that, we must understand who is at risk and learn more about effective prevention interventions and messages. And we must build our capacity over time to effectively integrate our knowledge into practice. For example:

- Among African, Caribbean and Black populations, effective prevention means more focus on women and on both gay and heterosexual men. It also means gaining a better understanding of who within these populations are most at risk
- Among Indigenous peoples, effective prevention means strategies to reach men and women who use drugs as well as two-spirit men
- Among newcomers, prevention programs should focus on women and men from regions that have a high prevalence of HIV, and on gay and other men who have sex with men
- Among trans people, prevention efforts should focus on trans women and trans men who have sex with other men
- Among gay men, prevention programs should focus on men living with HIV, men who use recreational drugs (i.e., the party 'n play crowd), the sexual networks of gay men where new infections are occurring, gay and bisexual men in rural and remote communities who may not be connected to the gay community or out about their sexual orientation, older gay men who account for a growing proportion of new diagnoses and younger gay men who may not be knowledgeable about the risks

IF WE HOPE TO MAKE FURTHER GAINS, we must expand our prevention toolbox to keep pace with new prevention technologies.

We need to be able to offer all people in Ontario at risk of HIV a combination of effective evidence-based interventions. While condoms will continue to be a mainstay of sexual health and STI prevention programs, we will need to expand the available prevention toolbox to keep pace with new prevention strategies and technologies, such as PEP and PrEP.

We need to continue to research and identify interventions that can be rolled out in different communities across the province while, at the same time, respecting communities' abilities to develop local campaigns and interventions that meet the needs of their populations. We need to ensure that community-based organizations and service providers have the information, capacity and support they need to integrate evidence into their programs and services.

PEOPLE AT RISK AND people living with HIV will be actively involved in developing and delivering all sexual health, prevention and resilience initiatives.

HOW TO GET THERE

2.1 TAILOR HIV PREVENTION AND SEXUAL HEALTH PROGRAMS TO PEOPLE LIVING WITH HIV AND THOSE AT GREATEST RISK OF HIV AND OTHER SEXUALLY TRANSMITTED INFECTIONS.

- a. Strengthen our capacity to use epidemiologic information to inform local and provincial policies and programs:
 - Produce timely, relevant, comprehensive, accessible and, where feasible, local or regional epidemiologic information building from the breadth of data available in Ontario
 - Work with Public Health Ontario to ensure that the HIV test requisition form includes gender identity and race/ethnicity (including Indigenous identity) to support the development of epidemiologic information specific to trans people and people from racialized and Indigenous communities
 - Develop HIV, HCV and STI risk reduction guidelines, to be reviewed bi-annually or as new scientific evidence emerges
 - Ensure front-line programs have the information and capacity to integrate evidence into practice
- b. Enhance the capacity of services to reach people at risk by working with priority population networks to:
 - Set timely and relevant strategic priorities for serving populations most affected by HIV
 - Develop resources and tools (e.g., brochures, campaigns, good practice guidelines) that will help community and health services reach and support populations living with and at risk of HIV
 - Work collaboratively with AIDS service organizations and support them to work with other community and health services to provide accessible, effective HIV and HCV services

- c. Work with the Ministry of Children and Youth Services and Ministry of Community and Social Services to:
- Strengthen the capacity of youth residential programs to identify and refer youth with or at risk of HIV to appropriate support services and increase their access to condoms and other prevention tools
 - Develop a resource for youth entering correctional facilities to educate them about the risks of acquiring HIV, HCV and other STIs, prevention strategies, and the importance of early diagnosis and care
 - Integrate questions related to HIV, STI and HCV risk into assessments conducted with women accessing anti-violence services
 - Integrate HIV and HCV testing into screening provided by anti-violence services for women
 - Integrate HIV and HCV-related referral services into *Connects On*, a service for referrals to addictions and mental health services

2.2 PROMOTE A CULTURE OF HEALTHY SEXUALITY AND EMPOWERED DECISION-MAKING

- a. Strengthen the capacity of community-based AIDS service organizations, public health sexual health clinics and HIV outpatient clinic services to support the sexual health decision-making of people living with and at risk of HIV:
- Pilot education and support interventions that promote sexual health and pleasure and help people manage complex sexual health issues across the life span (e.g., disclosure, intimacy, HIV stigma and criminalization of non-disclosure)
- b. Expand the prevention toolbox and increase access to combination prevention technologies and strategies:
- Continue to provide accurate information about the strengths and limitations of different prevention strategies
 - Develop and share new knowledge about effective community outreach strategies, including venue-based outreach, social marketing, social media and Internet-based approaches, meeting communities where they gather to pray, socialize or meet for sex
 - Include the full range of available harm reduction materials in the Ontario Public Health Standards to ensure all Ontarians who use drugs have access to harm reduction resources
 - Work with public venues—both physical and virtual—where people meet for sex to develop and promote standards that reduce the risk of HIV, HCV and other STIs
 - Increase access to non-occupational post-exposure prophylaxis (nPEP) for people exposed to

- HIV through consensual sex or drug use, based on current scientific evidence
 - Create provincial guidelines on assessment for and access to nPEP
 - Promote nPEP to individuals and populations most at risk of HIV
 - Increase access to PrEP for people at high risk of HIV infection
 - Develop evidence-based provincial guidelines for access to and delivery of pre-exposure prophylaxis (PrEP)
 - Actively promote the use of PrEP among people at high risk of HIV infection
 - Educate primary care providers caring for people at high risk about prescribing and monitoring PrEP
- c. Promote consistent and correct use of condoms and lubricants as the most effective way to prevent the transmission of all sexually transmitted infections:
- Provide accurate information about strategies to maximize the sexual health benefits of condoms while minimizing the likelihood condoms will fail
 - Increase access to newer condom technologies that are easier to use and less likely to limit pleasure
 - Respond to systemic barriers to condom access such as inconsistent access in prisons

3. DIAGNOSE HIV INFECTIONS EARLY AND ENGAGE PEOPLE IN CARE

WHAT WE KNOW

People with HIV live longer when they are diagnosed early, begin antiretroviral therapy as soon as they are diagnosed and are able to achieve an undetectable viral load. The START (Strategic Timing of Anti Retroviral Treatment) trial showed conclusively that starting antiretroviral treatment early improves health outcomes. People with HIV have a considerably lower risk of developing AIDS or other serious illnesses if they start taking antiretroviral drugs when their CD4+ T-cell count—a key measure of immune system health—is higher, instead of waiting until the CD4+ cell count drops to lower levels (as recommended in earlier treatment guidelines).⁵² Timely access to treatment reduces the risk of both HIV-related and non HIV-related illnesses.⁵³

According to a study in the Netherlands, someone with HIV who is diagnosed early in their infection, is asymptomatic, accesses HIV treatments early and maintains a healthy lifestyle can expect to live a near-normal lifespan.⁵⁴ For people who are diagnosed late, do not have access to care, and/or have a history of injection drug use the prognosis is not as good.⁵⁵

BASED ON DATA from 14 HIV cohort studies in Canada, Europe and the USA, someone with HIV could expect to live two-thirds as long—or 21 years less—than someone not infected with HIV. However, life expectancy increased the earlier the person was diagnosed: someone diagnosed at age 35 who had early access to care could expect to live to 72 or about 90% of the U.S. average at the time, which was 77.

Early diagnosis and timely access to care is also good prevention. People diagnosed with HIV are much more likely to act to prevent HIV transmission than people who do not know they are infected.⁵⁶ By lowering viral load, timely access to HIV treatment also reduces the risk of HIV transmission.⁵⁷ Effective treatment—in combination with other prevention interventions, such as condom use—can significantly reduce HIV transmission in both heterosexual and same-sex couples where one partner is HIV positive and the other is not.

WHERE WE ARE NOW

REACHING THE UNDIAGNOSED

Epidemiologists at the Public Health Agency of Canada estimate, based on modelling, that about 19% (range 14% to 21%) of Ontarians who have HIV do not know they are infected.⁵⁸ People who are not diagnosed and treated—particularly those who are newly infected—are likely to have high viral loads and be at high risk of transmitting the virus. Knowing their HIV status is critical for their own health. It can also help prevent new HIV infections because when people with HIV are diagnosed, they are more likely to take steps to reduce the risk of HIV transmission.⁵⁹

Who are the undiagnosed? Based on the epidemiology of HIV in the province, they are mainly members of the populations most affected by HIV.⁶⁰ The challenge now is to ensure that testing programs reach the undiagnosed and people at greatest risk.

Recently, there was an evaluation of a testing blitz program aimed at gay and other men who have sex with men in Toronto and Ottawa. The findings? Providing point-of-care HIV testing in more convenient, gay-friendly locations, at more convenient times, without a prior appointment—and promoting that service using social media—were effective ways to increase access to testing for gay men.⁶¹ The IDU outreach program in many parts of Ontario takes HIV and other testing to people in

the streets, in shelters and in their homes. Other innovative testing initiatives are required to ensure we reach all populations at risk.

There have already been a number of steps taken in Ontario to increase access to testing, including the development of an extensive network of anonymous test sites and providing a rapid point-of-care screening test for HIV so people who test negative will know their results immediately.⁶² Over the past 10 years, the number of HIV tests has increased significantly.

REDUCING THE STIGMA AND FEAR THAT KEEP PEOPLE FROM BEING TESTED

Although primary care physicians order most HIV tests in Ontario, the positivity rate is much higher among tests done through anonymous and rapid point-of-care test sites.⁶³ This trend may be related to HIV stigma: many people at risk, including gay men and members of racialized communities, may not feel comfortable talking with their doctor about their sexual risk or drug use practices. According to a BC study, only 20% of gay men are “out” to their doctor—mainly because they fear their doctor would “disapprove.”⁶⁴ However, not being able to be open with their physicians means they may not be offered testing or other care that could enhance their health.⁶⁵

PROVIDING THE RIGHT MIX OF TESTS AND FREQUENCY OF TESTING

ANYONE WHO comes for an HIV test should be offered HCV and STI testing, and vice versa.

Many people at risk of HIV are also at risk of other STIs and HCV. Ontario’s HIV testing guidelines recommend that anyone who comes for an HIV test should be offered HCV and STI testing, and vice versa.⁶⁶ However, in practice, this combined testing does not occur consistently.

Ontario’s HIV testing guidelines also recommend that people at high risk of HIV be tested at least once a year—more often if they have had a high-risk exposure.⁶⁷ However, if people at risk do not feel comfortable talking about their sexual health or practices with their care providers, it is unlikely they will be offered regular testing unless they ask for it.⁶⁸

A RECENT PILOT of anonymous testing found that prisoners were willing to be tested when testing was done by public health nurses.

Barriers to testing still exist. In many cases, health care providers do not perceive women as being at risk—even women from populations with higher HIV prevalence, such as African, Caribbean and Black communities—and do not offer them HIV testing.⁶⁹ Providers may also make assumptions about who is or isn’t at risk of HCV. In some cases, people who are at risk assume that they are being tested for “everything” when they are only receiving an HIV test.

There are also structural barriers to testing. For example, testing is not always easily available to people in prisons or, if it is, prisoners are reluctant to be tested by prison staff.⁷⁰ A recent pilot of anonymous testing found that prisoners were willing to be tested when that testing was done by public health nurses instead of by health staff within the correctional institution.⁷¹

KEEPING PACE WITH NEW TESTING INTERVENTIONS AND TECHNOLOGIES

The U.S. now has extensive experience with a range of interventions designed to increase testing rates in populations at high risk. Both the U.S.⁷² and the U.K.⁷³ have approved home HIV tests—where people can test themselves in the privacy of their own homes. Researchers in the U.S. have studied the potential for high-risk gay men to use home testing with partners before making the decision to engage in condomless sex.⁷⁴ While there are still some concerns about the reliability of these tests, there will continue to be a push for home testing options that give individuals more control over their own health.⁷⁵ Newer point-of-care testing technologies that can screen people for several STIs at one time may help manage and reduce HIV and STI epidemics.

THERE WILL CONTINUE to be a push for home testing options that give individuals more control over their own health.

ENGAGING PEOPLE WHO TEST POSITIVE IN CARE

Timely HIV testing is only the first step. Early access to treatment is also critically important. Once someone is diagnosed with HIV, it is essential that they receive support to cope with the diagnosis and become engaged in care. People need to know the importance of early treatment, so they can make informed decisions about their health.

Right now, there are few processes in place to actively engage someone who tests positive in care. If the person's physician ordered the test, then the physician will likely follow up with the patient. However, in the province's anonymous testing sites or sexual health clinics, there are few consistent mechanisms to ensure that people who test positive receive the support they may need to access care. If people are asymptomatic (as is often the case after someone experiences the initial symptoms of infection, known as seroconversion illness), many months may go by before they see a care provider.

WHERE WE WANT TO BE

To reduce the harm caused by HIV, we must reach people at risk, make it easy and welcoming for them to be tested and—if they test positive—engage them in their health and care. We must address the stigma that keeps people from being tested and create a culture where people are comfortable seeking testing, care and support.

WE MUST REACH people at risk, make it easy and welcoming for them to be tested and—if they are positive—engage them in their health and care.

By 2026, we would like people at risk to be tested routinely for HIV, HCV and other STIs and bloodborne infections. We also want to reduce the time between infection and diagnosis, and between diagnosis and engagement in care. All those who have contact with people newly diagnosed with HIV—including public health units, HIV testing sites, community-based AIDS service organizations, HIV clinics, primary care providers and people with HIV—will collaborate to link them quickly to care.

HOW WE GET THERE

3.1 ACTIVELY PROMOTE TESTING AND COUNSELLING TO POPULATIONS MOST AT RISK

- a. Develop profiles for each Ontario population at high risk of HIV to understand their testing and diagnosis patterns and use these population profiles to:
 - Develop and assess HIV, HCV and STI testing campaigns tailored to priority populations that de-stigmatize testing (while not trivializing the infection) and reinforce the importance of early diagnosis and treatment
 - Actively promote testing in key geographic “hot spots” in the province
 - Promote health care provider-initiated testing in health settings that serve populations at risk or are located in neighbourhoods with high HIV prevalence
 - Offer rapid point-of-care testing at health, social service and/or community sites that serve at-risk populations or are located in neighbourhoods with high HIV prevalence
 - Increase capacity at testing sites with high HIV positivity rates so they can serve a higher volume of clients
 - Explore the potential of different testing and counselling approaches, including self-testing, testing blitzes and testing incentives

- b. Develop testing frequency guidelines for HIV, HCV and other STIs for people at high risk, and promote them to service providers and populations at risk.
- c. Develop a screening tool for primary care physicians to increase their capacity to assess their patients' need for HIV, HCV and STI testing.
- d. Develop technologies (e.g., smartphone apps) that integrate reminders of when to test and what to be tested for into health self-management tools.
- e. Explore the efficacy and feasibility of introducing new testing technologies (e.g., point-of-care STI testing, HIV testing technology that reduces the window period, newer technologies that can test for HIV and a range of other STIs at the same time).
- f. Work with Citizenship and Immigration Canada and appropriate Ontario stakeholders to enhance capacity of the Designated Medical Professionals who assess newcomers as part of the immigration process to:
 - Provide effective pre- and post-test counselling
 - Connect people who test HIV-positive to care and support services

3.2 ENGAGE PEOPLE WHO TEST HIV-POSITIVE IN TIMELY AND SUPPORTIVE CARE

- a. Develop guidelines to help HIV counsellors and public health nurses link people who test positive to care.
- b. Ensure people newly diagnosed with HIV have access to information about HIV infection, living with HIV, the importance of early and regular care, and the HIV services in their community.
- c. Explore mechanisms to ensure timely access to a range of supportive services for people newly diagnosed with HIV, such as:
 - A case manager or care coordinator based in an AIDS service organization, public health unit and/or HIV clinic, responsible for assessing the person and developing an individualized care pathway
 - An HIV peer health navigator/buddy program
 - A "positive living" program that offers a multi-session, group-based, peer-led group to help people cope with an HIV diagnosis and prepare to live long term with HIV
- d. Conduct research to identify and understand the barriers to people engaging in care.

3.3 ENGAGE PEOPLE AT HIGH RISK WHO TEST HIV-NEGATIVE

- a. Identify effective ways to support people at high risk and help them protect their health and avoid infection:
 - Pilot intensive community-based education and support interventions that help people address underlying reasons for ongoing risk behaviour, such as mental health and addiction issues
 - Work with broader health and social service networks to ensure appropriate referrals to mental health, addiction, housing and other intensive supports

4. IMPROVE HEALTH, LONGEVITY AND QUALITY OF LIFE FOR PEOPLE LIVING WITH HIV

WHAT WE KNOW

TREATMENT NEEDS ARE COMPLEX

Great progress has been made in HIV treatments over the past 30 years. Drug regimens are simpler with fewer side effects. They are more effective at suppressing viral load, and many people living with HIV are living longer and living well.⁷⁶

But there is no cure. Reservoirs of the virus continue to hide in the body where they can be reactivated. Managing HIV and other comorbidities over many years is difficult and burdensome.

AT LEAST ONE of every five people living with HIV in Ontario is co-infected with hepatitis C and one in three is coping with depression or other mental health problems.

THE IMPORTANCE OF EARLY TREATMENT

Starting antiretroviral treatment early improves health outcomes. People with HIV are significantly less likely to develop AIDS or other serious illnesses if they start taking antiretroviral drugs when their CD4+ T-cell count—a key measure of immune system health—is higher, instead of waiting until the CD4+ cell count drops to lower levels (as recommended by earlier guidelines).⁷⁷

THE ROLE OF INFLAMMATION

The virus itself, its treatments and the inflammation it causes make people more vulnerable to other illnesses, such as depression,⁷⁸ neurocognitive disorders,⁷⁹ cancer,⁸⁰ diabetes,⁸¹ cardiovascular disease,⁸² osteoporosis,⁸³ and kidney and liver disease.⁸⁴ For example:

- About 50% of people living with HIV will develop mild HIV-associated neurocognitive disorders (HAND)⁸⁵—such as difficulties multi-tasking, problems finding the right words, and trouble remembering things or thinking quickly
- People with HIV are twice as likely as people who are HIV negative to experience depression^{86,87}
- Many people with HIV—particularly those who are long-term survivors—will go through episodes of ill health that may affect their ability to work and their quality of life⁸⁸

Care for people with HIV should focus on reducing inflammation and strengthening their immune systems so they can maintain their health as they age.⁸⁹ Tools like the Veterans Aging Cohort Study (VACS) index developed by the U.S. Department of Veterans Affairs help physicians pick up early changes that may be signs of other health conditions or comorbidities⁹⁰ and take steps to reduce risks. There is also a growing body of evidence that exercise,⁹¹ diet,⁹² stress management⁹³ and sleep⁹⁴ can significantly enhance health, strengthen the immune system (i.e., lead to increases in CD4 counts) and delay the onset of many inflammation-related conditions. There is also a growing body of evidence that behaviours such as smoking⁹⁵ and substance use⁹⁶—including alcohol⁹⁷—increases morbidity and mortality. Someone with HIV who smokes will die, on average, 10 years earlier than a non-smoking peer.⁹⁸

SOMEONE WITH HIV who smokes will die, on average, 10 years earlier than a peer who does not smoke.

ADJUSTING CARE AS PEOPLE WITH HIV AGE

Although much can be done to reduce or delay the impacts of aging, some people living with HIV will need different forms of care as they age, including culturally appropriate and stigma-free home care, long-term care, trustee and guardianship services, and palliative care. The demand for these services may be particularly high among people with HIV who have experienced rejection from families or communities because they have HIV, are gay, are new to the country or have other life circumstances that contribute to social isolation.

INTERDISCIPLINARY CARE IS MORE EFFECTIVE

People with HIV enjoy better health and quality of life when they receive expert integrated care from interdisciplinary teams that address their physical health, mental health and social needs.⁹⁹ These interdisciplinary models of care not only result in better health outcomes (i.e., less illness, longer lives), they are cost effective: they reduce the need for and use of more expensive hospital services.¹⁰⁰

PEOPLE WITH HIV enjoy better health and quality of life when they receive expert integrated care from interdisciplinary teams that address their physical health, mental health and social needs.

As HIV infection becomes a chronic illness associated with many comorbidities, jurisdictions like the U.S. are shifting leadership of their care teams from infectious disease physicians to primary care practitioners who have access to infectious disease and other specialists, including gerontologists, cardiologists, oncologists, psychologists and psychiatrists who are knowledgeable about HIV.¹⁰¹ A significant number of people with HIV are also co-infected with HCV and at high risk of developing liver disease, and will require complex integrated care.

SOCIAL NEEDS ARE COMPLEX

In addition to their complex physical care needs, many people with HIV may also have complex support needs that include practical needs, such as housing, food security and income support; support in deciding when, how and to whom to disclose their HIV status; and counselling and other initiatives to reduce social isolation. These services are critical to their health and longevity.

PEOPLE WITH HIV who are stably housed are more likely to receive and adhere to antiretroviral medication—which improves their health and reduces the risk of HIV transmission.

For example, people with HIV/AIDS who are homeless or unstably housed have worse overall physical and mental health.¹⁰² Their CD4 counts are lower and their viral loads are higher.¹⁰³ They are less likely to receive and adhere to antiretroviral therapy,¹⁰⁴ and they are more likely to die prematurely.¹⁰⁵ On the other hand, stable affordable housing is a critical—and cost saving—health intervention. People with HIV who are stably housed are more likely to receive and adhere to antiretroviral medication—which improves their health and reduces the risk of HIV transmission.¹⁰⁶ They also make less use of more costly health services, such as avoidable emergency and hospital care. As the recent Canadian

At Home/Chez Soi study demonstrated, the savings in health care and other costs more than offset the cost of housing interventions.¹⁰⁷ Studies in the U.S. that looked specifically at the impact of housing people with HIV also showed a significant reduction in public health costs.¹⁰⁸

Poverty is also an issue for many with HIV, including those infected in the 1980s and 1990s who stopped working and went on disability, and people living with complex social issues, such as addiction and persistent mental health challenges. While many people with HIV will now be gainfully employed, some who are particularly vulnerable—such as recent immigrants, Indigenous peoples, or people with mental health and addictions issues—may struggle to find and maintain employment.^{109,110}

OF PEOPLE WITH HIV enrolled in the OHTN Cohort Study, 44% have incomes below the poverty line. Of those enrolled in the Positive Spaces Healthy Places study, 60% have incomes below \$15,000. As people with HIV age, rates of poverty are increasing.

To lead full lives, people with HIV need integrated care that will help them manage comorbidities as well as aging and the impact of social determinants of health such as housing, employment and food security.

WHERE WE ARE NOW

KEEPING PEOPLE ENGAGED IN CARE

Based on a review of HIV testing and OHIP data, about 80% of people diagnosed with HIV access care within three months of diagnosis.¹¹¹ However, not all will continue to receive regular care, and any gap in care can have serious implications for people's health as well as for ongoing HIV transmission.^{112,113}

MOST HIV CARE in Ontario is provided by a small number of practitioners who specialize in this field. Of the 630 physicians in Ontario who ordered viral load tests in 2008, 40 (or 7%) were providing care for 85% of patients with HIV, and their caseloads ranged from 100 to >800 patients. In contrast, 500 physicians ordered tests for fewer than 10 patients and 343 physicians ordered tests for only one patient each. This pattern of practice reinforces that treating HIV requires expertise.

Some people with HIV may have difficulty staying engaged in care and adhering to treatment because of distance to services, stigma, marginalization, language barriers, cultural barriers, homelessness, financial issues, mental health problems, substance use, incarceration or other issues. Some face systemic barriers to care, such as:

- the deductible required for the Trillium Drug Program (based on a percentage of household annual income), which may prevent people with HIV with low incomes from getting antiretrovirals and consistently adhering to their treatment regimen
- transportation costs for people in rural and remote areas who have to travel to access care

Some, such as children with HIV, may slip out of care when they make the transition from highly supportive, family centred paediatric HIV care to the adult care system.¹¹⁴ Young people with HIV report that they do not always feel comfortable in adult HIV care settings.¹¹⁵ The transition between paediatric and adult care comes at a time when many young people are becoming more independent from their families and negotiating sexual relationships: a time when they face many pressures and may need extra support to maintain their treatment regimens.¹¹⁶

Some adult and paediatric HIV outpatient clinics in Ontario—particularly those in smaller communities—have developed a systematic approach to actively follow their patients (e.g., reminder calls for patients who don't attend clinic) to keep people from slipping out of care.¹¹⁷ While this is easier in clinics that see fewer patients, the same strategies could be used effectively in larger centres.

THE NEED FOR INTEGRATED CARE AND SUPPORT

Ontario has a network of dedicated outpatient clinics that provide integrated, interprofessional care.

The clinic model has been highly effective in helping people with HIV access and adhere to medications, manage their HIV and reduce the use of more costly health services.¹¹⁸ In a study of the clinic system, there were significantly fewer hospitalizations for patients registered with their clinic compared to patients with undiagnosed, untreated HIV infection. According to data from the OHTN (Ontario HIV Treatment Network) Cohort Study (OCS), almost everyone who receives HIV care in Ontario's HIV clinics are on treatment, adhere to treatment and have an undetectable viral load. Patients achieved these health outcomes regardless of social determinants of health (e.g., education, income and income distribution, food insecurity).¹¹⁹

TOBACCO USE HAS a serious impact on the health and wellbeing of people with HIV. Smoking cigarettes increases the risk of community-acquired pneumonia, oral lesions, periodontal disease, lung cancer, disease progression and mortality. Smoking affects CD4 counts and reduces the effectiveness of antiretroviral therapy. Despite the negative impact of smoking on health, about 40% of people with HIV who are involved in the OHTN Cohort Study use tobacco: a rate that is almost three times higher than in the general population of Ontario.^{120,121,122,123,124}

Ontario's network of community-based AIDS organizations—including some housing programs—provides a range of practical and social support services designed to help people with HIV manage their health over the long term. Their goal is to provide a social safety net for people with HIV who lack the basic social determinants of health.

MANAGING COMORBIDITIES AND AGING

People in Ontario with HIV experience high rates of comorbidities:

- One in three people living with HIV in Ontario is coping with depression or other mental health problems
- In the Positive Spaces Healthy Places study (an Ontario study exploring the relationship between housing status and health), about 47% of participants used substances in a harmful way¹²⁵
- According to data from the OCS at least one of every five people living with HIV in Ontario is co-infected with hepatitis C¹²⁶
- About 88% of people living with HIV who use drugs have a current or past infection with hepatitis C¹²⁷

Many are also coping with the impact of aging:

- As of 2015, almost half of the people living with HIV in Ontario are over age 50¹²⁸
- Many may experience premature signs of aging, related to the inflammation associated with HIV and to side effects of antiretroviral drugs¹²⁹

At the current time, Ontario has a shortage of primary care physicians with the knowledge and skills to care for people with HIV. There is also a shortage of other specialists—including cardiologists, oncologists and gerontologists—with expertise in managing the complexities of treating people with heart disease or cancer who also have HIV. At the time of writing this strategy, there was not a single gerontologist in Ontario who specialized in HIV.

Despite these gaps, the current system of services is trying to respond to the complex treatment needs of people with HIV. For example, the Clinic for HIV-related Concerns at Mt. Sinai Hospital in Toronto specializes in providing psychiatric care and the HIV Ambulatory Clinic at Sunnybrook Health Sciences Centre in Toronto has created two subspecialty clinics (renal and endocrine) to respond to the increasing incidence of comorbidities. These clinics reduce wait times for visits with these specialists, provide coordinated care and reduce the need for costly services, such as dialysis. St. Michael's Hospital has established a highly specialized, internationally recognized program that assesses people with HIV for cognitive problems (e.g., word finding, memory, mental slowness, poor concentration) and is testing effective interventions—the only one of its kind in Canada. Since 1995, the clinic has accepted referrals from more than 25 primary care and infectious disease physicians and provided neurocognitive assessments for 1,000 people with HIV.¹³⁰

WHERE WE WANT TO BE

We must focus our efforts on providing timely, comprehensive, integrated services that meet the complex health and social needs of people living with HIV, throughout their lifetimes. Care should be more than managing the virus; it should also help people lead full, rich lives and aspire to the same kind of future as those without HIV, including opportunities for employment, friendships, intimate relationships and children.^{131,132}

PEOPLE IN THEIR 20s diagnosed with HIV today can expect to live a near normal lifespan. They will be able to work—and they will likely have to work because an HIV diagnosis alone may no longer be enough to qualify for life-time social benefits. Even people diagnosed in their 40s or 50s can expect to manage the infection and enjoy good health. Their work may be disrupted for a time, but they should be able to return to all their usual roles and responsibilities.

In fact, employment, relationships and families will become increasingly important for people with HIV, as the infection becomes more manageable. People with HIV who are employed report better physical and mental quality of life.¹³³ They also are more likely to avoid the negative impact of poverty on their health and lives.

To help people of all ages, genders and cultures stay engaged in their health and care, the HIV sector

will provide supportive services that are welcoming, culturally appropriate and age appropriate and that help people living with HIV overcome barriers to accessing care. Every person in Ontario diagnosed with HIV should have:

- care providers experienced in HIV care
- barrier-free access to the most appropriate care and medications based on their needs and the science—including timely access to newer medications if they develop drug-resistant HIV

Care should focus on helping people living with HIV obtain the medical care, social support and information they need to enhance and maintain their health and avoid complications related to inflammation, comorbidities and aging.

HOW TO GET THERE

4.1 IMPROVE ACCESS TO HIGH-QUALITY, INTEGRATED HIV CARE

- a. Educate physicians about the critical importance of initiating antiretroviral therapy as early as possible.
- b. Enhance the capacity of HIV clinics to provide multi-disciplinary care consistent with clinical standards that reinforce opportunities to prevent and delay complications as well as treat them when they do occur.
- c. Develop shared care models to connect primary care physicians with HIV specialists and other health care providers, and enhance their capacity to provide high-quality HIV care.
- d. Improve access to publicly funded drug programs and reduce barriers (e.g., deductibles).
- e. Promote interventions that can enhance all aspects of health, such as diet, exercise, sleep, stress management, smoking cessation and reducing harmful substance use (including alcohol).
- f. Develop specialized clinical multi-disciplinary teams that can advise clinicians treating people with HIV who also have other comorbidities.
- g. Promote the use of tele-health and other web-based forms of care for people with HIV in rural and remote communities.
- h. Explore strategies to reduce transportation barriers for people with HIV.
- i. Enhance access to culturally competent, stigma-free reproductive health services as well as prenatal, maternal and post-natal care for people with HIV (e.g., Positive Pregnancy Program)

- Provide information on HIV-experienced reproductive health services and how to access them through all AIDS service organizations, clinics, public health units and primary care practices
 - Train HIV clinicians, enhancing their capacity to work with people living with HIV who want to have children
- j. Work with policy makers and health care providers in correctional facilities to:
- Improve access to consistent HIV and HCV care and other health services for people with HIV in prison
 - Establish care pathways that keep people with HIV actively engaged in care when they move between the community and prison

4.2 DEVELOP A SYSTEMATIC APPROACH TO DELIVERING HIV CARE THAT WILL HELP PEOPLE STAY ENGAGED IN CARE (RETENTION), ADHERE TO TREATMENT AND MAINTAIN THEIR HEALTH

- a. Provide clear, evidence-based information on the benefits of early HIV treatment and the importance of staying engaged in care.
- b. Conduct research to understand the factors that affect people's ability to stay engaged in care and attend appointments.
- c. Strengthen collaboration among policy makers, HIV clinics and other HIV care providers and/or AIDS service organizations to:
- Work with clients at risk of dropping out of care or experiencing adherence challenges to develop care pathways
 - Establish systems to flag when a client has missed an appointment and trigger follow-up
 - Pilot strategies and tools to retain people in care and foster self-care (e.g., an app that reminds people to take medications and attend routine health care visits)
- d. Work with young people, the HIV paediatric clinics and adult clinics/care providers to ensure youth have access to responsive services that reflect their unique developmental needs and lived experience and help them manage that transition to adult care:
- Develop best practice guidelines to help youth move successfully between pediatric and adult HIV clinic services
 - Train case managers/care coordinators in the clinics in the best practice guidelines
 - Ensure that at least one peer in any peer navigator program in communities with paediatric HIV clients has recently transitioned between paediatric and adult HIV care

5. ENSURE THE QUALITY, CONSISTENCY AND EFFECTIVENESS OF HIV PROGRAMS AND SERVICES.

WHERE WE ARE NOW

HIV SERVICES are committed to providing high-quality, evidence-based services that make a difference in people's lives.

In 2015-16, the Ontario government provided approximately \$60.5M to support HIV-specific programs and services. That amount does not include physician costs, drug programs, inpatient hospital services, home care services or palliative care services related to HIV. Between 2003 and 2013, the government increased its investment in HIV by 68%. The HIV sector must be accountable for the effective use of these resources.

Under Ontario's Excellent Care for All Act (2010), all parts of Ontario's health system are expected to provide safe, accessible, effective and person-centred services.¹³⁴ HIV services are committed to providing high-quality, evidence-based services that make a difference in people's lives.

Over the past few years, a number of information systems and processes have been put into place, designed to improve the consistency and quality of services. For example:

- Epidemiological trends in HIV infection in the province are closely monitored to be able to adjust services to meet changing needs
- All agencies that receive funding to provide community-based HIV prevention, outreach and support services report twice each year on their activities using the Ontario Community-based HIV and AIDS Reporting Tool (OCHART). These data are analyzed to identify changing client needs, increases in demand and the availability of different services. The information is shared with all the agencies to help them plan and improve their programs
- The province's 29 dedicated AIDS service organizations now use OCASE (Ontario Community-based AIDS Services Evaluation), a case management tool that will help them track all the services and referrals clients use, and assess the impact of those services on client health and well-being

- The provincial government funds capacity building programs that actively promote evidence-based services, such as the skills building sessions provided by the Ontario AIDS Network and the organizational development services provided by the Ontario Organizational Development Program
- The OHTN funds research and offers a rapid review service, where any agency can request a review of evidence on a particular issue to help inform their policies and programs. The Evidence-based Practice Unit at the OHTN also provides advice on how to evaluate programs and services and pushes out information about effective interventions

LACK OF PROVINCIAL STANDARDS AND GUIDELINES

While all HIV organizations in Ontario strive to provide high-quality services, most have evolved independently, without guidelines that describe the basic, consistent set of services that funded programs are expected to provide. There are no provincial standards for the type of services or mix of professionals that should be available in the province's HIV clinics. The same is true of community-based AIDS service organizations.

LACK OF A CONSISTENT APPROACH TO IMPLEMENTING EVIDENCE-BASED PRACTICES

Most of the research on interventions designed to help change the course of the prevention, engagement and care cascade has been done outside Ontario. We need a more consistent approach to be able to adapt and apply these interventions in Ontario and develop our own body of evidence about what works best in the province. At the current time, very little research is done on how to move evidence-based interventions into practice. A new focus on implementation or program science—which studies the effectiveness and scalability of interventions—will be important.

WHERE WE WANT TO BE

We will strive to provide the highest-quality care for people with HIV, regardless of where they live. We will continue to nurture a culture of continuous quality improvement in all our HIV programs and services.

Policy makers, program planners and service delivery partners will work closely with researchers, evaluators and people living with and at risk of HIV to assess the impact of our programs and services, and to identify interventions and approaches that can be adapted and applied in Ontario.

We will use an implementation or program science approach, which takes into account the capacity and skills of our service network as well as the scientific evidence.

WE WILL STRIVE to provide the highest-quality care for people with HIV, regardless of where they live.

HOW TO GET THERE

5.1 DEVELOP STANDARDS AND/OR GUIDELINES FOR HIGH-QUALITY HIV PREVENTION, SUPPORT AND CARE

- a. Develop HIV risk reduction guidelines that provide clear and scientifically accurate information to people at risk of HIV, HCV and STIs.
- b. Establish standards for HIV, HCV and STI testing services and appropriate follow-up and linkage to care for people who test positive.
- c. Develop guidelines for public health HIV case management services to ensure that people living with HIV who engage in high-risk behaviours have the support they need to change those behaviours, maintain their health and avoid criminal sanctions.
- d. Establish clinical care guidelines for people with HIV, including:
 - Strategies to engage and treat people early
 - The use of care pathways or other strategies that help people navigate the system and stay engaged in care
 - Pre-natal, maternal and post-natal care guidelines and standards for people with HIV who want to have children
- e. Develop service standards and guidelines for support services provided by community-based AIDS service organizations.
- f. Develop standards and guidelines for HIV care coordination or collaborative case management services provided by community-based AIDS service organizations and HIV clinics.
- g. Review standards and guidelines regularly to ensure they reflect new evidence.

5.2 INVEST IN RESEARCH TO INFORM HIGH-QUALITY PROGRAMS AND SERVICES

- a. Continue to track and strengthen epidemiological data to guide the HIV response.
- b. Continue to develop cohorts, data systems and indicators that will help us:
 - Understand challenges along the prevention, engagement and care cascade
 - Develop strategies and interventions
 - Monitor our progress in achieving our goals
- c. Conduct research to better understand barriers to people staying engaged in care (i.e., retention) and the strategies to overcome these barriers.
- d. Support and conduct research into interventions to change the course of the prevention, engagement and care cascade:
 - Identify evidence-based interventions, testing them in Ontario settings and integrating those that can be successfully adapted into practice
 - Monitor and share new developments in the field
 - Enhance the capacity of researchers, service providers and people living with HIV to engage in program science research
- e. Contribute to international efforts to monitor people with HIV for any adverse reactions to HIV medications or other treatments:
 - Use cohort studies and administrative data linkages to identify adverse reactions or impacts from treatment
 - Follow children and young adults who were exposed to anti-retroviral treatments in utero or infancy to assess the long-term impact on their development, health and well-being

5.3 FOCUS ON CONTINUOUS QUALITY IMPROVEMENT

- a. Develop an implementation plan, with deliverables and timelines, for this strategy.
- b. Develop a set of targets and performance measures to monitor our progress.
- c. Work with provincially funded HIV programs and services to strengthen their capacity to monitor and evaluate their programs and services (e.g., leverage existing tools such as OCHART and OCASE, engage in program science initiatives).
- d. Undertake a formal review of the strategy in 2021 to:
 - Document our accomplishments and any gaps
 - Assess the impact of our activities and interventions
 - Determine whether we stay the course with this strategy to 2026 or make changes or adjustments

IV. CONCLUSION

With *Focusing Our Efforts: HIV/AIDS Strategy to 2026*, the HIV sector renews its commitment to a comprehensive, interprofessional, integrated model of HIV services and partners that:

- engages people living with or at risk of HIV in meaningful ways to enhance their health and well-being
- focuses on the populations most affected by HIV
- uses a systems approach, developing strong relationships with other services and other sectors to meet the complex health and social needs of people living with or at risk of HIV
- is guided by research and evaluation, and committed to evidence-based practice

Focusing Our Efforts builds on the firm foundation laid in the last HIV strategy developed by OACHA. The key differences are: one, a much stronger focus on engaging people living with or at risk of HIV in prevention and care services, and helping them stay connected to the services they need to enhance their health; and two, even greater commitment to address the social determinants of health and promote overall health and well-being by taking a systems approach and developing formal collaborations with other sectors.

This shift in our approach recognizes that to solve HIV—to reduce the social and health inequities and syndemics that drive this epidemic—we must bring to bear and integrate the skills and resources of the health, social service, education, corrections and other sectors. At the same time that we strive to achieve the ambitious 90-90-90 treatment targets for people living with HIV, we must also develop the social and structural interventions that will lead to better health for populations most affected by HIV. It is through this strategic approach that we will be able to capitalize on the benefits of HIV treatment to prevent new HIV infections and to ensure that people living with HIV can lead long, full lives. For that reason, this strategy builds on and reflects Ontario's *Patients First: Action Plan for Health Care* (2015), with its focus on patient-centred care as well as Phase 2 of the province's mental health and addictions strategy, *Open Minds, Healthy Minds*, launched in 2014, with its focus on promoting mental health and well-being, ensuring early identification and intervention, expanding housing and employment supports, providing the right care at the right time in the right place and developing integrated services.

Ontario's HIV service network is committed to putting this strategy into action. Some activities are already underway; others will be undertaken over the next 10 years. Throughout the course of this strategy, we will continue to monitor and report on our progress.

APPENDIX A

DETERMINANTS OF HEALTH FOR PEOPLE LIVING WITH AND AT RISK OF HIV

BIOLOGICAL FACTORS

PREVALENCE OF HIV IN THE COMMUNITY

The risk of acquiring HIV is greater in communities where HIV prevalence is high. For example, almost 1 in 4 gay men in Toronto has HIV, which means a prevalence of 25% in that community compared to a prevalence of less than 1% in the general adult population.¹³⁵ Gay men who live in Toronto are at higher risk because HIV is more widespread in their community. Given the increasing prevalence in this community, many gay men have been remarkably resilient in protecting themselves and the whole community has been able to keep the number of new infections relatively stable.

VIRAL LOAD

The risk of HIV transmission is higher when a person's viral load (the amount of virus in his or her blood) is high.¹³⁶ People with HIV have higher viral loads just after they are infected (i.e., acute infection): when they have the symptoms of seroconversion illness (i.e., fever, sweats, flu-like symptoms) but probably do not know they are infected.¹³⁷ Viral load is also higher later in the course of disease for people whose treatment is not effective. On the other hand, the risk of transmission is lower for people who are on effective treatment and whose viral load is undetectable.¹³⁸

PHYSIOLOGY

During unprotected heterosexual intercourse, the risk is greater for women than men because the lining of the vagina is porous, making it easier for the virus to enter the bloodstream.¹³⁹ During unprotected anal intercourse, the risk is greater for the receptive partner than the insertive partner because the lining of the anus is very thin and is easily irritated, inflamed or damaged.¹⁴⁰ Receptive anal intercourse is 18 times riskier than receptive vaginal intercourse.^{141,142,143,144,145,146}

OTHER SEXUALLY TRANSMITTED INFECTIONS

The presence of another sexually transmitted infection (STI) increases the risk of acquiring HIV.¹⁴⁷ It also increases viral load in people with HIV, which can increase the likelihood of HIV transmission, and affect their ability to fight the virus.¹⁴⁸

HEPATITIS

People most affected by HIV—particularly those who use substances—are also at high risk of hepatitis B and C. According to data from the OHTN Cohort Study (OCS) of people with HIV in Ontario, at least one of every five people with HIV is co-infected with hepatitis C.¹⁴⁹ About 88% of people with HIV who use drugs have a current or past infection with hepatitis C.¹⁵⁰ Co-infection with hepatitis C significantly complicates people's health, their immune system and their care. People with HIV who are co-infected with hepatitis C are more likely to develop liver disease and less likely to respond to hepatitis C treatments.¹⁵¹

OVER THE PAST DECADE, there has been a marked increase in syphilis, chlamydia and gonorrhoea in Canada and Ontario. A significant proportion of new diagnoses are in gay men, including gay men with HIV. As of 2009, based on findings from the OHTN Cohort Study, one in five gay men with HIV had had syphilis and rates of gonorrhoea were several times higher in gay men with HIV than in the general male population. Antibiotic-resistant strains of gonorrhoea are becoming more common and they do not respond to usual treatments. Gay men with HIV in Ontario are also experiencing an increasing burden of sexually transmitted hepatitis C infection.

OTHER PHYSICAL COMORBIDITIES

HIV and HIV treatments affect people's immune and other systems and make them more susceptible to other life-threatening physical conditions, such as cancer, diabetes, cardiovascular disease, osteoporosis, liver disease and kidney disease.¹⁵² These conditions or comorbidities make it harder for people to manage their HIV infection and can reduce their quality of life and life expectancy.

DEPRESSION, ANXIETY AND OTHER MENTAL HEALTH PROBLEMS

Mental health problems, such as depression, can affect people's ability to practise safer sex and drug use. For people living with HIV, mental health problems can also affect their ability to engage in their health care and adhere to treatments than can enhance their well-being.

NEURO-COGNITIVE DISORDERS

Both HIV itself and some treatments for HIV can affect the brain. About 50% of people living with HIV will develop HIV-associated neurocognitive disorders (HAND).¹⁵³ Combination antiretroviral therapy is not enough on its own to prevent neurocognitive problems, such as difficulty with concentration, word-finding, motor skills and memory that can have a devastating effect on people's ability to work and live independently, adhere to medication regimens and enjoy good quality of life.¹⁵⁴

DEVELOPMENTAL DISORDERS

The use of pre-exposure prophylaxis to prevent vertical (mother to child) transmission of HIV may have long-term impacts on children's brain development.¹⁵⁵

AGING

As of 2015, about 50% of Canadians living with HIV are over age 50.¹⁵⁶ As people age, they are likely to develop health problems associated with aging. Although much can be done to reduce or delay the impacts of aging, some people living with HIV will need different forms of care as they age, including culturally appropriate and stigma-free home care and long-term care. The demand for these services may be particularly high given the large number of gay men living with HIV who may not have partners and families to support them as they age.

INDIVIDUAL FACTORS

SEX AND DRUG USE PRACTICES

Unprotected anal or vaginal sex with someone who has HIV remain the most common ways HIV is transmitted.¹⁵⁷ Sharing drug and injection preparation equipment is also high risk. The greater the number of partners and the more often people have unprotected sex or share drug equipment, the greater the risk.

EARLY CHILDHOOD DEVELOPMENT/HISTORY OF TRAUMA

People's early childhood experiences affect their ability to protect themselves from HIV. People with a history of being subjected to bullying, homophobia, violence, trauma and/or sexual abuse are at higher risk of acquiring HIV.¹⁵⁸

SUBSTANCE USE AND ADDICTION

Substance use increases risk-taking behaviour. The use of party drugs, opiates and alcohol can affect people's judgement and their ability to practise safer sex and drug use. For example, crack makes women more sexually passive and men more sexually aggressive.¹⁵⁹ According to data from the Positive Spaces Healthy Places study, about 47% of people living with HIV who use community-based services use substances in a harmful way.¹⁶⁰ According to preliminary findings from a study of people recently diagnosed with HIV in Toronto, a significant proportion (86%) use substances.¹⁶¹ Substance use also affects the ability of people living with HIV to adhere to treatment and maintain their health.¹⁶²

GENDER

Some women, because of their gender, will be at higher risk of acquiring HIV and/or of disease progression.¹⁶³ They may be in relationships where they are economically dependent and have little control over whether they practise safer sex or drug use, or they may be victims of abuse and violence.¹⁶⁴ They may also have children or partners who are infected and neglect their own health to care for their families.¹⁶⁵

Trans women are also at higher risk because of a combination of rigid gender norms and risk activities.¹⁶⁶ According to a recent study, trans women are 49 times more likely to have HIV compared to a reference group.¹⁶⁷ Trans women are almost always the receptive partner in anal intercourse¹⁶⁸ and the lack of resources for hormone treatments may lead to sharing needles.¹⁶⁹ Often included in other categories, such as gay men, trans women have not received the attention they should, given their risk.¹⁷⁰ Emerging research suggests that trans men, like trans women, may be vulnerable to HIV infection, and may engage in high-risk activities at rates comparable to or greater than trans women.¹⁷¹ Recent studies of trans men who have sex with men have found higher rates of unprotected sex and STIs.¹⁷²

COPING SKILLS

Despite facing similar biological, social and structural stresses as their peers, many members of populations most affected by HIV demonstrate great resilience. They have developed coping skills and strategies, and are able to reduce their risk and maintain their health.

SOCIAL FACTORS

STIGMA, DISCRIMINATION AND MARGINALIZATION

HIV-related stigma has a profound effect on people living with or at risk of HIV. All people living with HIV—even those who are healthy and employed and managing their lives and illness well—are affected by the stigma of having an infectious disease associated with sex and drug use.¹⁷³ People who experience stigma are less likely to adhere to antiretroviral treatment and more likely to experience stress, depression and social isolation, and to consider suicide.¹⁷⁴ HIV stigma makes it more difficult for people living with HIV to disclose their HIV status to sexual or drug-using partners, and for people at risk to be tested, access care and adhere to HIV treatments.¹⁷⁵

The populations most affected by HIV also experience discrimination and marginalization because of other social identities and experiences, such as homophobia, transphobia, racism, colonization and the stigma associated with mental illness, substance use and having experienced incarceration.¹⁷⁶

Employment-related discrimination is also pervasive: 42% of people with HIV report experiencing employment-related discrimination, mostly based on HIV status, sexual orientation and ethnicity.¹⁷⁷

CULTURE

Cultural norms and attitudes towards sex and drug use can make it difficult for people to talk about risk factors, such as anal sex, men having sex with men or sex outside a monogamous relationship or marriage. Cultural norms can also make it difficult to negotiate safer sex or drug use, to disclose if people become infected and to seek health care services.¹⁷⁸ Culture can also be a source of strength and social support, and cultural norms can support safer sex and drug use.¹⁷⁹

CULTURE CAN BE related to ethnicity or it can be the culture shared by groups, such as gay men, people who use substances or people who are incarcerated.

FAITH/SPIRITUALITY

Faith/spirituality can have an impact on risk. In some cases, faith-based attitudes and taboos about sex can make it more difficult for people to negotiate safer sex.¹⁸⁰ Judgmental attitudes can rob people of social support and make them feel more marginalized and less likely to seek testing or care.¹⁸¹ On the other hand, supportive faith communities and spirituality can be a powerful force in educating people about risk, promoting resilience and creating supportive communities.¹⁸²

INCOME

Poverty increases the risk of HIV infection for people already at risk because it may put them in a position where they sacrifice safety for income and cannot afford to negotiate safer sex or drug use.¹⁸³ It is also a risk factor for HIV disease progression because lack of income affects people's ability to maintain stable housing, eat properly, attend appointments and pay for treatments that are not covered by OHIP.¹⁸⁴ Of people living with HIV enrolled in the OHTN Cohort Study, 44% have annual incomes below \$20,000.¹⁸⁵ Of those in the Positive Spaces Healthy Places study, 60% had monthly incomes below \$1,200.¹⁸⁶

HOUSING

People at risk are significantly more likely to acquire HIV over time if they are unstably housed.¹⁸⁷ People who are homeless or unstably housed have HIV infection rates as much as 16 times higher than people who have a stable place to live.¹⁸⁸ People living with HIV/AIDS who are homeless or unstably housed have worse overall physical and mental health.¹⁸⁹ Their CD4 counts are lower and their viral loads are higher.¹⁹⁰ They are less likely to receive and adhere to antiretroviral therapy, and they are more likely to die prematurely.¹⁹¹

On the other hand, stable affordable housing is a critical—and cost saving—health intervention. People living with HIV who are stably housed are more likely to receive and adhere to antiretroviral medication—which improves their health and reduces the risk of HIV transmission.¹⁹² They also make less use of more costly health services, such as avoidable emergency and hospital care.¹⁹³ The savings in health care costs can offset the cost of housing interventions.¹⁹⁴

EMPLOYMENT

Unemployment or employment in certain fields, such as the sex trade, can increase risk. On the other hand, employment is a protective factor: it is associated with better physical and mental health.¹⁹⁵

IMMIGRATION EXPERIENCE

The immigration experience itself—dislocation, loss of family and social support, and low incomes—can have a negative impact on health. Immigrants, refugees and people who do not have status may not have access to health and social services that could help reduce their risk and improve their health.¹⁹⁶ For those who have legal status, policies like the three-month waiting period to be eligible

for OHIP-funded services can be a barrier to care. Even when newcomers are able to access health services, the services may not be culturally appropriate.¹⁹⁷ On the other hand, many immigrants are highly resilient. Some who have moved from a region where they experienced discrimination or violence report that immigration has had a positive effect on their health, even when they have not been able to find comparable levels of employment in Canada.¹⁹⁸

EDUCATION

Education can make people more resilient, reduce their risk and improve their health. When people know the risks of HIV transmission, they are better able to protect themselves and others. When they are knowledgeable about treatments and engaged in their care, they are better able to maintain their health. When children learn values such as tolerance and equality, and are exposed to a curriculum that addresses discrimination, bullying and violence, then people at risk for HIV will be more resilient.¹⁹⁹ However, education alone may not be enough to protect people from the impact of discrimination and violence over their lifetime.

SOCIAL SUPPORT

Social support for individuals and within groups protects health. A growing body of evidence shows that certain prevention interventions—particularly those that provide social support and strategies for negotiating safer sex and drug use—can reduce the risk of acquiring HIV.²⁰⁰ Social support reduces the impact of stigma, enhances resilience and can foster self-esteem and a sense of control over one's life.²⁰¹

PEER-BASED INITIATIVES

Peer-based programs that provide information and social support for people living with and at risk of HIV—including peer navigators—reduce social isolation and depression, improve access to and engagement in services, enhance adherence to treatments and improve health and quality of life.²⁰² Peer-based programs, such as being part of a Speakers Bureau or serving on the boards of community-based organizations, help fight stigma and prevent new infections.²⁰³ At the same time, they help people living with or at risk of HIV become more resilient and develop a sense of mastery.²⁰⁴

STRUCTURAL/POLICY FACTORS

ACCESS TO PREVENTION AND HARM REDUCTION RESOURCES

Having easy access to prevention services, such as support services and primary care, as well as resources such as condoms or pre-packaged safer injection kits is protective and helps reduce HIV transmission and improve health.²⁰⁵ Easy access to drug equipment and other harm reduction initiatives can also be a highly effective way of getting people with substance use problems into other harm reduction and treatment programs, such as methadone and addiction treatment.²⁰⁶ On the other hand, policies that limit access to or availability of these resources increase risk.

ACCESS TO INTEGRATED CARE AND TREATMENT

People living with HIV—particularly those with comorbidities—enjoy better health and quality of life when they receive integrated care from interdisciplinary teams that address their physical health, mental health and social needs.²⁰⁷ These models of care not only result in better health outcomes (i.e., less illness, longer lives), they are cost effective: they reduce the need for and use of hospital services.²⁰⁸ However, many people living with or at risk of HIV face barriers accessing health services, such as geography, the lack of culturally appropriate services, the small number of health care providers working with these populations and stigma.²⁰⁹

THE LEGAL ENVIRONMENT

Legislation can either exacerbate or reduce HIV-related stigma and discrimination. For example:

- The criminalization of non-disclosure of HIV status may contribute to public attitudes that stigmatize people living with HIV and make it more difficult for public health professionals to counsel people living with HIV who engage in high-risk behaviours.²¹⁰ Because of the charges that have been laid and the non-disclosure cases that have been prosecuted, criminalization of non-disclosure has had a particularly negative impact on African, Caribbean and Black communities and on gay men²¹¹
- The criminalization of drug use makes it harder for people who use drugs to seek services, including harm reduction programs and testing services²¹²
- The criminalization of solicitation stigmatizes sex workers, forcing them into unsafe working conditions and making them more vulnerable to violence and less likely to access health and other services²¹³

On the other hand, the legal recognition of same-sex marriage has helped reinforce broader public acceptance of homosexuality and reduce homophobia and its impact.²¹⁴ A clinic in Boston that serves the LGBTQ population reported a significant drop in demand for mental health services after same-sex marriage was legalized in Massachusetts.²¹⁵ The Supreme Court of Canada decision to affirm the right of people who use drugs to health services such as supervised injection services has raised public awareness of addiction as an illness and increased public support for harm reduction services for people who use drugs.²¹⁶

INCARCERATION

Mandatory incarceration can put people at higher risk of HIV and hepatitis C because of high rates of infection among prisoners.²¹⁷ Policies that limit access to harm reduction resources (e.g., condoms, drug and injection preparation equipment, methadone maintenance treatment) can exacerbate the risk—as can the lack of transitional health care services for people moving in and out of prison. Because of stigma within prisons, people living with HIV may not access health services or adhere to their treatment regimens.²¹⁸ The stigma associated with prior imprisonment also makes it harder for former prisoners to find stable housing and employment.²¹⁹

SOCIAL SAFETY NET

When people at risk of HIV have access to adequate income, stable affordable housing and employment programs, they are more likely to reduce their risk and to maintain their health.²²⁰ However, the virus and its treatment may affect people's ability to maintain full-time jobs.²²¹ The way benefits programs are structured may cause people living with HIV to remain at work when their health is compromised (i.e., to maintain access to insurance) or to not return to work when their health improves (i.e., to avoid losing disability income or medication coverage).²²² The deductible for the Trillium program (i.e., drug coverage for people in Ontario who have high medication costs) is a barrier to some people living with HIV who have low incomes, and may keep them from getting the treatment they need or adhering to their treatment over time.²²³

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