BACKGROUND TO CMA POLICY – DRAFT

HUMAN IMMUNODEFICIENCY VIRUS (HIV) AND ACQUIRED IMMUNODEFICIENCY SYNDROME (AIDS)

CONTEXT

Human immunodeficiency virus (HIV) is a sexually transmitted and blood-borne infection that progressively impairs or destroys the function of white blood cells known as CD4+ T lymphocytes in the immune system. When left untreated, this degradation of white blood cells can lead to acquired immunodeficiency syndrome (AIDS) and create vulnerabilities to opportunistic infections such as pneumonia or tuberculosis, primary neurologic disease and malignancy. According to 2018 estimates by the Joint United Nations Programme on HIV/AIDS, 36.9 million [31.1-43.9 million] people are living with HIV worldwide. Each day, there are about 5000 new HIV infections in the world, 500 of which are among children under 15 years of age.

Before the introduction of antiretroviral therapy (ART), people infected with HIV were expected to live an additional 12.5 years after diagnosis. Access to HIV testing and treatment has transformed the global burden of the disease, reducing AIDS-related illnesses in the world from a peak of 1.9 million [1.4-2.7 million] in 2004 to 940,000 [670,000-1,300,000] in 2017. Today in industrialized countries, a young person diagnosed with HIV can expect to live a healthy, near-normal lifespan (i.e., an additional 50 years). In other words, thanks to significant medical advancements, HIV infection is now a manageable condition, rather than an acute illness leading to mortality.

The early detection and initiation of antiretroviral therapy is crucial to reducing HIV-related morbidity and mortality. According to clinical evidence, the early initiation of treatment decreases the risk of experiencing a primary clinical event or AIDS-defining clinical event and reduces the likelihood of being diagnosed with tuberculosis at 2-year follow-up.

A vital component of infection management is monitoring the amount of HIV in one’s blood (referred to as the ‘viral load’). Viral load can range from more than 1,000,000 copies of viral ribonucleic acid (RNA) per milliliter of blood to undetectable (less than 50 copies of RNA per milliliter of blood). The higher the viral load, the quicker a person’s immune system will be damaged. Individuals with a low viral load who are undergoing ART carry a reduced risk of transmitting the virus to others. The risk of transmission by individuals with an undetectable viral load is effectively zero.

When left untreated, HIV infection progresses in stages: (1) acute HIV infection, (2) clinical latency, and (3) AIDS. During the primary acute infection stage (the period from initial infection to...
seroconversion), 90% of people are symptomatic, and the risk of transmission is high. Individuals in the second stage of infection may be symptomatic, and at risk of developing opportunistic infection, or asymptomatic, and carry a decreased risk of transmission.\textsuperscript{8} AIDS, the most advanced stage of infection, is defined by the development of certain infections, cancers, and other clinical manifestations.\textsuperscript{8}

There are several ways to prevent the transmission of HIV. Abstention from high-risk activities such as sharing needles or unprotected sex is the most effective method of prevention. When a person living with HIV is being treated and has an undetectable viral load, their risk of transmitting the virus to a sexual partner is also effectively zero.\textsuperscript{6} Other methods of prevention include pre- and post-exposure prophylaxis. Pre-exposure prophylaxis (PrEP) is the administration of antiretroviral drugs to an HIV-negative individual to reduce their risk of HIV-acquisition through sexual transmission or needle sharing.\textsuperscript{9} A daily dose of PrEP is recommended for individuals at high-risk of HIV infection.\textsuperscript{10} Conversely, post-exposure prophylaxis (PEP) is the administration of antiretroviral drugs to an HIV-negative individual as soon as possible following potential exposure.\textsuperscript{11}

The international community has committed to the common global goal of ending AIDS by 2030.\textsuperscript{12} To achieve this goal, UNAIDS and partners are working towards the 90-90-90 targets, which aim to diagnose 90% of all new HIV infections, provide antiretroviral therapy for 90% of those diagnosed with HIV and achieve viral suppression for 90% of individuals treated with antiretroviral therapy (which would also reduce the risk of sexual transmission to partners to effectively zero) by 2020. Fully achieving this three-part target would translate to at least 73% of all people living with HIV worldwide being virally suppressed.\textsuperscript{3} In 2016, seven countries had achieved or exceeded these targets and an additional 11 countries were near the threshold.\textsuperscript{12}

**CANADIAN CONTEXT**

Since the 2004 launch of the Federal Initiative to Address HIV/AIDS, the Public Health Agency of Canada (PHAC), Health Canada, the Canadian Institutes of Health Research and Correctional Service Canada have been mandated to work towards a Canada free from HIV and AIDS.\textsuperscript{13} The Federal Initiative also calls for multi-sectoral and coherent action to achieve national goals in the HIV response, through partnerships with provincial and territorial governments, non-governmental organizations working on HIV, experts, health care professionals and people living with HIV.

The PHAC is responsible for the overall coordination of the Federal Initiative and oversees the monitoring and evaluation of the epidemic in Canada. At the end of 2016, it was estimated that 63,110 [55,500-70,720] Canadians were living with HIV, including AIDS.\textsuperscript{1} There were 2165 [1200-3150] new infections in 2016—resulting in an estimated incidence rate of 6 per 100,000 population [3.3 and 8.7 per 100,000], a slight increase from the 2014 estimate of 5.5 per 100,000 population.\textsuperscript{1} Advances in treatment and prevention are credited for the steady decrease in the number of new cases of AIDS reported in Canada (114 in 2016) since 1993.\textsuperscript{14}
Critics of the Federal Initiative note that the nation-wide strategy is now more than a decade old and that the promise made by the government of the day to steadily increase federal funding on HIV to $84.4 million annually was never reached.\textsuperscript{15} Instead, since the launch of the strategy, more than $104 million in funds earmarked to the national response on HIV have not been disbursed. In July 2018, the PHAC introduced the Pan-Canadian Sexually Transmitted and Blood-Borne Infections (STBBI) Framework for Action,\textsuperscript{11} with the aim of setting out an overarching and comprehensive approach to supporting and contributing to global STBBI targets. In correspondence with the Canadian HIV/AIDS Legal Network (Legal Network), Prime Minister Justin Trudeau stated that the federal government would be “investing 84 million across the country to help tackle sexually transmitted and blood-borne illnesses.” Community-based organizations such as the Legal Network, however, remain concerned that the amalgamation of services will lead to an erosion of the national HIV response.\textsuperscript{15}

Canada endorses the UNAIDS goals for HIV prevention and treatment and has made partial progress towards the 90-90-90 targets (see above). At the end of 2016, an estimated 86% [78%-94%] of persons living with HIV were diagnosed, 81% [75%-87%] of diagnosed persons were receiving treatment, and 91% [87%-95%] of those being treated had suppressed viral loads.\textsuperscript{1} Despite these gains, the burden of HIV infection continues to be disproportionately borne by certain marginalized (or key) populations, including gay, bisexual and other men who have sex with men, people who inject drugs, Indigenous populations and Canadians from countries where HIV is endemic.\textsuperscript{1}

**Key populations in Canada**

*Gay, bisexual, and other men who have sex with men*

Of the estimated 63,110 people living with HIV at the end of 2016, nearly half (49.1%) were among gay, bisexual and other men who have sex with men (gbMSM). An estimated 1,136 cases of new infections were attributed to this same sub-population, representing more than half (52.5%) of all new HIV infections in 2016. Despite this high burden of infection, gbMSM only represent approximately 2-3% of the Canadian adult male population.\textsuperscript{1}

*People who inject drugs*

People who inject drugs (PWID) made up an estimated 14.6% of all people living with HIV at the end of 2016, and 244 (130-360) of the estimated new infections in 2016 were among this sub-population, accounting for 11.3% of new infections.\textsuperscript{1} Needle distribution and recovery programs, methadone therapy and supervised injection sites are examples of harm reduction strategies that have been applied in Canada to lower the risks associated with injection drug use.\textsuperscript{16}

*Indigenous people*

\textsuperscript{a} The term “sexually transmitted and blood-borne infection (STBBI) describes an infection that is either sexually transmitted or transmitted through blood. This includes but is not limited to: HIV, hepatitis B and C, chlamydia, gonorrhea, syphilis and human papilloma virus (HPV).
The HIV prevalence rate for Indigenous people in 2016 was 362 per 100,000 population, which was two times higher than the prevalence rate in the general population.\(^1\) Even though Indigenous people represent only 4.9% of the Canadian population (according to the 2016 Census), an estimated 245 new HIV infections in 2016 occurred among the Indigenous, constituting 11.3% of all new infections during that year. The 6,055 Indigenous people living with HIV at the end of 2016 represent a 5% increase from the 2014 estimate of 5,760.\(^1\) Indigenous people’s vulnerability to HIV infection is linked to several social determinants of health, including poverty, unstable housing, homelessness, mental illness, addiction and the lasting impact of colonialism and residential schools.\(^17\)

**People from countries where HIV is endemic**

HIV-endemic countries are those recognized by the PHAC as having generalized epidemics.\(^b\) Although people from an HIV-endemic country represent approximately 2.5% of the overall Canadian population, an estimated 294 new infections were attributed to heterosexual contact among this subpopulation (13.6% of all new infections in 2016). At the end of 2016, 9,438 people from an HIV-endemic country were living with HIV, representing 15% of the total prevalence rate in Canada. Many of these individuals face social and economic circumstances (e.g., racism, homelessness, underemployment, poverty) that both increase their vulnerability to HIV infection, and act as barriers to prevention, screening, and treatment programs.\(^18\)

**HIV testing, consent and confidentiality**

**HIV testing recommendations by public health authorities**

Guidelines across various public health authorities emphasize the importance of HIV testing and counselling to reduce the risk of transmission to others and facilitate follow-up care. The PHAC recommends that the consideration of HIV testing be a component of routine care (including pre-natal care).\(^19\) Advances in technology have resulted in faster, more accurate and less invasive HIV testing methods, including self-testing kits.\(^20\) Testing can be undertaken in a variety of locations across Canada, including hospitals, health clinics, and in the community.\(^21\) There are also several anonymous HIV testing sites where results are associated with a number that only the patient knows, though these sites do not exist in every province/territory.

HIV testing should be carried out in accordance with international human rights standards, the rights protected under the *Canadian Charter of Rights and Freedoms* ("Charter"), ethical obligations in the medical profession and the “3Cs”:

1. **Counselling**: Patients should receive pre- and post-test counselling. Depending on the guidelines of the province or territory, such counselling may include steps that can be taken by the seropositive patient to prevent the transmission of HIV and advice on any legal requirements to

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\(^b\) The PHAC defines countries where HIV is endemic as those countries where the prevalence of HIV among adults (age 15–49 years) is 1.0% or greater and one of the following: 50% or more of HIV cases are attributed to heterosexual transmission; a male to female ratio of 2:1 or less among prevalent infections; or HIV prevalence greater than or equal to 2% among women receiving prenatal care.
disclose their HIV status to sexual and drug equipment sharing partners.

2. **Informed Consent:** Patients should have the opportunity to give informed and voluntary consent prior to HIV testing.

3. **Confidentiality:** Physicians have a duty of confidentiality to any persons undergoing HIV testing in their care. The physician must keep as confidential the fact that the patient has undergone HIV testing and the result(s) of any such test(s) taken.

### Obtaining informed consent prior to HIV testing

Although increased uptake of HIV testing is central to achieving global and national targets on HIV, the World Health Organization (WHO) and UNAIDS strongly discourage mandatory testing of individuals on public health grounds, jointly stating that “[m]andatory, compulsory or coerced testing is never appropriate, regardless of where that coercion comes from: health-care providers, partners, family members, employers, law enforcement officials or others.” When Bill C-217 (the Blood Samples Act) was being debated at Parliament Hill in 2002, the Privacy Commissioner of Canada stated before the House of Commons Standing Committee on Justice and Human Rights that “compulsory testing, and compulsory disclosure of the results of blood testing, is a massive violation of privacy and the personal autonomy that flows from privacy.”

Nevertheless, in Canada, there are certain limited circumstances where HIV testing may be mandatory. For example, **conditional testing** is enforced in association with participation in certain activities that pose a risk to public health, such as the donation of blood, organs, and tissue. In addition, **mandatory testing** legislation currently exists in six provinces: British Columbia, Saskatchewan, Ontario, Alberta, Nova Scotia, and Manitoba. These laws allow a person to apply to the court for a testing order as a result of contact with a bodily substance of another person under specific circumstances such as while providing emergency health care services, in the course of occupational duties specified in the law (e.g., duties of a firefighter or police officer), or as a result of being the victim of a crime.

### Protection of confidentiality in HIV testing

As noted earlier, physicians have an ethical obligation to maintain confidentiality in their provision of testing services. Their duty of confidentiality is also based in Canadian legal precedent. In *R v Dyment*,

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According to the PHAC, “informed consent” in the context of HIV testing means that: 1. The client has the capacity to consent to the test offer; 2. the client’s consent to the test offer is voluntary; 3. The client has been properly informed of the benefits and risks of taking the test or refusing the test; 4. the client fully understands the offer. The *CMA Code of Ethics and Professionalism* guides physicians to communicate accurately and honestly with the patient in a manner that the patient understands and can apply, and confirm the patient’s understanding” (Article 5), to “empower the patient to make informed decisions regarding their health by communicating with and helping the patient (or, where appropriate, their substitute decision-maker) navigate reasonable therapeutic options to determine the best course of action consistent with their goals of care” and to “communicate with and help the patient assess material risks and benefits before consenting to any treatment or intervention.” (Article 11).

The duty of confidentiality owed by physicians to their patients is outlined in Articles 18-21 of the *CMA Code of Ethics and Professionalism* (2018).
the police had obtained, without the patient’s consent, a sample of free-flowing blood from the physician treating a man involved in an automobile accident. The Court ruled that the act violated the right of the patient to be free from unreasonable search and seizure under Section 8 of the Charter and emphasized that “the use of an individual’s blood or other bodily substances confided to others for medical purposes for purposes other than these seriously violates the personal autonomy of the individual.” The Court maintained that any law condoning such use of bodily substances in breach of confidentiality would also have to be subject to Charter scrutiny.

A notable exception to the physician’s duty of confidentiality is the requirement to report positive test results for notifiable communicable diseases, including HIV, to public health authorities. This requirement is anchored in the public health legislation of all provinces and territories. Most jurisdictions also require the disclosure of cases of AIDS. The information given to public health authorities in conjunction with positive test results varies by province, although most often results are reported nominally (i.e., using the patient’s name). Several jurisdictions also mandate the tracing of previous sexual partners of individuals who have tested positive for HIV (referred to as “contact tracing”) to inform them of the risk of exposure. The WHO and UNAIDS maintain the position that partner notification should be a strictly voluntary process.

The non-disclosure of HIV status to sexual partner(s)

The non-disclosure of HIV-status to a sexual partner (often abbreviated to a case of ‘HIV non-disclosure’) can be considered a criminal offence under Canadian federal law, carrying a sentence up to a maximum of life in prison and mandatory registration as a sexual offender for a minimum of 20 years. A person’s duty to disclose is based on: (1) the risk of HIV transmission associated with the sexual activity, (2) the infected individual’s viral load, and (3) the use of protective measures such as condoms.

Prior to 2012, persons living with HIV had a duty to disclose their serostatus to a partner prior to sex that posed a significant risk of seriously bodily harm. However, decisions by the Supreme Court of Canada in R v Mabior and R v DC (2012) broadened the circumstances under which there may be a duty to disclose. These circumstances include any sexual act with a realistic possibility of HIV transmission. In practice, this novel concept of “realistic possibility” can include activities that pose negligible risk of HIV transmission according to scientific evidence. This discord between the criminalization of HIV non-disclosure and the empirical evidence undermines public health initiatives and contributes to stigmatization, discrimination and violations of the human rights of persons living with HIV. Criminalization also disproportionately impacts racialized groups.

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e AIDS is no longer a reportable disease in Newfoundland and Labrador (as of 2009), or PEI (as of 2012)

f R v Mabior, 2012 SCC 47 and R v D.C., 2012 SCC 48. In R v Mabior, the Supreme Court noted that “aggravated sexual assault” (section 268 of the Criminal Code) is the “operative offence” in HIV non-disclosure cases because HIV endangers one’s life (para 2).
The legal landscape on the criminalization of HIV non-disclosure in Canada appears to be shifting. In December 2017, after years of civil society advocacy, the Department of Justice, backed by the PHAC, issued a federal report recognizing that HIV is first and foremost a public health matter and that the use of the blunt instrument of the criminal law should be a matter of last resort. During the same month, the Ontario Attorney-General and Minister of Health released a joint statement confirming that “HIV should be considered with a public health lens, rather than a criminal justice one, wherever possible”.44

These government responses were preceded by the Community Consensus Statement that was endorsed by more than 150 organizations across Canada in November 2017, which remarked that Canada has “the third-largest absolute number of recorded prosecutions for alleged HIV non-disclosure in the world, and one of the highest rates of prosecution in the world” and urged federal, provincial and territorial governments to act swiftly to reform the criminalization of HIV non-disclosure.45 In July 2018, 20 of the world’s leading scientists also issued a Consensus Statement summarizing the state of current evidence on HIV transmission, treatment effectiveness and forensics to better situate HIV-related science in the context of criminal law.46

Despite the multitude of expert opinions and recommendations, including recommendations from the Department of Justice’s own report, the provincial and territorial governments have largely avoided issuing or updating prosecutorial guidelines or directives to change the way people living with HIV are prosecuted.47 On World Aids Day in December 2018, the federal Department of Justice issued a new directive calling on the Director of Public Prosecutions to avoid prosecuting HIV non-disclosure cases where a person’s conduct does not pose a risk of serious harm to others according to the medical science.39

Physicians living with HIV

Through their Framework on Blood-Borne Pathogens, the Federation of Medical Regulatory Authorities of Canada (FMRAC) has put forward a policy to mitigate the risk of virus transmission to the public while respecting the right to privacy of physicians living with HIV. The Framework recommends certain minimum standards when the procedure poses a reasonable risk to patient safety when performed by a physician whose serologic status is positive (i.e., exposure-prone procedures).48

Exposure-prone procedures (EPP) are invasive procedures where there is a higher-than-average risk that injury to the physician may result in the exposure of the patient’s open tissues to the blood or body fluid of the worker. For transmission of a blood-borne pathogen to occur during an EPP, three conditions are necessary:

1. The physician must be sufficiently viremic;
2. The physician must sustain an injury or have a condition that allows for exposure;
3. The physician’s blood or infectious body fluid must come in contact with a patient’s wound, traumatized tissue, mucous membranes, or similar portal of entry.

EPPs with documented risk of transmission include:
a. Digital palpation of a needle tip in a body cavity (a hollow space within the body or one of its organs) or the simultaneous presence of the HCW’s fingers and a needle or other sharp instrument or object in a blind or highly confined anatomic site, e.g., as may occur during major abdominal, cardiothoracic, trans vaginal, pelvic and/or orthopedic operations; or
b. Repair of major traumatic injuries; or
c. Major cutting, or removal of any oral or perioral tissue, including tooth structures during which the patient’s open tissues may be exposed to the blood of an injured HCW

The law does not impose an obligation on the physician to disclose their serologic to patients or coworkers. However, PHAC guidelines maintain that physicians who perform EPPs know their status. Furthermore, if positive serologic status becomes known, the guidelines recommend that physicians report that fact to their professional regulatory body. The FMRAC reinforces this position by recommending the professional regulatory bodies adopt policies to require the reporting of positive serologic status to the relevant professional regulatory body and best practices regarding physicians who perform EPPs and are living with HIV. Several regulatory bodies also have their own policies to guide the practice of licensees living with blood-borne pathogens.

The view of the Canadian Medical Protective Association (CMPA) is that “within the context of serologically positive physicians, privacy should only be infringed if it is determined, within the context of the physician’s practice, that the condition poses an unacceptable risk to patients”. Evidence suggests that the risk of transmitting HIV from a physician to a patient is extremely low. Therefore, the CMPA does not support the mandatory testing of physicians who perform EPPs for HIV.

CONCLUSION

Canada is making progress towards reducing the incidence and impact of HIV/AIDS and meeting the global targets pertaining to the epidemic. Certain barriers to prevention, testing, and treatment remain entrenched in the national response to HIV. Policy makers and clinicians continue to wrestle with the tensions between the protection of public health and individual rights in the prevention and treatment of HIV/AIDS. In addition, risk perception, accessibility of services, community knowledge, and awareness continue to be deterrents to the acceptance of HIV testing. Efforts must be strengthened to reduce the stigma and discrimination associated with HIV, enhance best practice prevention methods, and encourage the uptake of HIV testing and treatment in a manner that is consistent with human rights and ethical obligations. The uptake of treatment is expected to increase over time as there continues to be a shift towards earlier initiation of treatment, simplified and more tolerable regimens, and increasing adherence and support initiatives. Physicians should play an active role in integrating the consideration of HIV testing into routine care and to advise the immediate uptake of antiretroviral therapy upon diagnosis.
GLOSSARY

**AIDS-defining clinical event/condition/illness**
Diseases directly associated with advanced HIV-infection. Many of these diseases are encountered outside of the context of HIV-infection; however, they are more prevalent in HIV-positive people or are rarely encountered outside of an immunosuppressive disorder. A list of AIDS-defining illnesses can be found [here](#).

**HIV Incidence**
The number of new HIV infections in a defined period of time (often one year). Incidence rates tell us how many people are getting HIV.

**HIV Prevalence**
The number of people who are living with HIV at a point in time.
References

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