



# So many harms, so little benefit: a global review of the history and harms of HIV criminalisation

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Since the early years of HIV, many jurisdictions have criminalised HIV non-disclosure, potential or perceived exposure, and transmission. Many of these laws and prosecutions are without a scientific basis and reflect an inaccurate understanding of HIV-related risk and harm. Numerous studies of HIV criminal prosecutions show that women, sex workers, racial minorities, gay and bisexual men, transgender people, immigrants, and Indigenous people are disproportionately charged and convicted, often resulting in long custodial sentences. Data from molecular HIV surveillance, used to track HIV outbreaks in marginalised populations, are prone to be misused in HIV criminal cases. Scientific consensus statements and international standards have helped to guide advocacy to repeal or reform a number of these laws, resulting in fewer prosecutions in some jurisdictions. Many successful reform efforts have been led by people living with HIV and are notable at a moment of reckoning on racism and inequality in global health.

## Introduction

Ensuring that responses to HIV are grounded in human rights has been espoused as a goal of national and global HIV responses for many years. The Global AIDS Strategy 2021–26 endorsed by the UN General Assembly in 2021 echoes this central tenet with ambitious targets for people living with and at risk of HIV to be free of HIV-related stigma and discrimination and “punitive laws and policies”.<sup>1</sup> This strategy aligns with a long history of global recognition of inappropriate application of criminal law as an impediment to rights-based HIV responses.

From an early stage of the HIV epidemic, criminal law has been used to address HIV non-disclosure, potential or perceived exposure or transmission, or both, in certain circumstances. This application of criminal law advances neither HIV prevention efforts nor a rights-centred HIV response. An understanding of the impact of HIV criminalisation can contribute to ensuring that human rights are at the centre of national HIV strategies.

## HIV criminalisation’s global reach

The application of criminal law in relation to HIV transmission, potential or perceived exposure, and non-disclosure of HIV-positive status (referred to in this article as HIV criminalisation) varies considerably among jurisdictions. In some, lawmakers have enacted specific laws to criminalise HIV transmission, exposure of another person to the risk of infection, or mere non-disclosure of HIV-positive status to sexual partners. In other jurisdictions, existing general criminal offences have been applied to instances of alleged transmission, exposure, or non-disclosure—including assault or sexual assault, attempted murder, terroristic threats, endangerment of the public or public health, and inflicting bodily harm. In some instances, the law extends to other sexually transmitted infections or even communicable diseases more broadly. In practice, however, the available data indicate criminal prosecution has been directed primarily against people living with

HIV,<sup>2</sup> perhaps due to the stigma associated with HIV and the severity of the disease before treatment was available.

HIV criminalisation was first documented in the USA. By the late 1980s, several US states used aggravated assault and attempted murder statutes to prosecute so-called criminal transmission of HIV.<sup>3,4</sup> At the time, few US states had HIV-specific laws, but a condition for states to receive federal assistance for AIDS under the Ryan White Care Act of 1990 was that they have demonstrable legal means to prosecute “knowing” transmission.<sup>5</sup> By 1992, 16 US states had HIV-specific criminal laws.<sup>6</sup> Some 34 states had these laws at various times, and most are still on the books.<sup>7</sup> At the time of writing, 29 jurisdictions (28 states and the US military) have prosecuted people living with HIV for transmission or exposure offences using non-HIV-specific statutes, and nine states have laws whereby HIV-positive status can result in a harsher sentence for a crime charged under a law not specific to HIV.<sup>7</sup> In a number of US states, conviction under HIV criminal laws comes with a requirement to be registered as a sex offender, which—aside from the profound stigma

## Search strategy and selection criteria

For this Review, we searched the US National Library of Medicine (PubMed.gov) using the terms “HIV non-disclosure”, “HIV criminalization” and “criminal HIV transmission”, reviewing journal articles in English published from Jan 1, 1985, to Feb 15, 2022. Similar terms were searched in Google Scholar, yielding UN and other reports in addition to journal articles. Lexis-Nexis was searched, with the same time restrictions, with the terms “HIV exposure criminalization” and “criminal HIV transmission”. From these searches, more than 2200 abstracts were reviewed, of which about 240 were deemed most pertinent to the goal of highlighting notable developments in the application of these laws. In addition, we reviewed documents on HIV criminalisation from UNAIDS, UN technical agencies and human rights entities, and organisations that track developments in HIV criminalisation.

attached to it—formally limits where a person can live, work, or travel.<sup>7</sup>

Some HIV-specific laws (and prosecutions under non-HIV-specific laws) have involved alleged means of transmission, such as biting and spitting, that in fact pose no or virtually no risk of transmission.<sup>8</sup> Some of these statutes were crafted at a time when the science of HIV transmission was not well understood, but, as noted here, prosecutions based on poor science continued even as scientific understanding emerged. Some of these laws allow for the charge of exposure in these cases, so convictions do not depend on the occurrence of transmission or even considerable transmission risk but can still result in very harsh sentences. For example, in the US state of Louisiana, the penalty for so-called intentional exposure to HIV—where conviction does not require actual transmission or demonstration of harmful intent—is up to 11 years in prison, but the penalty for negligent homicide is a maximum of 5 years.<sup>9</sup> This law, like many others, appears to “punish people living with HIV for their HIV status alone and not for any perceived crime”.<sup>9</sup>

In the late 1980s, HIV-related prosecutions were observed in western Europe and Australia.<sup>10,11</sup> In contrast to the USA, there were few demands in these jurisdictions for the enactment of new HIV-specific laws; rather, existing offences were applied.<sup>12</sup> Canada is an example where prosecutions proceeded from the late 1980s without the enactment of HIV-specific laws. Its example is worth noting because of the large numbers of prosecutions and the extensive research on HIV criminalisation from Canadian scholars and non-governmental organisations (NGOs). The Supreme Court of Canada ruled in 2012 that not disclosing known HIV-positive status before any sexual activity posing a realistic possibility of transmission of HIV can amount to fraud that legally invalidates a partner’s consent to sex.<sup>13</sup> This renders the otherwise consensual encounter an (aggravated) sexual assault in law; the maximum penalty is life imprisonment, accompanied, at this writing, by mandatory registration as a sex offender. Prosecutors’ and judges’ interpretations of this legal standard have led to a very wide scope of criminalisation, with people convicted even when there has been little to no possibility of HIV transmission and no intent to transmit.<sup>13</sup> Since 2012, courts and prosecutors have accepted that the combination of condom use and a low viral load, or, since 2017, a suppressed viral load on its own, precludes a realistic possibility of transmission, but the law remains unsettled as to whether condom use alone suffices to prevent prosecution for alleged non-disclosure.<sup>13,14</sup>

There have been at least 224 prosecutions to date in Canada, most of them for aggravated sexual assault.<sup>15,16</sup> The 70% conviction rate in HIV non-disclosure cases in the country is far higher than the rate for other sexual assault cases, and prison sentences were more than double the average sentence for sexual assault.<sup>15</sup>

By the late 1990s and early 2000s, HIV criminalisation also began to increase dramatically in eastern Europe and central Asia, including through the introduction of HIV-specific criminal laws in most jurisdictions of the region.<sup>2,13</sup> Although HIV criminalisation came later to other regions, at this writing, at least 15 countries in Latin America and the Caribbean have jurisdictions with HIV-specific statutes (although Colombia’s law was suspended after being declared unconstitutional in 2019), while 11 jurisdictions in five other countries have seen prosecutions under general laws.<sup>2</sup> At least 13 countries in the Asia-Pacific region have enacted HIV-specific criminal statutes, whereas prosecutions under general laws are reported from at least 11 jurisdictions in five other countries. In the Middle East and north Africa, seven countries have jurisdictions with HIV-specific laws, and three countries have jurisdictions with documented prosecutions under general laws.<sup>2</sup>

The spread of HIV-specific criminal statutes in Africa was accelerated by a project to develop a model law on HIV for the region, which in 2004 resulted in the so-called N’Djamena model law.<sup>18</sup> The text included some helpful provisions against HIV-related discrimination, but it also proposed criminal sanctions for wilful transmission of HIV, defined broadly as transmission through any means by a person aware of their HIV-positive status, and without further specificity regarding intent or desire to transmit. This leaves open the possibility of prosecution for vertical transmission, transmission through sharing of needles, even if steps were taken to disinfect them, and transmission through sex regardless of measures such as condom use or disclosure.<sup>18</sup> From 2005 to 2010, at least 15 countries passed laws based on this model.<sup>19</sup> In some jurisdictions, legislators extended the law further to criminalise conduct that neither resulted in transmission nor was intended to.<sup>20</sup> In most sub-Saharan countries, prosecutions can proceed even where transmission does not occur, and only eight countries allow condom use as an affirmative defence.<sup>21,22</sup>

The HIV Justice Network (HJN), which documents HIV criminalisation cases and legislative developments worldwide, found in 2022 that 82 countries had HIV-specific criminal laws.<sup>2</sup> Since the first prosecutions in the 1980s, 81 countries have pursued HIV criminalisation cases, under HIV-specific laws in 35 countries and under other laws in 48 countries (with a few jurisdictions applying both HIV-specific and general laws). The regional breakdown of countries with HIV-specific laws as of 2022 was 30 in sub-Saharan Africa, 16 in eastern Europe and central Asia, 15 in Latin America and the Caribbean, 13 in the Asia-Pacific region, 7 in the Middle East and north Africa, plus 24 states in the USA.<sup>2</sup> After a number of reforms, no countries in western and central Europe have HIV-specific laws of this kind.

According to HJN, from 2019 to 2021 the three countries with the greatest numbers of prosecutions (almost

500 in total) were Uzbekistan, Russia, and Belarus.<sup>2</sup> The HIV-specific laws in 16 countries in eastern Europe and central Asia carry penalties of up to 15 years' imprisonment. In a number of these countries, prosecutions can proceed even with disclosure before sex and if the allegedly wronged person consents to the act, and even if the victim does not wish to pursue the case.<sup>17</sup>

### International guidance and scientific consensus

Health and human rights expert bodies, including UN entities, have addressed the concerns noted here. The UN International Guidelines on HIV/AIDS and Human Rights urge governments not to pass HIV-specific criminal laws but to use existing laws in the exceptional cases where intent, foreseeability, and causality can be clearly and legally established.<sup>23</sup> Guidance from UNAIDS emphasises that criminal sanctions are appropriate only in the rare case where a person knows their HIV-positive status and acts with demonstrable intent to transmit HIV, transmission does occur, and there is evidence that the defendant is the source of the complainant's infection.<sup>8</sup> UNAIDS recognises that unscientific and overly broad HIV criminalisation, in addition to being discriminatory, engenders fear that keeps people from seeking HIV services.

In 2012, the Global Commission on HIV and the Law, convened by the UNDP, recommended that HIV-specific criminal statutes be repealed, noting that "[i]nvolving criminal laws in cases of adult private consensual sexual activity is disproportionate and counterproductive to enhancing public health."<sup>24</sup> In 2016, in its first comment on the issue, the UN Committee on the Elimination of Discrimination against Women urged Canada to review "the troubling application of harsh criminal sanctions (aggravated sexual assault) to women for not disclosing their HIV status to sexual partners, even when the transmission is not intentional, when there is no transmission or when the risk of transmission is minimal".<sup>25</sup> It reiterated the concern to Kyrgyzstan more recently.<sup>26</sup> A regional human rights body, the African Commission on Human and Peoples' Rights, in 2018 urged African states to reform overly broad HIV criminalisation laws.<sup>27</sup>

Concern among scientists regarding HIV criminalisation has also grown. Building on previous consensus statements by scientists in Australia, Canada, Sweden, and Switzerland, an international scientific consensus statement on HIV and criminal law in 2018, coauthored by 20 leading HIV scientists and endorsed by UNAIDS, the International Association of Providers of AIDS Care, the International AIDS Society, and another 70 individual scientific experts, again highlighted that criminal laws and judicial decisions in many jurisdictions do not reflect a scientifically sound understanding of the risk of HIV transmission.<sup>28</sup> This statement reaffirms the now-established consensus that an undetectable viral load means HIV is untransmittable (termed U=U). It

underscores the very low per act risk of transmission associated with even condomless sex in the absence of treatment or pre-exposure prophylaxis; that the risk of transmission in the event of condom use ranges from zero (in the case of correct use) to negligible at most; and confirms the non-existent risk in cases of spitting or biting (for which prosecutions have been recorded). A 2021 guide for prosecutors commissioned by the UNDP, citing the consensus statement, urges prosecutors to understand the science of HIV risk and not to pursue criminal charges where someone might have not disclosed out of fear or where condoms or other reasonable measures were used to reduce risk of transmission.<sup>29</sup>

Ending HIV criminalisation in instances of suppressed viral load is scientifically sound and necessary, but also recognised as insufficient. A 2017 consensus statement on treatment as prevention (TasP) and criminal law, endorsed by more than 100 institutions and individual experts, warns that specifying an undetectable or low viral load in law as a mitigating factor in HIV criminal cases does not mean that prosecution is justified in cases where a person's viral load is higher.<sup>30</sup> The statement asserts that TasP or U=U arguments do not fix the many HIV criminal laws under which conviction is possible even without transmission or a demonstrable risk of transmission, and that criminalisation will continue to fall most harshly on those facing barriers to access to HIV treatment.<sup>30</sup>

### Health effect of HIV criminalisation

Legal experts predicted from an early stage that HIV criminalisation would generate fear among people living with HIV and make them less likely to seek health services.<sup>31</sup> There are a number of peer-reviewed scholarly reviews of empirical studies of the impact of HIV criminalisation on various aspects of health-seeking and health service delivery, the results of which are mixed but nonetheless sufficient to justify concern. It should be noted that almost all of the peer-reviewed studies of health impact come from the USA or Canada and might not be generalisable to all settings.

A 2017 review of 25 empirical studies on the subject in the USA, for example, initially suggested that HIV criminalisation was not associated with less seeking of HIV testing.<sup>5</sup> An ecological analysis in the USA in 2017 found no association between the fact of HIV criminalisation laws and HIV diagnosis rates in a given jurisdiction, concluding that the laws did not have an effect, positive or negative, on HIV prevention.<sup>32</sup> However, a re-analysis of these data, accounting for the rate of growth of the epidemic, concluded that HIV criminalisation laws were associated with both a lower rate of diagnosis and higher HIV prevalence.<sup>33</sup>

A 2015 review of the effect of HIV criminalisation in Canada on women's engagement with the health sector found evidence of reluctance to seek testing for fear of the consequences of being found to be HIV-positive.<sup>34</sup> A

2016 qualitative study in Canada found that after the 2012 decision of that country's highest court affirming the criminalisation of HIV non-disclosure in some circumstances as sexual assault, people were more reluctant to seek HIV services and health professionals were not secure in their understanding of the law, undermining their ability to inform and support their patients.<sup>35</sup> A 2018 modelling study among men who have sex with men in Canada reported that fear of prosecution for HIV non-disclosure reduced willingness for HIV testing among HIV-negative men to the point of having the potential to increase HIV transmission at the community level.<sup>36</sup>

As there is no expectation that laws will change behaviour if people are unaware of them, other researchers have investigated awareness of HIV laws. A 2013 review of 30 studies, mostly from high-income countries, concluded that most of the respondents in these varied studies had some awareness of HIV criminal laws where they lived, but often their understanding of the details of the laws' provisions was incomplete or incorrect.<sup>37</sup> Studies reviewed in 2013 suggested that very few people were more inclined to disclose their status to sex partners as a result of their awareness of the law, but qualitative studies in similar populations indicated that being aware of the law motivated them to be more secretive and to prioritise anonymity in their sexual relations.<sup>38</sup> A survey of 1230 women living with HIV in Canada found that 73% of the women knew of the 2012 Supreme Court ruling, but only an estimated 37% understood its content.<sup>39</sup> Almost all the respondents were willing to discuss legal disclosure obligations with a health professional, but only 66% had done so (panel 1).

### Effect of criminalisation on specific populations

Research on HIV criminalisation has highlighted its impact on specific populations: women (beyond vertical transmission concerns), sex workers, gay and bisexual men and other men who have sex with men, Indigenous people, immigrants, and racial minorities.

An ostensible motivation for HIV criminalisation has been to protect HIV-negative women from their HIV-positive male sexual partners.<sup>18</sup> Research in recent years, particularly in the last 5 years, has shown that this protection is not realised and HIV criminalisation can contribute to harms in gender-based ways.<sup>46</sup> As noted by the International Community of Women Living with HIV, women often are tested for HIV as part of reproductive health services and thus identified as HIV-positive before their sex partners, which can lead to violence and other abuse directed at women and could also make them more vulnerable to charges of bringing HIV into a sexual relationship.<sup>47</sup> Yet the law might require them to disclose their status, even in situations where disclosure could carry the risk of violence or other serious adverse consequences. Fear of prosecution might also

#### Panel 1: Criminalisation of vertical transmission

A number of HIV criminalisation laws allow for the prosecution of women for exposure to, or transmission of, HIV in utero or to an infant in childbirth or through breastfeeding (three forms of vertical transmission).<sup>40,41</sup> Many of the African countries guided by the N'Djamena model law are in this category, some allowing prosecution of women who fail to take so-called reasonable measures to prevent vertical transmission without specifying what those measures might be.<sup>40</sup>

The Global Commission on HIV and the Law has urged repeal of laws criminalising vertical transmission.<sup>24</sup> More recently, it also noted that "the intent to transmit HIV cannot be presumed or derived...by having a baby without taking steps to prevent mother-to-child transmission".<sup>42</sup> UNAIDS asserts that counselling, social support, and ensuring that women have access to the services needed to minimise vertical transmission are more effective prevention measures than criminalisation.<sup>8</sup> UNDP guidance for prosecutors encourages prosecutorial restraint: "Women's choices in such circumstances are complex; adding the threat of criminal prosecution is of no benefit whatsoever to either women or the children in their care."<sup>29</sup> Based on UNAIDS guidance, a number of countries in Africa have removed vertical exposure or transmission from the remit of their HIV criminal laws.<sup>22</sup>

Prosecutions of vertical exposure or transmission have nonetheless gone forward. A number of recent cases in sub-Saharan Africa have involved women who engaged in comfort nursing children of whom they were not the biological mother—that is, calming a child by putting them to the breast once or a few times.<sup>43</sup> Since 2013, vertical exposure or transmission cases involving breastfeeding or comfort nursing have been prosecuted in Botswana, Kenya, Malawi, Uganda, and Zimbabwe.<sup>44</sup> In at least some of these prosecutions, women were receiving and adhering to antiretroviral therapy, and there is no evidence of transmission in any of the documented cases. WHO guidelines conclude that women adhering to antiretroviral therapy can safely breastfeed.<sup>45</sup> WHO echoes UNAIDS in emphasising that the priority should be ensuring all women with HIV have access to testing, treatment, and counselling.

impede women from seeking HIV services and counselling, which could be truly protective.

A 2018 qualitative study in Canada found that awareness of HIV criminalisation-related prosecutions led women living with HIV to feel anything but protected—rather, the law exacerbated fears that their HIV-positive status would be revealed and that they would be unable to report interpersonal violence for fear of counter-charges related to HIV.<sup>48</sup> HIV criminalisation contributed to some women feeling compelled to stay in violent relationships, a concern echoed in an analysis from the US state of Louisiana.<sup>49</sup> The Eurasian Women's Network on AIDS noted in 2018 that many of the people

prosecuted under the HIV criminal laws in eastern Europe and central Asia were women who endured violence, threats, and blackmail for fear of being exposed as HIV-positive in a criminal case.<sup>47,50</sup> Women convicted in some of these countries risked being ostracised socially and losing custody of children and property rights. Others have observed that HIV-related prosecutions have often portrayed women as victims to achieve a criminal conviction, undermining women's agency and the policy measures that are needed to address gender inequality in sexual relations.<sup>51</sup>

The International Community of Women Living with HIV further notes that the women most likely to be especially harmed by HIV criminalisation are those already facing other types of criminalisation and marginalisation, including transgender women, sex workers, those who use drugs, and migrant workers.<sup>47</sup> These harms have been documented in a number of jurisdictions. In California, USA, which had five HIV-specific criminal laws before 2017 reforms,<sup>52</sup> 95% of the arrests under these laws in the period 1988–2014 involved people engaged in or suspected to be engaged in sex work, mostly women,<sup>53</sup> a pattern also seen in the states of Nevada and Florida.<sup>54,55</sup> The California reforms included disallowing prosecution in cases where measures have been taken to prevent transmission and repealing sentence enhancements for sex work offences by people living with HIV.<sup>7</sup> The law in some other US states still allows for the crime of soliciting while HIV-positive, or longer sentences if a person convicted of a sex work-related offence is also HIV-positive.<sup>7</sup> Transgender women in particular can be at heightened risk of prosecution in such jurisdictions. Stigma might increase the risk of arrest for some trans women because of a presumption that they are engaged in sex work.

A number of US states and some countries allow condoms to be used as evidence of illegal sex work, demotivating sex workers from using and carrying condoms, which might otherwise be part of a legal defence against a charge of HIV transmission or exposure.<sup>56</sup> Brown suggests that the disproportionate criminalisation in the USA of low-income sex workers, who are often non-White individuals, perpetuates stereotypes of deviance, further contributing to stigma and marginalisation.<sup>49</sup>

In 2016, a Canadian study of HIV-positive women from immigrant communities in the province of Ontario found them to be aware of HIV criminalisation via publicised court cases. Many worried that the law would not consider either the fears of women facing violence or abandonment if they disclosed HIV-positive status, or the degree to which women might not have the power to enforce condom use.<sup>57</sup> The women also feared prosecution under the law if they breastfed their infants. Another study of women in Vancouver, BC, Canada found additional concerns among Black immigrant women that they could

be punished or lose custody of their children for failure to repay settlement loans.<sup>48</sup>

A 2021 Canadian study concluded that Indigenous women living with HIV, often excluded from culturally appropriate HIV information and health services, are particularly likely to face violence and social exclusion if their HIV status is disclosed.<sup>58</sup> These women often faced difficulty in negotiating condom use and maintaining a low viral load, compounding the challenges of abiding by legal requirements for disclosure.

Given the widespread criminalisation of drug use, people who use drugs might have good reason to fear any additional law that could bring them into the criminal legal system. A 2016 survey of people living with HIV who injected drugs in Canada investigated the degree to which these people would be legally obliged to disclose their HIV status to sex partners even though the combination of condom use and a low viral load removes that obligation, as established under Canadian law. The authors found that more than half of the respondents would be liable to prosecution for non-disclosure, mostly because of inconsistent condom use.<sup>59</sup>

Gay, bisexual, and other men who have sex with men are a population particularly hard hit by the HIV pandemic, meaning the threat of prosecution under HIV criminalisation laws affects them disproportionately. In some jurisdictions, HIV criminalisation has converged with virulent anti-gay laws criminalising consensual same-sex sexual activity—such as Uganda's 2014 law, later declared void on procedural grounds by the country's highest court, which criminalised not only consensual gay sex but the offence of aggravated homosexuality if the accused participant is HIV-positive, potentially resulting in the death penalty.<sup>60</sup>

### Racism and xenophobia

It has long been a concern in some jurisdictions that HIV criminalisation has disproportionately affected non-White and ethnic minorities, Indigenous people, and immigrants.<sup>61</sup> In the US state of Missouri, for example, where Black men comprise less than 6% of the population, Black men were the defendants in about 50% of the cases brought under HIV criminal laws from the first of these prosecutions (well before 2020) till the end of the year 2020.<sup>62</sup> In the US state of Georgia, in which Black people represent about 32% of the population, they represented 61% of those arrested under HIV criminal laws from 1988 to 2017.<sup>63</sup>

In Canada, where Black people comprise 3.5% of the population, an estimated 22% of those charged in HIV criminal cases were Black (almost entirely men).<sup>15</sup> Rates of conviction resulting in prison sentences were also significantly higher among Black (73%) and Indigenous (75%) defendants than among White defendants (57%).<sup>15</sup> Of the Black men who faced HIV criminal charges in Canada from 1989 to 2016, 71% were not born in Canada.<sup>64</sup> A review of

1680 newspaper articles showed that media coverage of HIV criminal cases was not only heavily racially biased but also disproportionately highlighted cases of non-White immigrants.<sup>65</sup> Media reports often portrayed men involved in HIV criminalisation cases as “immoral, irresponsible lotharios who pose a danger to the romantic and sexual innocence of their female victims”.<sup>65</sup>

Other studies of media coverage of HIV criminal cases have raised human rights concerns. Media coverage of the 2013 case of a Black, gay student convicted of alleged transmission and exposure in the US state of Missouri was judged to reinforce notions of the shamefulness of gay sex and stereotypes of Black male bodies.<sup>66</sup> As noted in another analysis of sensational portrayal of a convicted man as a “racialized other”<sup>67</sup> in Canada, distortions in the media are especially meaningful because the public generally learns about HIV criminalisation through media accounts of prosecutions.<sup>67</sup>

### Molecular HIV surveillance

The science of phylogenetics enables virologists to determine whether, and to what degree, distinct strains of HIV are genetically related. Phylogenetic analysis was hailed early on as “a new and powerful tool for understanding the epidemiology of HIV transmission”.<sup>68</sup> However, the erroneous idea that phylogenetic evidence could play an evidentiary role in HIV transmission cases akin to that of DNA in other criminal cases has apparently motivated its use by some prosecutors to prove that a given instance of HIV transmission originated with a particular person.<sup>69</sup>

Scientific experts and UN guidance have raised many cautions about reliance on phylogenetic analysis in HIV criminal cases. The 2018 expert consensus statement cited above asserted that unscientific use of phylogenetic evidence in criminal proceedings led to possible miscarriages of justice.<sup>28</sup> It concluded that phylogenetic analysis on its own cannot prove that a defendant has infected a complainant with HIV. Importantly, phylogenetic analysis can exonerate a defendant when the results rule out the defendant as the source of a complainant’s HIV infection.<sup>28</sup>

In recent years, particularly since 2018, health and human rights concerns have been raised about population-level applications of phylogenetic or molecular surveillance data. Although molecular HIV surveillance was used at first mostly to monitor possible resistance to HIV medicines, the development of lower-cost methods has expanded its use in public health surveillance, especially to track HIV outbreaks among marginalised populations.<sup>70</sup> The USA and Canada, which have been leaders in HIV criminalisation prosecutions, are also home to the greatest use of molecular HIV surveillance.<sup>70</sup> Both countries also criminalise aspects of sex work and a wide range of drug offences, and subject migrants to disproportionate policing. Even where it is understood that phylogenetic analysis of this kind cannot demonstrate

### Panel 2: Reform of HIV criminalisation laws: a sustained civil society voice

In 2012, civil society experts, including representatives of organisations of people living with HIV, met in Oslo, Norway, to examine the harms of HIV criminalisation. The resulting Oslo Declaration on HIV Criminalisation notes, among other things, that “a non-punitive, non-criminal HIV prevention approach centred within communities, where expertise about...HIV issues is best found” is preferable to the use of criminal law, but that even in the rare case of malicious transmission of HIV “we prefer to see people living with HIV supported and empowered from the moment of diagnosis, so that even these rare cases may be prevented”.<sup>77</sup> The Oslo consultation marked the founding of the HIV Justice Network (HJN), a leading community-based non-governmental organisation that aims to build a coordinated and effective global response to HIV criminalisation.

Since 2012, HJN has chronicled substantial efforts at repealing and reforming HIV criminalisation, many of which would have been impossible without advocacy organisations of people living with HIV and their allies. By HJN’s count, from 2015 to 2021, HIV-specific criminal laws were repealed in the Democratic Republic of the Congo, the Australian state of Victoria, Sweden, and two US states (Illinois and New Jersey); proposed laws were withdrawn in several US and Mexican states, Brazil, and Malawi; laws were so-called modernised largely to reflect scientific advances in nine US states, Switzerland, Norway, Belarus, and Armenia; and courts ruled laws unconstitutional in Kenya, the Mexican state of Veracruz, and Colombia.<sup>2,78</sup> In addition, the HIV criminalisation section of Zimbabwe’s Criminal Code, which had long been criticised as enabling prosecution based on scientifically unsound evidentiary standards,<sup>79</sup> was repealed in 2022.<sup>80</sup>

In the USA, organisations of people living with HIV have led reform efforts in many states. In 2021, Illinois, for example, became only the second state in the USA to repeal its HIV-specific law, with advocacy organisations having worked to inform legislators of the harms of the law.<sup>81</sup> In Canada, work by civil society to promote awareness of updated science contributed to a federal directive to limit prosecutions in the nation’s three territories as well as prosecution policy advisories on the subject in a number of provinces, parliamentary committee recommendations for legislative amendments to end completely the use of sexual assault charges and limit any use of the criminal law in important ways,<sup>82</sup> and a 2022 federal government commitment to consultations regarding law reform.<sup>83</sup> After years of numerous prosecutions for non-disclosure in Canada, in 2020 there was reportedly only one such case<sup>17</sup> and community mobilisation has continued for legislative reform.<sup>84</sup> Meanwhile, advocates in eastern Europe and central Asia have increasingly highlighted the astonishingly high numbers of prosecutions in several countries of the region and are engaging prosecuting authorities and other policy makers to pursue reforms. Women’s leadership in decriminalisation efforts in this region—where prosecutions have so disadvantaged women—has been particularly noteworthy.<sup>50</sup>

An important indicator of the success of reform efforts is the agreement in the 2021–26 Global AIDS Strategy that laws criminalising HIV non-disclosure, potential and perceived exposure, and non-intentional transmission should be removed, and the overuse of non-HIV-specific laws for this purpose should stop.<sup>1</sup> The 5-year goal is that less than 10% of countries will have punitive laws such as HIV criminalisation laws by 2025. Sustained advocacy, in multiple forms and fora, bringing together human rights arguments and scientific evidence from various disciplines, has put the end of HIV criminalisation squarely on the global policy agenda.

proof of a given instance of HIV transmission, such data have been cited by prosecutors as circumstantial evidence.<sup>70</sup> The use or potential use of molecular HIV surveillance data by police and corrections officials has raised concerns among researchers and advocates.<sup>71</sup>

For more on the HIV Justice Network see [www.hivjustice.net](http://www.hivjustice.net)

The US People Living with HIV Caucus, noting that US federal authorities require that states have molecular HIV surveillance systems as a condition for receiving certain federal funding, called on the Biden administration for a moratorium on the practice.<sup>72</sup> In 2020, a group of advocates and scholars argued that molecular HIV surveillance dehumanises people and, like HIV criminalisation, can be “weaponized in racist, classist, xenophobic, misogynistic, homophobic, and/or transphobic ways”.<sup>73</sup> In 2020, researchers at the University of Washington (USA) decided to pause their molecular HIV surveillance project, instead publishing lessons learned through the process of consulting with HIV advocates.<sup>74</sup>

Outside of the USA and Canada, the Ethics in HIV Phylogenetics Working Group raised concerns about the increasing use of molecular HIV surveillance in low-income countries where restrictions on data sharing could be weak.<sup>75</sup> A 2021 global review by HIV Justice Worldwide catalogues human rights concerns that experts and advocates have raised about this technology, including its evidentiary restrictions, privacy issues, and its potential to intensify the marginalisation of already oppressed populations (panel 2).<sup>76</sup>

## Conclusions

It is an inevitable limitation of this Review that most of the peer-reviewed literature on HIV criminalisation is from the USA and Canada. As noted above, it is not possible to generalise from this literature to the rest of the world, although some of the most human rights-unfriendly elements of HIV criminalisation seem to have been exported intact to other regions. From the extensive materials collected by NGOs from other regions it is nonetheless possible to conclude that HIV criminalisation is a global concern.

Criminalisation of HIV non-disclosure or potential or perceived exposure or transmission is inconsistent with the human rights-based response to HIV espoused in UN strategies for decades. It adds to the legal and societal burden faced by those who experience discrimination based on race, class, gender, sexual orientation, and immigration status as well as criminalisation of other kinds. It is enabled by laws and a criminal legal system that in many cases have not caught up with the science of HIV, deploying the machinery of the criminal law as a response to conduct posing little or even no risk of transmission. It punishes people harshly even in cases where no bodily harm can be discerned and where there has been no intent to cause harm—indeed, even in some cases where people have actively sought to eliminate or reduce the risk of others acquiring the virus. It reinforces HIV-related stigma and can discourage people from seeking health services. It is a vehicle for the misuse of phylogenetic evidence and the public health apparatus of molecular surveillance.

Any benefits of HIV criminalisation, which are hard to discern from existing research, must be weighed against

the enormous costs of deepening stigma and fear among people living with HIV and that of incarceration, coercion and blackmail, police investigation, criminal proceedings, media hysteria, having to carry a criminal record or sex offender status, and being faced with deportation. The myth that HIV criminalisation protects women from predatory men should give way to investment in proven measures to address gender-based poverty, violence, and discrimination. Financial support for the work of networks of people living with HIV in low-income and middle-income countries to document HIV criminal laws and their impact would be useful.

At a time of reckoning on race in global health, it behoves governments to review, reform, and repeal laws that exacerbate the harm that centuries of White colonialism have visited upon racial minorities and Indigenous people. Significantly reducing HIV among sex workers, people who use drugs, criminalised LGBTQI people, migrants, and people in the criminal justice system remains central to the Global AIDS Strategy and would be helped by eliminating HIV criminalisation. And in a time of emerging infectious diseases, HIV criminalisation sets a dangerous precedent. The few but dramatic cases of attempted murder charges that have been brought for alleged HIV transmission in the context of rape in South Africa were the closest precedent for attempted murder charges brought against two men who refused quarantine after having tested positive for SARS-CoV-2 in 2020.<sup>85</sup> The demonisation of so-called COVID-19 carriers in too many countries is at least partly a shameful legacy of HIV criminalisation.

## Contributors

JC and RE collaborated on the original draft. EJB reviewed and made significant revisions to the draft. All authors read and approved the final draft.

## Declaration of interests

We declare no competing interests.

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JC and RE were previously affiliated with the HIV Legal Network (previously Canadian HIV/AIDS Legal Network). EJB is the Executive director of the HIV Justice Network, which is the secretariat of HIV Justice Worldwide, and RE chairs the supervisory board of the HIV Justice Network. The publications of all of these bodies are featured in this Review, which we consider inevitable given their central involvement in analysing HIV criminalisation.

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