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HIV criminal prosecutions and public health: an examination of the empirical research

Patrick O'Byrne, Alyssa Bryan, Marie Roy

Faculty of Health Sciences, School of Nursing, University of Ottawa, Ottawa, Ontario, Canada

Correspondence to
Dr Patrick O'Byrne, Faculty of Health Sciences, School of Nursing, University of Ottawa, 451 Smyth Road, Ottawa, ON, Canada K1H 8M5; pjobyrne@uottawa.ca

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ABSTRACT

Objectives To review the extant literature on HIV criminal laws, and to determine the impact of these laws on public health practice.

Methods The available research on this topic was obtained and reviewed.

Results The extant literature addressed three main topics: people's awareness of HIV criminal laws; people's perceptions of HIV criminal laws; and the potential effects of HIV criminal laws on people's sexual, HIV-status disclosure and healthcare-seeking practices. Within these categories, the literature demonstrated a high level of awareness of HIV criminal laws, but a poor comprehension of these laws. For perceptions, on the whole, the quantitative research identified support for, while the qualitative literature indicated opposition to, these laws. Lastly, the behavioural effects of HIV criminal laws appear to be complex and non-linear.

Conclusions A review of the extant literature from a public health perspective leads to the conclusion that HIV criminal laws undermine public health.

INTRODUCTION

Recently, the number of criminal prosecutions against people living with HIV (PHAs), whether for HIV-status non-disclosure or transmitting or exposing others to HIV, have increased internationally.[i] [1] Simultaneously, research examining these laws has intensified. At present, however, neither a concise summary nor an in-depth review of the literature that describes the public health effects[ii] of such criminal laws exists. This paper aims to overcome this shortcoming by examining the empirical literature on HIV criminal law and public health. This literature was collected from an unrestricted review in CINAHL and PubMed, an examination of the reference lists of the articles identified from the foregoing databases, and a search of the identified publications using Web of Science to locate missing articles. When the literature that was neither empirical nor health-focused was excluded —such as legal and human rights analyses,[2–8] or jurisdiction-specific explorations of public health practices[9]—the remaining research on HIV criminal laws was summarised as focusing on three areas: (1) awareness of these laws; (2) perceptions of these laws; (3) effect of these laws.

AWARENESS OF HIV CRIMINAL LAWS

Research identifies that, in most study samples, the majority of respondents were aware of HIV criminal laws. For example, 76% of the 384 PHA participants who completed the survey of Galletly *et al*[10] [11] were aware of Michigan's HIV criminal laws. The similar study of Galletly *et al*[12] in New Jersey, involving 479 PHAs, found that 51% of respondents were aware of their state's HIV laws. Also, in an online survey of 12 155 gay men in the UK, Weatherburn *et al*[17] identified that 76.8% of respondents knew that 'some people with HIV have been imprisoned in the UK for passing their infection to a sexual partner' (p38).

Three Canadian studies obtained similar results. First, in Calzavara *et al*'s[13] online survey involving a random sample of 2139 Canadians, 87% were aware that PHAs could be prosecuted for non-disclosure. Second, Adam *et al*[14] reviewed the responses from 934 PHAs who had participated in two previous research projects in Ontario, and found that 96% (n=420/438) in one study and 87% (n=430/492) in the other study reported being aware of Canadian HIV criminal laws. Third, O'Byrne *et al*'s[15] [16] survey in Ottawa found that 90.2% of the gay, bisexual and men who have sex with men (MSM) respondents, of which ~10% were HIV-diagnosed, were aware that people can be prosecuted for HIV-status non-disclosure.

Despite a high level of reported awareness of HIV criminal laws, Weatherburn *et al*[17] found that most respondents understood these laws incorrectly. In the UK, the law is as follows: Outside of Scotland, HIV-positive persons cannot be prosecuted if HIV transmission were not to occur.[18] However, only 22.2% of respondents were aware that 'no one has been imprisoned in the UK for exposing someone to HIV … where infection did not occur', and only 21.3% knew that PHAs 'have been imprisoned in the UK for passing their infection without intending to do so' (Weatherburn *et al*,[17] p38). Likewise, interviews with 42 HIV-positive MSM by Dodds *et al*[19] revealed that

[i]Herein, the terminology 'HIV criminal laws' describes various pieces of law from around the world that are immensely heterogeneous. Depending on the jurisdiction, the law may focus on exposure, transmission, and/or non-disclosure, with each differing in regard to the assignment of fault and the eligibility of particular defences. In addition, some HIV criminal laws are HIV-specific, and others are applications of non-HIV legislation. For example, Michigan legislation mandates HIV-status disclosure before sexual penetration, whereas recent Supreme Court of Canada rulings used sexual assault law as follows: HIV-status non-disclosure constituted fraudulent presentation, which vitiated informed consent, and thus led to the legal conclusion that an otherwise consensual sexual act was a sexual assault under the law.

[ii]In this context, 'public health effects' denotes all HIV-related health outcomes—that is, HIV transmission to persons previously HIV negative, and the health and well-being of persons living with HIV, including symptom management, feelings of stigmatisation and isolation, social capital, and so forth.

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only one-third of participants accurately understood HIV criminal laws. However, whether or not such levels of understanding about HIV criminal laws differ from understanding about other laws is unknown. Similarly, the potential impact of such imprecise understanding of HIV criminal laws on public health is not known.

PERCEPTIONS OF HIV CRIMINAL LAWS

Whereas survey research highlighted support for HIV criminal laws, qualitative research identified opposition.[11 18–23] For instance, Galletly *et al*'s[12] New Jersey-based study of 479 PHAs found that 87% of respondents supported HIV criminal laws in instances of non-disclosure when transmission could occur, and 54% supported such prosecutions if condoms were not used during sexual contacts; no data were provided on respondents' HIV status. Likewise, in Horvath *et al*'s[21] study of 1755 MSM in the USA, the 65% of respondents who supported HIV criminal laws were more likely to have noted being HIV-negative or unsure of their HIV status, having fewer sexual partners in the previous 3 months, and having a 'non-gay sexual orientation' (p1225). Dodds'[20] survey of 8252 gay men yielded similar results: 57% of participants noted that they 'think it is a good idea to imprison people who know they have HIV if they pass it to sexual partners who do not know they have it' (p509). Respondents who supported HIV criminal laws in this study were more likely to (a) have never been tested for HIV or, ostensibly, be HIV negative, (b) have male and female sexual partners, and (c) have fewer partners.[7] Lastly, three Canadian studies identified comparable results. In Myers *et al*'s[24] survey of 1235 MSM, 65% agreed that HIV non-disclosure should be a criminal offence; support ranged from 98% if the intention had been to transmit HIV, to 30% for protected anal sex. In Calzavara *et al*'s[13] survey of 2139 Canadians, 55% felt that HIV criminal laws were 'appropriate' for non-disclosure, and 17% said they were 'probably appropriate'.

However, in the Canadian studies, respondents also indicated that HIV criminal laws appear to exacerbate stigma. In Myers *et al*'s[24] study, 62% of respondents noted their beliefs that such laws increase discrimination, and 18% felt HIV criminal laws make it better to be unaware of one's HIV status. In Kesler *et al*'s[25] study of 442 MSM, 7% noted that HIV criminal laws make them less willing to undergo HIV testing, with this percentage being 15% among respondents having unprotected anal sex with casual partners, versus 2% among those reporting protected sex. For Calzavara *et al*,[13] 41% of 2139 survey participants likewise noted that these laws worsen stigma and 31% indicated that these laws deter people from undergoing HIV testing.

Qualitative studies on this topic, moreover, uncovered strong opposition to HIV criminal laws. Focus groups with 31 PHAs in the study of Galletly and Dickson-Gomez[22] highlighted that, while participants agreed they should prevent HIV transmission, they felt that legally mandated disclosure could (a) make them susceptible to false accusations without adequate defence or fair trial and (b) burden them not only with the associated HIV health issues but also with all HIV-prevention responsibilities. Dodds *et al*'s[19] qualitative responses from persons who opposed such laws similarly identified perceptions that prevention is a shared responsibility, while adding, first, that imprisoning PHAs would not prevent, but rather worsen, HIV transmission, and, second, that criminal laws exacerbate HIV stigma and deter testing. Dodds *et al*'s[18] interviews with 41 PHAs in England and Wales corroborated these perceptions about stigma, and added that participants had (a) uncertainty about the boundaries of HIV criminal laws and (b) incorrect understandings HIV prevention. Lastly, in a Toronto study involving 34 HIV-positive and HIV-negative gay men, Adam *et al*[23] identified that participants were also uncertain about HIV criminal laws, including worries about how one can prove that disclosure had occurred; most also felt that HIV prevention is a shared responsibility.

EFFECTS OF HIV CRIMINAL LAWS

The extant literature also contains examinations of the public health effects of HIV criminal laws using an array of initial—and imperfect—measures for public health; for example, persons' self-reported sexual activities, HIV-status disclosure practices, and/or sexually transmitted infection (STI) or HIV testing behaviour. One such study, from Horvath *et al*,[21] concluded that HIV criminal laws did not deter 'sexual risk taking' based on the finding that, among 1725 MSM, the self-reported number of unprotected sexual contacts with casual or regular partners did not change depending on the presence or absence of jurisdictional HIV criminal laws (p1226). Similarly, Burris *et al*'s[26] comparison of 248 participants from Chicago and 242 from New York City identified that the participants living in a state with HIV criminal laws (Illinois) did not report different sexual practices from the participants residing in a state without such laws (New York). Galletly *et al*'s[12] survey responses from 479 PHAs from New Jersey corroborated the finding that awareness of HIV criminal laws was not associated with decreased sexual risk-taking. Galletly *et al*'s[11] survey of 384 PHAs from Michigan yielded the same results: awareness of HIV criminal laws was not associated with 'decreased HIV transmission risk behaviour' (p174).

Nonetheless, in Gallety *et al*'s[11] Michigan study, participants aware of HIV criminal laws were more likely than those unaware to have reported HIV-status disclosure before their first sexual contact with a new partner. In the same study, respondents who noted that HIV criminal laws were 'very important' in influencing their decisions about HIV-status disclosure were also significantly more likely to have reported that they disclose their HIV status.[11] Kesler *et al*'s[25] survey of 442 MSM similarly found that 43% of PHA participants reported being both more likely to disclose their HIV status and to use a condom because of HIV criminal laws.

Dodds *et al*'s[18] review of qualitative responses from PHAs, however, identified that one should approach the foregoing associations between HIV criminal laws and HIV disclosure/condom use with caution. In Dodds *et al*'s[18] study, nearly half of the participants described how HIV criminal laws have no effect on them because they were already minimising HIV transmission or disclosing their HIV status. Furthermore, while eight of Dodds *et al*'s[18] participants reported they had begun disclosing their HIV status and minimising transmission more consistently as a result of HIV criminal laws, five stated that these laws had conversely caused them to disclose less and to enhance the anonymity of their sexual encounters. Thus, while the survey data suggest that HIV criminal laws correspond to disclosure and condom use, in-depth qualitative responses clarify important nuances in this relationship.

O'Byrne *et al*'s[15 16 27] studies in Ottawa have further highlighted that the relationships between HIV criminal laws and persons' sexual, disclosure and testing practices are neither direct nor straightforward. In O'Byrne *et al*'s[15 16] survey study, among participants who were HIV negative or unsure of their status, 17% noted that HIV criminal laws affected their testing; these participants also reported more unprotected anal sex than the 83% of participants who noted that HIV criminal laws do

not affect their testing practices.[15 16] In this same study, respondents who noted being HIV negative or unsure of their status, and who indicated that HIV criminal laws affected their testing, were also less likely to undergo STI, but not HIV, testing.[15 16] Anonymous testing confounded the results surrounding HIV testing because noting that HIV criminal laws affected testing corresponded to a higher preference for, and use of, anonymous HIV-testing services.[13] While the participants who were concerned about HIV criminal laws were thus still accessing testing, they were doing so in a manner that prevented public health follow-up and support and access to treatment. Lastly, the participants in O'Byrne *et al*'s[15 16] research who reported that HIV criminal laws either affected their testing or made them afraid to speak with nurses/physicians were more likely to be HIV positive, signalling that HIV criminal laws undermine the provision of both healthcare and HIV-prevention services for persons diagnosed with HIV.

Adding to these findings on the complicated relationships between HIV criminal laws and HIV testing is another O'Byrne *et al*[27] study, which explored changes in HIV testing and diagnosis figures in Ottawa before and after high-profile media releases about a non-disclosure prosecution in the same city. This study highlighted that HIV testing and diagnoses for MSM did not significantly change pre/post the media releases of interest.[27] In light of the aforementioned survey data, these findings were unsurprising. First, the number of men who reported being affected by HIV criminal laws in O'Byrne *et al*'s[15 16] previous survey studies was so small that it would probably not have produced an effect at the aggregate level. Second, analyses of anonymous testing were not undertaken as part of O'Byrne *et al*'s[27] population-level HIV testing project, meaning that changes in HIV testing could still have occurred, but were simply not captured. In other words, after the media releases, no data were collected to examine if the number of people who underwent anonymous HIV testing changed. Third, there are no available data on the perceptions of persons' undergoing anonymous HIV testing to examine if and how HIV criminal laws and concerns about testing positive for HIV influence their selection of anonymous HIV-testing services.

Moreover, Mykhalovskiy's[28] interviews with PHAs (n=28), frontline HIV workers (n=8), lawyers (n=4), and health workers (n=16) further demonstrated the complex interrelationships between HIV criminal laws and public health. This study not only reinforced that many PHAs are confused about what HIV laws proscribe, but also—and as a novel finding—highlighted that health professionals had begun to counsel PHA patients 'with an eye to the law', meaning that the criminal law influenced their clinical practice (p672). These health professionals felt that this change (1) discouraged PHAs' candour during clinical situations, (2) decreased PHAs' willingness to access care, and (3) resulted in these clinicians erroneously classifying all HIV transmission probabilities as identical.[28] This last point, problematically, meant that HIV criminal laws were causing the health professionals in Mykhalovskiy's[28] study to negate the available understanding about how to effectively prevent HIV transmission. O'Byrne and Gagnon's[29] meeting with 47 clinicians corroborated Mykhalovskiy's[28] findings: clinicians were uncertain about the scope of HIV laws, stated that these laws made them classify all HIV transmission risks as identical, and that counselling about HIV criminal laws undermined the care they provide to PHAs. O'Byrne and Gagnon[29] added that HIV criminal laws affected some clinicians' decisions about documentation because of concerns that patient files could be submitted as evidence in court. They furthermore asserted that this selective documentation could undermine communication between healthcare professionals and, ultimately, compromise patient care.

Lastly, O'Byrne *et al*'s[27] qualitative work, involving 12 HIV-positive and 15 HIV-negative MSM, corroborated the foregoing findings that HIV criminal laws impeded clinical practice from the patient perspective. Regardless of HIV status, participants in O'Byrne *et al*'s[27] study inaccurately believed that public health units inform the police about PHAs who violate HIV criminal laws.[iii] Some HIV-positive participants noted that this belief about cooperation between public health officials and the police caused them, first, to wish they had undergone anonymous, not name-based, HIV testing and, second, to avoid health services, even when they reported wanting assistance to decrease onward HIV transmission.[27] Again, these findings highlighted that HIV criminal laws undermine HIV prevention involving individuals who are aware of being HIV positive. A recent study by Phillips *et al*,[30] which was a cross-sectional survey of 2182 adult PHAs at 16 sites across Canada, the USA, Puerto Rico, Namibia, China and Thailand, added to the complications that HIV criminal laws create for the health status and HIV-prevention efforts of PHAs. Indeed, Phillips *et al*[30] identified that PHAs 'living in jurisdictions where HIV is criminalised were less adherent (to HIV therapies) than those living where criminalisation is not a threat'. These authors concluded that, even among persons connected to healthcare services, HIV criminal laws corresponded to compromised health outcomes for PHAs.

HIV CRIMINAL LAWS AND PUBLIC HEALTH

As a first item, a major gap in the extant literature is that there is no evidence about how HIV criminal laws may affect the persons who are estimated to be involved in most onward HIV transmission—that is, individuals unaware of being HIV positive.[iv] Specifically, no studies examine the relationships between HIV criminal laws and the HIV-testing practices of such persons. Even the study of O'Byrne *et al*[27] on HIV testing and diagnoses before and after media publications about HIV prosecutions cannot answer this question. These authors examined the number of persons who underwent HIV testing and the proportion who tested positive; they did not collect data about HIV transmission or seroprevalence among MSM during the same period.[27] The stable number of positive tests therefore does not answer if HIV criminal laws deterred, enhanced or had no effect on HIV testing among MSM unaware they are HIV positive.[27]

[iii]It is important to note that in the jurisdiction where O'Byrne *et al*[27] undertook their research, public health units do not share information with the police without a court order to do so.

[iv]Researchers[31] from the American Centers for Disease Control & Prevention suggest that people unaware of being HIV positive are involved in 54–70% of onward HIV transmission. These researchers[31] formed this conclusion on the basis of studies which have highlighted that, after diagnosis, people become less likely and able to transmit HIV because they, first, eschew practices that transmit HIV[32 33] and, second, initiate medication, which, in combination with the natural progression of HIV, decreases infectiousness.[34–37] The outcome of these findings has been the assertion that decreasing the number of people who are unaware they are HIV positive should decrease ongoing HIV transmission.[38 39] Brenner *et al*'s[36] work, which examined new HIV infection diagnoses in Montreal, corroborated the finding that a high number of onward HIV infections probably occur during the acute HIV infection period.

What the current empirical studies do suggest, however, is that, while HIV criminal laws do not appear to affect most people—as this relates to their sexual, testing and disclosure practices—these laws do seem to affect the sexual, testing and disclosure practices of some individuals.[11 12 15–27] Within this small group, while HIV criminal laws corresponded to behaviour change (increased disclosure) for a limited minority, for a larger number, these laws were associated with changes that may exacerbate HIV transmission—that is, STI testing avoidance or increased unprotected anonymous sexual contacts.[11 12 15–27] Furthermore, for persons who belong to populations with high HIV incidence/prevalence, the current literature complicates the simplistic assumption of a direct correlation between HIV criminal laws and the complex reasons underlying people's sexual, disclosure and STI/HIV-testing practices.[11 12 21 26 27] As Lazzarini *et al*[7] noted, HIV criminal laws do not create a social norm for HIV-status disclosure or safer sex. Instead, these laws have little or no effect on sexual and/or communication practices of most people.[8]

As these findings relate to public health outcomes and effects, findings about increased anonymous testing, coupled with increased anonymous sex and decreased HIV-status disclosure,[16 19] identify that, although the number of persons affected by HIV laws may be small, the impact of these laws is probably detrimental to the general public health.[v] Specifically, anonymous testing often does not permit persons diagnosed with HIV to initiate treatment or seek care, both of which improve PHAs' health status and decrease infectiousness through psychosocial support, symptom management and viral load suppression.[30 34 35] Anonymous HIV testing, furthermore, limits the abilities of public health nurses to prevent onward HIV transmission by notifying the partners of newly diagnosed PHAs about their potential HIV exposures; this public health follow-up involves advising persons who have been exposed to HIV to undergo HIV testing and to minimise the chance of further HIV transmission in the meantime. Likewise, the increased anonymity of sexual practices reported by some PHAs[19] as a result of HIV criminal laws further undermines any future partner notification.

Moreover, in light of identified misunderstandings about HIV prevention among some PHAs,[19] research findings which suggest that HIV laws undermine some PHAs' healthcare-seeking practices[15 16 27 30] further indicate that HIV criminal laws probably compromise public health and other clinicians' abilities to (1) establish therapeutic relationships, (2) evaluate medication effects and viral load suppression, (3) provide accurate information about HIV prevention, and (4) detect and treat STIs. Problematically, each of the foregoing items that HIV criminal laws may affect has been associated with decreased HIV transmission.[vi 31 34 35 43]

In contrast, based on a review article comprising 15 empirical studies,[44] HIV-positive status disclosure is an unreliable, and probably counterproductive, HIV-prevention initiative because, not only does such disclosure not consistently correspond to practices that limit HIV transmission, but also, in some studies, disclosure was associated with the occurrence of riskier sexual practices. Furthermore, HIV-status disclosure is a poor HIV-prevention strategy because it relies on people knowing they are HIV positive when an estimated 26%, 25% and 33% of HIV-positive people in Canada,[45] the USA[46] and the UK,[47] respectively, are unaware of their HIV status. Such persons, unaware of being HIV positive, thus erroneously inform sexual partners they are HIV negative.

In addition, compromised healthcare seeking by PHAs limits the potential services that public health officials and allied health professionals can offer to individuals who, for whatever reasons, cannot 'take precautions to prevent the spread of HIV' (OACHA,[48] p2). Currently, as identified by the qualitative study of O'Byrne *et al*,[15] PHAs experiencing such difficulties who want public health support to decrease HIV transmission reported that they did not feel safe speaking with health professionals; accordingly, these research participants noted they did not access care. In such instances, HIV criminal laws clearly undermine public health practice: persons who self-identify as needing assistance to maintain long-term HIV-prevention efforts, and who, consequently, fall within the mandate of public health, reported that they do not access services because of HIV criminal laws.[vii] Disconcertingly, these missed opportunities for HIV prevention are not potential HIV exposures between possibly serodiscordant partners; instead, they are scenarios that PHAs have identified as being instances of probable HIV transmission. The HIV-prevention importance of providing additional assistance is, in such cases, of the utmost priority.[49]

CONCLUSION

In summary, the nascent literature about HIV criminal laws and public health identifies that these laws (a) do not uniformly affect sexual risk-taking, (b) correspond to poor HIV-medication adherence and reluctance to access healthcare, and (c) exacerbate HIV stigmatisation and discrimination. Empirical studies also highlight that the relationships between HIV criminal laws and HIV testing is not linear; subsequent analyses must, therefore, develop more sophisticated analyses which account for anonymous testing services and the sexual practices of the subsets of HIV-positive and HIV-negative persons concerned about these laws. Opinion polls on people's

[v]When considering the possible effects of HIV criminal law on public health, it is important to consider that, as part of their mandate to decrease infectious disease transmission and improve population health, public health authorities, for the most part, do not focus on persons who have already adopted practices that eliminate unwanted outcomes, such as onward infectious disease transmission. Rather, the priority for public health workers is the establishment of links with, and the reduction of transmission by, persons who continue to engage in behaviours that can transmit their infections. As Wolf and Vezina[8] noted, in contrast with the previously heavy-handed approaches used by public health, the contemporary strategy, particularly in HIV prevention, is one of voluntary cooperation, mutual respect, and joint implementation of public health prevention interventions. The understanding is that, without voluntary health service usage—such as HIV testing—HIV diagnoses and the subsequent notification of people exposed to HIV would diminish. Furthermore, the communicable nature of HIV indicates that delayed diagnosis in one case can correspond to a continually compounding number of additional cases in the future. White *et al*[40] demonstrated this onward transmission cycle with gonorrhea in Britain.

[vi]Because they induce increases in white blood cell concentrations, sexually transmitted infections often correspond to increased levels of HIV virus.[41 42] If the sexually transmitted infection is systemic—for example, syphilis—the ensuing viral load increases can be serological, while, in the case of localised infections, such as gonorrhea or chlamydia, these increased concentrations of HIV would be focused at the sites of infections (eg, male urethra).[41 42] Early detection and treatment of sexually transmitted infections thus appears to correspond to decreased HIV transmissibility.

[vii]Such outcomes thus resemble what O'Byrne[49] described as situation number six in his theoretical analysis of the possible outcomes of HIV criminal laws on the HIV prevention practices of persons who are both living with HIV and HIV-negative; unchanged HIV testing rates at the aggregate level among HIV-negative persons, coupled with decreased healthcare utilization among PHAs.

support for or against such laws will not advance contemporary understanding, and should be abandoned for more in-depth and intricate understanding about HIV criminal laws.

From a public health perspective, the conclusion of this review is that HIV criminal laws compromise the general public health. Even though a review of the existing empirical research suggests that such laws only appear to affect a small number of persons, these laws appear to undermine the abilities of public health officials and allied health practitioners to engage in partner follow-up, to detect and treat STIs, to initiate HIV therapies, to monitor viral load suppression, to offer HIV counselling, and to support and provide healthcare for PHAs. Problematically, the literature suggests that HIV criminal laws trade the foregoing initiatives—all of which both effectively improve PHAs' health status and prevent HIV transmission—for HIV-positive status disclosure, and which is neither an effective nor an efficacious prevention strategy, which furthermore, places the responsibility of HIV prevention solely on PHAs. What remains to be answered, in light of HIV criminal law prosecutions increasing globally,[1] is the effect that these laws are having on the HIV-testing practices of persons unaware they are HIV positive. Consequently, designing and implementing research to explore this issue is essential.

Key messages

- Internationally, HIV criminal laws are more common. At present, there are no analyses of the empirical data on such laws from a public health lens.
- A review and analysis of the currently available literature suggest that HIV criminal laws impede public health practice.
- The literature indicates that HIV criminal laws undermine relationships between public health officials and people diagnosed with HIV.
- This situation may worsen PHAs' health status, while also exacerbating onward HIV transmission.

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