HIV's Trajectory: Biomedical Triumph, Structural Failure

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See also Morabia, p. 1175, Landers et al., p. 1180, and the HIV/AIDS and Our World: 1981–2021 section, pp. 1231–1266.

The evolution of HIV care since the reporting of the first cases of what was called "Gay-Related Immune Deficiency" 40 years ago has been truly remarkable. In the early years of the AIDS crisis, fervent advocacy from social movements rapidly transformed biomedical research. Accelerated drug development, regulatory change, and improved ability to parse toxic experimental treatments from medications that are safe and effective all improved the HIV response. In time, focus shifted to treatment as prevention. Improvements in the "HIV care continuum" helped save many lives, reframing HIV from a death sentence to a manageable chronic condition.

But the trajectory of HIV is as much a story of biomedical triumph as it is a story of abject structural failure. Despite remarkable scientific advances, this epidemic has persisted and morphed, placing an increasing burden on our society's most vulnerable. Early gains have stalled in the United States and around the world. New hotspots are emerging, with a disproportionate impact on minoritized and stigmatized populations, especially people who use drugs (PWUD).[1] As PWUD and other key populations have not benefited equally from biomedical advances, infection control targets remain out of reach.

TODAY'S HIV EPIDEMIC

From the early days, substance use has remained one of HIV's principal risk factors. As of 2018, people who inject drugs are 22 times more likely to acquire HIV than is the general population.[2] This is further exacerbated among minoritized racial and ethnic groups, who continue to face a disproportionate burden of new infections and HIV-related disease.[3] Although the proportion of new cases attributed to injection drug use was decreasing, there is now an increase in cases among people who inject drugs in parallel with the overdose crisis. As injection-related drug consumption has expanded to new settings, both urban and rural areas have seen new outbreaks.[4]

Substance use also increases HIV risk among those who do not inject drugs. A number of mechanisms explain why substance use affects HIV risk. These include biological vulnerability to seroconversion during drug consumption and sexual activities. For instance, among women who use substances, HIV seroincidence was five times that of the general population.[5] Substance use also shapes HIV risk through situational contexts and social networks. However, a major source of the HIV risk environment for PWUD emanates from policies related to substance use and other kinds of addiction.

DRUG POLICY'S TOXIC ROLE

Often billed as population-level "remedies," laws and other policies play a central role as responses to societal ills. These include public health challenges, whereby policies across institutions and governments shape disease prevention, control, and treatment. Despite the "remedy" moniker, however, claims rationalizing drug policies rarely receive sufficient scrutiny. Partly as a result of the AIDS crisis, reasonably robust systems of biomedical research and regulatory approval are now in place to ensure that medical remedies for individuals are safe and effective before they hit the market. By contrast, little protection currently exists to shield communities from ineffective, even toxic, policies.

Of course, the "policy remedy" metaphor is limited by the marked differences in how policy measures are generated, adopted, and analyzed. Their remedial public health function is complicated by the reality that policies are developed with a diverse—and often conflicting—set of motivations, rationales, biases, and technical expertise. Empirical research continues to play a limited role in policy formation; certainly nothing akin to a regulatory gatekeeper is available to evaluate potential benefits and harms of proposed policy solutions. As a result, poorly designed policies and gaps in their implementation often limit street-level benefits. Policies' collateral harms are seldom systematically documented; when known, they are too often ignored.[6]

Drug laws in the United States aptly exemplify a policy arena where many interventions are neither safe nor effective.[7] Spurred by racism and xenophobia, the United States has charted a hyperpunitive path in regulating certain forms of substance use for nearly a century.[8] This approach has failed to exert meaningful "control" over supplies or problematic use. Instead, it cascades to iatrogenic detriment, including fueling crisis levels of HIV, hepatitis, and overdose.[7] It has caused broader structural damage, with a disproportionate impact on Black, Indigenous, and Latinx people, including the extensive harms of mass incarceration, environmental degradation, and the crowding out of resources for health and supportive programming. The United States has exported its toxic approach globally by transplanting its drug policies to and imposing them on other countries—sometimes using direct force.

There are numerous examples of drug policies hampering HIV response. Laws criminalizing possession and distribution of injection equipment have directly fueled transmission among people who inject drugs. Incarceration for drug-related and other substance use–related charges have detrimentally affected the continuum of care, including adherence to treatment and access to prevention (e.g., preexposure prophylaxis) for people living with HIV. Disruptions in substance use disorder treatment not only adversely affect adherence to HIV pharmacotherapy and prevention, but also sharply amplify the risk of overdose on reentry.

By codifying stigma, these policies have also resulted in a separate and unequal system of care for addiction. The byzantine regulation of opioid agonist therapy has reduced access and increased racial disparities.[9] Relatedly, the reliance on criminalizing women who use drugs has also fueled family separation and traumatic foster care removals for Black and Indigenous communities, disproportionately increasing intergenerational trauma, overdose, and HIV risk.[10]

The criminalization of substance use also affects broader access to health care. This limits the availability of psychotherapies and other modalities to treat cocaine, alcohol, and various substance use disorders, including the use of psychedelics. Various administrative gaps, stigma, and other factors limit the integration of HIV and hepatitis screening and pharmacotherapy with substance use treatment. Discriminatory zoning and other enforcement policies further marginalize PWUD from essential health and social services. Punitive policies also affect structural supports for PWUD and others in their communities and social networks. This includes availability of housing, employment, and social assistance, such as supplementary income and food programs.

Despite ample scientific knowledge about what works, legal barriers have suppressed the number and scope of syringe services and other harm-reduction programs. Well-researched interventions that reduce the risk of HIV and other drug-related harms, such as syringe services, have remained limited by policy constraints. Supervised consumption facilities, provision of injectable opioid agonist therapy, and other safe supply options available elsewhere globally have yet to be authorized in the United States. This has resulted in significant excess morbidity and mortality, including recent HIV outbreaks in Indiana, West Virginia, and Massachusetts.[4] Gains in expanding services for PWUD have often been reversed on ideological grounds; for harm reduction in the United States, progress has often been one step forward, two steps back.[8] The only thing more tragic than shuttering vital harm reduction program that could prevent HIV outbreaks is aborting services that had successfully brought such outbreaks under control; and yet, Scott County, Indiana, recently did just that (https://bit.ly/3xmiTkO).

Despite successful linking, retaining, and managing patients with HIV on antiretroviral therapy, substance use disorder treatment access remains low. By failing to diagnose and to engage and sustain significant proportions of people in evidence-based treatment, we are failing patients at every step. This results in surging levels of overdose, HIV, and other outcomes with a disproportionate impact on racialized groups.[3]

The toxic consequences of policy go beyond formal law. Law enforcement functions as an important mediator of the impact of policies on health risk. Research has shown that policing practices can and do block access to syringe

distribution, condoms, and other harm-reduction and treatment services for PWUD.[6,11] Based on persistent racial gradients in drug law enforcement, police encounters translate into racial disparities in HIV risk and seroconversion.[7]

In democratic societies, policies are amenable to feedback through participatory processes.[12] But pernicious legal and logistical barriers have blocked such possibilities by systematically excluding PWUD, especially minoritized populations, from civic participation. Disenfranchisement has created the inability to select representatives who craft drug and broader policies to advance, rather than hamper, public health gains.[13]

SHIFTING THE POLICY ENVIRONMENT

Currently, a failed drug policy framework blocks our ability to achieve key HIV-control targets. Our 2030 goals will require not only eradicating toxic laws but also addressing the downstream effects of these policies.[14]

Progress in HIV prevention and treatment among PWUD demands major policy reforms. Because the very purpose of criminal law is to stigmatize, there can be little progress on stigma reduction without reforming criminal law. Statewide drug decriminalization in Oregon along with local efforts indicate growing momentum for positive change.[8] Policies outside criminal law must also relinquish punitive, stigmatizing, and intrusive approaches to substance use now dominant in family, housing, education, immigration, voting, and numerous other legal arenas.[14,15]

Although formal policy reform is vital, it alone is not sufficient. Advances in HIV response must also engage the intersectional movements to reform policing that are now unfolding globally.[8] Reclaiming resources from carceral, racist systems creates opportunities to address the root causes of drug use, namely early childhood trauma, poverty, homelessness, and violence.[14]

As with biomedical advances, there is a positive feedback loop between scientific progress, social movements, and government action. Given the extensive evidence of iatrogenesis in current approaches, what is needed now more than ever is a major social movement to relegate these toxic policies to the dustbin of history; ending HIV depends on it. AJPH

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CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

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