

The Fight to Increase Life Expectancy for HIV-Positive People Who Smoke

By Pritika C. Kumar and Damon Jacobs



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Introduction

Smoking is one of the leading causes of mortality worldwide.¹ Smoking rates among those living with human immunodeficiency virus (HIV) or acquired immunodeficiency syndrome (AIDS) are two to three times higher than among the general population of the United States—making combustible-tobacco-related diseases the number one cause of mortality among people living with HIV (PWH).² Significant social and psychological barriers make quitting even more challenging for smokers with HIV than for others.³ Existing research demonstrates the effectiveness of interventions tailored to the unique needs of PWH, including simultaneous attention to polysubstance and mental health issues; improved access to cessation support; and increased use of harm reduction measures, like reduced-risk tobacco and/or nicotine products for adult smokers with HIV who are unable or unwilling to quit tobacco use.⁴

Smoking Prevalence in People with HIV

When the Centers for Disease Control and Prevention (CDC) announced in 2017 that new HIV diagnoses had dropped by 18 percent in 2014, it was a call for celebration.⁵ With the drastic improvement in life expectancy for PWH due to antiretroviral treatments (ARTs), smoking is now the leading cause of preventable deaths for PWH, just as it is for the general population in the United States.⁶ A recent study of 19,000 PWH from the United States and Europe found that more life years were lost to smoking than to HIV.⁷ Cigarette smoking rates among PWH is two to three times higher than rates among the general population in the United States, with some studies suggesting a prevalence of 60 to 70 percent.⁸ Consistent with this data, research models looking at smoking cessation and HIV prevalence in the United States found that over 40 percent of PWH receiving care are current smokers, with an additional 20 percent being former smokers.⁹

Due to a confluence of various social and psychological factors—such as higher rates than the general population of substance use, mental health diagnoses, low socioeconomic status and poor access to care—disproportionately higher smoking and HIV rates coexist in marginalized groups such as lesbian, gay, bisexual, transgender and queer (LGBTQ+) individuals; racial and ethnic minorities; those who use intravenous drugs.¹⁰ The prevalence of current cigarette smoking in the United States among LGBTQ+ adults is 16 percent compared to 12 percent in heterosexual adults.¹¹ New HIV infections continue to be disproportionately diagnosed in young (13 to 29), African American or Latino bisexual men.¹² A recent study projected that by the mid 2040's, more gay and bisexual men will

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die from smoking than from HIV or AIDS.¹³ Additionally, male PWH are more likely to be smokers compared to female PWH, as are PWH less than 35 years of age, those with less education, those reporting problematic drinking behaviors (binge drinking or lifetime alcohol treatment) and those with substance use disorders.¹⁴

Health Consequences of Smoking in PWH

Smoking combustible cigarettes affects nearly every part of the body, leading to cancer, heart disease, stroke, lung diseases, diabetes and chronic obstructive pulmonary disease (COPD). Smoking also increases the risk of tuberculosis, certain eye diseases and problems with the immune system, including rheumatoid arthritis. Exposure to secondhand smoke carries a significant risk of disease and death for nonsmoking adults and infants.¹⁵ Compared to non-smoker PWH, smokers with HIV are far more susceptible to developing health issues such as bacterial and fungal pneumonia, tuberculosis, lung cancer, cardiac arrest and emphysema.¹⁶ In fact, lung cancer is now the primary cause of cancer-related death among PWH in the United States.¹⁷ Scientific studies have shown that smokers with HIV lost over six years of life expectancy from smoking, outweighing the loss from HIV infection itself; those who quit smoking upon entering HIV care regained five to six years of life expectancy.¹⁸

Tobacco-Control Strategies

The best way to avoid adverse tobacco-related health outcomes is to not smoke at all.¹⁹ This is the primary approach promoted by the CDC to prevent or reduce the burden of disease and death due to combustible tobacco use. In fact, people can experience positive changes in their physical health minutes after their last cigarette. Within 15 to 20 years of quitting, health benefits include reduced levels of carbon monoxide in the blood and reduced risk of heart disease and cancers—nearly on par with that of someone who never smoked.²⁰

In the last two decades, public-health-centered policies have proven effective in helping reduce smoking rates in the United States. Reductions in tobacco advertising, age restrictions on sales, clean indoor air laws and taxation are all effective tools in a tobacco-prevention framework.²¹ For example, the strategy to increase taxes on tobacco, amounting to higher retail price of cigarettes, has helped reduce smoking rates and tobacco-related adverse health outcomes—but this is not uniformly true across diverse demographics.²²

Barriers to Tobacco Cessation in PWH

Despite the clear benefits of smoking cessation, it is extremely difficult to quit smoking.²³ Studies have shown that even though 70 percent of smokers would like to quit, only five to seven percent are successful due to the highly addictive properties of nicotine.²⁴ Similarly, most PWH who smoke want to quit, but PWH are even less likely to quit smoking than the general population.²⁵

Significant social factors contribute to the disparity in smoking cessation rates among PWH and the general public, including familiarity with the use of cessation aids like nicotine replacement therapy (NRT).²⁶ Other factors include concomitant substance use; mental health issues; motivation and self-efficacy to quit; risk perception associated with smoking; and medication adherence issues.²⁷ Many of these factors coexist in PWH, particularly among racial and ethnic minorities; those identifying as gay or bisexual; and men who have sex with men who do not self-identify.²⁸ There are several psychological factors that may also account for a higher prevalence of smoking among PWH, including HIV-related symptom distress.²⁹ The majority of smokers want to quit smoking and are aware of the negative health consequences, but many PWH express that smoking serves to help them “relax and manage their anxiety, anger and depression.”³⁰

Provider attitudes and practices have a significant impact on the smoking rates in their patient populations. Providers ideally are able to offer advice about quitting, prescribe

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effective prescription pharmacotherapies and raise awareness regarding reduced-risk nicotine products. Despite this, most health care providers do not feel equipped with appropriate training or do not feel that identifying tobacco use disorders is in line with their job responsibilities.³¹ In PWH communities, factors such as lack of confidence in NRT; lack of knowledge; lack of reimbursement for prescription medicines; lack of provider confidence in the patient's ability to quit; and lack of time in provider-patient clinical interaction keep smoking rates high.³²

As a case in point, smokers with HIV acquire lung cancer at a younger age compared to smokers without HIV. Based on this information, some experts recommend low-dose computed tomography (LDCT) screening for lung cancer for PWH who begin smoking in their youth.³³ However, data shows that LDCT screening is significantly underused in PWH who smoke.³⁴ Some of the key barriers include PWH smokers thinking that HIV will cause death and that smoking is therefore inconsequential; prevalence of co-existing substance use disorders and mental health conditions; tobacco use not addressed by clinicians; provider's lack of confidence or lack of knowledge about available tobacco treatments and resources; provider's concerns and misunderstandings about potential interactions between tobacco dependence medication treatments and ART; and competing demands on clinician's time.³⁵

Clinical guidelines used for the general population are unlikely to be effective for a vulnerable population like PWH, who face unique challenges. Simply setting a goal of quitting as the gold standard for adult smokers whose lives are enmeshed in a web of disparities and challenges is to set them up for failure.

Harm Reduction Framework: Time to Pivot

Harm reduction, a person-centered and rights-based approach, grew out of advocacy and activism. Supporting research has promoted harm reduction as a strategy to reduce the harms of injection drug use as well as prevent the sexual transmission of infectious diseases through the use of condoms, establishment of syringe exchange programs and use of methadone and buprenorphine.³⁶ Harm Reduction International defines harm reduction as "policies, programs and practices that aim to minimize negative health, social and legal impacts associated with drug use, drug policies and drug laws."³⁷ The last several decades have seen a broader applications of this strategy, including policy enforcement around the use of seat belts in cars, the public health promotion of wearing sunscreen and the use of helmets in sports. None of these protections are fully effective, but they empower individuals to reduce the harm that comes from engaging in risky behaviors.

Tobacco Harm Reduction

Given that combustible tobacco is the primary threat to mortality for smokers who are living with HIV, and considering the various hurdles to lowering smoking rates among PWH, there is an urgent need to embrace the pragmatic approach of tobacco harm reduction. Tobacco harm reduction strategies focus on reducing the health risk from smoking combustible tobacco products for adult smokers who cannot or will not quit—a risk-reduction philosophy familiar to the HIV community—instead of the shame-based approaches used to motivate people for complete smoking cessation.³⁸ Research has shown that shame-based appeals to motivate smokers to quit are ineffective in achieving the outcome of cessation, especially in people with low socioeconomic status.³⁹ The goal of tobacco harm reduction may not be cessation or abstinence, but rather helping an individual satisfy nicotine cravings, stay comfortable, maintain a locus of control and improve life quality and length.

Tobacco harm reduction can take several different forms. These include alternative nicotine delivery systems (ANDS); reduced-risk tobacco/nicotine products; noncombustible, smokeless tobacco; and nicotine-containing products such as smokeless

Tobacco Cessation Barriers for PWH



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tobacco, snus, e-cigarettes, nasal sprays, oral tobacco, gums and patches. Each of these options falls on the harm-minimization continuum upon which combustible tobacco products such as cigarettes and cigars represent the most harm.⁴⁰

Some of the more widespread and accepted forms of tobacco harm reduction include the use of Food and Drug Administration (FDA)-approved NRT and prescription medicines such as bupropion and varenicline.⁴¹ NRT works by substituting the nicotine delivered by smoking cigarettes and includes patches, gums, lozenges, mouth sprays and transdermal products. Behavioral interventions such as phone counseling (quit lines), text messaging support services and web-based interventions (telehealth visits) are also viable strategies.⁴² The long-term effectiveness of prescription medication remains low among PWH; the most effective results come from a combination of behavioral and pharmacologic treatments that incorporates comprehensive assessments, multiple sessions and cognitive-behavioral and motivational therapy strategies.⁴³

While completely quitting is the most effective strategy for improved health outcomes, “cutting down” or reducing the number of cigarettes per day (CPD), also known as the “reduce-to quit” approach, is a practical approach for reducing the burdens of heavier smoking.⁴⁴ Studies have shown clear survival advantages for lighter smokers compared to heavier smokers.⁴⁵ In addition, studies specific to PWH have shown promise in non-cessation-oriented strategies such as reducing the number of cigarettes smoked per day, reducing nicotine dependence levels and minimizing withdrawal symptoms for smokers who are either not interested or are unable to quit.⁴⁶

The U.S. government initially opposed harm reduction strategies such as methadone- and buprenorphine-assisted treatment for opioid use disorders.⁴⁷ Harm reduction activists (often people with lived experience) and researchers have played a pivotal role in raising awareness and producing consistent, high-quality data to justify state- and federally-funded harm reduction programs.⁴⁸ There is a similar uphill struggle with the use of federally regulated ANDS products as a harm reduction measure for adult smokers who cannot or will not quit.⁴⁹ The FDA authorized the marketing of select ANDS, and more recently, certain electronic nicotine delivery systems (ENDS).⁵⁰ While it seems that the FDA’s acknowledgement regarding the reduced risk profile of ANDS products would help further the cause of harm reduction efforts, many obstacles still must be overcome before reduced-risk tobacco/nicotine products are embraced.⁵¹ Some of these key challenges include the FDA’s indecisive stance on e-cigarettes; concerns over youth use; lack of longitudinal data on the health outcomes of e-cigarettes; increased skepticism after the false claims of the tobacco industry around filtered cigarettes and low tar brands; and claims from some public health academics of “big tobacco” co-opting the term tobacco harm reduction to add to their bottom line.⁵²

In 2017, then newly appointed FDA Commissioner, Scott Gottlieb, announced that the agency’s approach to regulating nicotine and tobacco products would take into account the continuum of risk, combining a nicotine-reduction approach for combustible tobacco products while allowing innovation in less harmful nicotine products, such as e-cigarettes, so that “adults who still need or want nicotine could get it from alternative and less harmful sources.”⁵³ However, poor publicity has affected perceptions around harm reduction technology. In 2019, 2,500 lung disease cases were reported in what has come to be referred to as the e-cigarette- or vaping-associated lung injury (EVALI) incidents.⁵⁴ The name is misleading because it attributes the cause of these illnesses to e-cigarettes, when investigations found that numerous e-cigarettes had been tampered with so that they could be used to inhale tetrahydrocannabinol (THC). The THC was diluted with an oil containing vitamin E acetate, which caused the cases of lung disease.⁵⁵ The EVALI incident served as an opportunity for anti-vape advocates to cast a blanket of doubt over all types of vapes. The initial false press around the EVALI outbreak did significant harm by spreading a misperception about e-cigarette safety, leading most Americans to believe that it was traditional, “Juul-type” e-cigarettes and not counterfeit marijuana vaping products that caused lung disease hospitalizations.⁵⁶

Tobacco Harm Reduction Risk Alternatives
(High Risk to Reduced Risk)



While the long-term impacts of e-cigarette products are still under-researched, there is solid scientific evidence that ANDS products are as much as 95 percent less harmful than combustible tobacco products and are therefore safer alternatives for people unwilling or unable to quit smoking.⁵⁷ There remain only a handful of studies that have explored this, one of which showed a significant decrease in cigarettes per day and an increase in motivation to quit in a group of 19 smokers living with HIV.⁵⁸ More research is necessary to determine which ANDS products would be effective harm reduction measures for PWH smokers.

Despite the mounting evidence that ANDS products are significantly less harmful than combustible cigarettes, there continues to be a pervasive nicotine abstinence goal in the United States that limits harm-reduction dialogues. The dogmatic approach that treats tobacco-free nicotine delivery systems as if they are as dangerous as the combustible products they replace is a concept that has been consistently disproven.⁵⁹

Conclusion

Abstinence is not a scalable strategy at a population level; as such, harm reduction that focuses on the individual needs of PWH who smoke is a suitable, complementary and practical approach. Interventions that resonate with marginalized communities are critical; a one-size-fits-all strategy will not provide the needed results. While NRTs and prescription medications offer short-term reprieve, the long-term effectiveness of these strategies have been disappointing for PWH who smoke. Generic practices and recommendations may not yield better health outcomes for PWH smokers given their specific needs and social context. Effectively improving the health outcomes of PWH smokers by addressing their smoking behavior in a comprehensive, empathic and pragmatic manner requires policy changes.

A concerted effort to educate all PWH about the dangers of smoking and raise awareness that smoking is the leading causing of mortality among PWH smokers would help enlist support for treatment and harm reduction options. Additionally, healthcare providers working with PWH should be trained to screen for tobacco use at clinical visits; offer cessation support along with behavioral therapy; and offer advice on strategies to reduce harm from tobacco use.

Research favors cross-sectoral efforts for targeted and tailored tobacco-control interventions including harm reduction strategies for adult PWH who smoke and are unwilling or unable to quit smoking. There are significant gaps in our understanding of the efficacy of current smoking cessation strategies as well as the effectiveness of ANDS products due to a lack of longitudinal studies and clinical trials.

Federal and local health agencies need to provide consistent, scientific information to providers who care for PWH, including accurate information regarding FDA-approved, reduced-risk nicotine products. The healthcare system should adopt an integrative health approach, one that includes addressing substance-use disorders as well as tobacco use for PWH. Proactive screenings such as LDCT screenings for PWH smokers at high risk can help individuals consider quitting, cutting down or reducing their harm by transitioning to ANDS products.⁶⁰ Additionally, educational outreach and training can help healthcare providers, patients and policymakers understand that while nicotine is highly addictive, the harmful element of tobacco use comes primarily from combustion.

Although it is worth reinforcing that there are no safe tobacco products, the importance of innovative, non-combustible, FDA-regulated ANDS products in reducing the fatal risk of combustible tobacco products can no longer be minimized or overlooked. While completely quitting smoking may be the most desirable outcome, this goal will do little good if it leads an adult smoker to relapse.



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