

Health Disparities in HIV Care and Strategies for Improving Equitable Access to Care

HIGHLIGHTS

- › Burdens, Barriers, and Approaches to Equitable Care for People With HIV
- › Clinical and Economic Impact of Suboptimal Care
- › Role of Managed Care in Improving HIV Care Equity

Health Disparities in HIV Care and Strategies for Improving Equitable Access to Care

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Health Disparities in HIV Care and Strategies for Improving Equitable Access to Care

OVERVIEW

This supplement to *The American Journal of Managed Care*[®] provides managed care audiences with an overview of the HIV epidemic that encompasses demographic disparities, disease management, barriers to optimal care, the consequences of suboptimal care, and the role of managed care in the United States.

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Health Disparities in HIV Care and Strategies for Improving Equitable Access to Care

Omar Daoud, PharmD; Jay E. Gladstein, MD; Diana Brixner, PhD, FAMCP; Stuart O'Brochta, RPh, AAHIVE; and Sarjita Naik, PharmD, MPH

Introduction

In the United States, HIV affects 1.2 million people—a relatively small proportion of the population—yet its prevalence is magnified within certain demographic groups; these include Black/African American, Hispanic/Latinx, and transgender people as well as individuals experiencing homelessness, people who inject drugs, and older adults (aged ≥ 55 years).^{1,2} However, the incidence of HIV infection is disproportionately high among younger people and particularly those aged 25 to 34 years.³ Geographical disparities in HIV incidence also exist in the United States, with 49% of new infections occurring in the South in 2022.⁴ People at the intersections of these identities and social/structural determinants of health (SDOH) often have an even greater risk of becoming infected with HIV compared with people who have fewer risk-determining factors.⁵

Despite the availability of highly effective treatment options for HIV in the form of antiretroviral therapy (ART),⁶ many people with HIV (PWH) do not receive adequate care. According to the CDC, 66% of PWH received HIV care, 47% were retained in care, and 57% of patients in care were virally suppressed in 2022.² Vulnerable and underserved populations tend to disproportionately experience negative effects of structural and SDOH—such as experiencing homelessness, stigma, and poverty—that prevent them from accessing HIV care and reaching favorable treatment outcomes.⁷ Many PWH also have higher rates of comorbidities, making treatment of HIV even more vital.⁸

Improving the treatment of PWH in the United States remains a focus of national and state-level agencies and organizations. The national Ending the HIV Epidemic (EHE) initiative aims to reduce new HIV infections in the US by 90% by the year 2030 through implementation of targeted approaches that focus on geographical areas requiring additional resources.⁷ An objective of the National HIV/AIDS Strategy is to ensure that all PWH have access to HIV care that is free of stigma and discrimination.⁷ This manuscript describes the current HIV landscape in the United States and the challenges associated with access and adherence to treatment. It also highlights the disproportionate impact of HIV on certain populations and the need for targeted interventions to address disparities in

ABSTRACT

The US HIV/AIDS Strategy and Ending the HIV Epidemic (EHE) initiatives aim to reduce HIV transmission by 90% by 2030 through targeted care and prevention initiatives such as the Undetectable=Untransmittable strategy. Effective HIV management involves implementation of widely available testing to ensure early diagnosis, immediate or early initiation of antiretroviral therapy (ART), patient adherence to medication, and retention in care to achieve viral suppression and improve clinical outcomes. A disproportionate burden of HIV incidence is experienced by certain populations that include Black/African American and Hispanic/Latinx people, transgender individuals, those who inject drugs, older adults, and people living in the southeastern US. People with HIV (PWH) in vulnerable and underserved populations are more likely to be affected by the negative impacts of structural and social determinants of health—such as experiencing HIV-related stigma, poverty, and homelessness—resulting in barriers to accessing HIV care and achieving favorable treatment outcomes. Suboptimal HIV care negatively impacts outcomes for both individuals and society. Overall and comorbidity-free life expectancies are lower for individuals who start ART late than for the overall PWH population, and a lack of viral suppression increases community transmission rates. These poor outcomes increase costs for both patients and health care systems. Maintaining access to high-quality care by optimizing ART regimens, decreasing delays in ART initiation, and engaging patients in care by building trust and empowering patient choice will improve individual and population-level outcomes and support the EHE initiative. This manuscript examines strategies to improve HIV care access and outcomes for underserved populations, focusing on social determinants of health, stigma, geographic disparities, and treatment adherence, while highlighting the role of national initiatives and managed care programs in advancing health equity.

Am J Manag Care. 2025;31:S3-S12

For author information and disclosures, see end of text.

care. Overcoming barriers to care and implementing targeted care approaches for key populations can reduce HIV transmission rates and alleviate the HIV burden in the United States.

Complex Care Considerations: Comorbidities and Treatment Burden

Regardless of the presence of SDOH, geographic factors, or patient age, PWH exhibit higher rates of certain comorbidities (eg, cardiovascular disease, chronic kidney disease, lower bone mineral density, increased rates of bone fracture, diabetes) compared with the general population.⁹⁻¹³ Overall and comorbidity-free life expectancies are lower for PWH than for those who are not infected with HIV.¹¹ Moreover, HIV infection is associated with conditions indicating accelerated aging that include cognitive impairment and gait-speed decline as well as with earlier occurrence of frailty-related disease.¹⁴⁻¹⁸

In PWH with multiple comorbidities, care management becomes more complex because of the increased pill burden and heightened potential for drug-drug interactions.⁸ Drug-drug interactions and polypharmacy may lead to a higher risk of adverse events and may compromise treatment efficacy for comorbid conditions.^{8,19,20} Therefore, careful monitoring, appropriate dosing, and individualized ART selection are imperative for ensuring optimal care.

The complexity of care also has important impacts on adherence and retention in care. Research comparing single-tablet regimens (STRs) vs multi-tablet regimens (MTRs) for HIV treatment demonstrated that STRs were associated with greater engagement in HIV care (Figure 1).²¹ In a retrospective study involving 1028 patients

who initiated ART at a health center in Texas, investigators examined adherence to ART, retention in care (ie, regularly attending HIV care services based on individual needs), and viral outcomes in patients receiving once-daily STRs compared with those given MTRs. The results showed that MTRs increased the risks of inadequate viral suppression and viral suppression failure.^{21,22} At 1 year after ART initiation, 80.7% of patients on STRs remained in care compared with 72.7% of patients on MTRs (unadjusted OR, 1.57; 95% CI, 1.17-2.11; $P = .003$).²¹ Additionally, patients on STRs exhibited higher rates of viral suppression compared with those on MTRs (84.4% vs 77.6%, respectively; unadjusted OR, 1.56; 95% CI, 1.14-2.15; $P = .006$).²¹ Regardless of the treatment regimen, prompt initiation of ART is crucial to allow PWH the best possible outcomes.²³

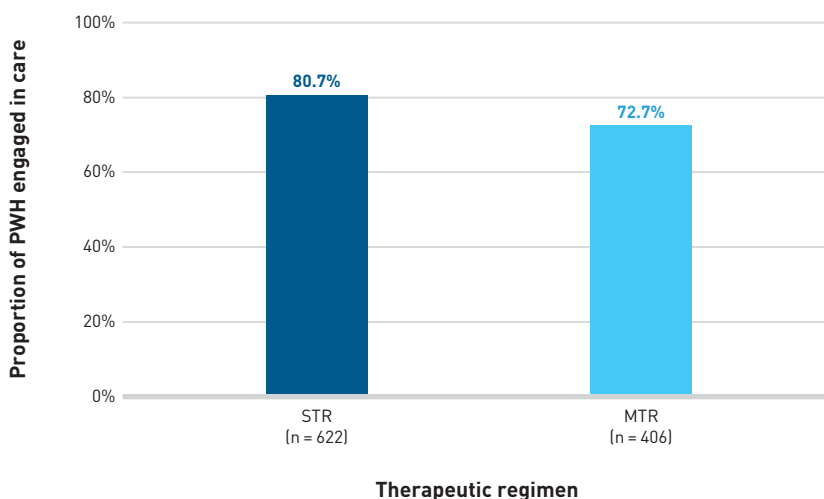
Suboptimal care can occur at any phase of the HIV care continuum, including prevention, diagnosis, linkage to care, continuous engagement in care, and viral suppression.⁷ Polypharmacy, a high pill burden, and multiple comorbidities can have a cumulative impact on the health care outcomes for PWH and may result in suboptimal care and failure of virologic suppression.²⁴ A lack of viral suppression among PWH may elevate community HIV transmission rates as demonstrated in a meta-analysis of 9 studies.²⁵ Estimates of transmission during primary infection (within 6 months after infection) were used to examine the relationship between viral loads and HIV transmission.²⁵ For each \log_{10} increase in viral load, the HIV transmission rate ratio increased by 1.5 to 2.9.²⁵ The importance of viral load is emphasized by the Undetectable = Untransmittable (U = U) initiative that was introduced in 2016 by the Prevention Access Campaign.²⁶ The campaign promotes findings that an individual

with HIV undergoing treatment and maintaining an undetectable viral load cannot transmit the virus to a sexual partner.²⁶ These results demonstrate the interconnectedness between the quality of care provided to PWH and its population-level impact. However, social and systemic barriers persist and dampen efforts to improve outcomes.^{7,27,28}

Barriers to Equitable Care for PWH

Barriers that can prevent PWH from receiving effective care include experiencing HIV-related stigma, mental health challenges, and various structural and SDOH aspects such as poverty and distance from HIV care (eAppendix Figure available at ajmc.com).^{24,27-29} Care considerations are also influenced by geographic factors, with access to care often constrained by the geographic region in which PWH reside.³⁰ Notably, of the 48 US counties most affected by the HIV epidemic and targeted by the EHE

FIGURE 1. Proportion of PWH From 1 US Clinic Engaged in Care 1 Year After Initiating ART With an STR vs an MTR^{21,a}



ART, antiretroviral therapy; MTR, multi-tablet regimen; PWH, people with HIV; STR, single-tablet regimen.
^aUnadjusted OR, 1.57; 95% CI, 1.17-2.11; $P = .003$.

initiative, approximately 48% are in the southern US.³⁰ Additionally, according to 2019 data from the CDC, adults residing in census tracts characterized by the highest poverty levels ($\geq 18\%$) exhibited the highest rates of HIV diagnoses but the lowest rates of linkage to HIV medical care within 1 month after receiving a diagnosis ($\approx 80\%$ of PWH), and the lowest rates of viral load suppression within 6 months of receiving an HIV diagnosis ($\approx 67\%$ of PWH).³¹ These rates may be partly influenced by treatment accessibility, with nearly 10% of PWH in the US having to travel more than an hour to access HIV care and 19% needing to travel more than 30 minutes.³²

Accessibility strongly impacts whether patients achieve viral suppression and are retained in care. An analysis of clinical data from electronic medical records assessed whether the travel distance to HIV care for patients in Washington, DC, was associated with retention in care and viral suppression. Participants were enrolled between January 1, 2011, and June 15, 2015, and were defined as being virally suppressed if their viral loads were less than 200 copies/mL. Retention in care was defined as having at least 2 clinical visits for HIV care a minimum of 90 days apart over a 12-month period. The Department of Health for Washington, DC, provided data on areas in which participants resided. The results revealed lower rates of retention in care and viral suppression for participants who traveled at least 5 miles to receive HIV care. The retention rate was 30% lower for those traveling at least 5 miles than for those who traveled shorter distances (adjusted OR, 0.71; 95% CI, 0.58-0.86). Similarly, patients who traveled 5 miles or more were 30% less likely to be virally suppressed than were those who traveled less than 5 miles (adjusted OR, 0.70; 95% CI, 0.52-0.94). Note that results may underestimate the role of distance to care and may not be generalizable to other cities or to PWH who have not been diagnosed or linked to care.³³

HIV-related stigma is compounded in vulnerable and underserved populations already experiencing stigma related to their race/ethnicity, gender identity, sexual orientation, or substance use.^{34,35} Experiencing stigma and discrimination from health care providers (HCPs) may result in worse clinical care.³⁶ Internalized stigma can worsen the mental health of PWH, and it has been associated with lower viral suppression rates.³⁷

Mental health conditions also strongly impact a patient's engagement with HIV care. PWH are more likely than people in the general population to have mental health challenges such as major depression (36.0% vs 7.6%) and generalized anxiety disorder (15.8% vs 2.1%, respectively).³⁸ PWH experiencing depressive symptoms are significantly less likely to adhere to ART compared with PWH without such symptoms. These results were determined in a cross-sectional study of 1131 PWH that investigated whether depressive symptoms and/or other factors were related to 4-day ART interruption among PWH; investigators also were interested in the effects of this interruption on viral load.²⁸ Investigators found that

an increase in the Patient Health Questionnaire-9 score of 1 unit was associated with a 17% increase in the risk of treatment interruption (OR, 1.17; 95% CI, 1.10-1.24; $P < .001$).²⁸ Further, the results of a systematic meta-analysis of 45 studies found that symptoms of or a diagnosis of depression were significantly associated with reduced retention in HIV care (OR, 0.88; 95% CI, 0.80-0.97; $P = .01$).³⁹

Experiencing homelessness is another well-known barrier to HIV care. Investigators completed a retrospective, cross-sectional chart review of 2012-2013 clinical and housing data from the Boston Health Care for the Homeless Program for PWH ($n = 208$) to evaluate whether housing status influenced clinical outcomes and use of health care resources. The results showed that significantly more patients with continuous stable housing had an undetectable viral load compared with those who did not have stable housing (75% vs 60%, respectively; $P = .026$), including both those who remained in unstable housing (OR, 2.37; 95% CI, 1.26-4.45) and those who transitioned from stable to unstable housing (OR, 1.50; 95% CI, 0.26-8.76). Results of this analysis are limited by a lack of randomization, relatively small sample size, and inability to capture health care utilization data outside of the program.⁴⁰

Clinical Impact of Suboptimal Care

PWH should initiate ART for HIV treatment immediately or as soon as possible after receiving an HIV diagnosis to increase treatment uptake and care linkage.²⁴ Early treatment initiation leads to more favorable long-term health outcomes for PWH.^{23,41} Conversely, a lack of initiation, delayed initiation, and low adherence to ART can result in chronic inflammation, increased risk of opportunistic infection or development of AIDS, and possible death. Without treatment, HIV progresses and leads to irreversible immune system deterioration that prevents the body from effectively fighting infections.^{6,42-45} Treatment delays also increase the risk of PWH transmitting HIV to others. The concept of *treatment as prevention* describes the association between a suppressed viral load and lack of HIV transmission. This includes lower likelihood of spreading HIV to others through syringe sharing; oral, anal, or vaginal sexual relations; or viral transmission from mother to child during pregnancy, labor, delivery, or breastfeeding.^{46,47}

Suboptimal treatment adherence can result in emergent HIV drug resistance that compromises ART efficiency and viral suppression.⁴⁸ Incomplete viral suppression increases the likelihood of patients developing resistance mutations.⁴⁹ Resistance mutations are permanent and cumulative; they increase treatment complexity and limit treatment options, as drug classes that are ineffective against these mutations can no longer be used.²⁴

Economic Impact of Suboptimal Care

In addition to unfavorable clinical consequences, suboptimal care for PWH is associated with substantially higher health care costs.

A retrospective cross-sectional study of 2013–2017 commercial claims data from the IQVIA's PharMetrics Plus database for adults (age, 25–69 years) was conducted to compare health care costs for PWH to costs for those without HIV. Cumulative costs included direct costs in the form of medical and pharmacy expenditures. Annual costs were calculated for different patient groups according to decade of life and included those related to inpatient, outpatient, emergency department (ED), and pharmacy services. Annual and cumulative health care costs were up to 7-fold higher for PWH than for those without HIV; these costs increased with age in PWH. Costs were higher for PWH than for people without HIV as well as for older PWH compared with younger PWH. In 2017, the prevalence of comorbidities, which may lead to increased costs, was also significantly higher among PWH than among those without HIV; these included dyslipidemia (36.0% vs 22.5%), hypertension (31.1% vs 23.7%), alcohol/drug abuse (14.3% vs 5.7%), and depression (14.3% vs 5.2%, respectively) (all $P < .0001$). Furthermore, for PWH, mean (SD) annual health care costs during the study period were \$40,352 (\$51,562); pharmacy utilization accounted for the most of these expenditures (72.9%; \$29,434 [\$21,495]). Annual costs were slightly lower for younger PWH (age, 20–29 years) than for older PWH (age, 60–69 years) (\$32,053 vs \$38,325, respectively). Limitations of this study included its focus on the cost burden in PWH aged 25 to 69 years and exclusion of older patients and those who contracted HIV later or who died before 69 years of age. Data were obtained from patients with commercial insurance; therefore, the results may not be generalizable to all population groups (eg, those covered by Medicare or Medicaid).⁵⁰

An update to this study presented at AMCP Nexus (October 14–27, 2024) in Las Vegas, NV, showed consistent findings among a broader age range. Based on 2018–2023 IQVIA PharMetrics® Plus data in adults aged 18 to 75 years, PWH had 6 times higher lifetime health care costs (LTC) than did those without HIV. The mean discounted LTC for PWH was estimated to \$1,299,210 (median: \$1,298,786; 95% CI, \$1,279,397–\$1,321,458), whereas the mean discounted LTC for the matched cohort of people without HIV was \$181,481 (median: \$181,236; 95% CI, \$169,392–\$194,036). Significantly more PWH had at least 1 prescription claim or inpatient, outpatient (including telehealth), or ED visit compared with those without HIV (all, $P < .0001$). Authors noted that a limited number of patients with managed Medicare or Medicaid coverage were included, which limits generalizability of results; further, the study period overlapped with the COVID-19 pandemic period, which led to lower health care resource utilization.⁵¹

Approaches to Care for PWH

The U = U campaign emphasizes that PWH can live a normal life; the goal is to reduce societal stigmas surrounding HIV and anxiety related to HIV testing and to promote ART adherence to maintain low community transmission. Importantly, this campaign is intended

to support and draw attention to approaches for improving access to HIV care and to eliminate barriers to treatment and diagnostic services from a public health perspective to save lives and prevent HIV transmission.⁵²

The U = U concept is grounded in evidence from multiple randomized clinical trials.^{53–56} Outcomes of these trials emphasize the importance of consistent ART adherence as prescribed and regular viral load monitoring at set intervals to sustain an undetectable viral load.⁵³ The recommended testing schedule is every 3 to 4 months when plasma HIV-1 RNA levels become undetectable (< 200 copies/mL). After viral suppression and the immunological status are stable for more than 2 years, the viral load can be tested every 6 months.⁵³

Maintenance of undetectable viral loads in PWH is critical, as viral loads influence both individual outcomes and community spread, with insufficient viral suppression leading to increased transmission rates.^{53,57,58} The choice of therapy plays a crucial role in achieving viral suppression. A retrospective study comparing dosing regimens and viral load outcomes in 218 patients who visited the infectious disease practice at the New Jersey Medical School from 2007 to 2013 revealed significantly higher rates of viral suppression to undetectable levels with STRs than with MTRs after 12 months of treatment (82% vs 66%; $P = .019$).⁵⁹

Complex treatment regimens can lower adherence to therapy. Simplifying ART regimens may improve adherence and persistence among PWH. Use of STRs has been associated with increased adherence, decreased hospitalizations, and an enhanced probability of reaching viral suppression compared with use of MTRs.⁶⁰ Additionally, involving patients in treatment decisions and care, building trust, and empowering patient choice to support individual outcomes and the EHE initiative are important factors that can help retain PWH in care (Figure 2).^{7,61–63} These efforts aimed at keeping patients in care can help improve patient health as well as reduce the risk of HIV transmission.⁶²

In addition to efforts at the individual patient level to improve patient outcomes and reduce community spread, several national-level initiatives have been implemented to enhance care for PWH and reduce the spread of HIV. One such initiative, the National HIV/AIDS Strategy (2022–2025), aims to end the HIV epidemic in the US by 2030 through targeted efforts and allocation of resources to communities where they will have the greatest impact (Figure 2).^{7,61,63} The strategy designates 5 priority populations for focused treatment efforts and resource allocation: gay, bisexual, and other men (particularly of Black, Latino, and American Indian/Alaska Native race and ethnicity) who have sex with men; Black women; transgender women; youths aged 13 to 24 years; and people who inject drugs.⁷

Recommendations for improving treatment and outcomes through targeted approaches include implementing a status-neutral approach to HIV testing, which will enable PWH to receive care quickly after diagnosis and to reach and maintain an undetectable

viral load.⁷ Additionally, targeted education campaigns can improve HIV education for people with limited health literacy, overcome stigma associated with HIV, and foster trust in health and medical systems.^{7,64,65}

The National HIV/AIDS Strategy also describes the need to increase health care capacity and overcome workforce shortages in critical geographic areas (eg, the southern US and rural areas) to help improve the treatment of PWH. Incorporating a diverse range of health care professionals such as nurses, advanced practice providers, pharmacists, and behavioral health specialists also can expand patient access to HIV care.⁷

Efforts also should target pregnant mothers. Maintaining a low viral load during pregnancy may result in low rates of mother-to-child HIV transmission.⁶⁶ Furthermore, maintaining a low viral load during breastfeeding along with administering infant prophylaxis can reduce the risk of mother-to-child transmission.⁶⁷ The randomized, open-label PROMISE study (NCT01061151) was conducted at 14 locations in various countries from June 6, 2011, to October 1, 2014, to compare the efficacy and safety of infant prophylaxis versus maternal ART during breastfeeding. In all, 2430 mother-infant pairs (maternal ART group, 1219 pairs; infant prophylaxis group; 1211 pairs) were evaluated; 7 HIV transmissions occurred in each group. At 24 months, the cumulative probability of infection

at 24 months was 0.9% (95% CI, 0.6%-1.5%). Authors emphasized that both strategies were safe and associated with low rates of HIV transmission.⁶⁷ The results of these studies provide valuable insight into the efficacy and safety of different treatment approaches and inform strategies to ensure equitable outcomes.

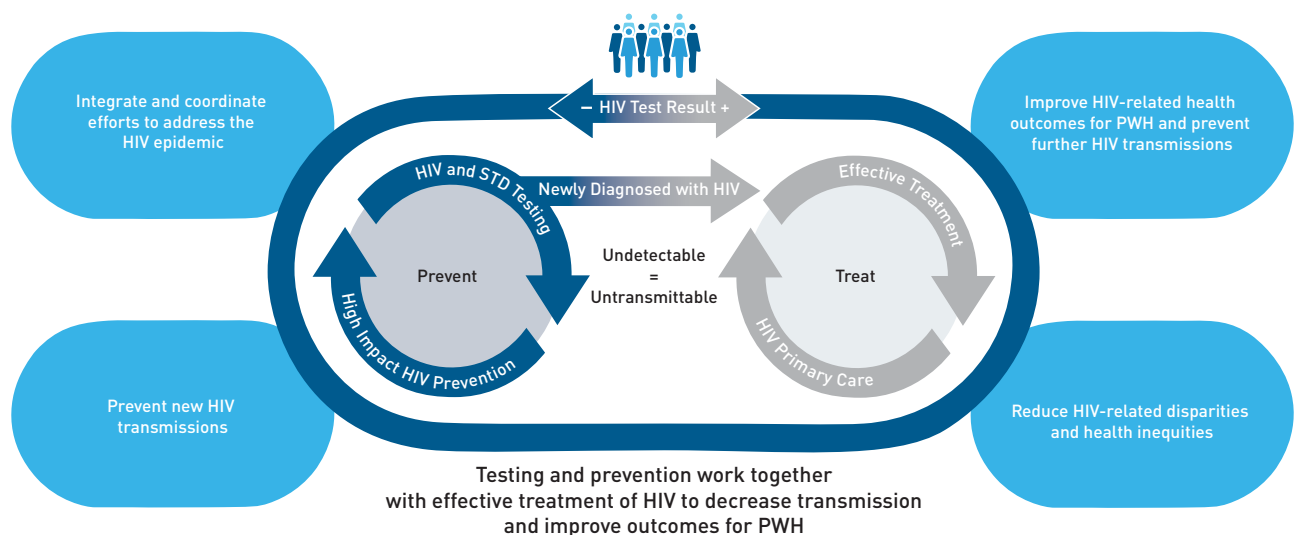
Role of Managed Care in Improving Equity in HIV Care

Ensuring access to high-quality care remains paramount for PWH. Various strategies have been proposed for optimizing care delivery; these include addressing SDOH, improving the timing of ART initiation, simplifying ART regimens, and marshalling telemedicine. This section describes interventions and approaches to overcome barriers to care and to incorporate into managed care programs to promote better outcomes for PWH.

Medicaid Provisions to Address SDOH

In May 2016, the Centers for Medicare & Medicaid Services implemented revisions to Medicaid managed care regulations. This initiative by the US Department of Health and Human Services (HHS) was intended to encourage approaches that extend beyond clinical treatment and overcome broader societal and environmental factors influencing health outcomes. The revised regulations

FIGURE 2. National HIV/AIDS Strategy to Reduce HIV Transmissions by 90% by 2030: Coordinated Actions Needed From Various Stakeholders^{7,61,63}



PWH, people with HIV; STD, sexually transmitted disease.

Adapted from: Centers for Disease Control and Prevention. Issue Brief: Status Neutral HIV Care and Service Delivery. Updated May 16, 2024. Accessed September 25, 2024. <https://www.cdc.gov/hiv/pdf/policies/issue-brief/issue-brief-status-neutral-hiv-care.pdf>. References made to specific commercial products, manufacturers, companies, or trademarks do not constitute their endorsement or recommendation by the United States Government, Department of Health and Human Services, or Centers for Disease Control and Prevention. Materials are available on the Centers for Disease Control and Prevention website at no charge.

strengthen standards for care coordination, notably by mandating the incorporation of community and social support service providers and placing emphasis on smooth transitions in care. The HHS also advocates for the adoption of payment models that prioritize value; this is accomplished by reducing administrative obstacles that may deter efforts aimed at overcoming nonmedical concerns and establishing a mechanism that permits states to coordinate and synchronize how health plans compensate their providers.⁶⁸

The regulations also formalize state mechanisms for incentivizing managed care entities and mandating alternative payment models (APMs) for providers. The rules streamline administrative processes and encourage their broader implementation, allowing states to invest in community-level health interventions. Furthermore, states can now direct health plans to adopt APMs with specific providers, including models addressing SDOH such as housing instability and food insecurity.⁶⁸

Role of Health Systems in Achieving Health Equity Goals

In its *R³ Report*, The Joint Commission described the importance of screening for health-related social needs and placed the responsibility of improving health equity on health care systems. These National Patient Safety Goals include assessment of the health-related social needs of patients and analysis of quality and safety data to identify disparities in health care.⁶⁹ Systems must develop action plans to improve health care equity and implement changes when the goals of the action plan are not met.⁶⁹ Case management services should be provided and encouraged for all HIV patients, and case managers should uncover any system barriers that the health plan can address to provide optimal patient-centered care for their patients.

Improving the Timing of ART Initiation

As previously discussed, formulary management must be used cautiously, if at all, for disease state. Limiting options for care or requiring step therapy can delay care or use of preexposure prophylaxis and lead to reduced quality of care. It may also have an adverse financial impact. HIV treatment should be started as soon as possible after diagnosis, including on the same day a diagnosis is received.^{24,70} Same-day ART has been associated with improved retention in care over 12 months. In an unblinded, randomized clinical trial (NCT01900080), patients who initiated ART on the same day that they received a positive HIV diagnosis were more likely to be retained in care (184 of 347 patients [53%]) and maintain a viral load of below 50 copies/mL after 12 months compared with those who initiated ART 21 days after HIV testing (156 of 356 patients [43.8%]); this difference was significant (relative risk, 1.21; 95% CI, 1.04-1.38; $P = .015$).⁷¹

A cohort study conducted at San Francisco General Hospital's Ward 86 was performed to examine the effectiveness of the Rapid

ART Program for Individuals with an HIV Diagnosis (RAPID) model. The findings of this clinic-based study revealed reductions in the times to viral suppression and linkage to care compared with delayed ART initiation. Among the 39 patients enrolled in the RAPID program, 37 individuals ($\approx 95\%$) started ART within 24 hours of being referred to the program; these patients also achieved viral suppression within 1.8 months, whereas those patients not enrolled in the program took 4.3 months to reach the same milestone.⁷²

The results of a subsequent retrospective observational study showed that more than 95% of patients referred to the RAPID program continued to be virally suppressed after 1 year. Results also highlighted disparities in treatment initiation; PWH with concomitant health challenges such as substance use disorder, major mental health disorders, or homelessness and unstable housing tended to start therapy later than did other groups.⁷³

The need to decrease delays in treatment initiation was reinforced by the findings of an international clinical trial. In all, 1763 HIV-serodiscordant couples from 9 countries were enrolled in the HPTN 052 clinical trial (NCT00074581); investigators compared outcomes among patients in early- and late-ART initiation groups. At virologic failure (defined as viral loads > 1000 copies/mL at > 24 weeks after initiating ART as determined in 2 consecutive tests), 30.5% of patients in the early-ART group and 54.5% of patients in the late-ART group developed new drug resistance during the study period ($P = .032$).⁴¹

Rapidly initiating treatment may result in faster viral suppression, better CD4+ cell outcomes (ie, higher CD4+ cell counts), and decreased morbidity for PWH compared with the effects of delayed treatment. Earlier ART initiation is associated with decreased risk of serious AIDS-related or non-AIDS-related events, including mortality, compared with later treatment initiation (**Figure 3**).²³ These results were demonstrated in the 5-year START trial (NCT00867048), which was performed to compare outcomes of 2326 asymptomatic PWH with a CD4+ cell count of more than 500 copies/mL (immediate-treatment group) with those of 2359 PWH who deferred treatment until reaching a CD4+ count of less than 350 copies/mL (deferred-treatment group). Any serious AIDS-related event (including death from AIDS or an AIDS-defining event or any nonserious non-AIDS-related event including death from causes unrelated to AIDS) was the composite primary end point. This composite primary end point was reached in fewer patients in the immediate-treatment group compared with those in the deferred-treatment group (42 vs 96 patients, respectively; HR, 0.43; 95% CI, 0.30-0.62; $P < .001$); this trend remained consistent during the 5-year follow-up period ($P = .77$ by proportional hazards testing). In a subgroup analysis based on patient characteristics (eg, age, sex, race, geographic region, baseline CD4+ cell count, baseline HIV RNA copies/mL at the start of the study), hazard ratios supported immediate ART initiation in all groups.²³

Overcoming Barriers to In-Person Care: Harnessing Telehealth

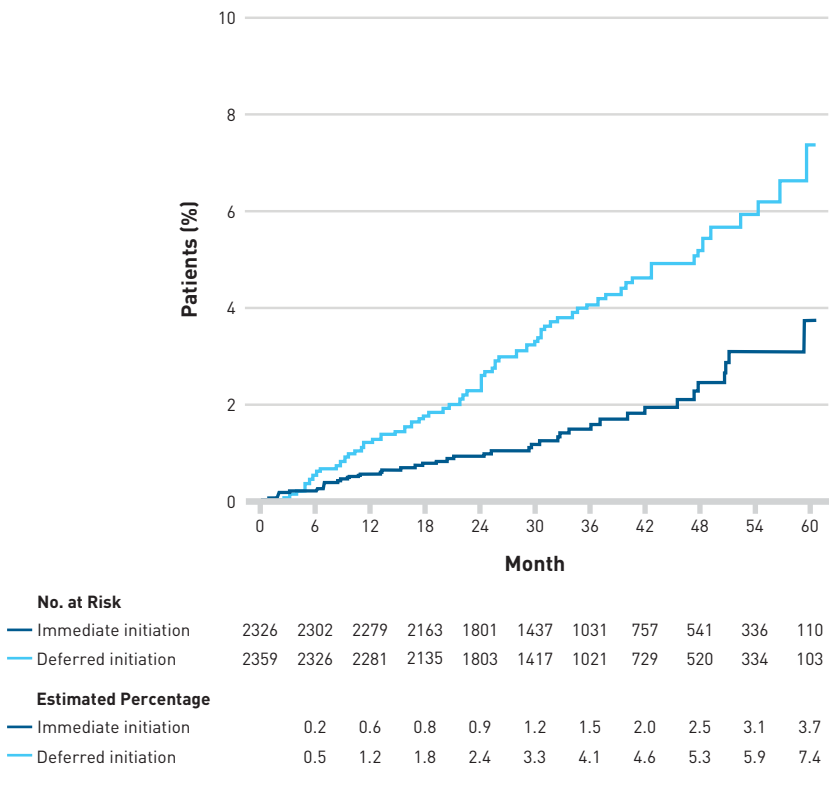
Challenges to providing in-person care to PWH include a lack of transportation, difficulty paying for treatment, language barriers, and older age.⁷ Telehealth may be appropriate for some PWH to help overcome transportation challenges and increase privacy,⁷ and it can be an important tool for patient empowerment in HIV care. Telephone consultations were widely accepted by PWH, health care providers, and other involved parties (eg, administrators, policymakers) as demonstrated in a study performed to understand the benefits and opportunities related to using telemedicine by PWH, various hospital staff, and policymakers.⁷⁴ This study was conducted from March 2021 to July 2021 and involved interviews with PWH and stakeholders at 2 federally qualified health centers in south Los Angeles, California. The 2 centers have the second-highest rate of new HIV infections reported, and lower viral suppression rates than the average noted in the United States. These centers focus on providing services to underinsured PWH including those with high levels of unemployment, housing instability, substance use, and mental health disorders. A total of 31 PWH were included in the study along with 23 stakeholders (ie, clinical staff and administrators, case managers, and those establishing policy). Various aspects of telemedicine were evaluated; these included the effects of telemedicine on the interpersonal dynamic of PWH with their clinician. According to the majority of participants, their relationship and interpersonal interaction with their HCP remained unchanged when telephone and/or audio video telemedicine was implemented, and patients enjoyed the experience. Particularly, for those who had long-standing relationships with their provider, participants noted a sense of established comfort and trust that persisted during communications via telephone or video. Many participants also reported the ability to connect and engage in medical visits by telephone and noted that use of telemedicine saved a large amount of time by eliminating the need to commute to and from the clinic. Stakeholders reported that telemedicine visits improved PWH attendance and allowed clinic staff to reach patients more efficiently and effectively.⁷⁴ Despite improvements in access to telemedicine, increased cultural competency among HIV providers remains an important goal.⁷

Enhancing Provider Education and Training

A major goal of the National HIV/AIDS Strategy is to provide high-quality care and treatment to all PWH.⁷ To expand access and achieve this goal, the CDC recommends that HCPs extend office hours or offer flexible appointment times beyond normal work hours, including walk-in appointments and evening clinics.⁶² Helping patients to locate resources to address unmet health-related social needs and barriers to care, including by connecting patients with childcare, can build patient-provider trust and enable patients to remain in care. Additionally, HCPs should encourage patients to use mental health support and other services such as housing assistance, case management, and food banks.⁶²

Education to increase the cultural competence of HCPs can also improve the quality and equity of HIV care by improving messaging around and uptake of ART and by enabling providers to address misinformation and mistrust. This step can be achieved through health communication research, training, and policy.⁷ To address these challenges, the CDC offers continuing education programs including courses on improving communication with PWH, fostering

FIGURE 3. Time to First Serious Event: Immediate vs Deferred Treatment for HIV^{23,a}



^aSerious event defined as serious AIDS-related or non-AIDS-related events, including death. From *N Engl J Med*, INSIGHT START Study Group; Lundgren JD, Babiker AG, et al. Initiation of antiretroviral therapy in early asymptomatic HIV infection, Volume 373, Page 795-807. Copyright © 2015 Massachusetts Medical Society. Reprinted with permission from Massachusetts Medical Society.

equitable care, and enhancing health literacy and language skills to support culturally competent care.⁷⁵ For example, transgender PWH who receive gender-affirming care (eg, being addressed using chosen names and pronouns) have improved viral suppression rates, reduced clinician visits, and enhanced communication about both HIV and gender-related health concerns.⁷⁶ Family-centered approaches can be implemented to recruit Black women into care, prevent mother-to-child transmission, support medication adherence, and improve clinical outcomes by addressing communication and flexibility within families.⁷⁷ Furthermore, decentralized health care delivery systems can help to overcome limited access to care.⁷⁷ The National HIV/AIDS Strategy describes approaches to reduce HIV-related disparities and health inequities; these include training, expanding, and increasing the diversity of the HIV workforce by providing opportunities to recruit new HIV providers from underrepresented backgrounds.⁷

Involving HCPs in patient outreach programs can improve the treatment of PWH. A 2-year study of patients for whom data were available from the MetroPlus Health plan (a Medicaid-managed care organization) showed that intensified outreach, care coordination, and peer support by the Medicaid managed care plan led to patients being more likely to achieve viral load suppression than were members who were not contacted through the program.⁷⁸ Results of a separate study showed that community-based pharmacists and primary medical providers can improve HIV care retention, particularly for non-Hispanic Black people, by implementing individualized adherence support, pharmacist-patient action plans, and pharmacist-clinic action plans.⁷⁹ Health plans also can work with industry partners to ensure that staff of health care facilities and local pharmacies are educated on the most current HIV care and therapeutic options that are available.

Conclusions

Successful management of HIV involves addressing demographic disparities and understanding the effects of SDOH on HIV-related health outcomes. Inequitable care can occur at any phase of the HIV care continuum including during prevention, diagnosis, linkage to care, engagement in care, and viral suppression. Delayed treatment initiation and interrupted treatment can exacerbate immune dysfunction and lead to viral rebound and drug resistance. These factors can result in increased transmission rates for key populations and especially Black/Latinx individuals. Economically, inequitable care results in increased health care costs, particularly in certain populations that face concerns related to suboptimal access to care, mental health, and medication adherence. Tailored interventions that address patients' specific and individual challenges are needed to mitigate barriers to effective treatment and address HIV-related disparities. Focused education campaigns can also improve HIV care outcomes and reduce transmission rates.

Initiating ART, particularly same-day ART, improves retention in care and clinical outcomes and slows development of drug resistance. Involving patients in treatment decisions and empowering clinicians, pharmacists, and other HCPs to become involved in community and patient outreach can support the goal of providing high-quality, culturally competent care for PWH.

To meet the US goal of reducing HIV transmissions by 90% by the year 2030, efforts must be targeted toward groups such as Black/African American individuals, transgender people, older PWH, and individuals who inject drugs as well as those with other SDOH. Maintaining access to high-quality care by optimizing treatment regimens, decreasing delays in treatment initiation, and engaging patients in care by building trust and empowering patient choice will improve individual and community outcomes, address HIV-related health disparities, and support the success of the EHE initiative. ■

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Source of Funding: This supplement was sponsored by Gilead Sciences, Inc.

Author Disclosures: Dr Gladstein reports consultancies or paid advisory boards, receipt of honoraria, and receipt of lecture fees for speaking at the invitation of Gilead Sciences, Inc, and ViiV Healthcare. Dr Brinxer reports receiving honoraria from Gilead Sciences, Inc for speaking at a conference and receiving research grants from Gilead Sciences, Inc. Mr O'Brochta and Dr Naik and are employed by and own stock in Gilead Sciences, Inc. Mr O'Brochta reports serving as president-elect of AMCP Northwest and also reports attendance at IDWeek 2023 and AMCP 2024. Dr Daoud reports no relationship or financial interest with any entity that would pose a conflict of interest with the subject matter of this supplement.

Authorship Information: Concept and design (OD, DB, SO, SN); analysis and interpretation of data (OD, DB, SO, SN); drafting of the manuscript (OD, JEG, SO); critical revision of the manuscript for important intellectual content (DB, JEG, SO, SN); administrative, technical or logistic support (SO); supervision (JEG, SN).

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