

Accessibility and Uptake of Pre-Exposure Prophylaxis for HIV Prevention in the Veterans Health Administration

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To increase access, the National PrEP Working Group is expanding outreach outside of primary care and among nonspecialists, ensuring uniformly high-quality care and targeting high-risk populations.

Despite important advances in treatment and prevention over the past 30 years, HIV remains a significant public health concern in the US, with nearly 40,000 new HIV infections annually.¹ Among the estimated 1.1 million Americans currently living with HIV, 1 in 8 remains undiagnosed, and only half (49%) are virally suppressed.² Although data demonstrate that viral suppression virtually eliminates the risk of transmission among people living with HIV, pre-exposure prophylaxis (PrEP) for HIV remains an integral part of a coordinated effort to reduce transmission. Uptake of PrEP is particularly vital considering the large percentage of people in the US living with HIV who are not virally suppressed because they have not started, are unable to stay on HIV antiretroviral treatment, or have not been diagnosed.

The Department of Veterans Affairs (VA) is the largest single provider of care to HIV-infected individuals in the US, with more than 28,000 veterans in care with HIV in 2016 (data from the VA National HIV Clinical Registry Reports, written communication from Population

Health Service, Office of Patient Care Services, January 2018). Furthermore, according to written communication from the VA Population Health Service Office of Patient Care Services, in January 2018 the VA had an undiagnosed incidence (the rate of screening tests in 2016 identifying new positive HIV diagnoses) above the CDC's recommended threshold of $\geq 0.1\%$.³ Regional variations in newly diagnosed HIV infections within the VA health care system generally mirror those of the national HIV epidemic in the US, making prevention imperative, particularly in regions with a greater prevalence of undiagnosed individuals.

The only FDA-approved medication for HIV pre-exposure prophylaxis is tenofovir disoproxil fumarate/emtricitabine (TDF/FTC), a fixed-dose combination of 2 antiretroviral medications that are also used to treat HIV. Its efficacy has been proven among numerous populations at risk for HIV, including those with sexual and injection drug use risk factors.^{4,5} Use of TDF/FTC for PrEP has been available at the VA since its July 2012 FDA approval. In May 2014, the US Public Health

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Service (PHS) and the US Department of Health and Human Services released the first comprehensive clinical practice guidelines for PrEP. Soon after, in September 2014, the VA released more formal guidance on the use of TDF/FTC for HIV PrEP as outlined by the PHS.⁶ Similar to patterns outside the VA, PrEP uptake across the Veterans Health Administration (VHA) has been modest and variable.

A recent VHA analysis of the variability in PrEP uptake identified about 1,600 patients who had been prescribed PrEP in the VA as of June 2017 among about 6 million veterans in care. Across VA medical facilities, the absolute number of PrEP initiations ranged from 0 to 109 with the maximum PrEP initiation rate at 146.4/100,000 veterans in care. Eight facilities did not initiate a single PrEP prescription over the 5-year period. This study presents strategic efforts undertaken by the VA to increase access to and uptake of PrEP across the health care system and to decrease disparities in HIV prevention care.

VA NATIONAL PrEP WORKING GROUP

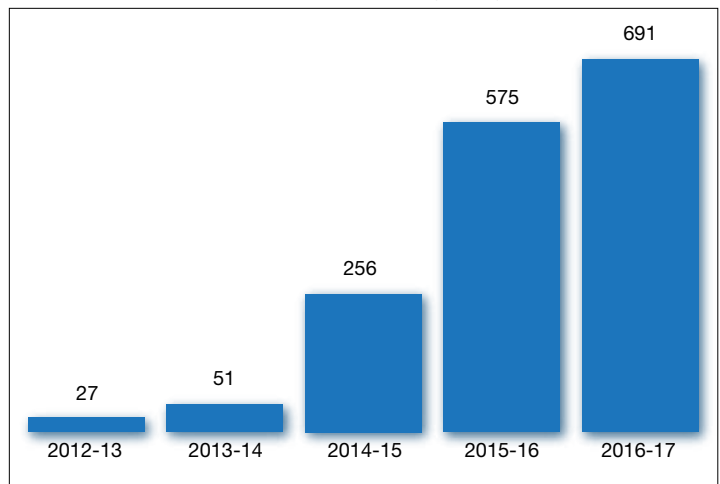
In the beginning of 2017, the HIV, Hepatitis, and Related Conditions (HHRC) programs within the VHA Office of Specialty Care Services convened a national working group to better measure and address the gaps in PrEP usage across the health care system. This multidisciplinary PrEP Working Group was composed of more than 40 members with expertise in HIV clinical care and PrEP, including physicians, clinical pharmacists, advanced practice registered nurses (APRNs), physician assistants (PAs), social workers, psychologists, implementation scientists, and representatives from other VA programs with a relevant programmatic or policy interest in PrEP.

Implementation Targets

The National PrEP Working Group identified increased PrEP uptake across the VHA system as the primary implementation target with a specific focus on increasing PrEP use in primary care clinics and among those at highest risk. As noted earlier, overall uptake of PrEP across VHA medical facilities has been modest; however, new PrEP initiations have increased in each 12-month period since FDA approval (Figure 1).

To rapidly understand barriers to accessing PrEP, the National PrEP Working Group developed and deployed

Figure 1. Prep Initiations in VA by July-June Period



an informal survey to HIV clinicians at all VA facilities, with nearly half responding (n = 68). These frontline providers identified several important and common barriers inhibiting PrEP uptake, including knowledge gaps among providers without infectious diseases training in the indication, use, and monitoring of PrEP; limited understanding about the availability of PrEP in the VA; and uncertainty about how to access training or education to become competent to prescribe PrEP. A national, non-VA survey of primary care providers from 2009 to 2012 found an increased willingness and interest in providing PrEP following targeted education and training.⁷

Patient adherence was not identified by providers as a significant barrier to PrEP uptake in this informal survey. A recent analysis of adherence among a national cohort of veterans on HIV PrEP in VA care between July 2012 and June 2016 found that adherence in the first year of PrEP was high with some differences detected by age, race, and gender.⁸

As an initial step in addressing these identified barriers to prescribing PrEP in the VHA, the National PrEP Working Group developed several provider education materials, trainings, and support tools to impact the overarching goal, and identified implementation targets of increasing access outside of primary care and among noninfectious disease and nonphysician clinicians, ensuring high-quality PrEP care in all settings, and targeting PrEP uptake to at-risk populations (Table). Tools specifically designed to increase overall system level awareness within the VA included (1) a PrEP Awareness

Table. Implementation Targets and Products to Decrease Barriers

Increase uptake across the VHA health care system

- PrEP awareness communication tool
- Accredited virtual PrEP training modules
- Internal VA blog open to all providers on PrEP
- Facility report with AIDSvu mapping showing community risk prevalence of HIV

Increase PrEP in primary care & among non-ID and non-MD clinicians

- Clinical pharmacists delivered academic detailing training materials
- PrEP Virtual Bootcamp for clinical pharmacists

Ensure high-quality PrEP care

- VA PrEP clinical considerations
- Clinical criteria checklist
- Electronic medical record templates and order sets
- Text messaging service (Annie)

Increase use in targeted high-risk groups

- Clinical support tools to identify patients who would be appropriate for PrEP
- Telehealth and virtual care
- Social media outreach and awareness campaigns

Abbreviations: ID, infectious disease; PrEP, pre-exposure prophylaxis.

Communication Tool Kit made centrally available as a repository for all PrEP products, tools, and other resources; (2) nationally accredited, virtual trainings in 2 formats made broadly available to all potentially prescribing disciplines; (3) creation of an internal VA blog dedicated to PrEP to foster communication and dialogue among providers of all disciplines; and (4) aggregated facility reports designed to help guide local quality improvement efforts to improve PrEP access and uptake.

Increasing PrEP Use in Primary Care and Women's Health Clinics

As of June 2017, physicians (staff, interns, residents, and fellows) accounted for more than three-quarters of VA PrEP index prescriptions. Among staff physicians, infectious diseases specialists initiated 67% of all prescriptions. Clinical pharmacists prescribed only 6%; APRNs and PAs prescribed 16% of initiations. This is unsurprising, as the field survey identified lack of awareness and specific training on PrEP care among providers without infectious diseases training as a common barrier.

The VA is the largest US employer of nurses, including more than 5,500 APRNs. In December 2016, the VA granted full practice authority to APRNs across the health care system, regardless of state restrictions in most cases.⁹

In some states, this change in scope of practice (SOP) may allow for APRNs to become more involved in the prescribing of PrEP.

In 2015, the VA employed about 7,700 clinical pharmacists, 3,200 of whom had an active SOP that allowed for prescribing authority. In fiscal year 2015, clinical pharmacists were responsible for at least 20% of all hepatitis C virus (HCV) prescriptions and 69% of prescriptions for anticoagulants across the system.¹⁰ Clinical pharmacists are increasingly recognized for their extensive contributions to increasing access to treatment in the VA across a broad spectrum of clinical issues. With this infrastructure and expertise, clinical pharmacists also are well positioned to expand their scope to include PrEP.

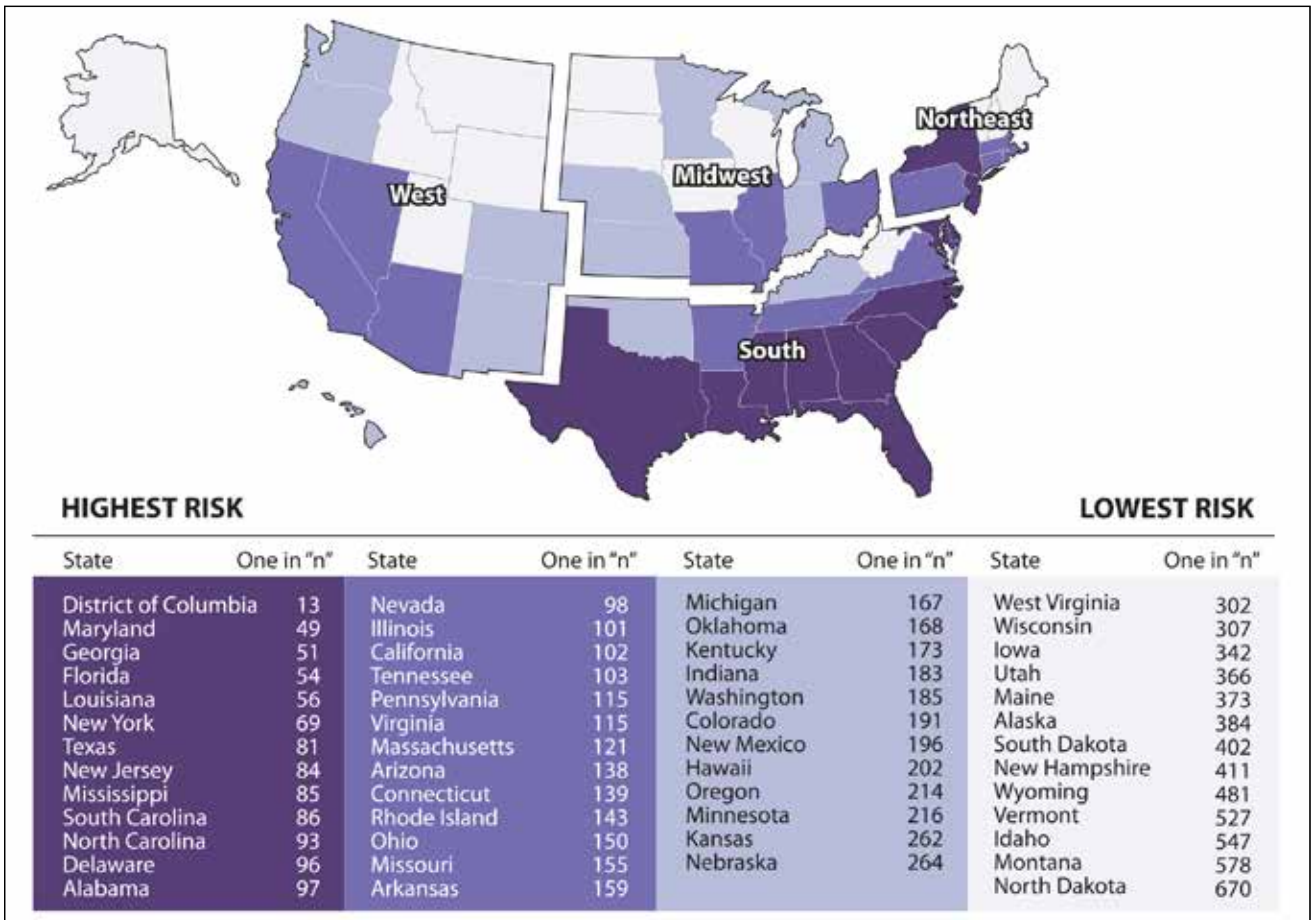
To that end, the National PrEP Working Group worked closely with clinical pharmacists in the field and from the VA Academic Detailing Service (ADS) within the VA Pharmacy Benefits Management Services office. The ADS supports the development of scholarly, balanced, evidence-based educational tools and information for frontline VA providers using one-on-one social marketing techniques to impact specific clinical targets. These interventions are delivered by clinical pharmacists to empower VA clinicians and promote evidence-based clinical care to help reduce variability in practice across the system.¹¹ An ADS module for PrEP has been developed and will be available in 2018 across the VHA to facilities participating in the ADS.

A virtual accredited training program on prescribing PrEP and monitoring patients on PrEP designed for clinical pharmacists will be delivered early in 2018 to complement these materials and will be open to all prescribers interested in learning more about PrEP. By offering a complement of training and clinical support tools, most of which are detailed in other sections of this article, the National PrEP Working Group is creating educational opportunities that are accessible in a variety of different formats to decrease knowledge barriers over PrEP prescribing and build over time a broader pool of VA clinicians trained in PrEP care.

Ensuring High-Quality PrEP Care

One system-level concern about expanding PrEP to providers without infectious diseases training is the quality of follow-up care. In order to aid noninfectious diseases clinicians, and nonphysician providers who are not as familiar with PrEP, several clinical support tools have been created, including (1) VA's Clinical Considerations for PrEP to Prevent HIV Infection, which is aligned with CDC clinical guidance¹²; (2) a PrEP clinical criterion check list; (3) clinical support tools, such

Figure 2. Lifetime Risk of HIV Diagnosis for US by State



Source: <https://www.cdc.gov/nchhstp/newsroom/2016/croi-2016.html#Graphics>.

as prepopulated electronic health record (EHR) templates and order menus to facilitate PrEP prescribing and monitoring in busy primary care clinical settings; and (4) PrEP-specific texts in the Annie App, an automated text-messaging application developed by the VA Office of Connected Care, which supports medication adherence, appointment attendance, vitals tracking, and education.¹³

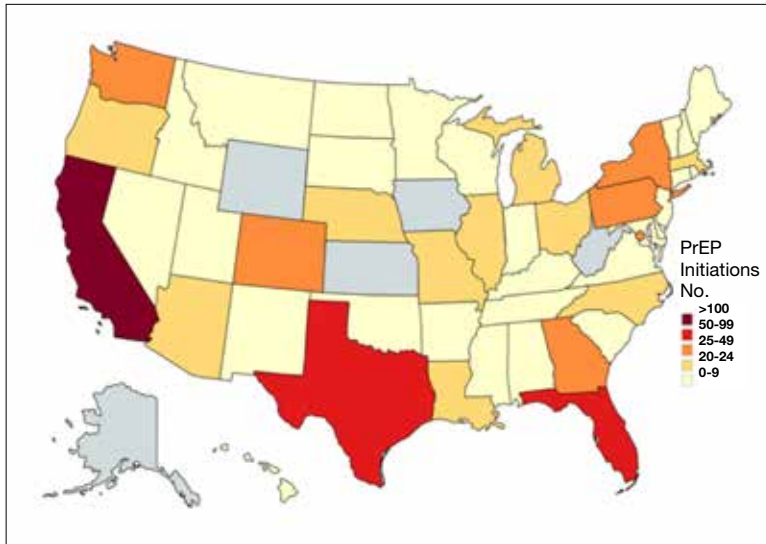
Available evidence indicates that there is potential for disparities in PrEP effectiveness in the VA related to varying medication adherence. Analysis of pharmacy refill records found that adherence with TDF/FTC was high in the first year after PrEP initiation (median proportion of days covered in the first year was 74%), but adherence was lower among veterans in VA care who were African American, women, and/or under age 45 years.⁸ This highlights the importance of enhanced services, such as Annie, to support PrEP adherence in at-risk groups as well as monitoring of HIV risk factors to ensure PrEP is still indicated.

Targeting PrEP Uptake for High-Risk Veterans

Although the VA's overarching goal is to increase access to and uptake of PrEP across the VHA, it also is important to direct resources to those at greatest risk of acquiring HIV infection. The National PrEP Working Group has focused on the following critical implementation issues in the VA's strategic approach to HIV prevention, with a specific focus on the geographic disparities between PrEP uptake and HIV risk across the VHA as well as disparities based on rurality, race/ethnicity, and gender.

The majority of the VHA patient population is male (91% in 2016).¹⁴ A VHA analysis of PrEP initiations in the VA indicates that in June 2017, 97% of veterans in VA care receiving PrEP were male, 69% were white, 88% resided in urban areas, and the average age was 41.6 years. An analysis of PrEP initiation in the VA indicates that current PrEP uptake is clustered in a few geographic areas and that some areas with high HIV incidence had

Figure 3. Distribution of VHA PrEP Initiations by State in 2016



Abbreviations: PrEP, pre-exposure prophylaxis; VHA, Veterans Health Administration.

low uptake.¹⁵ States with the highest risk of HIV infection are in the Southeast, followed by parts of the West, Midwest, and Northeast (Figure 2).^{16,17} In 2016, California accounted for the largest absolute number of PrEP prescriptions in the VA, followed by Texas and Florida (Figure 3). This finding is consistent with 2014 non-VA data, which found that the majority of PrEP recipients lived in metropolitan areas with almost half (43%) living in the West.¹⁸ The VA's goal is to better align PrEP uptake across the country with regional HIV epidemiology.

Rural areas are increasingly impacted by the HIV epidemic in the US, but access to PrEP is often limited in rural communities.¹⁹ Several rural counties in the Southeastern US now have rates of new HIV infection comparable with those historically seen in only the largest cities.¹ In addition, recent outbreaks of HIV and hepatitis C virus infection related to needle sharing highlight the need for HIV prevention programs in rural areas impacted by the opioid epidemic.²⁰

About 1 in 4 veterans overall—and 16% of veterans in care who are HIV-positive—reside in rural areas, but only 4.3% of veterans who had initiated PrEP through 2017 resided in rural areas.^{21,22} In order to address the need to improve access to PrEP in many rural-serving VHA facilities, the PrEP Working Group has emphasized the increased utilization of virtual care (telehealth, Annie App, the Virtual Medical Room) and broadening the pool of available PrEP prescribers to

include noninfectious diseases physicians, pharmacists, and APRNs.

Important racial and ethnic disparities also exist in PrEP access nationally. For example, in the US as a whole, African American MSM, followed by Latino MSM continue to be at highest risk for HIV infection.¹ In 2015, 45% of all new HIV infections in the US were among African Americans, 26% of whom were women and 58% identified as gay or bisexual.²³ A recent analysis of US retail pharmacies that dispensed FTC/TDF analyzed the racial demographics of PrEP uptake and found that the majority of PrEP initiations were among whites (74%), followed by Hispanics (12%) and African Americans (10%); and females of all races made up 20.7%.²⁴ The VA is performing better than these national averages. Of the 688 PrEP prescriptions in the VA in 2016, 64% of recipients identified themselves as white and 23% as African American. Hispanic ethnicity was reported by 13%.

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There are several limitations to identifying a specific implementation target for PrEP across the VA system, including the challenge of accurately identifying the population at risk via the EHR or clinical informatics tools. For example, strong risk factors for HIV acquisition include IV drug use, receptive anal intercourse without a condom, and needlesticks.

Behaviors that pose lower risk, such as vaginal intercourse or insertive anal intercourse could contribute to a higher overall lifetime risk if these behaviors occur frequently.²⁵ Behavioral risk factors are not well captured in the VA EHR, making it difficult to identify potential PrEP candidates through population health tools. Additionally, stigma and discrimination may make it difficult for a patient to disclose to their clinician and for a clinician to inquire into behavioral risk factors. The criminalization of HIV-related risk behaviors in some states also may complicate the identification of potential PrEP candidates.^{26,27} These issues contribute to the challenges that providers face in screening for HIV risk and that patients face in disclosing their personal risk.

To address these regional, rural, and ethnic disparities and enhance the identification of potential PrEP recipients, the National PrEP Working Group is developing a suite of tools to support frontline providers in identifying potential PrEP recipients and

expanding care to those at highest risk and who may be more difficult to reach due to rurality, concerns about stigma, or other issues. These include the following:

1. Clinical support tools to identify potential PrEP recipients, such as a clinical reminder that identifies patients at high risk for HIV based on diagnosis codes, and a PrEP clinical dashboard;
2. A telehealth protocol for PrEP care and promotion of the VA Virtual Medical Room, which allows providers to video conference with patients in their home; and
3. Social media outreach and awareness campaigns targeted at veterans to increase PrEP awareness are being shared through VA Facebook and Twitter accounts, blog posts, and www.hiv.va.gov posts (Figure 4).

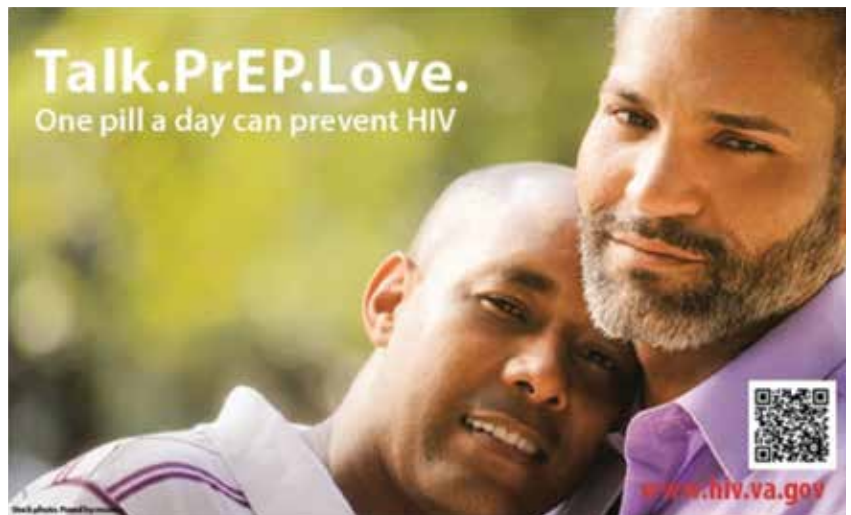
IMPLEMENTATION STRATEGY & EVALUATION

During the calendar year 2017, the PrEP Working Group met monthly and in smaller subcommittees to develop the strategic plan, products, and tools described earlier. On World AIDS Day, a virtual live meeting on PrEP was made available to all providers across the system and will be made available for continuing education training through the VA online employee education system. During 2018, the primary focus of the PrEP Working Group will be the continued development and refinement of provider education materials, clinical tools, and data tracking as well as increasing veteran outreach through social media and other awareness campaigns planned throughout the year.

Annual assessment of PrEP uptake will evaluate progress on the primary implementation target and areas of clinical practice: (1) increase number of PrEP prescriptions overall; (2) ensure PrEP is prescribed at all VA facilities; (3) increase prescriptions by noninfectious diseases provider; (4) increase prescriptions by clinical pharmacists and APRNs; (5) monitor quality of care, including by discipline/practice setting; (6) increase PrEP prescriptions in facilities in endemic areas; and (7) increase the proportion of PrEP prescriptions for veterans of color.

In 2019 and 2020, additional targeted intervention and outreach plans will be developed for sites with dif-

Figure 4. Social Media Outreach



ficulty meeting implementation targets. Sites in highly HIV-endemic areas will be a priority, and outreach will be designed to assist in the identification of facility-level barriers to PrEP use.

CONCLUSION

HIV remains an important public health issue in the US and among veterans in VA care, and prevention is a critical component to combat the epidemic. The VHA is the largest single provider of HIV care in the US with facilities and community-based outpatient clinics in all states and US territories. The VA outperforms the US nationally across the HIV care continuum.²⁸ However, PrEP uptake within the VHA has been modest since FDA approval of TDF/FTC for PrEP with variability, particularly across geographic regions and urban and rural settings.

The VA seems to be performing better in terms of the proportion of PrEP uptake among racial groups at highest risk for HIV compared with a US sample from retail pharmacies, which may be, in part, driven by the cost of PrEP and follow-up sexually transmitted infection testing.²⁴ However, a considerable gap remain in VHA PrEP uptake among populations at highest risk for HIV in the US.

With the investment of a National PrEP Working Group, the VA is charting a course to augment its HIV prevention services to exceed the US nationally. The National PrEP Working Group will continue to develop specific, measurable, and impactful targets guided by state-of-the-art scientific evidence and surveillance data and a suite of educational and clinical resources

designed to assist frontline providers, facilities, and patients in meeting clearly defined implementation targets.

Author disclosures

The authors report no actual or potential conflicts of interest with regard to this article.

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