

Implementation Science and TB Preventive Therapy (TPT)

Lessons from the Implementation of
HIV and STI Interventions

Similarities in HIV and TB Prevention

- Early screening and treatment
- Addressing comorbidities and social determinants of health
- Promoting access to healthcare
- Prevention progression from infection to severe disease
- Screening to identify those who would benefit from treatment
- Long term regimen/need for high adherence
- Working to improve public health impact through implementation

Implementation Issues

- Identifying populations
- Testing for infection
- Testing to stage disease/rule out active disease before preventive treatment
- Adherence
- Health equity



Implementation Strategies to Increase PrEP Uptake in the South

Patrick S. Sullivan¹ · Leandro Mena² · Latesha Elope³ · Aaron J. Siegler⁴

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Abstract

Purpose of Review Seven years after TDF/FTC was approved for pre-exposure prophylaxis to reduce risks of HIV infection, there have been large increases in the number of persons using PrEP in the USA. However, recent data on pre-exposure prophylaxis (PrEP) use at the state level indicate that people living in the Southern United States are underserved by PrEP relative to their epidemic need. We sought to review possible reasons for inequitable uptake of PrEP in the South and identify implementation approaches to increase PrEP uptake in the South.

Recent Findings Published literature, data on the locations of PrEP service providers, recent data on PrEP utilization from pharmacy prescription databases, HIV surveillance data and government data on healthcare providers, and health literacy indicate a confluence of factors in the South that are likely limiting PrEP uptake. A variety of approaches are needed to address the complex challenges to PrEP implementation in the South. These include considering alternative PrEP provision strategies (e.g., pharmacy-based PrEP, telemedicine-delivered PrEP), conducting gain-based stigma-reduction campaigns, increasing capacity for reimbursement for PrEP medications and services through policy change to expand Medicaid and to preserve access to Affordable Care Act-compliant health plans, expanding STI screening programs and improving integration of PrEP offering with

Intervention characteristics

- Complexity
 - Barrier pathways
 - Potential need for multiple visits to determine indication
 - Need for periodic monitoring visits
 - Costs
 - Possible implementation strategies
 - Streamlining clinical procedures
- Relative advantage
 - Barrier pathway
 - Need for TPT might not be evident to patients
 - Possible implementation strategies
 - Peer navigation
 - Repeated offering of therapy
 - Educational programs

Outer Setting

- Stigma

- Survey of 1475 participants in US and Canada
 - 37% felt they were treated differently by people who knew they had TB
 - 41% were concerned that others might find out that they had TB
 - Stigma more common in older people, those diagnosed in hospital, people recently arriving to North America, lower income, symptomatic, higher housing density
- Barrier pathways
 - Lower willingness to keep pills for treatment
 - Lower willingness to attend clinics identified with TB services
- Possible implementation strategies
 - Campaigns with empowering messages tailored to highlight impacted/stigmatized communities

- Low Health literacy

- Barrier Pathways
 - Lack of understanding of preventive treatment for people who feel well
- Possible implementation strategies
 - Peer navigators, digital health education

Inner Setting

- Structural characteristics
 - Healthcare capacity issues
 - Barrier pathways
 - Limited providers
 - Longer wait for appointments
 - Harder to get appointments
 - Possible implementation solutions
 - Priority clinical sessions for at-risk patients
 - Streamlining clinical processes

Implementing for Equity

Impact of implementation issues on health equity

- Concerns arise when the groups most in need of preventive therapy might have other social determinants of health that lead to lower coverage of therapy
- Principle: Groups with more risk of poor outcomes should get proportionally more coverage of prevention
- Risk: If we increase our reach (coverage) overall by reaching mostly less vulnerable (i.e., easier to find, more likely to have easy access to health care, higher health literacy, lower transportation barriers ...) we run the risk of increasing disparities in disease outcomes

Health Equality versus Health Equity



Equality

Equity

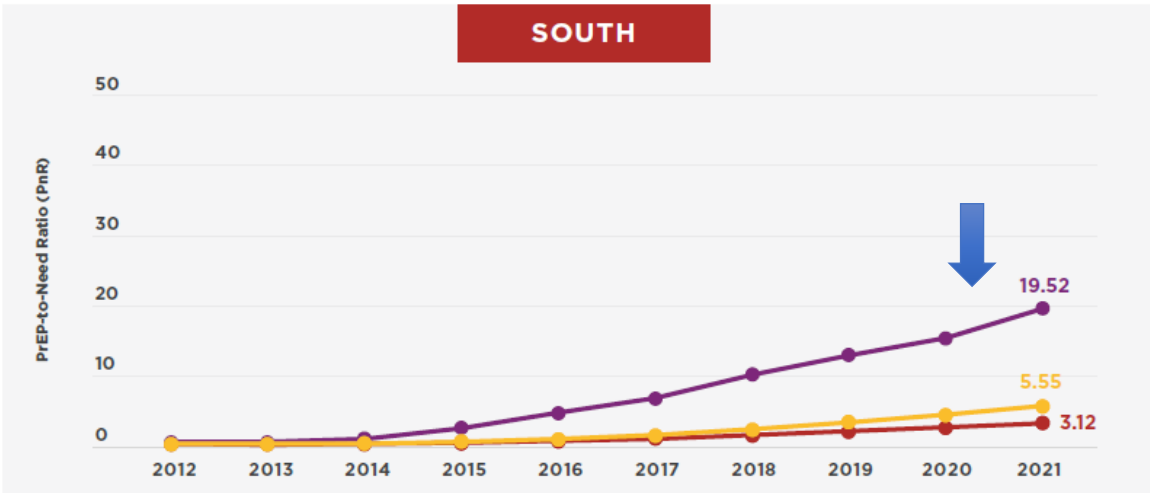
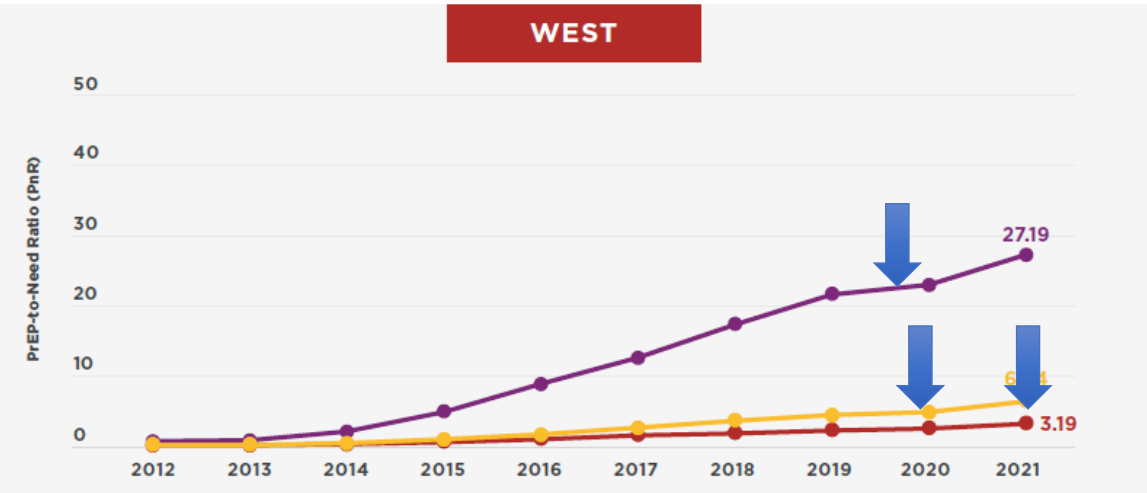
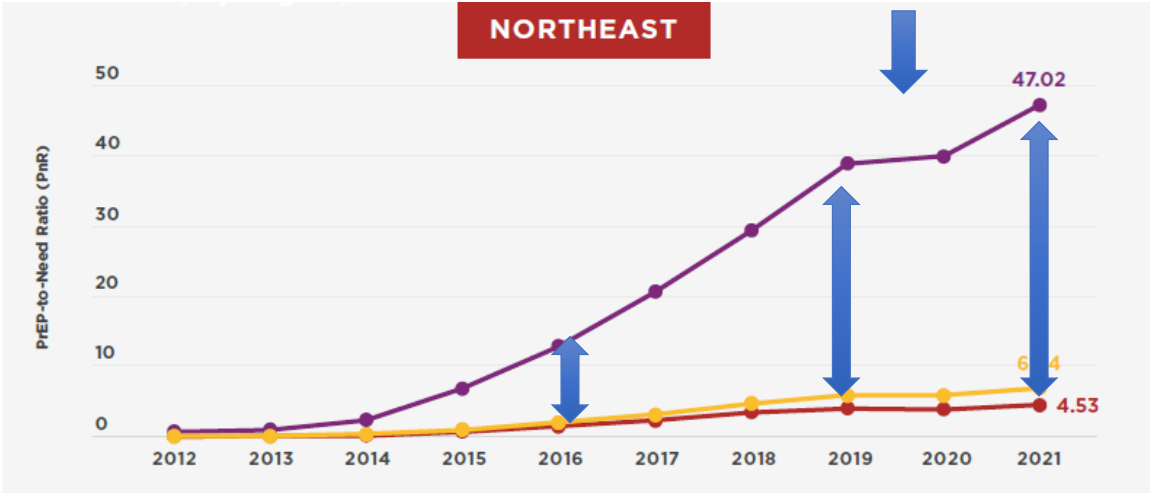
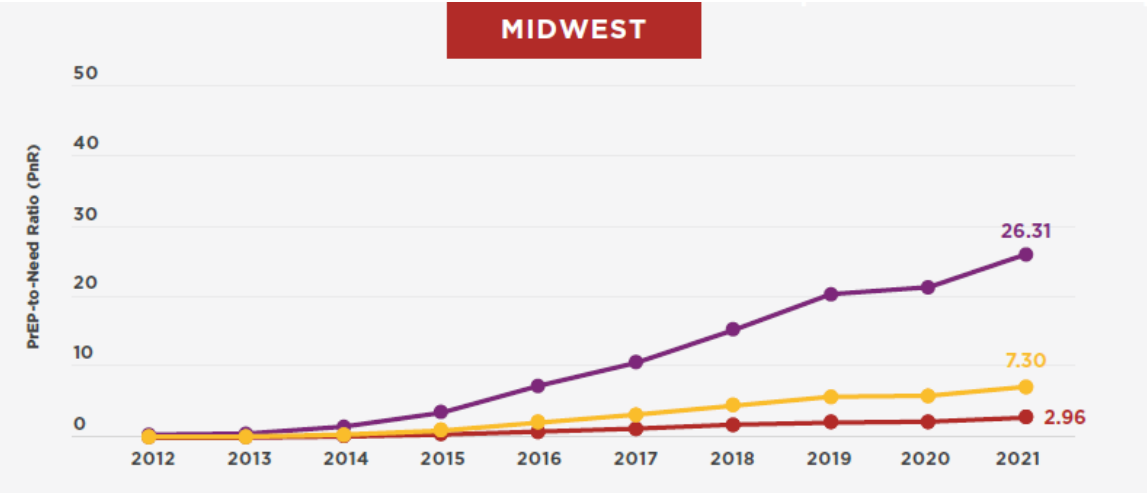
Methods

- We used commercial pharmacy data to enumerate PrEP users by race and US Census region from 2012-2021.
- Race/ethnicity data were available for 124,835 (34%) of PrEP users in 2021
 - To estimate total PrEP users by race each year, we assumed that the racial distribution was the same in PrEP users with missing race data as in those with reported race data.

Methods Continued

- The PrEP-to-Need Ratio (PnR), a metric of PrEP equity, was defined as the number of PrEP users in a group divided by the number of new diagnoses in that group in the same year.
 - For the years 2020 and 2021, the PnR ratio reflects the number of PrEP users over the number of people newly diagnosed with HIV in 2019 (since 2019 new diagnoses was the most current data available at the time).
- The ratio is used to describe the distribution of prescriptions relative to the epidemic need.

PnR by Race/Ethnicity and US Region, 2012-2021



● Black ● White ● Hispanic

The PrEP-to-Need Ratio (PnR) is the number of PrEP users divided by the number of new diagnoses in a given year. PnR serves as a measurement of how PrEP use compares to the need for PrEP in a population.

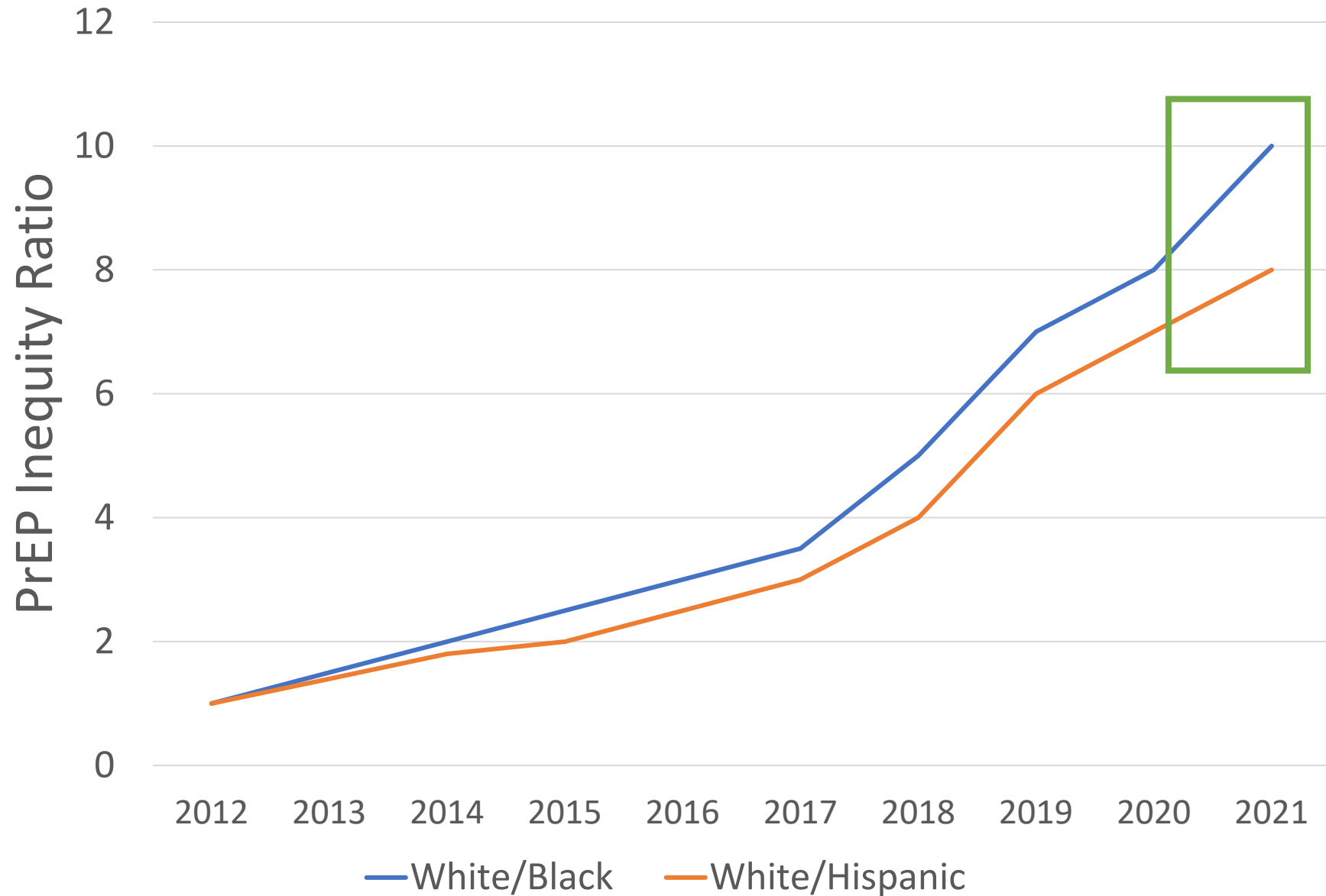
The PrEP Inequity Ratio

- $$\text{PIR} = \frac{PnR_{group1}}{PnR_{group2}}$$

- In our case
$$\text{PIR}_{\text{White/Black}} = \frac{PnR_{\text{White}}}{PnR_{\text{Black}}}$$

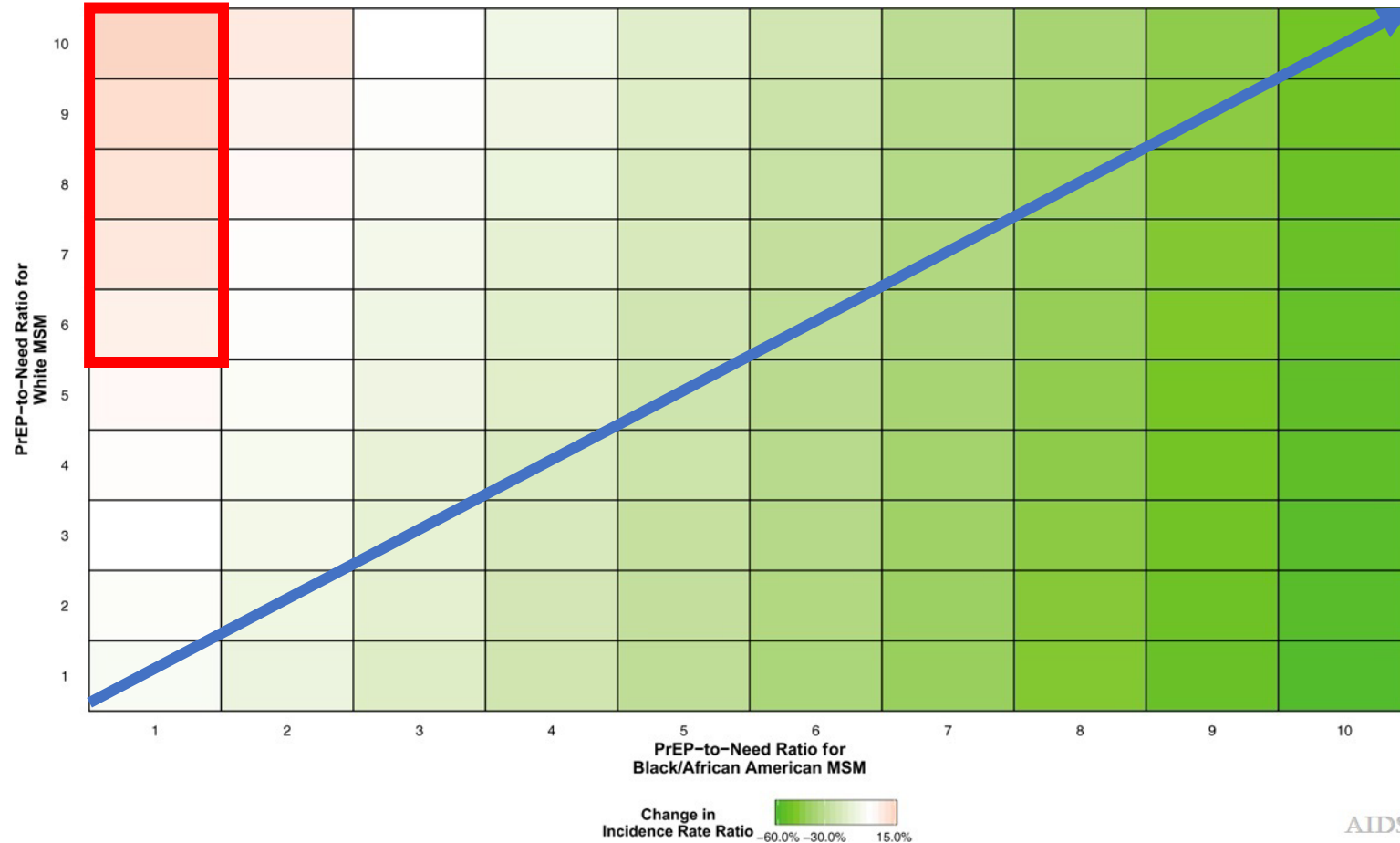
- The PIR indicates the extent of *inequitable* PrEP use
- Higher values indicate more inequity
- Programmatically, a target value is 1.0

Trends in White/Black and Hispanic Black Inequity Ratio for PrEP use, 2012-2021



What does the PrEP Inequality Ratio tell us about prevention?

Projecting the impact of equity-based preexposure prophylaxis implementation on racial disparities in HIV incidence among MSM



AIDS

Conclusions

- There are clear parallels between the challenges of implementing TB Preventive Therapy and implementing Pre-Exposure Prophylaxis for people at risk for HIV infection in North America
- Similar implementation concepts should prompt consideration for facilitating implementation, including simplifying clinical procedures, improving community education, monitoring and developing interventions to reduce stigma
- Shared social determinants of health are important barriers to accessing preventive treatments for TB disease and HIV acquisition, and these cluster disproportionately in communities of color and lower economic advantage
- We should implement for equity
- Preventive treatment should be assessed by both coverage and health equity metrics
- If health equity metrics are not implemented and use to guide priorities, disparities in disease outcomes will likely increase, even if proportions of persons receiving preventive treatment increase

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