

Implementing PrEP Equity Metrics at the City Level

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How *do* we measure our success and opportunities in PrEP research and programs?

How *should* we measure our success and opportunities in PrEP research and programs?

Equality to Equity

- Epidemiology tends to use an equality framework:
 - The rate of X disease outcome is Y times great in Hispanic compared to white non-Hispanic people
- Reasons for differences in health outcomes are sometimes based on biological factors, but much more often based on social inequities
 - Neighborhood conditions
 - Educational attainment
 - Economic stability/instability
 - Distribution of wealth
 - Healthcare access
 - Colonialism
 - Social and political contexts
- In the world of HIV prevention, most assessments of PrEP uptake are either rates of use per 100,000 population, or PrEP coverage (denominator of indications)



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From equality to equity: Increasing the use and reporting of equity-based approaches in epidemiology

ARTICLE INFO

Keywords:

Health equity
 Racism
 Structural determinants of health
 Social determinants of health

Epidemiology is concerned with quantifying the distribution and determinants of health and disease in populations. We use the expression of the relative incidence or prevalence of health outcomes to depict unequal health impacts by observable exposures. These often take the form of the reporter's questions: who, what, when, where (and, for causal epidemiologists, sometimes "why"). For example, authors of recent articles in *Annals of Epidemiology* have described associations of maternal morbidity with racial and economic residential segregation

health inequalities; and (7) commentaries or methods reports that advance our understanding of the opportunities for epidemiology in addressing health inequities. We focus on applying existing and developing new epidemiologic approaches to move beyond equality-based epidemiologic approaches and to increase the use and reporting of equity-based approaches and to use epidemiologic methods to determine upstream determinants of equity.

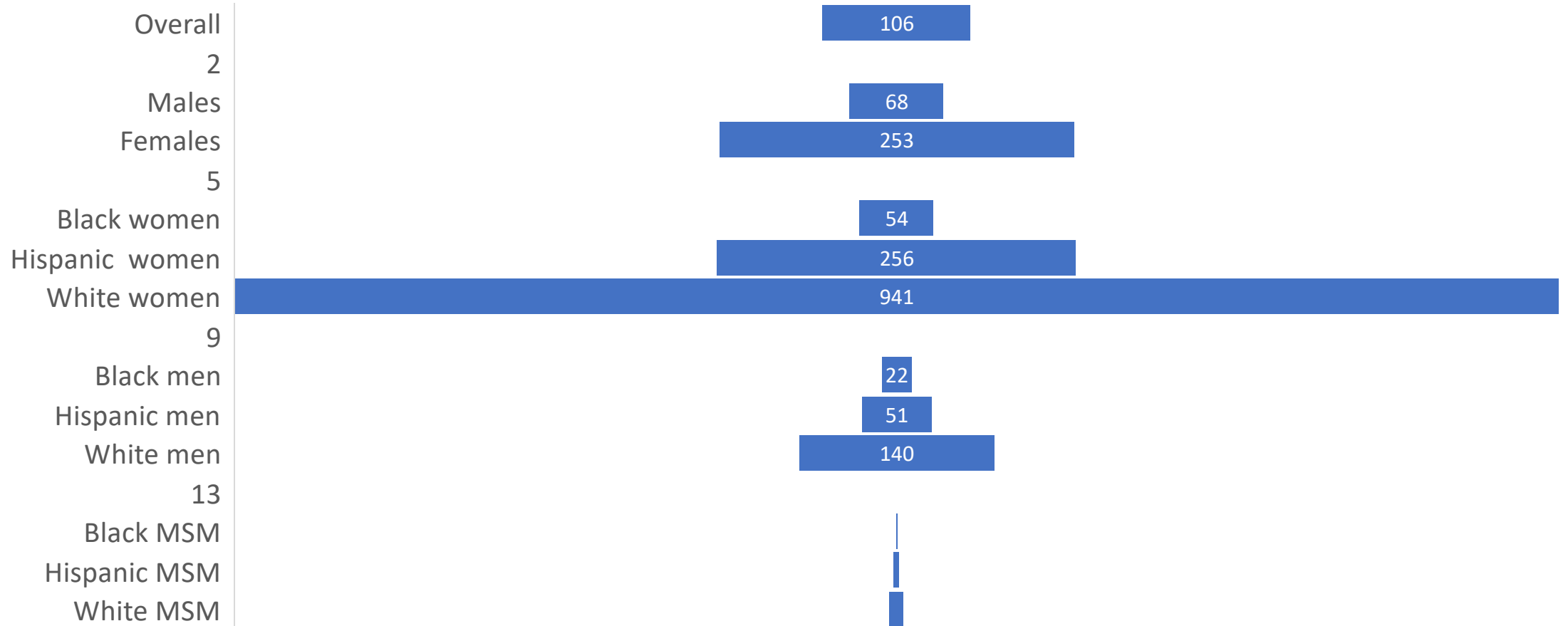
Special issue call:



Editorial:



Lifetime Risk of an HIV Diagnosis, US, 2010-2014: One in X persons



Types of PrEP data

- PrEP users (count)
- PrEP “rates”
(prevalence, per 100K)
- PrEP coverage (users per 100,000 people with indications)
- Equity metrics
- Programmatic reach, reimbursement, service delivery
- Comparing different groups for **equality** of use
- Identifying (relative) gaps in use accounting for variable eligibility in populations
- Comparing groups about **equity** of use – i.e., use relative to need

Anatomy of an Equality Metric:

$$\frac{\text{Number of users}}{\text{Number of people}}$$

Stratum 1

$$\frac{\text{Number of users}}{\text{Number of people}}$$

Stratum 2

$$\frac{\text{Number of users}}{\text{Number of people}}$$

Anatomy of an Equity Metric:

$$\frac{\text{Number of users}}{\text{Indicator Relative need}}$$

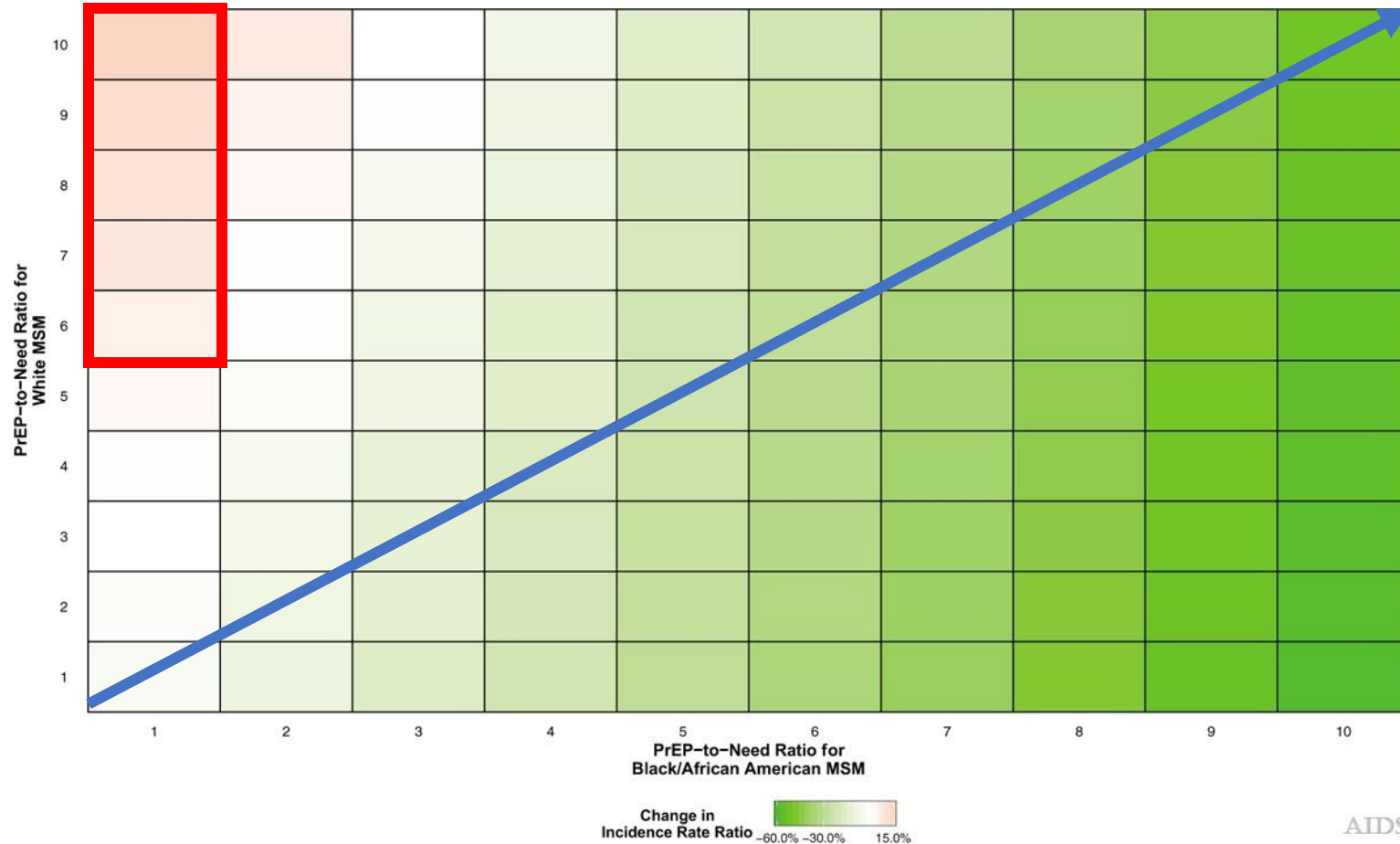
Stratum 1

$$\frac{\text{Number of users}}{\text{Indicator of relative need}}$$

Stratum 2

$$\frac{\text{Number of users}}{\text{Indicator of relative need}}$$

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

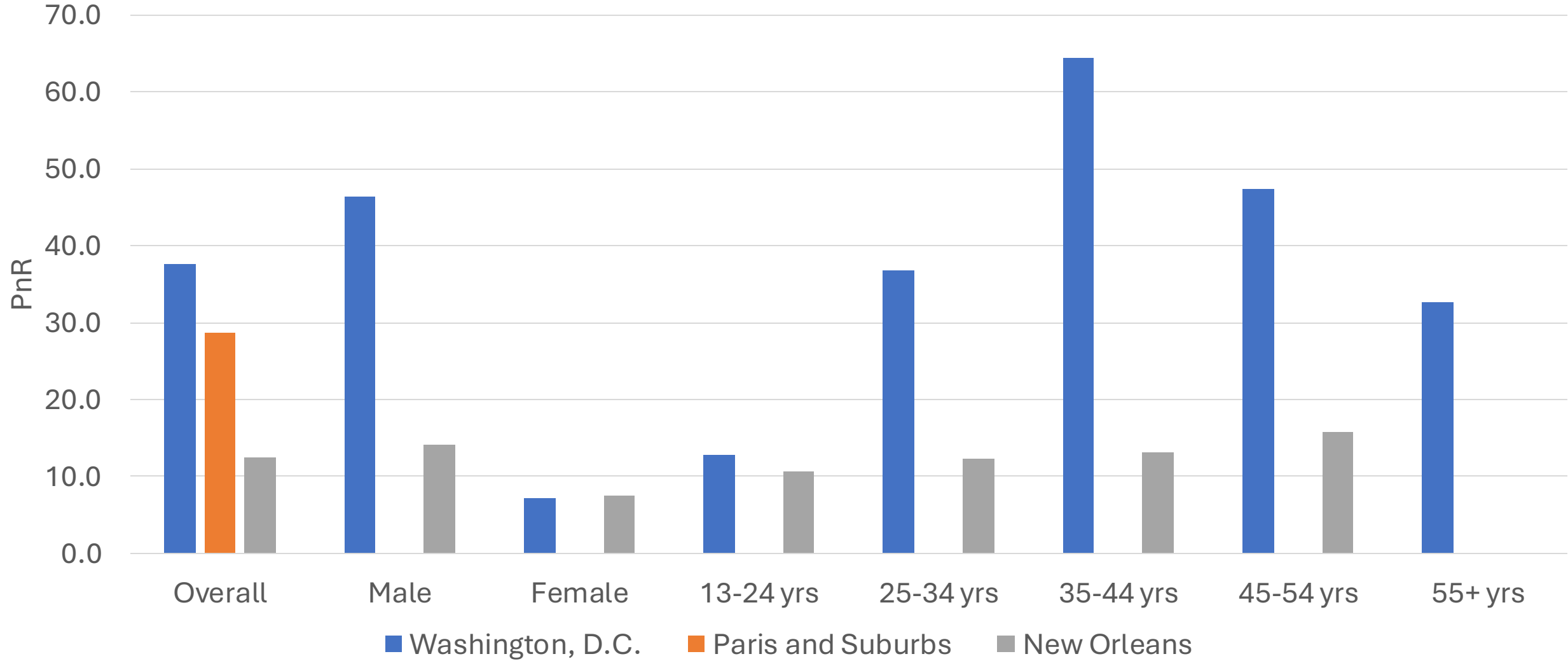


AIDS

Methods: City-based PrEP-to-Need Ratio

- Numerator: PrEP users in the jurisdiction (Paris+Suburbs, Washington DC, New Orleans), overall and by sex and age when available 2022
- Denominator: subgroup-specific new HIV diagnoses
- Methodologic issues:
 - Data sources different in US and France
 - Availability of subgroup PrEP users differed

PrEP-to-Need Ratio (PnR) by City and Population Groups, Washington, D.C., Paris and Suburbs, and New Orleans, LA, 2022

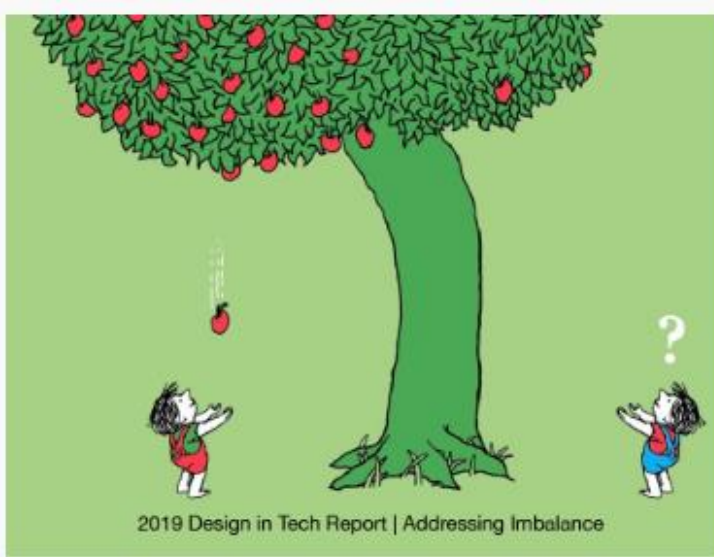


Limitations

- Different data sources between US cities and Paris
- Different combinations of core urban and suburbs
- Comparisons would be most meaningful within a city and over time

Conclusions

- PrEP equity metrics relate to the proportionality of PrEP coverage in light of epidemic burden within subgroups
 - Cities
 - Sex
 - Race/ethnicity
- Better indicator of programmatic *impact* because targeting towards equity metrics concentrates more PrEP coverage in the groups that are at highest risk of HIV infection
- Substantial heterogeneity of PnR outcomes across cities, and differences in subgroup equity within cities
- To maximize the impact of PrEP programs, we recommend assessing the feasibility of using equity metrics for monitoring the performance of PrEP programs over time in cities.



INEQUALITY



EQUALITY



EQUITY