Effect of the Ending the HIV Epidemic (EHE) Initiative on Racial/Ethnic Disparities in HIV Incidence

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The EHE initiative could improve population-level health, but may not reduce racial and ethnic health disparities.

BACKGROUND

- Reducing HIV-related health disparities was a goal of the 2025 National HIV/AIDS Strategy.
- The Ending the HIV Epidemic (EHE) initiative has received more than $2 billion in federal funding to scale up prevention and treatment services in priority jurisdictions across the US.
- It is unclear how this initiative will affect racial and ethnic health disparities related to HIV.

METHODS

Model: The Johns Hopkins Epidemiological and Economic Model, a dynamic compartmental model of HIV transmission in the US.

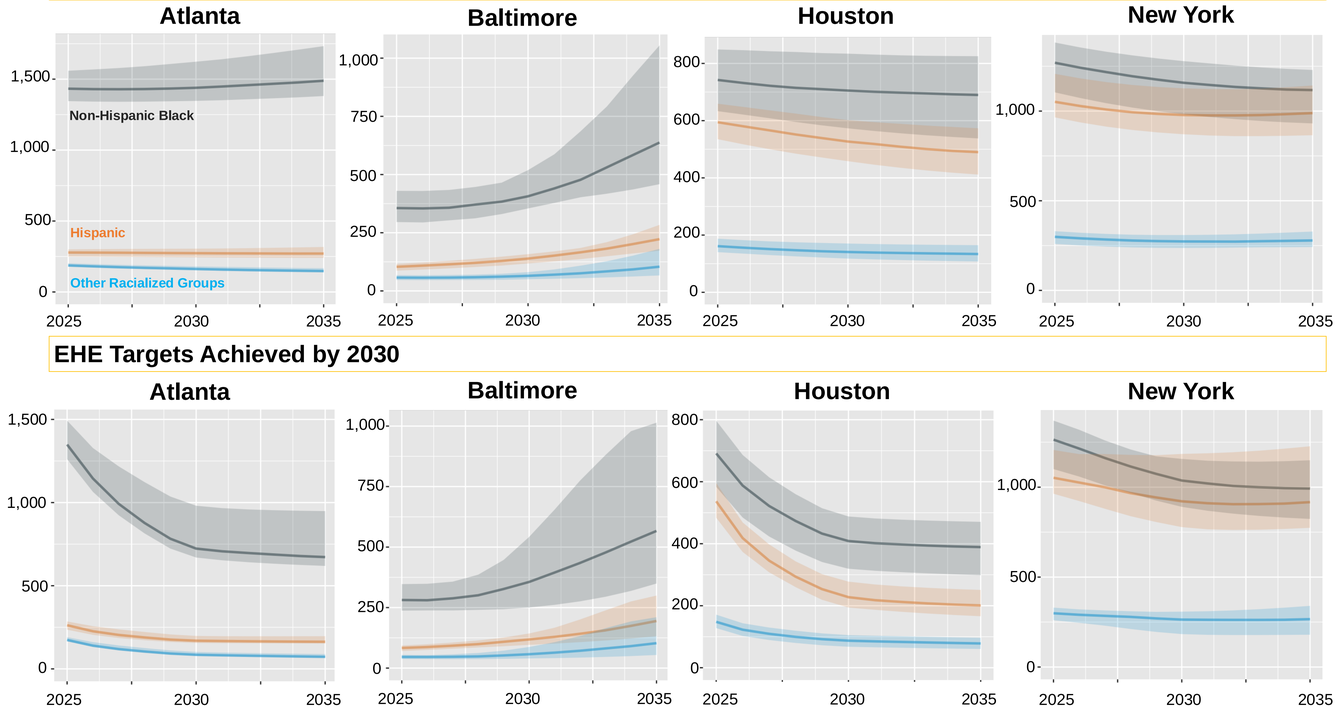
Intervention: Increase the HIV testing rate, proportion virally suppressed, and proportion prescribed pre-exposure prophylaxis (PrEP):

- linearly over the period 2025-2030, and
- by the same factor in each model stratum (race/ethnicity, age, sex, transmission mode),
- such that EHE targets are achieved by 2030.

KNOWLEDGE OF STATUS	VIRAL SUPPRESSION	PrEP COVERAGE
87% (2022) → 95% (2030)	65% (2022) → 95% (2030)	36% (2022) → 50% (2030)

Outcomes: HIV incidence rates and rate ratios comparing Black and Hispanic vs. other racialized groups (predominantly non-Hispanic White) in 2035.

Projected HIV infections among non-Hispanic Black, Hispanic, and other racialized groups, 2025-2035



Median number of new HIV infections across 100 independent model simulations, with 95% credible intervals (CrI).

Estimated HIV incidence rates among Black and Hispanic vs. other racialized groups in 2035

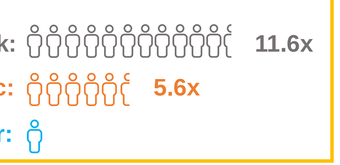
Metropolitan Statistical Area	Current Epidemic Trends			EHE Targets Achieved by 2030		
	Incidence Rate	IRR, Black	IRR, Hispanic	Incidence Rate	IRR, Black	IRR, Hispanic
Atlanta, GA	30 (28, 34)	12.1 (11.2, 13.4)	6 (5.3, 6.2)	15 (13, 19)	11 (10.6, 14)	7.3 (6.2, 8)
Baltimore, MD	30 (22, 47)	11.6 (9.9, 13.9)	9.1 (6.7, 12.5)	34 (21, 59)	10.8 (8.5, 13.2)	8.5 (6.1, 11.9)
Houston, TX	17 (15, 20)	10.6 (9, 12.9)	3.8 (2.8, 4.4)	9 (8, 10)	10.5 (8.1, 14)	2.9 (1.9, 3.3)
New York, NY	14 (12, 15)	13.5 (11.5, 15.5)	7.5 (6.8, 9.2)	12 (11, 15)	12.3 (10.4, 16.2)	7.3 (6.7, 9.7)
Overall	*19 (18, 20)*	*13.4 (12.3, 14.2)*	*5.8 (5.3, 6.5)*	*14 (12, 16)*	*11.6 (10.4, 13.4)*	*5.6 (4.7, 6.7)*

Share of prevalent HIV diagnoses across the 4 MSAs in 2022: 48% non-Hispanic Black, 29% Hispanic, 15% non-Hispanic White.
Numbers in parentheses are 95% credible intervals (CrI).

RESULTS

- Under current epidemic trends, HIV incidence in Atlanta, Baltimore, Houston and New York was projected to decrease from 21 to 19 infections per 100,000 population by 2035.
- Under a 'race-neutral' intervention to scale up testing, viral suppression, and PrEP, HIV incidence was projected to decrease by an additional 26%.
- While HIV incidence would decrease in all racialized groups under this intervention, relative racial disparities would persist.

Under EHE target levels of testing, viral suppression, and PrEP, **HIV incidence would likely remain higher among Black and Hispanic individuals** compared to other racialized groups.



CONCLUSIONS

Eliminating racial and ethnic disparities in HIV incidence may require interventions that allocate prevention and treatment resources equitably, rather than equally, across racialized groups.

ACKNOWLEDGEMENTS

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About the Johns Hopkins Epidemiological and Economic Model: Fojo AT, Schnure M, Kasaie P, Dowdy DW and Shah M. "What Will It Take to End HIV in the United States? A Comprehensive, Local-Level Modeling Study." *Ann Intern Med.* 2021;174(11): 1542-1553.

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