Estimating the epidemiological impact of Florida's Integrated HIV Care Plan in Miami

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BACKGROUND

- The US Ending the HIV Epidemic (EHE) initiative aims to reduce national HIV incidence 90% by 2030 and to address the disproportionate burden of HIV among Black and Hispanic/Latinx populations.
- Miami-Dade County (Miami) had the third highest rate of new HIV diagnoses among US counties in 2019 and is one of 48 priority counties identified in the EHE strategy.
- Florida recently released its 2022-2026 "**Integrated HIV Prevention and Care Plan**", outlining state-specific intermediate objectives (and key strategies) to reach the national EHE goals.
- Populated with local epidemiological data, simulation models can determine the relative effects of reaching public health targets and highlight existing implementation and service gaps to inform planning efforts.
- Our objective was to estimate the epidemiological impact of achieving the stated objectives of Florida's integrated care plan in Miami, accounting for racial inequities in access to care.

METHODS

- We adapted a dynamic compartmental HIV transmission model calibrated to Miami
- We operationalized objectives from the Florida's 2022-2026 integrated care plan to Miami and adjusted access to HIV testing, pre-exposure prophylaxis (PrEP) and antiretroviral treatment (ART) to simulate the effects of reaching each of the objectives within the plan individually and jointly.
- **We compared two approaches for service scale-up :**
  I. Distributed in proportion to existing access levels across racial/ethnic groups (**a proportional approach**)
  II. Distributed according to the number of new diagnoses in 2019 across racial/ethnic groups **(an equity-oriented approach)**

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Compared to 2020, achieving all key objectives within Florida's 2022-2026 Integrated HIV Prevention and Care Plan would result in:

- 1,089 (44.8%) annual HIV infections averted with the proportional approach and
- **1,477 (60.7%)** annual HIV infections averted with an **equity-oriented** approach by 2030.

RESULTS

Fig 1. shows the estimated reduction in the reduction in annual HIV new infections in 2030 with achieving the integrated care plan objectives individually and jointly compared to 2020

- The single most influential strategy was reducing new HIV diagnoses in Hispanic/Latinx men who have sex with men via increased PrEP uptake, resulting in 895 (37%) fewer annual new infections.
- Achieving all objectives under the equity-oriented approach would result in 1,477 (60.7%) reduction in annual new infections, compared to 1,089 (44.8%) under proportional approach.

Fig 1. Comparison of annual number of new HIV infections in 2030 between status quo and reaching Integrated HIV Prevention and Care Plan objectives

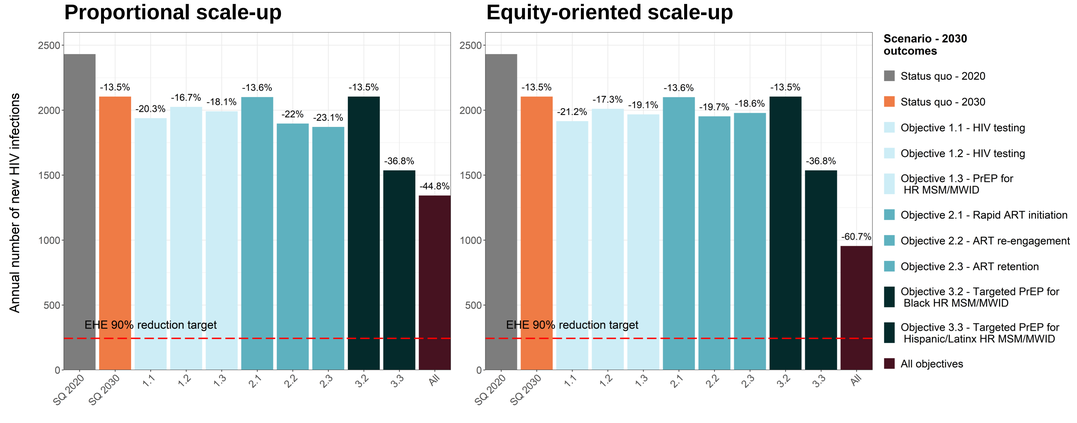


Fig. 2 shows the projected racial/ethnic breakdown of HIV incidence in 2030 when achieving all plan objectives.

- The largest reduction was observed among Hispanic/Latinx individuals with the equity approach resulting in 62.6% annual incidence reduction within this population by 2030, compared to 45.2% under the proportional approach.

CONCLUSIONS

Achieving the goals of Florida's current Integrated HIV Prevention and Care Plan would reduce HIV incidence dramatically in Miami; however further efforts are required to achieve EHE targets by 2030. Structural changes in service delivery and a focus on effective implementation of available interventions, particularly among Black and Hispanic/Latinx populations, will be crucial to overcoming the HIV epidemic.

ACKNOWLEDGEMENTS

This work was supported by the National Institutes on Drug Abuse [NIDA grant no. R01DA041747].

Fig 2. Projected annual number of new HIV infections under scenario of implementing all integrated care plan objectives jointly by scale-up approach and race/ethnicity

