Low-Barrier HIV Care Outcomes in the Context of Homelessness, Substance Use and Mental Illness

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BACKGROUND

- Low-barrier care (LBC) improves viral suppression among persons with HIV (PWH) who have complex needs.
- We extended prior analyses of LBC effectiveness & identified patient characteristics associated with greater benefit.

METHODS

- Study design: Retrospective cohort analysis
- Population: PWH enrolled in the Max Clinic in Seattle, Washington from Dec 2014 to Dec 2023 with ≥6 months of observation time pre-and post-enrollment
- Data sources: Patient characteristics from electronic health records; viral load (VL) results from HIV surveillance
- Analysis:
  - Observation periods divided into 6-month intervals from the earliest analysis date or HIV diagnosis date
  - Viral suppression (VS, <200 copies/mL) in each interval defined by the last VL in the interval
    - Intervals missing VLs carried forward suppression status from the prior window once, if suppressed, or until the next result if unsuppressed
  - Each interval designated as either pre- or post-enrollment in Max (once enrolled = always enrolled)
  - Due to data clustering, we used generalized estimating equations to estimate VS probabilities.
  - Predictors: Max Clinic enrollment, gender, and 3 dichotomous risk factors for virologic failure:
    - Homelessness/unstable housing at enrollment
    - Substance use - methamphetamine, opioids, or cocaine in year prior to enrollment
    - Severe mental illness - psychotic, bipolar, or personality disorder at enrollment
  - Interactions among variables and sensitivity analyses run to identify a properly specified predictive model
  - Predicted probabilities of viral suppression pre- and post-enrollment calculated for different combinations of the 3 risk factors

Viral suppression increased with low-barrier care enrollment; people with multiple risk factors for virologic failure (homelessness, substance use, serious mental illness) benefitted the most.

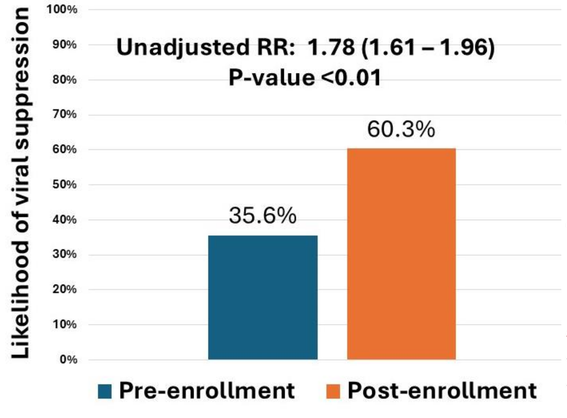
RESULTS

Characteristics of patients enrolled in Max Clinic (N=398)

Gender, n (%)	
Cisgender man	301 (76)
Cisgender woman	83 (21)
Transgender, non-binary, gender diverse	14 (4)
Race/Ethnicity,[1] n (%)	
Hispanic, All races	62 (16)
Black, Non-Hispanic	84 (21)
White, Non-Hispanic	182 (46)
Homeless or unstably housed, n (%)	240 (60)
Substance use[2] in past year, n (%)	292 (73)
Injection drug use in the past year, n (%)	158 (40)
Serious mental illness[3], n (%)	112 (28)
Age (years), median (IQR)	41 (34, 49)
Time since HIV diagnosis (years), median (IQR)	10 (3, 16)

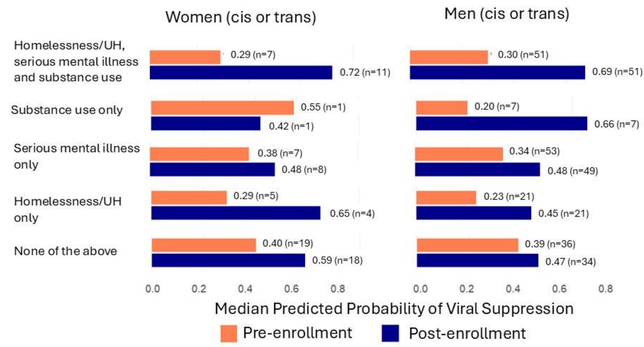
IQR, interquartile range
[1]Other racial categories omitted from the table for space
[2]Methamphetamine, opioids, cocaine
[3]Psychotic, bipolar, or personality disorder

Overall likelihood of viral suppression, post vs. pre-enrollment (N=6,928 6-month intervals)



- A 5-way interaction of Max enrollment, gender, and the 3 risk factors was needed to fit the data, yielding risk profile and gender-specific Max enrollment effects

Effect of Max Clinic enrollment on viral suppression with different risk factor combinations, stratified by gender.



- Pooled across gender, median VS in PWH with all 3 risk factors increased from 30% pre- to 70% post-enrollment vs. 38% to 52% among those with no risk factors.

LIMITATIONS

- This analysis did not include persons who did not enroll in Max Clinic

CONCLUSIONS

- These findings confirm our prior controlled analysis among early Max Clinic enrollees (N=50) that demonstrated increased viral suppression associated with LBC enrollment.
- The benefits of the Max model are greatest among patient who confront more risks for poor clinical outcomes (homelessness, substance use, mental illness).
- These findings support more widespread adoption of low-barrier care models.

ADDITIONAL KEY INFORMATION

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