The HIV Treatment Cascade: Improving Measurement to Target Interventions

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Motivation

Optimization of HIV diagnosis, care, treatment, and prevention requires:

1. Accurate characterization of population sizes at each continuum step and juncture;

2. Understanding of relative contributions of each step/juncture to transmission; and

3. Carefully targeted interventions based on 1 & 2.
Aim 1

What do these numbers look like in North Carolina?
Aim 1 – Methods

Careful, systematic extraction of data from multiple available databases

+ Critical assessment of the potential biases in each database

↓

Derivation of triangulated estimates and plausible ranges for each continuum stage
Slide courtesy of Katie Lesko, UNC
Aim 2

What are the relative contributions of each to transmission?
Aim 2 – Methods

• In North Carolina:
  – Testing for acute & recent infection is routine
  – NC STAT program: Partner HIV status, stage, VL, and Dx/care/treatment status collected by DIS
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Aim 2 – Methods

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• Mapping of incident cases’ partner information to continuum → indication of steps’ relative transmission contributions
Aim 3

Aims 1 and 2 specifically for young MSM of color to inform future intervention.
HIV in Young MSM of Color, NC

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  – New HIV diagnosis rate among young black men is 5 × the overall NC rate*
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• Aim 3 analyses will identify pressure points where a (future) intervention could have the greatest impact on HIV transmission in NC.

Other Ongoing / Future Directions

• Mathematical model of the continuum
• Model-based evaluation of community viral load and other metrics for monitoring transmission
• Analysis of reported lab data as proxy for visits: UNC clinical cohort vs. state surveillance data
Impact Statement

• This supplement is allowing us to:
  – develop methods for characterizing the continuum in NC;
  – identify the optimal targets along the continuum for interventions in our most-affected population;
  – continue to build research capacity & strengthen existing collaborations; and
  – prioritize future research directions.
# NC Continuum Team

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