THE RELATIONSHIP BETWEEN THE HIV-1 TRANSMISSION NETWORK AND THE HIV CARE CONTINUUM IN LOS ANGELES

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BACKGROUND
Successful public health action combatting HIV relies on navigation through the HIV continuum of care: timely diagnosis of infection followed by linkage to care and initiation of antiretroviral therapy to achieve and maintain viral suppression.

METHODS

• Population: 5,226 adults residing in Los Angeles (LA) county, diagnosed between 2010-2014, with an HIV-1 pol sequence
• Independent Variable: Cluster growth at diagnosis based on HIV-TRACE (genetic distance threshold ≤0.015 substitution/site)
• Outcome: Months to (i) linkage to care, (ii) viral suppression, and (iii) post-suppression viral rebound
• Statistic: Cox proportional hazard and gamma frailty models, accounting for membership in same transmission cluster

RESULTS
Cases in high growth clusters took longer to experience viral rebound than cases in low growth clusters

% achieving event:

- % Months to event:
  - Ref.
  - 100%
  - 92%
  - 26%

Figure 1. Flow diagram of progression through the HIV care continuum based on cluster growth at diagnosis. Reported adjusted hazard ratios with arrows showing path between care continuum events.

CONCLUSIONS
- Our results do not support the hypothesis that rapidly growing clusters is associated with prolonged viremia due to slower progression through the HIV care continuum.
- Timing of progression to events in the HIV care continuum was more similar among individuals from same transmission cluster than among individuals in different transmission clusters.
- Molecular epidemiology can identifying clusters of individuals who may benefit from assistance in navigating the HIV care continuum.

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