

The Spectrum of Engagement in HIV Care: Do More Than 19% of HIV-Infected Persons in the US Have Undetectable Viral Load?

TO THE EDITOR—The paper by Gardner et al [1] on the spectrum of engagement in human immunodeficiency virus (HIV) care provides an important heuristic for understanding the parameters and outcomes for a successful test-and-treat strategy to reduce HIV transmission. The spectrum begins with persons infected with HIV (unaware and aware) and progresses through diagnosed, linked to care, retained in care, needing antiretroviral therapy (ART), receiving ART, and having undetectable viral load. Gardner et al estimated that 19% of HIV-infected persons in the United States have undetectable HIV RNA.

We have data that we believe help refine this estimate. First, a recently published meta-analysis found that 59% of HIV-diagnosed persons are retained in care (multiple medical visits during specified time intervals) [2], which is somewhat higher than the estimate of Gardner et al [1] of 50% retained in care. Second, we are currently conducting a study at 6 HIV outpatient clinics in the United States (Baltimore, MD; Birmingham, AL; Boston, MA; Brooklyn, NY; Houston, TX; and Miami, FL). A total of 11 468 HIV-infected patients had 1 or more primary care visits from 1 October 2009 through 30 September 2010 and had a viral load laboratory result within 90 days of their most recent visit in that interval. We calculated the percentage of these

patients who had suppressed viral load, using 2 thresholds that were available at all 6 clinics (<400 copies/mL and <75 copies/mL). We found that 73% of the patients had viral load of <400 copies/mL, which is consistent with data from 13 clinical cohorts participating in the North American AIDS Cohort Collaboration on Research and Design [3]. If a cut-point of <75 copies/mL was used, then 62% of the patients had viral suppression.

Based on the results of the meta-analysis, we estimate that 515 693 HIV-infected persons in the United States are retained in HIV care (59% of 874 056 HIV-diagnosed persons in the spectrum of Gardner et al [1]). Of these 515 693 persons, we estimate that 73% (376 456 persons) have suppressed virus, defined as a viral load of <400 copies/mL. These 376 456 persons comprise 34% of the 1 106 400 HIV-infected persons in the United States. If we use <75 copies/mL as the cut-point for classifying patients as having viral suppression, we estimate that, among the 515 693 persons retained in HIV care, 62% (319 730 persons) have suppressed virus. This comprises 29% of the HIV-infected persons in the United States, which is substantially higher than the estimate of Gardner et al of 19%.

Our estimate differs from that of Gardner et al [1] for at least 3 reasons. First, we used a higher value for retention in care (59% rather than 50%). Second, Gardner et al used additional parameters for calculating outcomes. For example, of those persons retained in care, they estimated that 80% need ART. Of the 80% who need ART, they estimated that 75% are receiving ART. And of the 75% receiving ART, they estimated that 80% had undetectable virus. Although these estimates were based on empirical studies, error in estimating any of these components is carried forward to the next element. In our calculation, we went directly from “retained in care” to “viral suppression,” avoiding error in estimating intermediate ART parameters. Third, Gardner et al defined suppressed virus

as an RNA load of <50 copies/mL, whereas we used <400 copies/mL and <75 copies/mL. Our definition classifies more HIV-infected persons as having suppressed virus. However, persons who meet any of these definitions probably have similar virologic status and reduced transmission potential [4].

The paper by Gardner et al [1] provides a valuable heuristic for understanding the spectrum of engagement in HIV care. As more data become available, the components of the spectrum will be estimated with increasing accuracy. Our estimates and those of Gardner et al demonstrate the need for strategies to improve all parameters of engagement in care so that more HIV-infected persons have suppressed virus and reduced risk of infecting others.

Notes

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