Reducing the gap between the diagnosis and treatment of HIV infection

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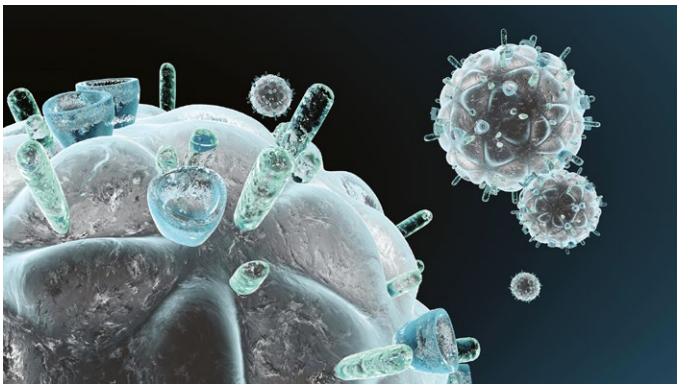
Starting antiretroviral therapy as early as possible is crucial at both the individual and the public health levels

Antiretroviral therapy (ART) has dramatically reduced the morbidity and mortality associated with human immunodeficiency virus (HIV) infection, and the life expectancy of people with HIV who receive ART is now similar to that of people not living with HIV.[1,2] ART has been available in Australia since 1996, and treatment is now less complicated and less toxic, with many people taking single tablets containing three antiviral drugs. When to initiate ART in people diagnosed with HIV infection was previously guided by their level of immunosuppression as indicated by their CD4$^+$ T-cell count. Since 2014, however, national and international guidelines recommend ART for all people with HIV, irrespective of their CD4$^+$ T-cell count.[3,4]

Early initiation of ART has several benefits. First, starting ART even in people with normal CD4$^+$ T-cell counts (> 500 cells/μL) reduces mortality and morbidity.[5,6] Apart from reducing CD4$^+$ T-cell numbers, HIV causes other significant immunologic harms, including chronic inflammation that is associated with an increased risk of cardiovascular disease, malignancy, cognitive impairment and liver disease.[7] Starting ART later, in people with lower CD4$^+$ counts, increases the likelihood of persistent immune activation and adverse clinical events.[8] Second, several large randomised and observational studies have found that sexual transmission of HIV from someone receiving ART and with a suppressed viral load is negligible.[9,10] That is: the sooner ART is initiated, the less time the individual is infectious. There is therefore much to gain at both the individual and public health levels by initiating ART early for anyone with a diagnosis of HIV infection.

In this edition of the *MJA*, McManus and colleagues[11] describe changes in the time from diagnosis to initiation of ART in Australia between 2004 and 2015, based on a retrospective cohort analysis of routinely collected longitudinal data from 44 sexual health clinics. They identified the people who commenced ART "early" (within 6 months of diagnosis) or "late" (more than 6 months after diagnosis), and found a striking increase in the proportion receiving early ART, rising from 17% in 2004–06 to 53% during 2013–15, paralleled by a fall in the median time to initiating ART from 816 to 82 days.

There are several important features to note about these findings. First, the study was confined to sexual health clinics, but similar declines in the time between HIV diagnosis and ART initiation over a similar period have been reported for hospital settings in Australia.[12] Second, 92% of participants in the study by McManus and colleagues were men, and 79% reported recent male-to-male sex. In the most recent HIV surveillance report for Australia, 12% of people with HIV infection were women, and over the past few years the incidence of HIV infection has been steadily increasing among Indigenous Australians.[13] Data on how key populations other than men who have sex with men engage with care, especially the initiation of ART, will be increasingly important. Finally, the study by McManus and his colleagues was retrospective and excluded people who were lost to follow-up, a group potentially at high risk of not commencing or at least deferring ART.



The guidelines currently endorsed by the Australasian Society for HIV Medicine recommend that ART be initiated as soon as possible after diagnosis.[3] We are certainly doing this in Australia. However, many countries are aiming for the more ambitious target of starting ART on the day of diagnosis. A recent randomised study in Haiti found that the likelihood of retaining patients in care and the odds of a suppressed viral load were greater for people who commenced ART on the day of diagnosis than during the subsequent 3 weeks.[14] Targeted programs for same day ART are being implemented in many large urban centres, including in high income settings such as San Francisco.[15] Whether same day ART would have benefits in Australia, particularly for reducing the incidence of HIV infections, remains to be determined.

Australia's Eighth National HIV Strategy for 2018–2022[16] sets some ambitious goals: to increase HIV testing, to increase the number of people with HIV receiving ART, to increase the number of people with suppressed viral loads, and to reduce the number of new HIV infections. Several new initiatives, such as home-based and point-of-care HIV testing, the inclusion of pre-exposure prophylaxis in the Pharmaceutical Benefits Scheme, allowing community pharmacies to dispense ART, and simpler ART regimens will all help reach these targets, provided they are supported by strong community engagement and the stigmatisation of people with HIV infection is eliminated. Reducing the time from diagnosis to ART initiation for everyone and in all clinical settings will also be important for achieving these goals.

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