

Back to the future with CD4 testing: Improving HIV care in low- and middle- income countries

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A practical resource-based public health approach for the rapid initiation of antiretroviral therapy in HIV-infected individuals living in low- and middle-income countries could save thousands of lives, according to an Essay published in *PLOS Medicine*. Credit: Snr Airman Austin Harvill, U.S. Air Force

A practical resource-based public health approach for the rapid initiation of antiretroviral therapy in HIV-infected individuals living in low- and middle-income countries could save thousands of lives, according to an

Essay published January 15 in the open-access journal *PLOS Medicine* by Mark Tenforde of the University of Washington School of Medicine, and colleagues.

Effective [antiretroviral therapy](#) has substantially decreased HIV morbidity and mortality over the past two decades. Several randomized trials have demonstrated benefits from starting antiretroviral therapy regardless of CD4 count, and the World Health Organization adopted a "treat all" strategy in 2015. Significant attention has been focused on rapidly initiating antiretroviral therapy in different settings, and considerable progress has been made. Yet a significant proportion of patients starting antiretroviral therapy in low- and [middle-income countries](#) continue to present with severe immunosuppression, with recent laboratory-based surveillance showing that one-third of South African patients enter care with advanced HIV disease. These late presenters have the highest risk for immune reconstitution inflammatory syndrome, unmasking of opportunistic infections including tuberculosis, and death.

According to Tenforde and colleagues, current strategies are inadequate for identifying and preventing opportunistic infections and related deaths in late presenters. The authors present a resource-based approach according to diagnostic test availability for targeting opportunistic infections in the "treat all" era. The approach could decrease early mortality after antiretroviral therapy initiation and would be practical to implement. Even the most resource-constrained settings can implement interventions that have the potential to save thousands of lives, while further refinement can be offered in settings where rapid screening for common [opportunistic infections](#) is feasible.

According to the authors, an optimal approach requires that pre-antiretroviral therapy CD4 testing continues to be available (preferably as a simple point-of-care threshold test), although viral load testing has

been supplanting CD4 testing in high-burden countries in the "treat all" era. "We believe this provides a pragmatic algorithm to avoid delaying antiretroviral [therapy](#) for the most immunosuppressed patients who are at the highest risk of dying," the authors write.

More information: Tenforde MW, Walker AS, Gibb DM, Manabe YC (2019) Rapid antiretroviral therapy initiation in low- and middle-income countries: A resource-based approach. *PLoS Med* 16(1): e1002723. doi.org/10.1371/journal.pmed.1002723

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