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## Antiretroviral treatment initiation—authors' reply

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We thank Arild Maeland and Samir Gupta for their interest in our Comment.<sup>1</sup> Traditionally, concerns about cost, sustainability, and potential toxicities of long-term antiretroviral therapy (ART) have led to recommendations to defer ART initiation. The development, however, of more efficacious, convenient, and better-tolerated ART regimens has markedly reversed this trend. Furthermore, results from the HPTN 052 substudy show a range of individual benefits of early ART initiation, including a significant reduction in AIDS-related opportunistic infections and tuberculosis incidence.<sup>2</sup>

Not surprisingly, the strongest clinical evidence of a major short-term survival benefit with ART occurs in patients who initiate therapy with a CD4 cell count of 350 cells per  $\mu\text{L}$  or less. It should be emphasised, however, that non-AIDS related morbidity and mortality are emerging concerns best addressed by suppressing HIV replication with the safest ART regimen appropriate for each patient, as shown by results from the SMART trial.<sup>3</sup>

Although clinical trials are underway to specifically assess the effect of earlier ART initiation in asymptomatic individuals infected with HIV with normal CD4 cell counts, existing cohort studies—the NA ACCORD and ART-CC—have both reported reduced morbidity and mortality with earlier ART initiation.<sup>4, 5</sup> Additionally, no study in the modern ART era has clearly shown better clinical outcomes with treatment deferral. The potential outcomes of untreated HIV should also be acknowledged, and thus a discussion of the effect of immediate versus deferred ART should identify not only morbidity and mortality issues, but also other key outcomes including quality of life, productivity, HIV transmission, feasibility, and economic issues, to name a few.

Recently, a global confluence of ART guidelines has occurred, which is highlighted by the latest release of the 2013 WHO HIV treatment guidelines, with the overall consensus being that ART should be offered to most if not all individuals infected with HIV.<sup>6</sup> Additionally the UN has formally proposed a new post-2015 ART target, the 90-90-90 target: by 2020 at least 90% of all people living with HIV will know their HIV status, at least 90% of those will receive sustained ART, and at least 90% will have durable viral suppression. We support these new declarations and believe it is high time to mobilise the necessary resources to fulfil the promise of HIV treatment as prevention: prevention of morbidity, prevention of premature mortality, and secondarily prevention of HIV transmission, at a global level.

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