Hitting U.S. HIV Diagnosis and Treatment Targets Would Be Cost-Effective

Getting 70 percent of the HIV population virally suppressed by 2020 would prevent a vast number of deaths over two decades.

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If the United States were to ratchet up the diagnosis and successful treatment of people living with HIV to hit the National HIV/AIDS Strategy (NHAS) targets by 2020, the excess expense would prove cost-effective and prevent hundreds of thousands of HIV- and AIDS-related deaths.

The Obama administration released the NHAS in 2015, establishing a goal of getting 90 percent of the U.S. HIV population diagnosed and 72 percent on ARVs and virally suppressed by 2020.

According to a Centers for Disease Control and Prevention (CDC) report released in July, of an estimated 1.1 million HIV-positive U.S. residents in 2014, 85 percent were diagnosed and 49 percent had a fully suppressed viral load. Recent research suggests the viral suppression rate has been increasing in recent years; a CDC previous estimate based on 2011 data put that figure at just 30 percent.

Researchers from the new cost-effectiveness study, who published their findings in the Journal of Infectious Diseases, conducted mathematical modeling to project key metrics of the epidemic over a 20-year period given two scenarios: 1) if current trends persist pertaining to rates of HIV diagnosis, linkage to medical care, retention in care, treatment, and viral suppression and 2) if such trends escalate to achieve the NHAS 2020 targets.

The study authors looked at the cost to increase one quality-adjusted life-year (QALY), which is a composite measure of both expanded life as well as improved health. A year of life lived in perfect health is equivalent to 1.0 QALY, while that figure drops below 1.0 in proportion to how poor health is. So if an individual's health went from 5 to 10 on a scale of 1 to 10 thanks to a particular treatment, this doubling effect would produce a gain of additional QALYs equivalent to the number of years as the person were projected to live. Otherwise, if treatment adds two years of life with health at a level of 5, that would be equivalent to one additional QALY.

According to the modeling, given current trends, 750,000 people will die of HIV- and AIDS-related

causes during the next two decades, compared with 551,000 people if the NHAS targets are met. The study authors conducted separate modeling pertaining to Black men who have sex with men (MSM) in particular and found the respective HIV/AIDS-related death figures for that group would be 110,000 and 65,000.

The 20-year cost associated with the current pace of diagnosis, linkage, retention, treatment and viral suppression rates would be $523.3 billion, compared with $645.7 billion to step up the pace and meet NHAS targets. Consequently, the cost of adding one QALY would be $68,900, and $38,300 for Black MSM, each well below the threshold of $100,000 commonly used to determine whether an intervention is cost-effective.

Because three quarters of the costs analyzed in this paper stem from the price of antiretrovirals, the authors stated that price reductions for HIV medications would improve cost-effectiveness.

To read a press release about the study, click here.

To read the study abstract, click here.

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