

Global estimates for the lifetime cost of managing HIV: a systematic review

Authors:

Huynh T^{1,2}, Saleem K³, Lim M⁴, Chow EPF^{1,2,4}, Fairley CK^{1,2}, Terris-Prestholt F⁵, Ong JJ^{1,2,4,6}

¹ Central Clinical School, Monash University

² Melbourne Sexual Health Centre, The Alfred

³ Department of Paediatrics, University of Melbourne

⁴ Melbourne School of Population and Global Health, University of Melbourne

⁵ Department of Global Health, London School of Hygiene and Tropical Medicine

⁶ Department of Clinical Research, London School of Hygiene and Tropical Medicine

Background:

Over 38 million people live with HIV (PLHIV) and 1.7 million newly infected in 2019, leading to significant health, economic and social consequences. We aimed to collate global lifetime estimates for managing PLHIV.

Methods:

We conducted a systematic review (Prospero:CRD42020184490) using five databases to identify publications from 1999-2019. Papers were included if they reported primary data on lifetime costs for PLHIV. Two reviewers independently assessed the titles and abstracts for eligibility, and data were extracted from full texts for the following: lifetime cost, year of currency, country of currency, discount rate, time horizon, perspective, method used to estimate cost, and cost items included. All currency was converted to 2019 US dollars.

Results:

Of 505 articles found, 260 full-texts were examined and 75 included in this review. Fifty (67%) studies were from high-income countries, 22 (29%) from middle-income countries and 3 (4%) from low-income countries. Of 65 studies which reported study perspective, 45 (69%) were health-provider and the remainder were societal. The median lifetime costs for PLHIV differed according to: 1) country income level: highest was \$372,018 (IQR:227,220 - 541,430) for high-income, and lowest was \$3,693 (IQR: 3,344.50 - 10,859) for low-middle income; 2) study perspective: \$189,330 (IQR:13,236 - 424,069) for health provider, and \$408,955 (IQR:148,503 – 684,355) for societal; and 3) decision model: \$278,081 (IQR:10,242 - 424,069) for microsimulation models, and \$190,255 (IQR:12,783 - 429,712) for Markov cohort. There was a significant increase over time for managing PLHIV in high-income countries ($p_{\text{trend}}=0.024$), and middle-income countries ($p_{\text{trend}}=0.044$).

Conclusion:

Estimating the lifetime costs of managing HIV is vital for policy makers who are involved in future planning and decision making to ensure quality HIV treatment is cost effective and affordable for all. Furthermore, HIV prevention strategies need to be strengthened to avert the economic costs of managing PLHIV and late diagnoses.

Disclosure of Interest Statement:

All authors declare they do not have any conflict of interest.