Projections of the Healthcare Costs and Disease Burden due to Hepatitis C Infection under Different Treatment Policies in Malaysia, 2018–2040

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Abstract
Introduction The World Health Organisation (WHO) has set ambitious goals to reduce the global disease burden associated with, and eventually eliminate, viral hepatitis.
Objective To assist with achieving these goals and to inform the development of a national strategic plan for Malaysia, we estimated the long-term burden incurred by the care and management of patients with chronic hepatitis C virus (HCV) infection. We compared cumulative healthcare costs and disease burden under different treatment cascade scenarios.
Methods We attached direct costs for the management/care of chronically HCV-infected patients to a previously developed clinical disease progression model. Under assumptions regarding disease stage-specific proportions of model-predicted HCV patients within care, annual numbers of patients initiated on antiviral treatment and distribution of treatments over stage, we projected the healthcare costs and disease burden [in disability-adjusted life-years (DALY)] in 2018–2040 under four treatment scenarios: (A) no treatment/baseline; (B) pre-2018 standard of care (pegylated interferon/ribavirin); (C) gradual scale-up in direct-acting antiviral (DAA) treatment uptake that does not meet the WHO 2030 treatment uptake target; (D) scale-up in DAA treatment uptake that meets the WHO 2030 target.
Results Scenario D, while achieving the WHO 2030 target and averting 253,500 DALYs compared with the pre-2018 standard of care B, incurred the highest direct patient costs over the period 2018–2030: US$890 million (95% uncertainty interval 653–1271). When including screening programme costs, the total cost was estimated at US$952 million, which was 12% higher than the estimated total cost of scenario C.
Conclusions The scale-up to meet the WHO 2030 target may be achievable with appropriately high governmental commitment to the expansion of HCV screening to bring sufficient undiagnosed chronically infected patients into the treatment pathway.

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