

PROGRESS TOWARDS HCV ELIMINATION IN AUSTRALIA: THE IMPACT OF DAA THERAPY AND EMERGING CHALLENGES

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Background: The rollout of direct-acting antiviral (DAA) therapy in 2016 marked a turning point in Australia's hepatitis C virus (HCV) response. As one of the first countries to provide DAAs without restrictions, Australia has achieved substantial progress towards HCV elimination, with over 100,000 people treated and cured of HCV since 2016. However, HCV reinfection, particularly in high-risk groups, present a growing challenge.

Methods: We used a mathematical model to estimate progress toward key HCV targets in Australia from 2016 to 2023, including the number of people living with HCV, new primary infections, and reinfections. Our model incorporated HCV notification data from the National Notifiable Diseases Surveillance System, treatment uptake from the Pharmaceutical Benefits Scheme, and reinfection risks among high-risk populations. Projections were used to assess Australia's progress toward WHO HCV elimination targets.

Results: By 2023, the number of people living with HCV fell by 58% from 2015 (162,590 to 68,890), reflecting the impact of broad treatment access. Despite this progress, our model estimated that over 50% of new HCV infections in 2023 were from reinfection (910 of 1,740 cases), underscoring the urgent need for enhanced prevention efforts. Encouragingly, treatment uptake rebounded from a 21% decline in 2022 to a 6% increase in 2023, achieving 63% treatment coverage and demonstrating renewed momentum toward elimination. Our modelling suggests Australia remains on track to meet WHO HCV elimination targets by 2030 if treatment numbers are maintained.

Conclusion: DAA availability has transformed the landscape of HCV management in Australia, but reinfection highlights the need for complementary strategies such as harm reduction services and enhanced prevention efforts. The increase in treatment numbers in 2023 underscores the effectiveness of targeted interventions and outreach programs. As Australia nears elimination, maintaining high treatment

coverage and expanding HCV elimination monitoring to reduce the burden among high-risk populations will be key challenges.

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