

## Estimating HCV population size and care cascade by 2021 in Australia

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**Background:** Monitoring direct-acting antiviral (DAA) treatment coverage is a key requirement for tracking chronic hepatitis C virus (HCV) elimination progress. The aim of this study is to update 2021 Australian HCV cascade estimates using the latest available data and compare with the available treatment coverage and NSW mortality data.

**Methods:** An existing mathematical model was updated using the Australian HCV notifications data from the National Notifiable Disease Surveillance System and treatment numbers from the Pharmaceutical Benefits Scheme. Based on the available data and characteristics of Australian HCV epidemiology, the proportion of spontaneous clearance and duplicates of HCV notifications were reviewed and revised. The model was then calibrated to an updated estimate of the prevalence of HCV in 2015 and the number of people diagnosed and living with HCV in 2021. Using the updated model, the number of people living with HCV in Australia and the coverage of DAA treatment was estimated.

**Results:** At end 2015, an estimated 160,060 people were living with chronic HCV in Australia. Of those, 81% were diagnosed with HCV and 21% of those had received treatment during 2016. In 2015, an estimated 690 people living with chronic HCV died with HCV-related liver disease. By end 2021, an estimated 81,300 people were living with chronic HCV. Of those, 76% were diagnosed with HCV and 460 people living with chronic HCV died with HCV-related liver disease. Of all people living with chronic HCV from 2016 to 2021, an estimated 56% received DAA treatment.

**Conclusion:** The updated estimates for the HCV cascade are more aligned with empirical data. Although the number of people living with chronic HCV has halved since 2015, there are still a substantial number of people who need to be diagnosed, treated, and cured. Enhanced efforts are required to enable Australia to achieve HCV elimination targets.

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