

# HEPATITIS B TREATMENT IN AUSTRALIA – WHAT’S THE MAGIC NUMBER?

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## **Introduction:**

The natural history of chronic hepatitis B (CHB) is complex, involving several phases, and is influenced by a range of factors. The dynamic nature of disease progression means not everyone living with CHB requires treatment, with guidelines recommending antiviral therapy only for those with immune active CHB or liver cirrhosis. While Australia’s National Hepatitis B Strategy 2014–2017 includes a target for antiviral treatment uptake of 15%, this is an approximation based on limited overseas data. This study aims to ascertain the natural history and CHB phases of Australians living with CHB, and to use mathematical modelling to estimate the proportion who require antiviral treatment.

## **Methods:**

A mathematical model was developed that incorporates disease phases, cirrhosis and hepatocellular carcinoma, utilizing data sources including migration, notifications, clinical and seroprevalence data. Published and grey literature were searched and clinical experts consulted to inform estimates of the distribution of infection phases for CHB.

## **Results:**

Our model estimates that in 2017 roughly 240,000 people are living with CHB in Australia. Within this total number, the data sources identified demonstrated variation in phase distribution according to clinical setting, migrant group, and region, fundamentally affecting treatment eligibility. Applying these variations according to jurisdiction and region showed discrepancies in the proportion of people living with CHB who are estimated to require antiviral treatment.

## **Conclusion:**

Understanding the CHB phase distribution in Australians living with CHB is essential to inform decisions about who needs treatment, both at individual and population target levels. Estimation of the proportion of people requiring treatment allows effective and accurate monitoring towards treatment targets, and identification of gaps and disparities between population groups.

## **Disclosure of Interest Statement:**

All authors declare that they have no conflicts of interest. No pharmaceutical grants were received in the development of this study.