

Hepatitis B treatment in Australia – What’s the magical number?

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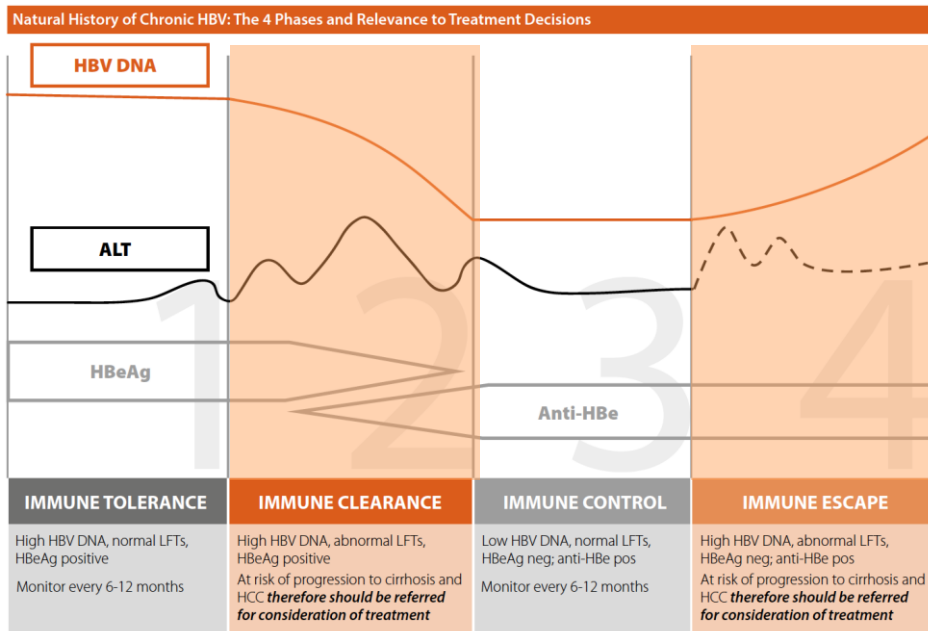
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No conflict of interest to declare

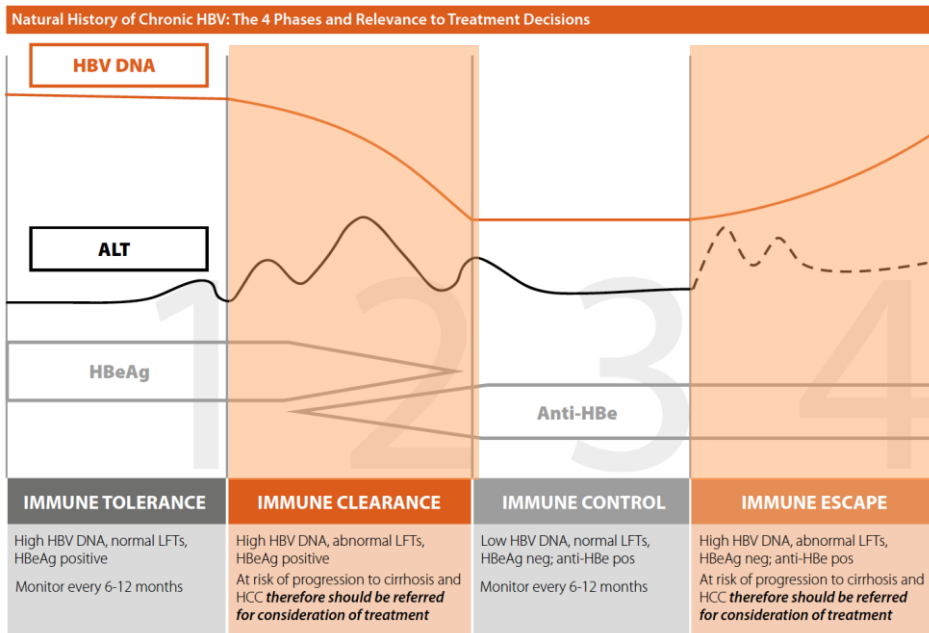


B Positive (2nd edition), ASHM

+ Liver cirrhosis

Factors influencing hepatitis B disease progression

- Age
- Sex
- Region of birth (HBV genotype)
- Presence of HBV mutant variants
- Family history
- Other health determinants (HIV, HCV or HDV coinfection, diabetes, smoking, alcohol use, obesity)

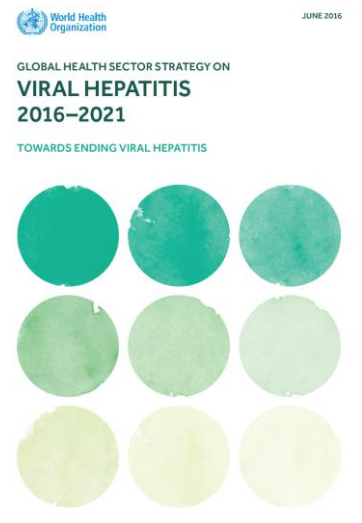
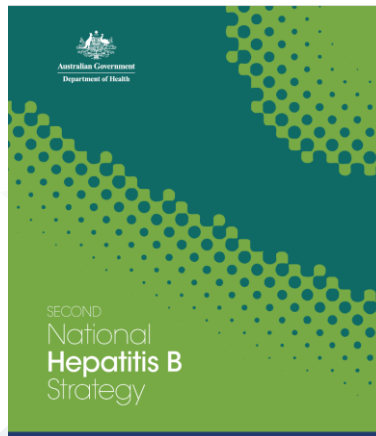


B Positive (2nd edition), ASHM

+ Liver cirrhosis

2017 Australian Target:
15% of all people living with chronic hepatitis B receiving antiviral treatment

2030 WHO target:
80% of eligible persons with chronic hepatitis B virus infection treated



Aim

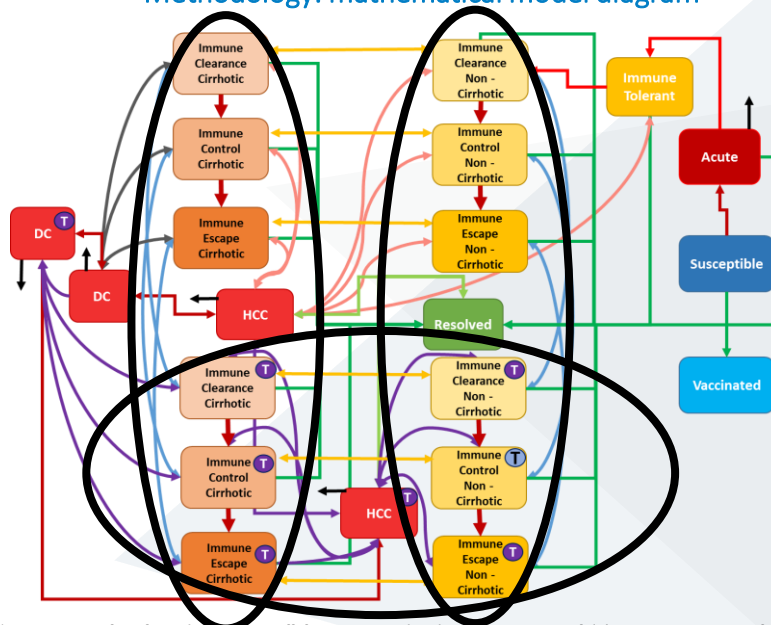
To use mathematical modelling to:

- ascertain the natural history and CHB phases of Australians living with CHB
- estimate the proportion who are eligible for antiviral treatment under current guidelines

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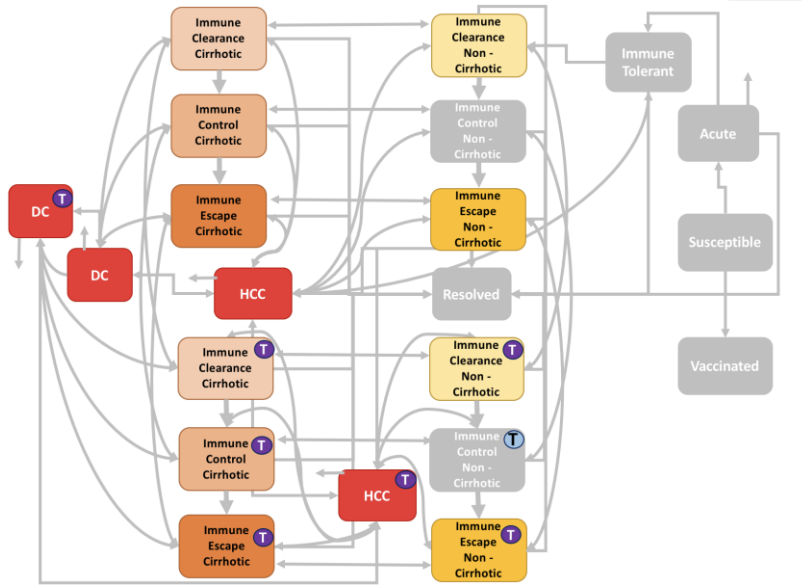
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Methodology: mathematical model diagram



*Decompensated Cirrhosis (DC), Hepatocellular Carcinoma (HCC), Compartments with "T" represent treatment eligible states.
Black arrows represent hepatitis B related deaths.

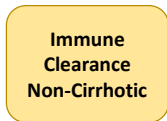
Methodology: mathematical model diagram



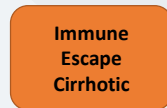
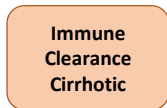
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Treatment eligibility by disease phase

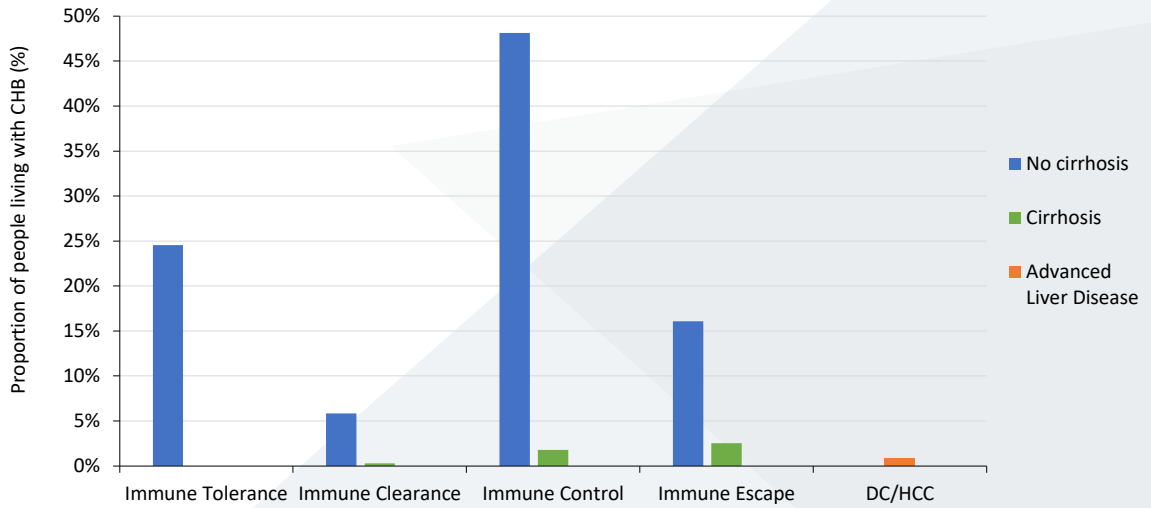
No advanced liver damage



Advanced liver damage



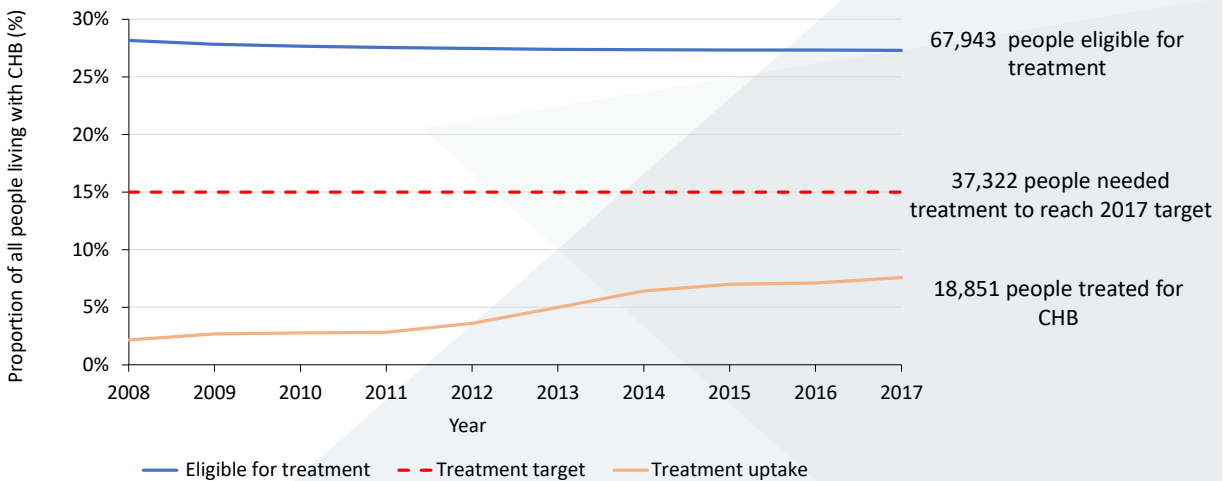
Chronic hepatitis B disease phase distribution in Australia, 2017



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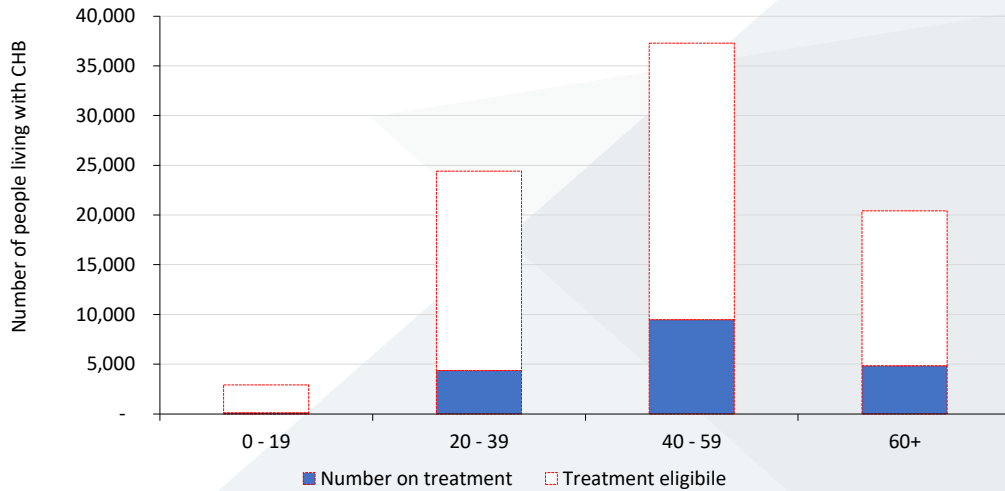
Chronic hepatitis B treatment in Australia



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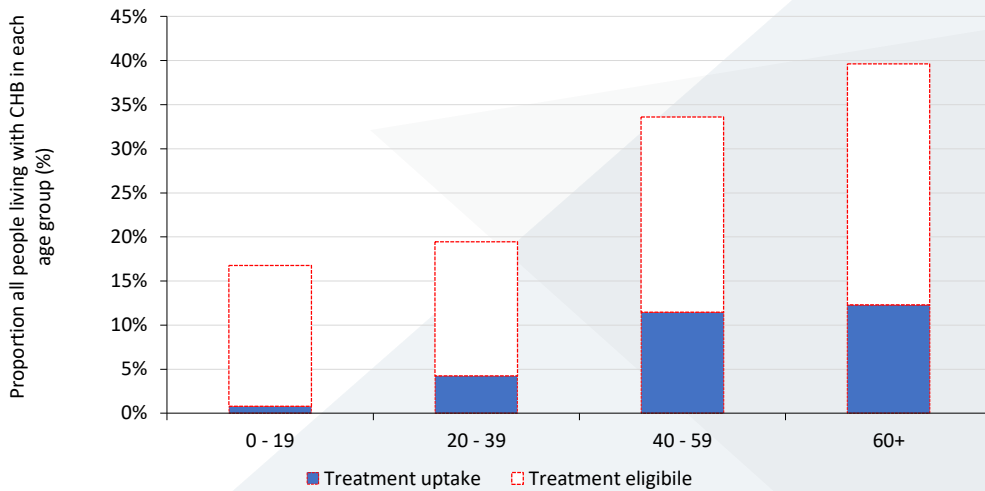
Number on HBV treatment and eligible by age in Australia, 2017



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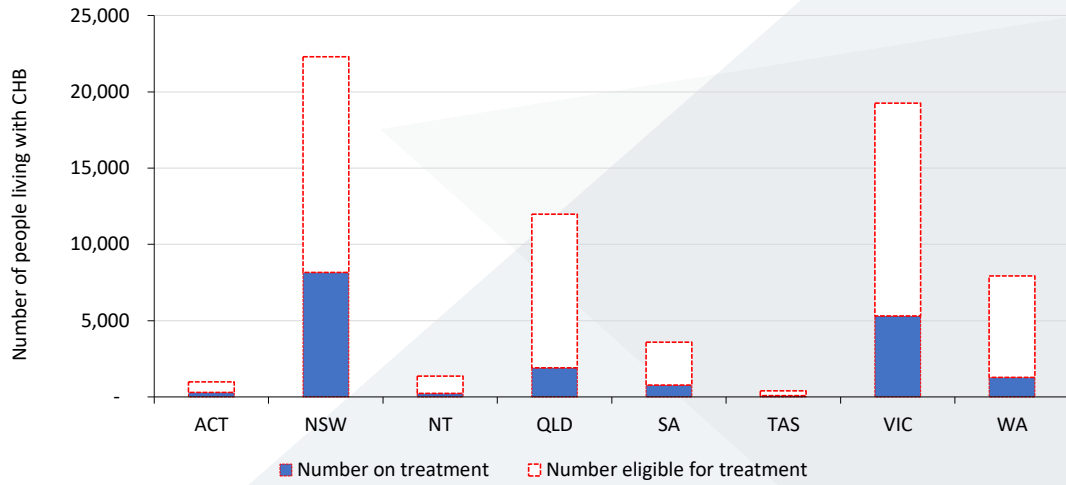
Treatment uptake and eligibility by age in Australia, 2017



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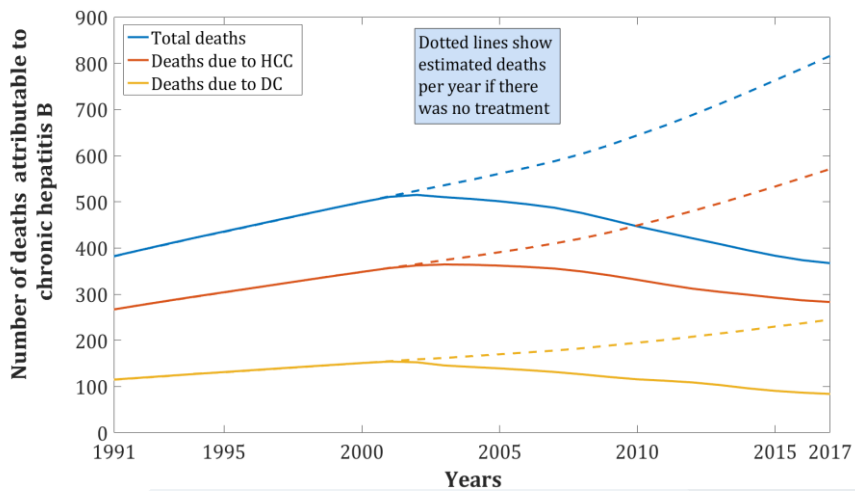
Number on HBV treatment and eligible by jurisdiction in Australia, 2017



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Impact of treatment on CHB attributable deaths in Australia

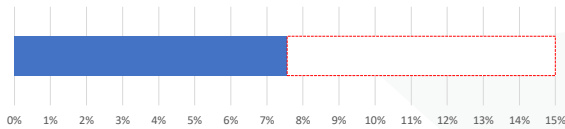


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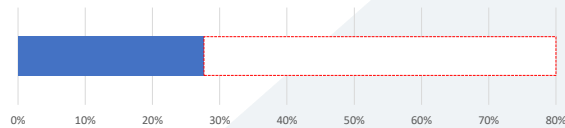
Progress towards Targets

National Hepatitis B Strategy 2017 Treatment Target:
15% of all people living with CHB treated



Australia needed to treat an additional **18,429** people living with CHB to reach 2017 target

WHO Global Health Sector Strategy, 2030 Treatment Target:
80% of eligible people living CHB treated



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Progress towards Targets

	2017	2030
Number of people living with CHB	248,811	322,842
Number of people eligible for HBV treatment	67,943	90,690
80% of those eligible for treatment	54,354	72,552
Number of people on HBV treatment	18,851	?

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Summary

- Modelled estimates show that 27% of people living with chronic hepatitis B are eligible for treatment, under the current guidelines.
- Treatment eligibility differs according to population groups (age, region)
 - Modelled estimates can be used to look at treatment uptake disparities

Future steps

- Modelling results are estimates - further Australian research is underway to validate results.
- Future work will look at modelling projections into 2030

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