

Improving estimates of current burden of disease attributable to hepatitis B in Australia

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A joint venture between The University of Melbourne and The Royal Melbourne Hospital

No conflict of interest to declare

Overview

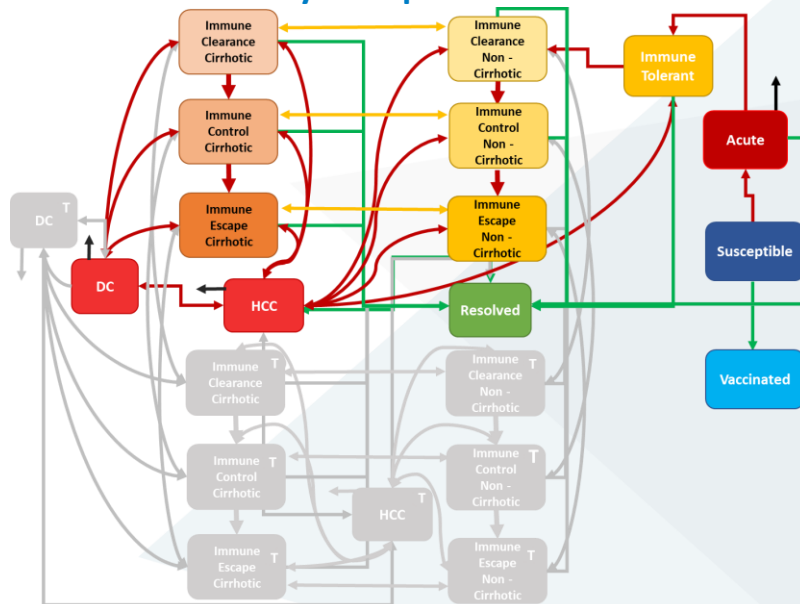
- Surveillance for hepatitis B Indicators project aims to measure progress towards targets outlined in the National Hepatitis B Strategy 2014 – 2017.
- Targets included:
 - Increasing the proportion of people living with CHB who are diagnosed.
 - Increasing treatment uptake in those affected.
 - Reducing the burden of attributable morbidity and mortality.

- To generate more accurate estimates of these indicator variables we have been updating a dynamic population based model describing the natural history of hepatitis B in Australia.

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Model of the natural history of hepatitis B

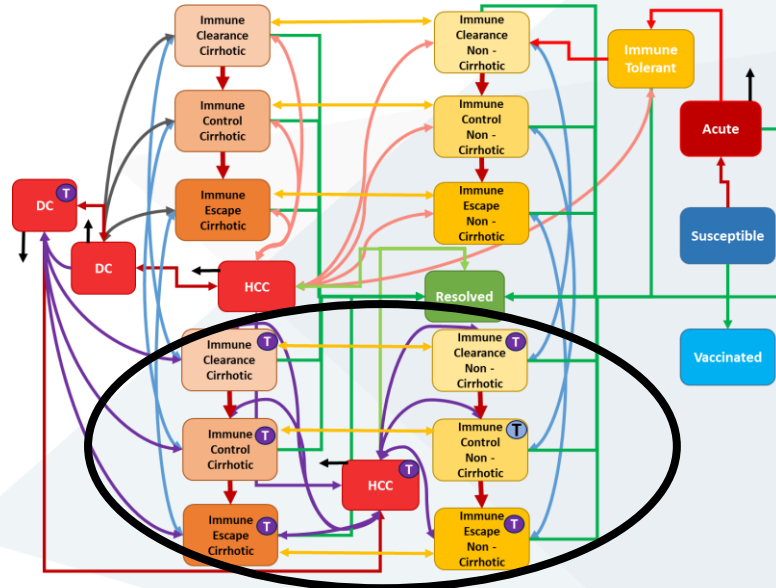


*Decompensated Cirrhosis (DC), Hepatocellular Carcinoma (HCC), Compartments with "T" represent treatment eligible states. Black arrows represent hepatitis B related deaths.

Model of the natural history of hepatitis B

Demographics not shown:

- Age-structured
- Migration (by age country of birth)
- Population births & deaths



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

Data sources

Input	Source
Disease progression estimates	Published and grey literature, serosurveys
Population demographics	ABS
Migration (numbers, age distribution)	ABS, DSS Settlement Data
Source country prevalence estimates	Published and grey literature, serosurveys
Vaccination uptake	Australian Government Department of Health
Treatment data	PBS

Summary National Estimates for 2017

Tasks	Point estimate	Plausible range*	
		Minimum	Maximum
1. People living with CHB	248, 811	234,230	264,130
2. Proportion of people living with CHB in Australia who have been diagnosed	60.82%	57.41%	64.74%
3. Proportion of people living with CHB who are dispensed drugs for the treatment of hepatitis B	7.58%	7.16%	8.07%
4. Number of attributable deaths due to CHB	391	365	411
5. Number of deaths due to hepatocellular carcinoma attributable to CHB	307	281	316
6. Number of deaths due to attributable to decompensated cirrhosis CHB	84	79	95

*Preliminary range estimates

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Summary State Estimates for 2017*

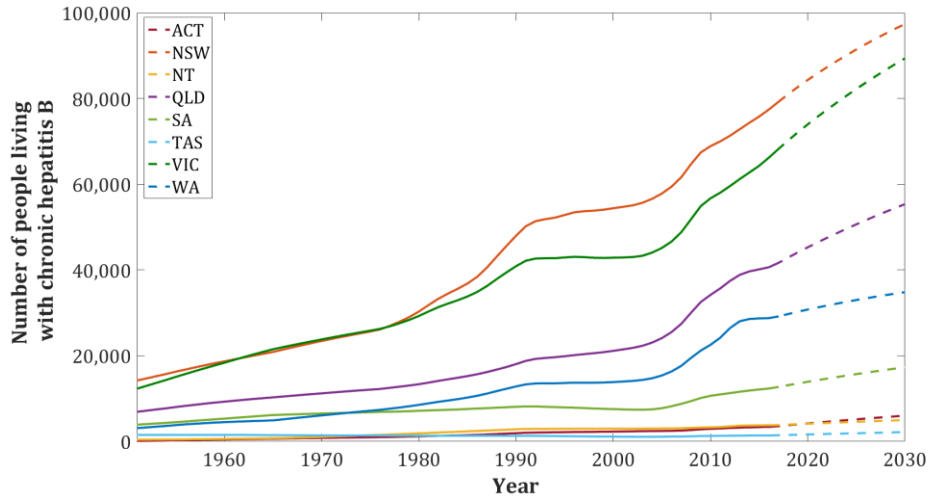
State/ Territory	People living with CHB	Diagnosed (%)	Treatment uptake (%)	Total deaths attributable to CHB	HCC deaths attributable to CHB	DC deaths attributable to CHB
ACT	3,579	52.18%	8.10%	6	5	1
NSW	79,202	73.07%	11.38%	98	75	23
NT	3,847	76.05%	5.74%	10	8	2
QLD	41,670	46.47%	4.61%	78	60	18
SA	12,718	40.13%	5.98%	24	18	6
TAS	1,462	43.20%	5.2%	4	3	1
VIC	68,247	53.61%	7.84%	114	90	24
WA	29,175	38.58%	4.17%	54	42	12

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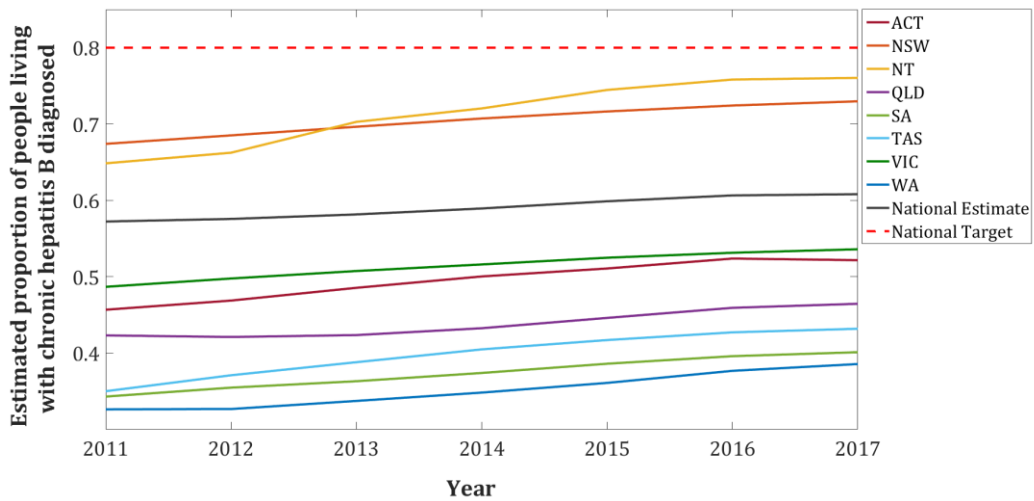
Number of people living with chronic hepatitis B



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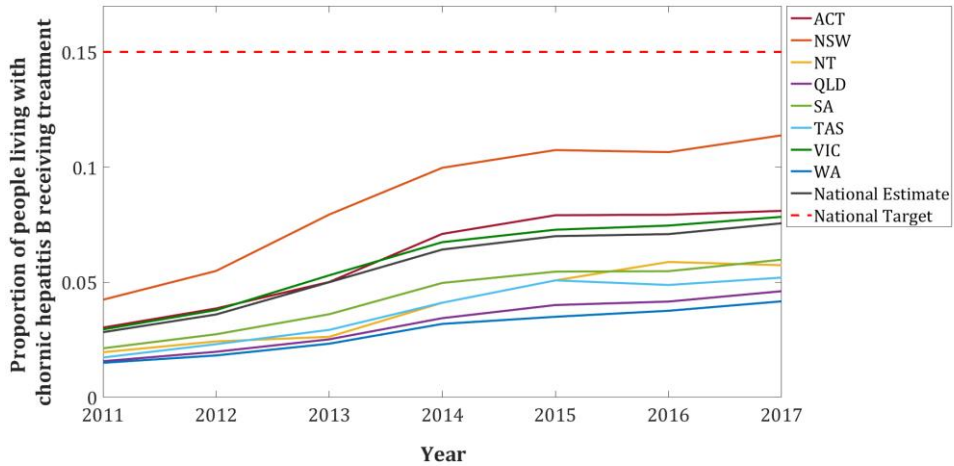
Proportion of people living with chronic hepatitis B who are diagnosed



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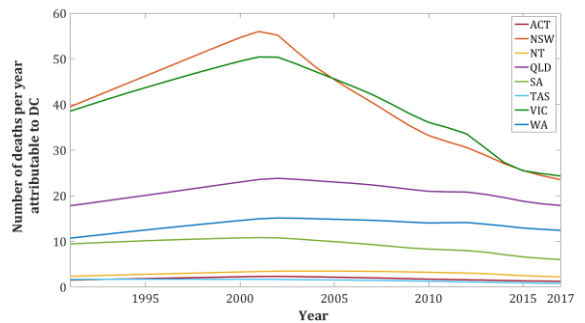
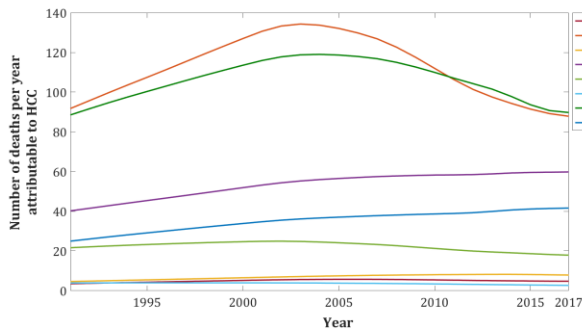
Proportion of people living with chronic hepatitis B receiving treatment through the PBS



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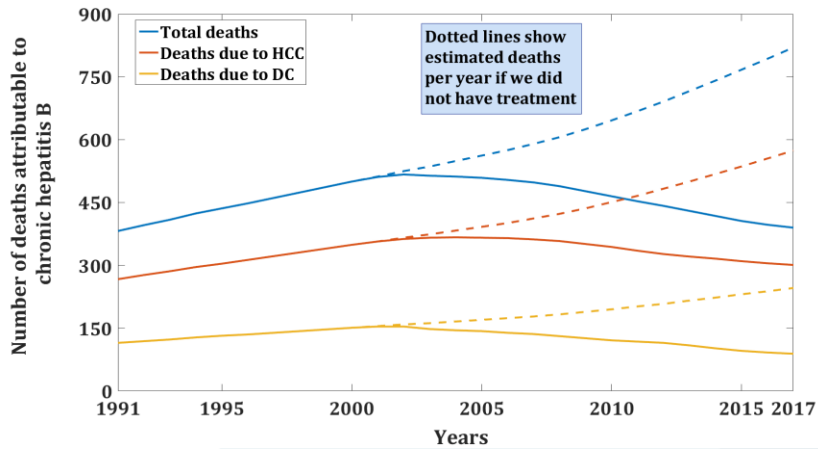
Disaggregated burden of disease attributable to chronic hepatitis B for each state and territory



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Impact treatment has had on mortality due to chronic hepatitis B



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Future work

- Continue to refine model with Australian specific data as it becomes available.
- Focus on updating the model to estimate burden of disease in priority populations.
- Focus on improving modelled projections to 2030.

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+ our **Research Advisory Group**

www.doherty.edu.au/whoccvh



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