

# Cascade of care among people with an HBV notification in New South Wales, Australia, including diagnosis, specialist assessment, and treatment uptake

## Authors:

*Shah HBU<sup>1</sup>, Valerio H<sup>1</sup>, Hajarizadeh B<sup>1</sup>, Alavi M<sup>1</sup>, Matthews G<sup>1</sup>, Dore G<sup>1</sup>*

<sup>1</sup> The Kirby Institute, UNSW

**Background:** Hepatitis B virus (HBV) care cascade characterisation is important for monitoring progress towards HBV elimination. This study evaluated care cascade and factors associated with HBV DNA testing and treatment uptake during 2010-2018 in New South Wales, Australia.

**Methods:** HBV testing, specialist consultation, and treatment care cascade were determined through linkage of HBV notifications (1993-2017) to Medicare and pharmaceutical benefits schemes (2010-2018). Timely HBV DNA testing was within four weeks of HBV notification. Multivariate cox proportional-hazards regression analyses evaluated factors associated with HBV DNA testing and antiviral treatment.

**Results:** Among 15,202 people with HBV notification, 10,479 (69%) were tested for HBV DNA, of whom 5366 (52%) received timely testing. A total of 6,963 (46%) consulted a specialist post-notification, and 3,179 (21%) initiated HBV treatment. HBV DNA testing was more likely among those  $\geq 45$  years (adjusted Hazard Ratio [aHR] 1.13, 95%CI: 1.07, 1.18), those with hepatocellular carcinoma (HCC) (aHR 1.25, 95%CI: 1.02, 1.53) and notified in later period (2014-17) (aHR 1.46, 95%CI: 1.40, 1.52), and less likely among females (aHR 0.96, 95%CI: 0.92, 0.99), those with history of alcohol use disorder (AUD) (aHR 0.77, 95%CI: 0.66, 0.89), and those coinfecting (HBV/HCV; aHR 0.62, 95%CI: 0.54, 0.69, HBV/HIV; aHR 0.75, 95%CI: 0.58, 0.98).

Higher likelihood of HBV treatment was associated with age  $\geq 45$  years (aHR 1.41, 95%CI: 1.28, 1.54), decompensated cirrhosis (aHR 2.06, 95%CI: 1.61, 2.64), HCC (aHR 2.89, 95%CI: 2.29, 3.65), HBV/HIV coinfection (aHR 4.52, 95%CI: 3.63, 5.63) and HBV notification in later period (2014-17) (aHR 1.61, 95%CI: 1.49, 1.74). HBV treatment was less likely among females (aHR 0.68, 95%CI: 0.63, 0.73) and Indigenous peoples (aHR 0.58, 95%CI: 0.42, 0.80).

**Conclusion:** Most people with HBV notification got HBV DNA testing and consulted a specialist. Timely HBV DNA testing and treatment coverage have increased, but remain sub-optimal among some key sub-populations.

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