SURVEILLANCE AND EPIDEMIOLOGY OF BLOOD BORNE VIRAL HEPATITIS IN AUSTRALIA: 21 YEARS OF THE NATIONAL NOTIFIABLE DISEASE SURVEILLANCE SYSTEM

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Background: The blood borne hepatitis viruses, hepatitis B (HBV), hepatitis C (HCV) and hepatitis D (HDV), are major preventable causes of cirrhosis, hepatocellular carcinoma, and premature death[1]. Mandatory notification of blood borne viral hepatitis (BBVH) is common worldwide. In Australia, the National Notifiable Diseases Surveillance System (NNDSS) has collected BBVH notifications since 1991. HBV and HCV notifications are classified as 'newly acquired' or 'unspecified.'

The NNDSS dataset offers insight into BBVH surveillance data completeness, the geographic and demographic distribution of disease burden over time, and the impact of HBV vaccination programs.

Methods: Descriptive analysis of all NNDSS notifications for BBVH reported between 1991-2011 was performed. Separate analysis was performed for 'newly acquired,' 'unspecified,' and total (pooled) notifications. Population, demographic and geographical data from the Australian Bureau of Statistics was used to calculate notification rates in population subgroups and map notifications by geographical distribution. HBV notification rates in children eligible for vaccination were compared to rates in the same age groups prior to the implementation of vaccination programs.

Results: Over 430 000 BBVH notifications were reported nationally in Australia from 1991-2011. 3% of HBV notification and 4% of HCV notifications were classified as 'newly acquired.' Notification data completeness was variable, with low rates of reporting of risk factors including Indigenous status of birth and vaccination status.

HBV and HCV notification rates were highest in males aged 20-49 years, Aboriginal or Torres Strait Islander Australians, in capital cities, and in certain remote areas. There was a decrease in HBV and HCV notification rates after 2000, both for newly acquired and unspecified infections. HBV notifications decreased in age groups eligible for vaccination following the introduction of infant and adolescent vaccination programs. However from 2000-2011, 316 notifications of HBV were reported in children in age groups eligible for universal infant vaccination. There were a total of 382 notifications of HDV (<0.4% the rate of HBV), reported almost exclusively from capital cities.

Conclusion: BBVH notification rates have decreased since 2000, but remain high in at-risk communities. Closer investigation of notifications among children is warranted to identify potential gaps in vaccination coverage

and/or a need for targeted migrant child screening programs. Given that 5% of people with HBV are estimated to have HDV coinfection, very low reporting rates of HDV are suggestive of low screening rates and under-diagnosis, particularly outside of capital cities.

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