

National summary of neonatal hepatitis B immunisation –2015



Background

This report summarises uptake and timeliness of the first three doses of hepatitis B immunisation and trends in babies who were born to hepatitis B positive mothers during 2015 and were notified to the Public Health Wales Health Protection Team. Uptake and timeliness of the fourth dose of hepatitis B immunisation in babies born to hepatitis B positive mothers in 2014 is also presented.

The data in this report are taken from the All Wales Neonatal Hepatitis B immunisation database. The database was developed to assist the Public Health Wales Health Protection Team in the monitoring and follow up of hepatitis B immunisation in babies born to hepatitis B positive mothers. The database also allows Public Health Wales to monitor uptake and timeliness of hepatitis B vaccination in neonates and young children born to infected mothers. Data contained in this report were extracted on 5th August 2016.

Table 1. Uptake and timeliness of neonatal hepatitis B immunisation in Wales, babies born to hepatitis B positive mothers and resident in Wales during 2014 and 2015

	Year of birth	Immunisation	Immunisation		Immunisation	
		Required	Received	Received	Received on time ⁶	Received on time ⁶
		(n)	(n)	(%)	(n)	(%)
HBIG^{1,2}		8	8	100	8	100
Dose 1²	2015	61	61	100	60	98
Dose 2³		61	60	98	32	53
Dose 3⁴		61	57	93	32	56
Dose 4⁵	2014	46	38	83	26	68

¹ Hepatitis B Immunoglobulin. Not required for all neonates.

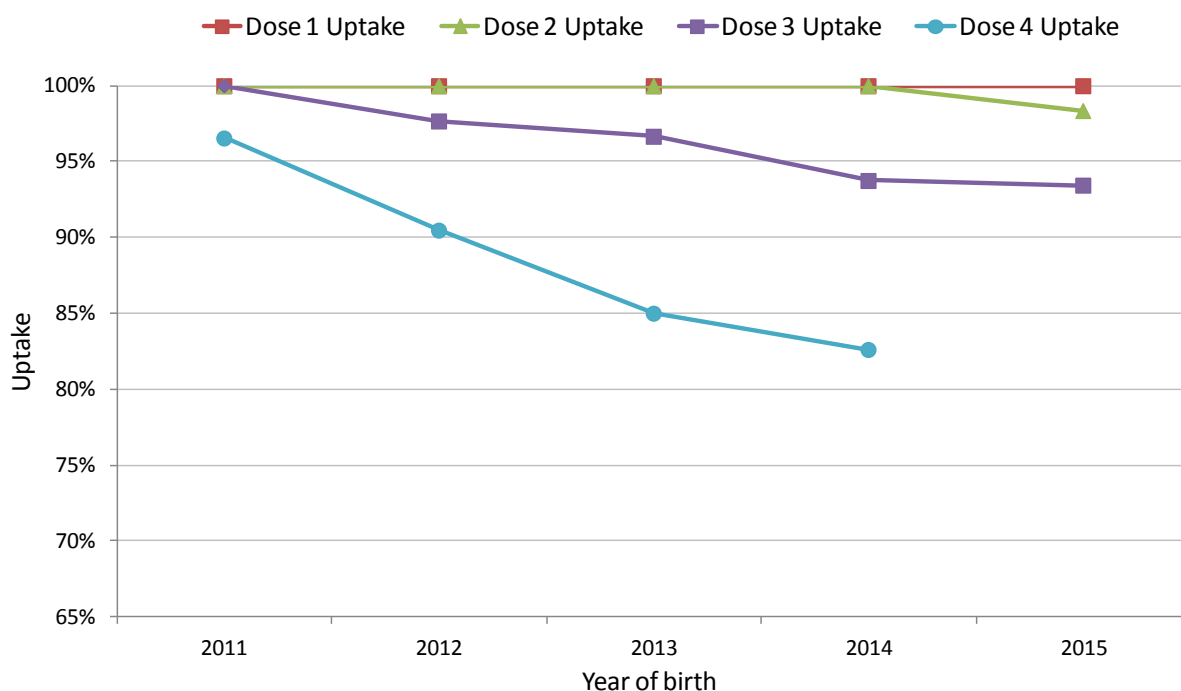
² Recommended to be given on the day of birth or the next day

³ Recommended interval: within 25 - 36 days after dose 1

⁴ Recommended interval: within 25 - 36 days after dose 2

⁵ Recommended interval: within 334 – 396 days of birth

Figure 1. Trends in uptake (%) of hepatitis B immunisations¹ in babies born to hepatitis B positive mothers from 2011 to 2015.



¹Uptake timeliness of dose 4 for all babies born in 2015 was not available at this time at the time which data were extracted for this report.

Table 2. Trends in the timeliness of hepatitis B immunisations in babies born to hepatitis B positive mothers from 2011 to 2015.

Percent received on time	Year of birth				
	2011	2012	2013	2014	2015
Dose 1 ¹ (%)	100	100	100	100	98
Dose 2 ² (%)	50	70	55	58	53
Dose 3 ³ (%)	67	48	64	56	56
Dose 4 ^{4,5} (%)	61	60	71	68	-

¹The timely interval for dose 1 is on the day of birth or the next day, for the purpose of this report.

²The timely interval for dose 2 is between 25 and 36 days after dose 1, for the purpose of this report.

³The timely interval for dose 3 is between 25 and 36 days after dose 2, for the purpose of this report.

⁴The timely interval for dose 4 is between 334 – 396 days after birth, for the purpose of this report

⁵ Uptake timeliness of dose 4 for babies born in 2015 is not available at this time.

Findings

1. During 2015, 66 babies born to hepatitis B mothers were reported to the Health Protection Team in comparison to 53 babies in 2014. Five babies who were born during 2015 are not included in this report, because they were lost to follow up. Four of these had moved out of Wales. The reason for the remaining one baby being lost to follow up is not known.
2. Hepatitis B immunoglobulin (HBIG) was indicated for 13% (8/61) of neonates born to hepatitis B positive mothers in Wales during 2015, a decrease from 19% in 2014. As with the last three years, HBIG was delivered to 100% of these neonates and all received it on their day of birth or the next day (Table 1).
3. Uptake of the first dose of hepatitis B immunisation was 100% in 2015, the same as in the previous four years, with the majority of neonates (98%) receiving their first dose on their day of birth or the next day (Table 1).
4. Uptake of the second dose of hepatitis B immunisation was 98% in 2015, compared to 100% in 2014. Fifty-three per cent of the babies received their second dose between 25 and 36 days after their first dose, a slight decrease from 58% in 2014 (Table 1).
5. Uptake of the third dose of hepatitis B immunisation was 93%, stable compared to 2014 (94%). Fifty-six per cent of the babies received their third dose between 25 and 36 days after their second dose, the same proportion as in 2014 (Table 1). Forty-two per cent of babies had a period of longer than 36 days between their second and third doses and 2% had a period shorter than 25 days.
6. Uptake of the fourth dose of hepatitis B immunisation was 83% in babies born to hepatitis B positive mothers in 2014, a continuation of the downward trend seen since 2011. Sixty-eight per cent of the babies received their fourth dose between 334 and 396 days of birth, a decrease compared to 71% in babies born in 2013, and 32% received the dose later than 396 days from birth.
7. Of the babies born to hepatitis B positive mothers and resident in Wales in 2014, 39% (18/46) were serologically tested for hepatitis B surface antigen by 18 months of age. Two babies were tested after 18 months of age. One of the 20 babies tested was found to have acquired hepatitis B infection.

Discussion

This is the fifth annual report of uptake of hepatitis B immunisation in neonates born to hepatitis B positive mothers in Wales. The report contains information on the first three doses of hepatitis B vaccination for babies born during 2015 as well as information on the fourth dose of the schedule and serological testing for babies born during 2014. All of these babies born during 2015 should have received their first, second and third doses of hepatitis B vaccine and the fourth dose of the vaccine and tested for serology if born during 2014, by the time data for this report were extracted (5th August 2015).

These data show that, as with the previous four years, all of the babies born to hepatitis B positive mothers, who were resident in Wales during 2015 and notified to Public Health Wales received HBIG (if indicated) and their first dose of the hepatitis B immunisation schedule. The proportion of babies receiving their first dose of the hepatitis B immunisation within the recommended timely interval remains high, although dropped below 100% for the first time since 2011 (98%). The uptake of the second dose of hepatitis B vaccine also dropped slightly below 100% (98%). Compared to 2014,

there was a slight decrease in the proportion of babies who received their second dose within the recommended timely interval, and the proportion of babies who received their third dose within the recommended timely interval remained stable. Of babies born to hepatitis B positive mothers in 2015, 7% babies did not receive their third dose of the vaccine, compared to 6% in 2014.

The proportion of babies to receive their fourth vaccination dose has continued on a downward trend since 2011. The proportion of babies born in 2014 who received their fourth dose within the recommended timely interval also decreased compared to 2013 but remained higher than babies born in 2012 and 2011. However, the proportion of babies born in 2014 who were serologically tested increased by 8% compared to babies born in 2013. Babies who do not complete the full immunisation course or who receive hepatitis B immunisation doses late could be at risk for developing a hepatitis B infection. Testing serology is essential to determining whether infection from hepatitis B was effectively prevented.

For more information on neonatal hepatitis B immunisations consult 'The Green Book' at <http://immunisation.dh.gov.uk/category/the-green-book/>

Quarterly coverage figures for neonatal hepatitis B immunisations are available from the [Public Health Wales COVER reporting scheme](#)

Report prepared by Public Health Wales Vaccine Preventable Disease Programme and Communicable Disease Surveillance Centre.