National summary of neonatal hepatitis B immunisation – 2016

Background

This report summarises uptake and timeliness of the first three doses of hepatitis B immunisation and trends in babies born to hepatitis B positive mothers during 2016 who 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 2015 is also presented.

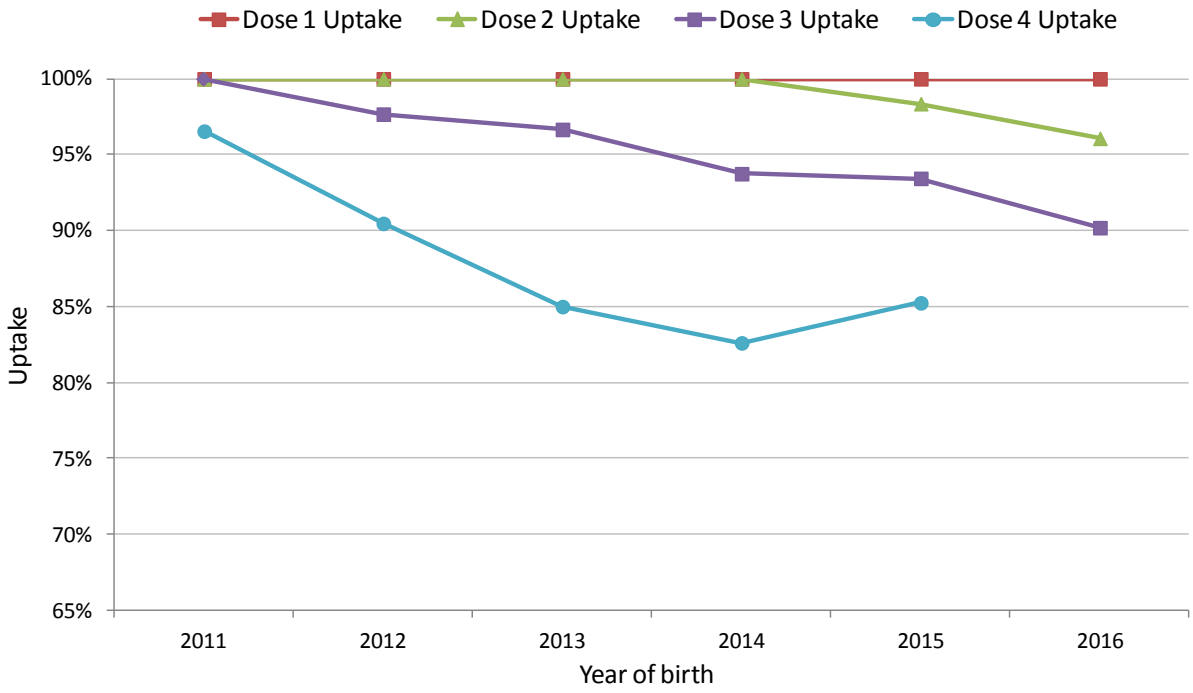
The data in this report are taken from the All Wales Neonatal Hepatitis B Immunisation database. The database was developed to assist the Public Health Wales Health Protection Team in the monitoring and follow up of hepatitis B immunisation in babies born to hepatitis B positive mothers. The database 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 26th July 2017.

Table 1. Uptake and timeliness of neonatal hepatitis B immunisation in Wales, babies born to hepatitis B positive mothers and resident in Wales during 2015 and 2016

	Year of birth	Immunisation Required	Immunisation Received		Immunisation Received on time	
		(n)	(n)	(%)	(n)	(%)
HBIG[1,2]	2016	7	7	100	7	100
Dose 1[2]		51	51	100	49	98
Dose 2[3]		51	49	96	25	51
Dose 3[4]		51	46	90	24	52
Dose 4[5]	2015	61	52	85	24	46

[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 immunisations[1] in babies born to hepatitis B positive mothers from 2011 to 2016.



[1]Uptake timeliness of dose 4 for all babies born in 2016 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 2016.

Percent received on time	Year of birth					
	2011	2012	2013	2014	2015	2016
Dose 1[1] (%)	100	100	100	100	98	98
Dose 2[2] (%)	50	70	55	58	53	51
Dose 3[3] (%)	67	48	64	56	56	52
Dose 4[4,5] (%)	61	60	71	68	46	-

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

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

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

[4]The 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 2016 is not available at this time.

Findings

1. During 2016, 55 babies born to hepatitis B mothers were reported to the Health Protection Team in comparison to 66 babies in 2015. Four babies who were born during 2016 are not included in this report, because they moved out of Wales.
2. Hepatitis B immunoglobulin (HBIG) is recommended to be administered to babies born to highly infectious mothers. HBIG was indicated for 14% (7/51) of neonates born to hepatitis B positive mothers in Wales during 2016, compared to 13% in 2015. As with the last four 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 2016, the same as in the previous five years, with 98% of the neonates receiving their first dose on time (on their day of birth or the next day) (Table 1).
4. Uptake of the second dose of hepatitis B immunisation was 96% in 2016, compared to 98% in 2015. Fifty-one per cent of the babies received their second dose between 25 and 36 days after their first dose, a slight decrease from 53% in 2015 (Table 1).
5. Uptake of the third dose of hepatitis B immunisation was 90%, a decrease compared to 2015 (93%). Fifty-two per cent of the babies received their third dose between 25 and 36 days after their second dose, also a decrease compared to 2015 (Table 1).
6. Uptake of the fourth dose of hepatitis B immunisation was 85% in babies born to hepatitis B positive mothers in 2015, a slight increase compared to babies born in 2014 (83%). Forty-six per cent of the babies received their fourth dose between 334 and 396 days of birth, a decrease compared to 68% of babies born in 2014.
7. Of the babies born to hepatitis B positive mothers and resident in Wales in 2015, 28% (17/61) were serologically tested for hepatitis B surface antigen by 18 months of age. Eight babies were tested after 18 months of age (13%) and date of test was unknown for three additional babies (5%). None of the babies tested were found to have acquired hepatitis B infection.

Discussion

This is the sixth 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 2016 as well as information on the fourth dose of the schedule and serological testing for babies born during 2015. All of these babies born during 2016 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 2015, by the time data for this report were extracted (26th July 2017).

These data show that, as with the previous five years, all of the babies born to hepatitis B positive mothers, who were resident in Wales during 2016 and notified to Public Health Wales received HBIG (if indicated) in a timely manner. All babies received the first dose of the hepatitis B immunisation schedule, and 98% of babies received the first dose on time. Two babies did not receive their second dose of vaccine compared to one baby born in 2015. Fewer babies received their second vaccine dose on time compared to 2015. The proportion of babies receiving their third dose decreased for

the fifth consecutive year. Of babies born to hepatitis B positive mothers in 2016, 10% babies did not receive their third dose of the vaccine, compared to 7% in 2015.

The proportion of babies born in 2015 receiving their fourth dose increased for the first time, after consecutive decreases since from 2011. However, the proportion of babies receiving dose four on time was the lowest since reporting through the All Wales Neonatal Hepatitis B Immunisation database began. Babies who do not complete the full immunisation course or who receive hepatitis B immunisation doses late could be at risk of developing hepatitis B infection. The proportion of babies serologically tested increased compared to babies born in 2014 but remains under 50%. 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 with the Health Protection Team.