



Sgrinio Clyw Babanod Cymru
Newborn Hearing Screening Wales



GIG
CYMRU
NHS
WALES

Iechyd Cyhoeddus
Cymru
Public Health
Wales

Newborn Hearing Screening Wales Annual Statistical Report 2018-19

March 2020



About us

Public Health Wales exists to protect and improve health and wellbeing and reduce health inequalities for people in Wales.

We are part of the NHS and report to the Minister for Health and Social Services in the Welsh Government.

Our vision is for a healthier, happier and fairer Wales. We work locally, nationally and, with partners, across communities in the following areas:

Health protection – providing information and advice and taking action to protect people from communicable disease and environmental hazards

Primary, community and integrated care – strengthening its public health impact through policy, commissioning, planning and service delivery

Microbiology – providing a network of microbiology services which support the diagnosis and management of infectious diseases

Safeguarding - providing expertise and strategic advice to help safeguard children and vulnerable adults

Screening – providing screening programmes which assist the early detection, prevention and treatment of disease

Health intelligence – providing public health data analysis, evidence finding and knowledge management

NHS quality improvement and patient safety – providing the NHS with information, advice and support to improve patient outcomes

Policy, research and international development – influencing policy, supporting research and contributing to international health development

Health improvement – working across agencies and providing population services to improve health and reduce health inequalities

Further information

Web: phw.nhs.wales
Email: general.enquiries@wales.nhs.uk
Twitter: [@PublicHealthW](https://twitter.com/PublicHealthW)
Facebook: facebook.com/PublicHealthWales

This report is a detailed summary of information on work undertaken by Newborn Hearing Screening Wales for the financial year from April 2018 to the end of March 2019. Results are reported by health board and are broken down to show the hospital location where screening or assessment has been carried out in some cases. Further details are available on request.

Publication Details:

Title: Newborn Hearing Screening Wales Annual Statistical Report 2018-19

Date: This report published 26 March 2020

ISBN: 978-1-78986-116-7

For more information about this report contact:

Helen Clayton, Lead Informatics and Data Services Manager,
Informatics Division, Floor 6, Public Health Wales, Number 2 Capital Quarter,
Tyndall Street, Cardiff, CF10 4BZ
Tel: 029 2010 4405

Email: Screening.Information@wales.nhs.uk

Rydym yn croesawu gohebiaeth a galwadau ffôn yn Gymraeg. Byddwn yn ateb gohebiaeth yn Gymraeg heb oedi / We welcome correspondence and phone calls in Welsh. We will respond to correspondence in Welsh without delay.

Quality Assurance Statement

Screening data records are constantly changing. The databases used by Public Health Wales Screening Division are updated on a daily basis when records are added, changed or removed (archived). This might relate to when a person has been identified as needing screening; has had screening results that need to be recorded, or has a change of status and no longer needs screening respectively. Data is received from a large number of different sources with varying levels of accuracy and completeness. The Screening Division checks data for accuracy by comparing datasets – for example GP practice data – and corrects the coding data where possible. It should be noted that there are sometimes delays in data collection – for example a person might not immediately register with their GP if they move address. These delays will therefore affect the completeness of the data depending on individual circumstances. In addition, the reader should be aware that data is constantly updated and there might be slight readjustments in the numbers cited in this document year on year because of data refreshing.

© 2020 Public Health Wales NHS Trust

Material contained in this document may be reproduced under the terms of the Open Government Licence (OGL)

www.nationalarchives.gov.uk/doc/open-government-licence/version/3/

provided it is done so accurately and is not used in a misleading context.

Acknowledgement to Public Health Wales NHS Trust to be stated. Copyright in the typographical arrangement, design and layout belongs to Public Health Wales NHS Trust.

This document is also available in Welsh.

Contents

1	INTRODUCTION.....	7
1.1	'Key messages' for parents.....	7
1.2	Programme delivery	7
1.3	Screening pathway	8
2	HEADLINE STATISTICS.....	9
3	DATA.....	10
3.1	Standards.....	10
3.2	Coverage.....	13
3.3	Timeliness of testing	14
3.4	Attendance at screening appointments for well babies	16
3.5	High risk babies completing screening.....	17
3.6	Screening Outcomes.....	18
3.7	Referrals for assessment	20
3.8	Attendance at assessment appointments - well and high risk babies	21
3.9	Time taken to start and complete assessments	22
3.10	Confirmation of hearing loss	24
3.11	Hearing aid fitting.....	25
3.12	Yield, Sensitivity, Specificity and Predictive Values.....	26
4	DEFINITIONS	27
5	PRODUCTION TEAM AND PRE-RELEASE LIST.....	29

Tables and Graphs

Table 1:	Programme performance standards.....	10
Table 2:	Total number of live births by health board, babies eligible and suitable, number and proportion consented and tested.....	13
Graph 1:	Well babies receiving first test in hospital within seven days of birth.....	14
Graph 2:	Well babies receiving first test in the community within seven days of birth.....	14
Graph 3:	Well babies completing screening within four weeks.....	15
Table 3.i:	All Wales well baby attendance at screening appointments	16
Table 3.ii:	Well baby attendance at screening appointments by health Board.....	16
Graph 4:	High risk babies completing screening.....	17
Table 4:	Screening outcomes for well babies	18

Table 5: Screening outcomes for high risk babies.....	19
Table 6: Referrals for assessment.....	20
Table 7.i: All Wales attendance at assessment appointments (includes community clinic and hospital outside Wales).....	21
Table 7.ii: Attendance at assessment appointments by health board.....	21
Table 8: Time taken to start assessment.....	22
Table 9.i: All Wales time taken to complete assessment (includes community clinic and hospital outside Wales).....	23
Table 9.ii: Time taken to complete assessment by hospital.....	23
Table 10: Number of babies with confirmed hearing loss born between 1 April 2018 and 31 March 2019 by Region.....	24
Table 11: Age of confirmation of hearing loss.....	24
Table 12: Age at hearing aid fitting.....	25
Graph 5: Hearing aid fitting within four weeks of identification of hearing loss by health board for 2018 – 2019.....	26

1 Introduction

This is the fifteenth annual statistical report published by Newborn Hearing Screening Wales (NBHSW). This report covers data for babies born between 1 April 2018 and 31 March 2019.

One or two babies in every 1,000 are born with a hearing loss that may affect their speech and language development. NBHSW was launched in 2003 and aims to identify these babies as early as possible, as evidence shows that introducing an early support programme before six months of age leads to better outcomes for speech and language development.

1.1 'Key messages' for parents

- Newborn hearing screening identifies if your baby has a hearing loss that could affect their speech and language development without early support
- All babies born to women who live in Wales are offered newborn hearing screening soon after birth
- Screening is offered either while you are still in hospital after your baby's birth, or a week or two later, usually in a local clinic
- Babies who have needed special care usually have their hearing screen before they go home
- The screening tests do not hurt or harm your baby
- Screening does not identify all hearing loss or prevent it at a later date
- Having your baby's hearing screened is your choice. The newborn hearing screener and the leaflet "Your Baby's Hearing Screening Test" will give you more information

1.2 Programme delivery

The Screening Division of Public Health Wales is responsible for managing, delivering and quality assuring the Newborn Hearing Screening programme. It is one of three programmes within Maternal and Child Screening. The programme is administered and delivered in three Regions across Wales and employs coordinators, screening managers, screeners and administrative staff. The North Wales Region covers Betsi Cadwaladr University Health Board. The Mid and West Wales Region covers Swansea Bay University Health Board, Hywel Dda University Health Board and Powys Teaching Health Board. The South East Wales Region covers Aneurin Bevan University Health Board, Cardiff and Vale University Health Board and Cwm Taf Morgannwg University Health Board.

This report covers the period prior to the reconfiguration of health boards in South Wales on 1 April 2019 and data is reported in line with the previous configuration. Screening of babies in Powys is shared across the three Regions factoring in geographical proximity and the most effective deployment of staff and resources. Diagnostic assessment and early support is provided by a clinical network of audiologists and medical leads in each health board. The programme also has an external Quality Assurance Advisor from outside Wales.

1.3 Screening pathway

Babies who are eligible for screening are identified in each health board from midwife birth notifications. Newborn Hearing Screeners offer screening tests to babies who are in hospital, and in community clinics when it has not been possible to perform the screen in hospital. The majority of babies in neonatal intensive care or special baby care units are screened before discharge.

Babies who have a clear response in both ears on screening are discharged from the programme. Those who do not show a clear response in both ears at the end of the screening process are referred for diagnostic assessment. Babies who miss or do not complete screening or assessment are offered a hearing test at nine months of age by their local health board.

Parents of babies who have a clear response in one ear are offered the opportunity to make arrangements for a further hearing test.

Diagnostic assessments are undertaken by audiologists within health boards. Babies identified with a hearing loss are fitted with hearing aids if appropriate and are supported by a multi-disciplinary early years team. The team includes a specialist doctor, teacher of the deaf, audiologist and speech and language specialist.

More information is available at
www.newbornhearingscreening.wales.nhs.uk

2 Headline statistics

Screening

- The coverage rates show that screening is offered to 99.9% of eligible babies (31,129) and 99.5% are tested (30,959) with very few parents declining the screen
- Across Wales, 74.1% of well babies are screened within seven days of birth which meets the standard of 70%
- 98.6% of well babies complete screening within four weeks. 100.0% of high risk babies complete the screening programme

Assessment

- 1.2% of babies screened are referred for assessment
- 93.6% of babies referred for assessment complete the assessment process within three months
- The time taken to start the assessment process is within the allocated time for 98.0% of well babies (within four weeks of final screening test) and 98.8% of high risk babies (within eight weeks of final screening test)
- 96.5% of babies referred attended an assessment
- 75.8% of assessment appointments were attended
- 3.5% of babies referred for assessment were not seen due to non-attendance

Outcomes

- In babies born between 1 April 2018 and 31 March 2019, the prevalence of diagnosed permanent hearing loss greater than 40 dBHL in both ears was 1.5 per 1,000 of those babies screened. This is consistent with the prevalence since the start of the programme
- The mean age of confirmation of hearing loss was 7.4 weeks
- The mean age of hearing aid fitting was 11.4 weeks
- 90.9% of babies were fitted with hearing aids within four weeks of confirmation of hearing loss

3 Data

3.1 Standards

This table outlines the standards set by the screening programme to monitor performance.

Table 1: Programme performance standards

NBHSW Standards – Screening Programme						
	Objective	Criteria	Minimum Standard	Actual Value	Met	Variance From 2017-18
1	To maximise the number of babies who are offered screening	The percentage of eligible babies who are offered screening	>= 99% of all babies	99.9%	Yes	-0.1%
2	To maximise the number of babies who enter the screening programme	The percentage of eligible babies who enter the screening programme	>=95% of all babies	99.5%	Yes	+0.1%
3	To screen most babies within the first week of life	The percentage of babies receiving the first screening test within the first week of life	>70% of those well babies screened	74.1%	Yes	-0.4%
4	To maximise the number of babies who complete the screening programme within the allocated time periods	Well babies - the percentage of babies who complete the screening programme within four weeks	>=90% of all babies entering the screening programme	98.6%	Yes	+0.3%
		High risk babies in SCBU > 48 hours - the percentage of babies who complete the screening programme	>=95% of all high risk babies entering the screening programme	100%	Yes	= None
		All babies - the percentage of babies who complete the screening programme	>=95% of all babies entering the screening programme	100%	Yes	= None

	Objective	Criteria	Minimum Standard	Actual Value	Met	Variance From 2017-18
5	To minimise the number of babies requiring a diagnostic ABR who have normal hearing	Those babies who are referred for diagnostic ABR with normal hearing	<3% of all those who complete assessment and are found to have normal hearing as a proportion of all babies screened	0.8%	Yes	+0.2%
6	To start the assessment procedure (diagnostic ABR) in appropriate cases within the allocated time	Referred well babies that start assessment procedure (Diagnostic ABR) in appropriate cases within four weeks	>=90% of those referred	98.0%	Yes	+0.8%
		Referred high risk babies that start assessment procedure (Diagnostic ABR) in appropriate cases within eight weeks	>=90% of those referred	98.8%	Yes	+0.4%
7	To complete the assessment procedure within the allocated time	Those babies that complete the assessment procedure within three months (in appropriate cases)	>=85% of those requiring assessment	93.6%	Yes	+3.1%
8	To minimise the number of babies who do not receive screening	The percentage of offered screening appointments which are not attended (well babies)	<=3% (includes DNA appointments only)	2.3%	Yes	-0.2%
9	To minimise the number of babies who do not receive screening	The percentage of offered screening appointments which are declined (well babies)	< 1% of well babies	0.1%	Yes	-0.1%

	Objective	Criteria	Minimum Standard	Actual Value	Met	Variance From 2017-18
10	To refer an appropriate number of babies for assessment	The percentage of screened babies referred for assessment	Between 1-2%	1.2%	Yes	-0.1%
11	To minimise the number of babies who do not receive an assessment	The percentage of offered assessment appointments which are not attended	< 10% (DNA appointments only)	10.8%	No	-1.8%
12	To minimise the number of babies who do not receive an assessment	The percentage of babies who are referred for assessment and not seen	< 5%	3.5%	Yes	-1.5%
13	To refer an appropriate number of babies for a repeat screen from audiology (one ear clear response, well babies)	The percentage of screened babies referred	< 1%	1.0%	No	+0.1%
16	To provide information to promote informed choice.	The percentage of mothers who provide positive responses on the information subscale of a user survey. The criteria for inclusion in the survey may be selected to compare the experiences of families	>90% positive responses from mothers completing the user survey	100% (Data from Maternal and Child Programme Survey March and Sept 2018)	Yes	NONE
17	To evaluate mothers' satisfaction with the screening programme	The percentage of mothers who provide positive responses on a general satisfaction subscale of a user survey. The criteria for inclusion in the survey may be selected to compare the experiences of families.	>= 95% of mothers completing user survey questionnaire	100% (Data from MAC Programme Survey March and Sept 2018)	Yes	+1.0%

3.2 Coverage

Standard 1: $\geq 99\%$ of eligible babies are offered screening

Standard 2: $\geq 95\%$ of eligible babies enter the screening programme

Table 2: Total number of live births by health board, babies eligible and suitable, number and proportion consented and tested

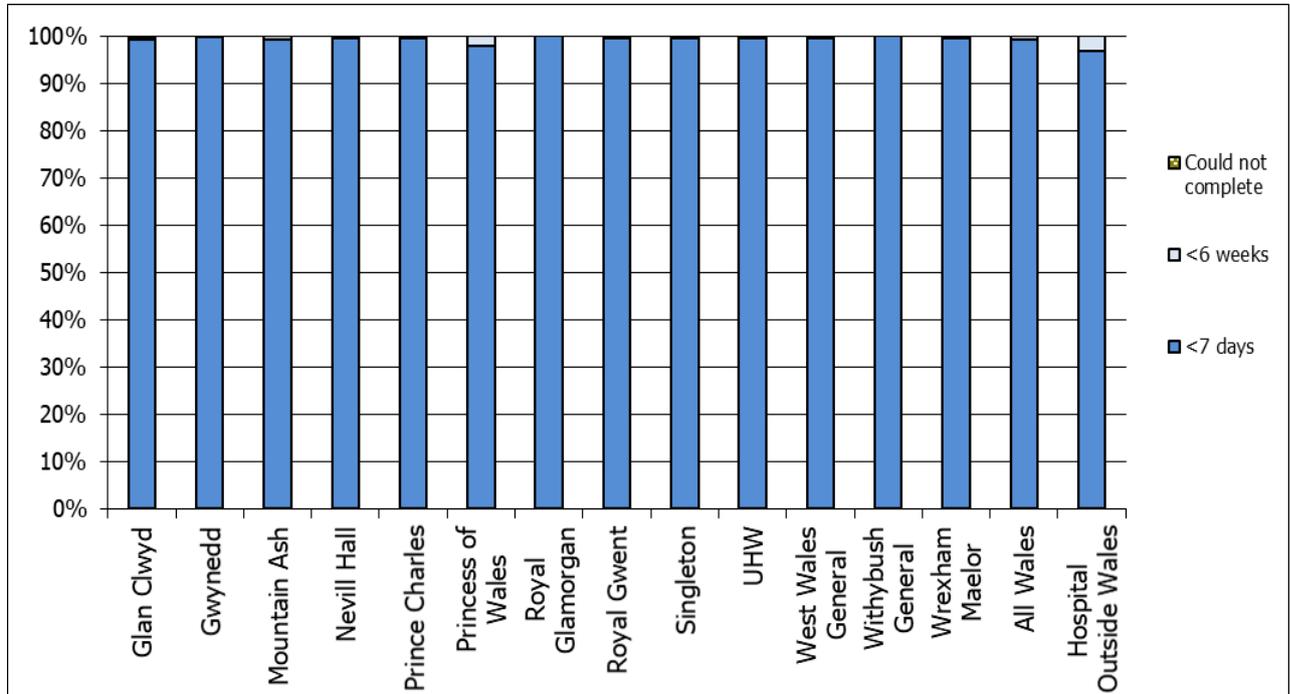
Health Board	Births	Eligible & Suitable	Consented & Tested	% Tested of Eligible & Suitable	Total Offered	% Offered of Eligible and Suitable
Abertawe Bro Morgannwg University Health Board	5289	5179	5141	99.3%	5176	99.94%
Aneurin Bevan University Health Board	6386	6204	6192	99.8%	6204	100%
Betsi Cadwaladr University Health Board	6968	6756	6721	99.5%	6752	99.94%
Cardiff and Vale University Health Board	5468	5250	5207	99.2%	5243	99.87%
Cwm Taf University Health Board	3289	3234	3217	99.5%	3232	99.94%
Hywel Dda University Health Board	3432	3343	3324	99.4%	3342	99.97%
Powys Teaching Health Board	1202	1163	1157	99.5%	1163	100%
All Wales	32034	31129	30959	99.5%	31112	99.9%

This standard is met for babies across all of Wales.

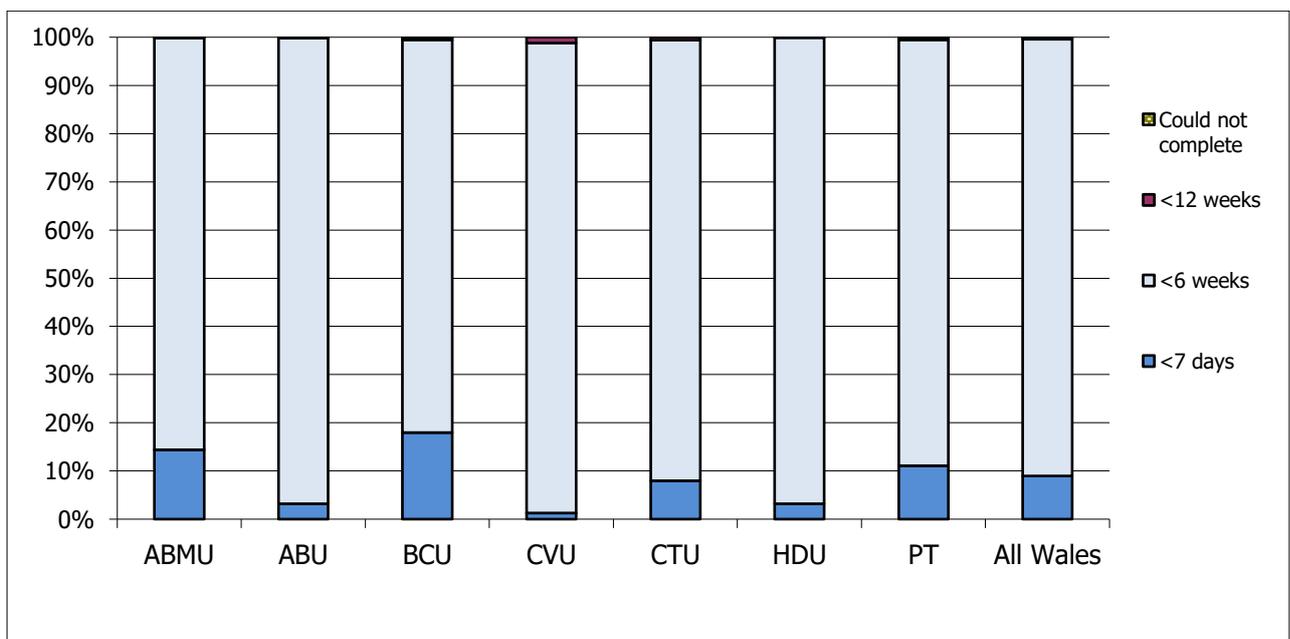
3.3 Timeliness of testing

Standard 3: >70% of well babies screened receive the first screening test within the first week of life

Graph 1: Timeliness of Well babies receiving their first test in hospital



Graph 2: Timeliness of well babies receiving their first test in the community

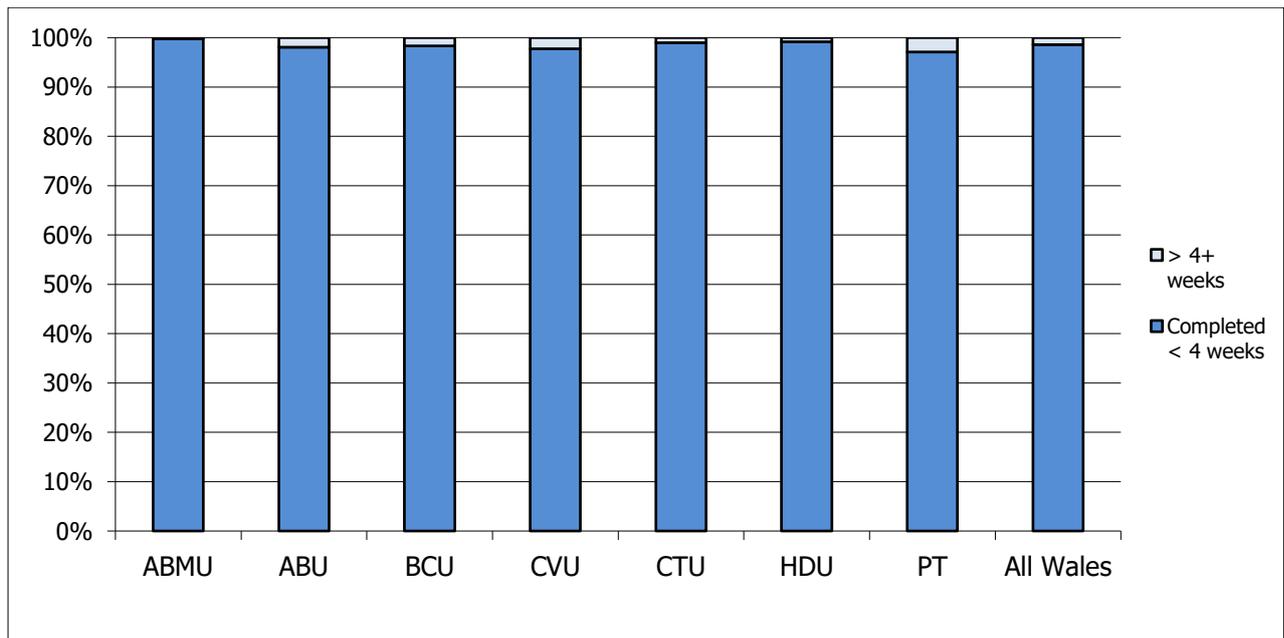


The all Wales average for well babies having an initial test within seven days of birth in any setting is 74.1%. This is a decrease of 0.4% on the previous year.

In some areas it is not possible to perform an initial screen in hospital. Home births, early discharges from hospital and the limited hospital screening at weekends affect this figure as there is no hospital screening opportunity.

Standard 4: ≥90% of well babies entering the screening programme complete screening within four weeks

Graph 3: Well babies completing screening within four weeks



Thirty one babies were over six weeks old before their initial test. The figure is similar to the previous year. The service continues to encourage attendance by reviewing clinic locations and timings in relation to convenience for parents and agreeing appointments by telephone.

Across Wales, 98.6% of well babies completed screening within four weeks which is 0.3% more than the previous year. Screening is complete when the baby is discharged or referred for assessment. For the majority of Powys resident babies there is no hospital screening opportunity. However following a review of frequency of clinics, the standard for the percentage of babies completing screening within four weeks has again been comfortably achieved at 97.1% a further increase of 2.3% on the previous year.

3.4 Attendance at screening appointments for well babies

Standard 8: ≤ 3% of offered screening appointments not attended (DNA appointments only)

Standard 9: < 1% of offered screening appointments declined

Table 3.i: All Wales well baby attendance at screening appointments

Screening Location	Attended (%)	DNA (%)	Cancelled (%)	Parent Declined (%)	Total
All Wales	31801 (93.0%)	795 (2.3%)	1556 (4.5%)	46 (0.1%)	34198

The standard for DNA appointments has again been achieved this year at 2.3%. Cancelled appointments remain at a similar level to last year at 4.5% despite continued efforts to agree convenient appointments with the parents and ensure maximum convenience with clinic locations and timings.

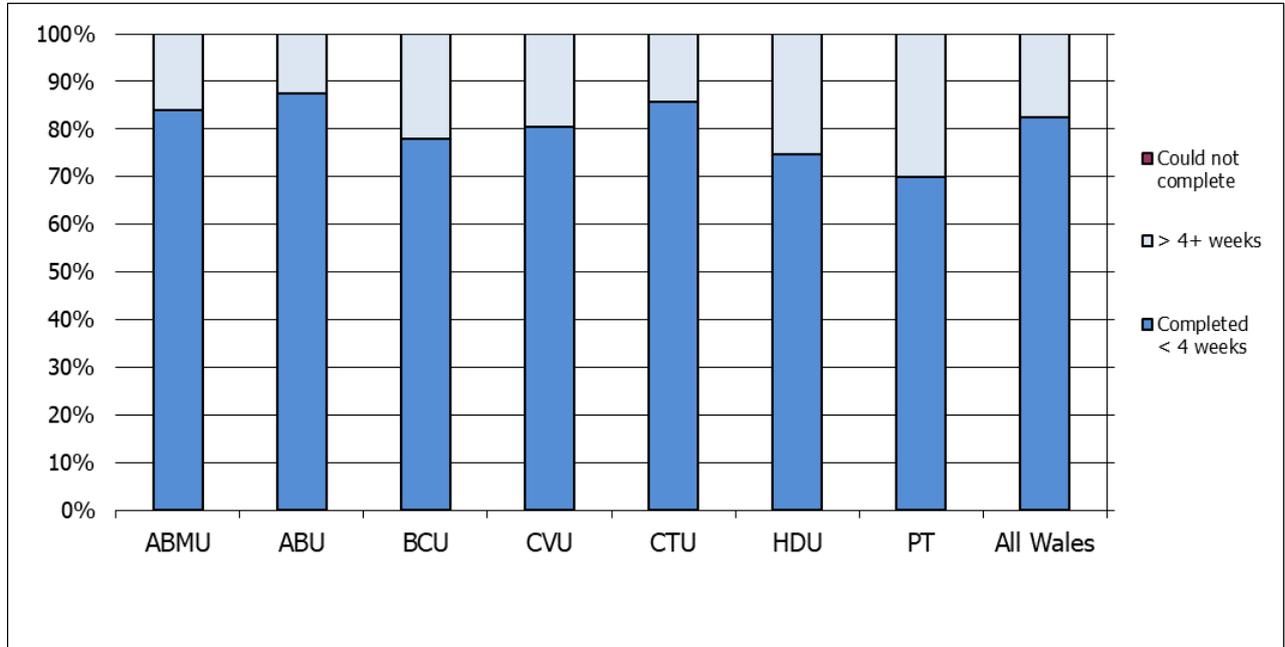
Table 3.ii: Well baby attendance at screening appointments by health board

Screening Location	Attended (%)	DNA or Cancelled (%)	Parent Declined (%)	Total
Abertawe Bro Morgannwg University Health Board	91.7%	8.2%	0.1%	5787
Aneurin Bevan University Health Board	92.9%	7.0%	0.1%	6516
Betsi Cadwaladr University Health Board	94.9%	5.1%	0.1%	7554
Cardiff and Vale University Health Board	93.3%	6.6%	0.2%	6176
Cwm Taf University Health Board	93.3%	6.6%	0.1%	3921
Hywel Dda University Health Board	90.8%	8.8%	0.4%	3466
Powys Teaching Health Board	90.2%	9.3%	0.5%	778

3.5 High risk babies completing screening

Standard 4: ≥ 95% of all high risk babies entering the screening programme complete screening

Graph 4: High risk babies completing screening



100% of high risk babies completed screening.

3.6 Screening Outcomes

Standard 10: Between 1 and 2 % of screened babies referred for assessment

Standard 13: <1 % of screened babies referred to audiology for repeat screen (well babies with a one ear clear response)

Table 4: Screening outcomes for well babies

Screening Location	Discharged	Referred for Assessment	Referred to Audiology	Referred for Behavioural Test
Outside Wales	97.4%	0.3%	1.4%	1.0%
Abertawe Bro Morgannwg University Health Board	98.5%	0.5%	0.5%	0.4%
Aneurin Bevan University Health Board	96.3%	1.0%	1.8%	0.9%
Betsi Cadwaladr University Health Board	97.1%	0.9%	0.9%	1.1%
Cardiff and Vale University Health Board	97.5%	0.8%	1.4%	0.3%
Cwm Taf University Health Board	97.9%	1.2%	0.7%	0.2%
Hywel Dda University Health Board	98.7%	0.7%	0.3%	0.3%
Powys Teaching Health Board	97.7%	0.8%	0.8%	0.8%
All Wales Total	97.5%	0.8%	1.0%	0.6%

Numbers are rounded to 1 decimal place

The above table excludes high risk babies and therefore shows that 0.8% of well babies are referred for assessment following bilateral no clear response. Referrals to audiology for repeat screen are overall at 1%.

Table 5: Screening outcomes for high risk babies

Screening Location	Discharged	Referred for Assessment	Referred for Behavioural Test
Abertawe Bro Morgannwg University Health Board	92.3%	7.4%	0.2%
Aneurin Bevan University Health Board	90.2%	7.5%	2.3%
Betsi Cadwaladr University Health Board	93.8%	4.1%	2.1%
Cardiff and Vale University Health Board	87.3%	9.6%	3.2%
Cwm Taf University Health Board	93.8%	5.9%	0.3%
Hywel Dda University Health Board	94.4%	4.1%	1.5%
Powys Teaching Health Board	100.0%	0.0%	0.0%
All Wales Total	91.8%	6.6%	1.6%
Outside Wales	92.0%	4.6%	3.4%

Although the overall referrals for assessment meet the standard of 1-2% of babies screened, there are, as expected, a higher percentage of high risk babies referred for assessment. Referrals for assessment for high risk babies include those with no clear response in one ear as well as those with bilateral no clear response.

3.7 Referrals for assessment

Standard 10: Between 1 and 2% of screened babies referred for assessment

Table 6: Referrals for assessment

Location	Total Screened	Referred for assessment	% of Babies Referred
Abertawe Bro Morgannwg University Health Board	5141	53	1.0%
Aneurin Bevan University Health Board	6192	92	1.5%
Betsi Cadwaladr University Health Board	6721	73	1.1%
Cardiff and Vale University Health Board	5207	73	1.4%
Cwm Taf University Health Board	3217	54	1.7%
Hywel Dda University Health Board	3324	31	0.9%
Powys Teaching Health Board	1157	7	0.6%
All Wales	30959	383	1.2%

The above breakdown is based on screening location rather than assessment location, it should be noted that some babies will be assessed in a different health board area from where they were screened. There were an additional 41 babies referred directly for assessment as a result of a medical decision without first completing screening.

3.8 Attendance at assessment appointments - well and high risk babies

Standard 11: <10% offered assessment appointments not attended (DNA appointments only)

Table 7.i: All Wales attendance at assessment appointments (includes community clinic and hospital outside Wales)

Health Board	Attended	Cancelled	Parent Declined	DNA	Total
All Wales Total	515 (75.8%)	87 (12.8%)	3 (0.4%)	73 (10.8%)	679

Table 7.ii: Attendance at assessment appointments by health board

Health Board	Attended	% DNA
Abertawe Bro Morgannwg University Health Board	69	8.0%
Aneurin Bevan University Health Board	111	13.1%
Betsi Cadwaladr University Health Board	108	8.1%
Cardiff and Vale University Health Board	119	11.7%
Cwm Taf University Health Board	65	15.0%
Hywel Dda University Health Board	41	4.5%

This standard is not being met at 10.8% although there is improvement by 1.8% from the previous year. Work is continuing to reduce the percentage of DNAs for the assessment appointments.

3.9 Time taken to start and complete assessments

Standard 6: $\geq 90\%$ well babies start assessment within four weeks

Standard 6: $\geq 90\%$ of high risk babies start assessment within eight weeks

Table 8: Time taken to start assessment

Assessment Location	% Starting within Set Timescales	
	Well babies	High Risk babies
Glan Clwyd Hospital	100.0%	100.0%
Gwynedd Hospital	90.9%	100.0%
Mountain Ash Hospital	100.0%	100.0%
Neath Port Talbot Hospital	100.0%	100.0%
Nevill Hall Hospital	100.0%	100.0%
Merthyr Tydfil, Newborn Hearing Screening clinic	0.0%*	N/A
Princess of Wales Hospital	100.0%	100.0%
Royal Glamorgan Hospital	100.0%	100.0%
Royal Gwent Hospital	100.0%	100.0%
Singleton Hospital	100.0%	100.0%
UHW	95.7%	97.9%
West Wales General Hospital	100.0%	100.0%
Wrexham Maelor Hospital	100.0%	100.0%
Ysbyty Cwm Cynon Outpatients Dept	90.9%	83.3%
All Wales Total	98.0%	98.8%
Hospital Outside Wales		100.0%

*This figure relates to very small numbers of babies

All Wales figures show a slight increase in both groups.

Standard 7: $\geq 85\%$ babies complete assessment within three months (if appropriate)

Standard 12: $< 5\%$ of babies referred for assessment are not seen

Table 9.i: All Wales time taken to complete assessment
Includes community clinic and hospital outside Wales

Assessment Location	Never Attended	Attended then DNA'd final test	Not Yet Complete	Completed < 3 Months	Completed 3+ Months
All Wales Total	3.5%	1.9%	0.0%	93.6%	0.9%

Both standards continue to be met but with an increase of 3.1% compared with last year's figures for babies completing assessment within three months and a decrease of 1.5% in the number of babies referred but never seen.

Table 9.ii: Time taken to complete assessment by Hospital

Assessment Location	Never Attended	Attended then DNA'd final test	Not Yet Complete	Completed < 3 Months	Completed 3+ Months
Glan Clwyd Hospital	0.0%	0.0%	0.0%	95.0%	5.0%
Gwynedd Hospital	0.0%	0.0%	0.0%	92.3%	7.7%
Mountain Ash Hospital	10.5%	0.0%	0.0%	89.5%	0.0%
Neath Port Talbot Hospital	0.0%	0.0%	0.0%	100.0%	0.0%
Nevill Hall Hospital	6.7%	0.0%	0.0%	93.3%	0.0%
Merthyr Tydfil, Newborn Hearing Screening clinic	0.0%	0.0%	0.0%	100.0%	0.0%
Princess of Wales Hospital	5.3%	0.0%	0.0%	94.7%	0.0%
Royal Glamorgan Hospital	0.0%	0.0%	0.0%	100.0%	0.0%
Royal Gwent Hospital	7.1%	1.2%	0.0%	90.5%	1.2%
Singleton Hospital	3.7%	3.7%	0.0%	92.6%	0.0%
UHW	1.1%	5.3%	0.0%	93.6%	0.0%
West Wales General Hospital	0.0%	3.1%	0.0%	93.8%	3.1%
Wrexham Maelor Hospital	0.0%	0.0%	0.0%	100.0%	0.0%
Ysbyty Cwm Cynon Outpatients Dept	11.1%	0.0%	0.0%	88.9%	0.0%
Hospital Outside Wales	33.3%	0.0%	0.0%	66.7%	0.0%

3.10 Confirmation of hearing loss

The total number of babies identified with a bilateral moderate or greater permanent hearing loss in Wales born between 1 April 2018 and 31 March 2019 is 46. This was a prevalence of 1.5 per 1,000 babies screened.

Table 10: Number of babies with confirmed hearing loss (as defined above) born between 1 April 2018 and 31 March 2019 by Region

Division	Total
North Wales	7
Mid & West Wales	14
South Wales	25
All Wales Total	46

Table 11 shows average and median age of confirmation of hearing loss in babies born between 1 April 2018 and 31 March 2019.

Table 11: Age of confirmation of hearing loss

Health Board	Average (weeks)	Median (weeks)
Abertawe Bro Morgannwg University Health Board	5.6	5.8
Aneurin Bevan University Health Board	8.2	7.6
Betsi Cadwaladr University Health Board	10.3	10.1
Cardiff and Vale University Health Board	7.3	6.0
Cwm Taf University Health Board	5.0	4.3
Hywel Dda University Health Board	6.7	5.3
All Wales Total	7.4	6.9

3.11 Hearing aid fitting

Average and median age of hearing aid fitting by health board

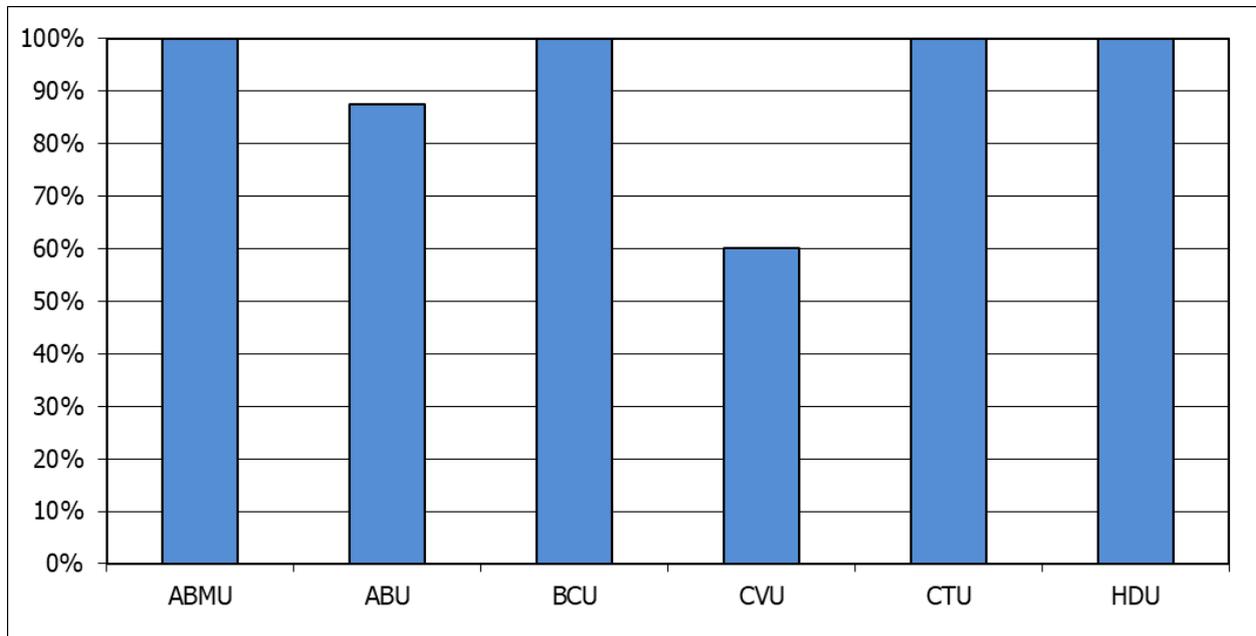
Table 12 shows average and median age of hearing aid fitting of babies born between 1 April 2018 and 31 March 2019. These figures allow for prematurity.

Table 12: Age at hearing aid fitting

Health Board	Average (weeks)	Median (weeks)
Abertawe Bro Morgannwg University Health Board	10.4	8.2
Aneurin Bevan University Health Board	13.2	12.1
Betsi Cadwaladr University Health Board	13.1	11.3
Cardiff and Vale University Health Board	13.7	13.9
Cwm Taf University Health Board	6.8	7.3
Hywel Dda University Health Board	5.9	6.6
All Wales Total	11.4	9.3

The figures in both Tables 11 and 12 are affected by small numbers of identified babies in each health board. Clinical and social factors can influence timing of both confirmation of hearing loss and hearing aid fitting.

Graph 5: Hearing aid fitting within four weeks of identification of hearing loss by Health Board for 2018 – 2019



90.9% of babies in Wales are fitted within four weeks of identification.

Timely hearing aid fitting for babies identified with a hearing loss can be influenced by clinical and social factors and does not always reflect issues with service delivery.

3.12 Yield, Sensitivity, Specificity and Predictive Values

The yield from the programme indicates that the number of cases detected related to the number of babies screened is 1:781. The sensitivity of the programme is 89.6% with a specificity of 98.8%. The positive predictive value of the screen is 9.8%.

4 Definitions

This section provides further detail on the calculations used in this report.

Health Board

Screening data is taken from the All Wales New Born Hearing system. Babies are allocated to Health Boards based on residence, unless stated that the location is based on where the screening took place. We do not hold data on place of birth.

Eligible babies

Babies born to mothers who are temporarily or permanently resident in Wales at the time of birth and babies that move into Wales under the age of six weeks.

Suitable for testing

Babies are suitable for testing when they and their mother are well. Babies born prematurely are suitable for testing when the baby's gestational age is more than 36 weeks.

Uptake

The proportion of eligible and suitable babies who are tested.

High risk babies

Babies who have spent more than 48 hours in a Special Care Baby Unit/Neonatal Intensive Care Unit.

Referral for re-screen in Audiology

Parental request for re-screen following a one ear clear response result for a well baby on completion of screening.

Targeted Behavioural Test

A hearing assessment for babies undertaken by audiologists at a developmental age of nine months. This is offered to babies who do not complete screening or assessment, babies whose parents request follow up for a well baby with a one ear clear response, and babies who have identified risk factors for hearing loss.

Yield

The number of babies with a follow-up outcome that meets the definition of the target case, per 1,000 babies screened. The target case for NBHSW is bilateral permanent hearing loss of a level greater than 40 dBHL across the frequency range of 500Hz, 1KHz, 2kHz and 4KHz.

Sensitivity

The number with confirmed hearing loss that were correctly identified as positive on screening.

Specificity

The number confirmed with no hearing loss that were correctly identified as negative on screening.

Predictive Value

The proportion of referred cases following a positive screening test which are found to have confirmed hearing loss.

5 Production Team and Pre-Release List

Production Team:

Jacqui Evans	Newborn Screening Manager, North Wales
Meg Shepherd	Programme Co-ordinator, North Wales
Jackie Harding	Programme Co-ordinator, South Wales
Ruth Lawler	Head of Programme, Maternal and Child Screening
Sikha de Souza	Consultant in Public Health, Screening
Dr Sharon Hillier	Director of Screening Division
Helen Clayton	Lead Informatics and Data Services Manager
Kate Lilly	Senior Informatics and Data Specialist
Christie Redman	Informatics and Data Analyst
Chad Elliott	Communications Officer
Diane Rawlings	Personal Assistant
Rhys George	Cofus CTF (Welsh translation)

Pre-Release List:

These Official Statistics were sent to the people on this pre-release list five working days prior to publication in accordance with the Pre-publication Official Statistics Order Access (Wales) 2009.

Public Health Wales

Jan Williams	Chair
Dr Tracey Cooper	Chief Executive
Dr Quentin Sandifer	Executive Director of Public Health Services and Medical Director
Leah Morantz	Head of Communications

Welsh Government

Dr Frank Atherton	Chief Medical Officer
Dr Andrew Goodall	Director General - Health and Social Services
Neil Surman	Deputy Director of Public Health
Rebekah Tune	Head of Strategic Communications and Marketing
Prof Chris Jones	Deputy Chief Medical Officer / Medical Director NHS Wales
Dr Heather Payne	Senior Medical Officer for Maternal & Child Health
Helen Tutt	Senior Executive Manager – Health Protection Services
Stephen Thomas	Head of Health Protection Branch