



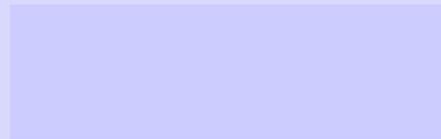
Sgrinio Clyw Babanod Cymru
Newborn Hearing Screening Wales



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Newborn Hearing Screening Wales Annual Statistical Report 2021-22



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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:

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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

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This report is a detailed summary of information on work undertaken by Newborn Hearing Screening Wales for the financial year from April 2021 to the end of March 2022. 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 2021-22

Date: This report published October 2024

ISBN: 978-1-83766-503-7

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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. 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.

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Contents

1	INTRODUCTION.....	6
1.1	'Key messages' for parents	6
1.2	Programme delivery.....	6
1.3	Screening pathway	7
1.4	Impact of COVID-19 on NBHSW	8
1.5	Revised service standards	8
2	HEADLINE STATISTICS.....	9
3	DATA.....	10
3.1	Standards.....	10
3.2	Coverage.....	14
3.3	Timeliness of testing	15
3.4	Attendance at screening appointments for Well babies	17
3.5	High risk babies completing screening	18
3.6	Screening Outcomes	19
3.7	Referrals for assessment	21
3.8	Attendance at assessment appointments	22
3.9	Time taken to start and complete assessments	23
3.10	Confirmation of hearing loss	26
3.11	Hearing aid fitting.....	27
3.12	Yield, Sensitivity, Specificity and Predictive Values.....	28
4	DEFINITIONS	29
5	PRODUCTION TEAM.....	30

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.....	14
Graph 1:	Timeliness of Well babies receiving their first test in hospital	15
Graph 2:	Timeliness of Well babies receiving their first test in the community	15
Table 3.i:	All Wales Well baby attendance at screening appointments.....	17
Table 3.ii:	Well baby attendance at screening appointments by Health Board.....	18
Graph 4:	High risk babies completing screening	18
Table 5:	Screening outcomes for High Risk babies	20
Table 6:	Referrals for assessment.....	21
Table 7.i:	All Wales attendance at assessment appointments (includes community clinic and hospital outside Wales).....	22

Table 7.ii: Attendance at assessment appointments by Health Board	22
Table 9.i: All Wales time taken to complete assessment	24
Table 9.ii: Time taken to complete assessment by Hospital	25
Table 10: Number of babies with confirmed hearing loss born between 1 April 2021 and 31 March 2022 by Region.....	26
Table 11: Age of confirmation of hearing loss.....	26
Table 12: Age at hearing aid fitting.....	27
Graph 5: Hearing aid fitting within four weeks of identification of hearing loss by Health Board for 2021 – 2022	27

1 Introduction

This is the eighteenth annual statistical report published by Newborn Hearing Screening Wales (NBHSW). This report covers data for babies born between 1 April 2021 and 31 March 2022.

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. Until December 2021, NBHSW was one of three programmes within Maternal and Child Screening, which shared an overall Programme Lead. MAC Screening incorporated NBHSW, Antenatal Screening Wales (ASW) and Newborn Bloodspot Screening Wales (NBSW). From December 2021, the MAC function split, with one Head of Programme leading ASW, and another responsible for both NBSW and NBHSW.

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, Powys Teaching Health Board and Princess of Wales Hospital. The South East Wales Region covers Aneurin Bevan University Health Board, Cardiff and Vale University Health Board and Cwm Taf Morgannwg University Health Board sites other than Princess of Wales Hospital. 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 (Doctors) in each Health Board.

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.

Well babies who have a clear response in one or both ears on screening are discharged from the programme. Parents of Well babies who have a clear response in one ear are offered the opportunity to make arrangements for a further hearing test. Those who do not show a clear response in both ears at the end of the screening process are referred for diagnostic assessment.

High Risk 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 one or 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 around nine months of age by their local Health Board.

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

1.4 Impact of COVID-19 on NBHSW

Newborn Hearing Screening Wales service delivery was impacted by the Covid-19 pandemic throughout the entire period covered by this report.

Throughout the whole pandemic, Newborn Hearing Screening continued to be delivered by Newborn Hearing Screeners across Wales on the post-natal wards and in Special Care and Neonatal Intensive Care Units with the aim of completing hearing screening for as many babies as possible in hospital. Working practices were subject to rapid, significant and repeated changes in line with guidance to ensure the safety of babies, parents and staff.

However, not all babies were able to complete their screen in hospital. This included babies who are discharged outside the hours covered by the Newborn Hearing Screening Team, those babies who were born at home or in hospitals that Screeners were not based in and babies of mothers who were Covid positive.

For the period covered by this report, Community Clinics across Wales remained subject to social distancing and local venue restrictions which impacted on the number of appointments that could be offered. Additionally, some venues that had previously been used to deliver NBHSW clinics were not available for the service to use.

Full details of the action taken by NBHSW in response to the Covid-19 pandemic, including changes to the service model and the involvement of Audiology services in screening can be found in the 'Changes to the NBHSW Screening Pathway during Covid 19' report, which is available from NBHSW on request.

1.5 Revised service standards

The programme undertook a comprehensive review of service standards during 2021-22. Changes were made to indicator definitions to support clarity. The percentages set as minimum standards were not increased due to the impact of the pandemic on both NBHSW and Audiology delivery. Additionally, five standards were removed, either because other standard changes meant that they were no longer required, or because they were used for monitoring purposes only and no longer beneficial. The changes came into effect in November 2021. Where the adjusted definition may impact on 2021-22 performance compared to previous years, this is detailed within the report.

2 Headline statistics

Screening

- The coverage rates show that screening was offered to 99.9% of Eligible babies (29,487) with 99.0% of Eligible babies tested (29,180) and very few parents declining the screen. Service standards were met.
- Across Wales, 70.1% of Well babies were screened within seven days of birth which meets the standard of 70%.
- 91.1% of Well babies completed screening within 28 days, achieving service standard.
- 100.0% of High Risk babies completed the screening programme, meeting the service standard.

Assessment

- 1.5% of babies screened were referred for audiology assessment, in line with service standards.
- 91.6% of babies referred for audiology assessment completed the assessment process within three months, meeting the service standard.
- The time taken to start the assessment process for Well babies was impacted by attendance of planned appointments, with 96.3% of Well babies being offered and achieving the standard, but only 84.7 % attending (within 28 days of final screening test).
- The time taken to start the assessment process was within the allocated time for 99.4% of High Risk babies (within 56 days of final screening test), achieving service standards.
- 73.5% of assessment appointments were attended.
- 3.6% of babies referred for assessment were not seen due to non-attendance.

Outcomes

- In babies born between 1 April 2021 and 31 March 2022, the prevalence of diagnosed permanent hearing loss greater than 40 dBHL in both ears was 1.0 per 1,000 of those babies screened. This is slightly less than the prevalence recorded since the start of the programme which is 1.2 per 1,000.
- The mean age of confirmation of hearing loss was 9.9 weeks.
- The mean age of hearing aid fitting was 16.5 weeks.
- 81.5% 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 2020/21
1	To maximise the number of babies who are offered screening	The percentage of eligible and suitable babies who are offered screening	$\geq 99\%$ of all eligible and suitable babies	99.9%	Yes	+6.7% (minor change to definition wording for this standard applied)
1b	To provide assurance that each eligible and suitable baby has completed screening.	The percentage of eligible and suitable babies who complete screening. (Coverage)	$\geq 98\%$ of eligible and suitable babies	99.0%	Yes	+6.9%
2b	To provide assurance that each eligible and suitable baby for whom the offer of screening is made and is accepted has a completed screening outcome.	The percentage of offered eligible and suitable babies who complete screening. (Uptake)	$\geq 98\%$ of all eligible and suitable babies offered screening	99.0%	Yes	+0.2% (minor change to definition wording for this standard applied)
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	$\geq 70\%$ of those Well babies screened	70.1%	Yes	-5.8% (Standard removed)

	Objective	Criteria	Minimum Standard	Actual Value	Met	Variance From 2020/21
4	To maximise the number of babies who complete the screening programme within the allocated time periods	Well babies - the percentage of eligible and suitable babies who accept the offer of screening and complete screening within 28 days	>=90% of all Well babies who accept the offer of screening complete screening within 28 days	91.1%	Yes	-2.7% (minor change to definition wording for this standard applied)
		High risk babies - the percentage of eligible and suitable babies who accept the offer of screening and complete screening by 46 weeks gestation	>=95% of all High Risk babies who accept the offer of screening complete screening by 46 weeks gestation	97.0%	Yes	New standard added to 2021/22 report
		High risk babies in SCBU > 48 hours - the percentage of eligible and suitable babies who complete the screening programme	>=98% of all High Risk babies entering the screening programme	100.0%	Yes	+0.1% (Standard removed)
		All babies - the percentage of babies who complete the screening programme	>=99% of all babies entering the screening programme	100.0%	Yes	+0.1% (Standard removed)
5	To minimise the number of babies requiring a diagnostic ABR who have normal hearing	The percentage of babies for whom the offer of screening has been accepted, who are found to have normal hearing following diagnostic assessment	<3% of babies for whom the offer of screening has been accepted, are found to have normal hearing following diagnostic assessment	1.0%	Yes	-0.2% (minor change to definition wording for this standard applied)

	Objective	Criteria	Minimum Standard	Actual Value	Met	Variance From 2020/21
6	To start the assessment procedure (diagnostic ABR) in appropriate cases within the allocated time	Referred Well babies that are offered an initial assessment appointment before 28 days from referral	>=90% of those referred	96.3%	Yes	+1.0% (minor change to definition wording for this standard applied)
		Referred High Risk babies that are offered an initial assessment appointment before 56 days from referral	>=90% of those referred	99.4%	Yes	-0.1% (minor change to definition wording for this standard applied)
		Referred Well babies that attend an initial assessment appointment before 28 days from referral	>=90% of those referred	84.7%	No	New standard added to 2021-22 report
		Referred High Risk babies that attend an initial assessment appointment before 56 days from referral	>=90% of those referred	92.5%	Yes	New standard added to 2021-22 report
7	To complete the assessment procedure within the allocated time	Those babies that complete the assessment procedure before three months from referral (in appropriate cases)	>=85% of those requiring assessment	91.6%	Yes	-2.9% (minor change to definition wording for this standard applied)
8	To minimise the number of babies who do not receive screening	The percentage of screening appointments offered to eligible and suitable babies which are not attended (Well babies)	<=3% (includes DNA appointments only)	3.1%	No	+1.3% (minor change to definition wording for this standard applied)

	Objective	Criteria	Minimum Standard	Actual Value	Met	Variance From 2020/21
9	To minimise the number of babies who do not receive screening	The percentage of well babies for whom the offer of screening is declined	< 1% of Well babies	0.3%	Yes	-0.2% (minor change to definition wording for this standard applied)
10	To refer an appropriate number of babies for assessment	The percentage of screened babies referred for assessment	Between 1-2% of screened babies	1.5%	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)	12.9%	No	+5.6% (Standard removed)
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% of referred babies	3.6%	Yes	+0.8%
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	+0.5% (Standard removed)
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	Data not available. User surveys were paused during Covid-19 pandemic to reduce the risk of infection transmission from survey forms.		
17	To evaluate mothers' satisfaction with the screening programme		>= 95% of mothers completing user survey questionnaire.	Data not available. User surveys were paused during Covid-19 pandemic to reduce the risk of infection transmission from survey forms.		

3.2 Coverage

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

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

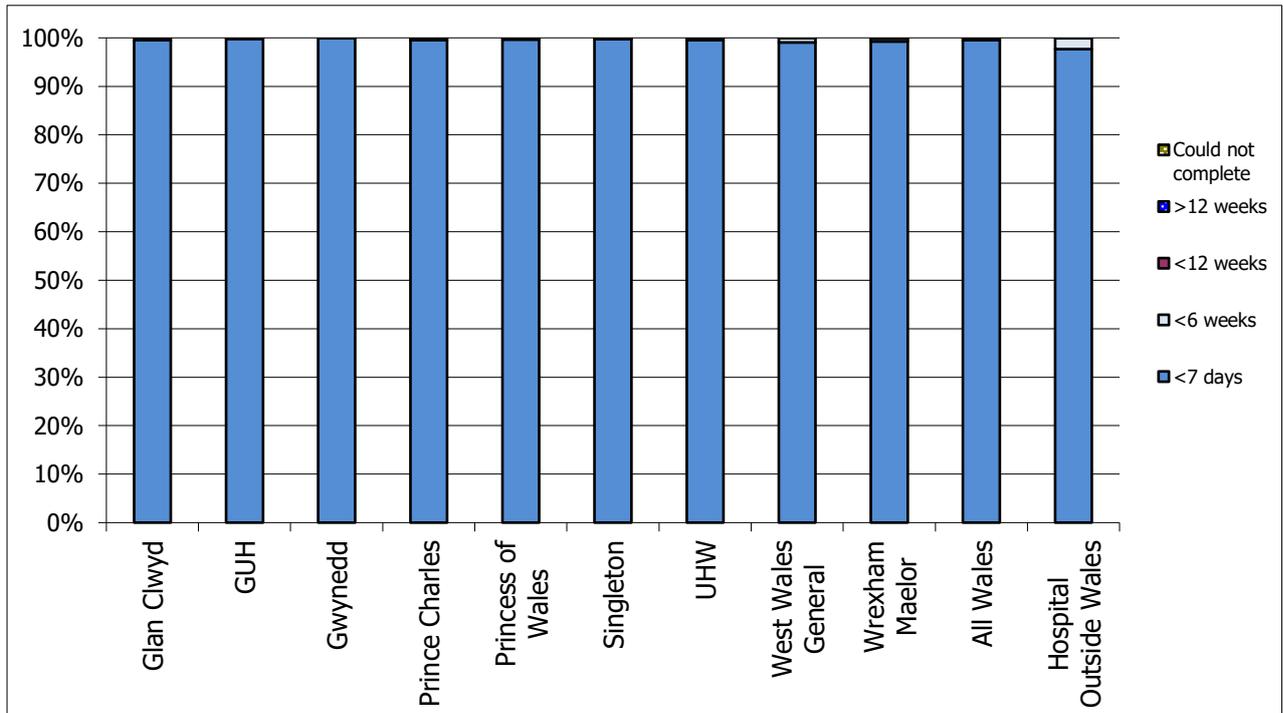
Health Board	Births	Eligible & Suitable	Consented & Tested	% Tested of Eligible & Suitable	Total Offered	% Offered of Eligible and Suitable
Aneurin Bevan University Health Board	6225	6068	6012	99.1%	6068	100.0%
Betsi Cadwaladr University Health Board	6673	6447	6404	99.3%	6446	100.0%
Cardiff and Vale University Health Board	5228	5040	4997	99.1%	5038	100.0%
Cwm Taf Morgannwg University Health Board	4368	4292	4240	98.8%	4285	99.8%
Hywel Dda University Health Board	3224	3128	3083	98.6%	3126	99.9%
Powys Teaching Health Board	1162	1113	1099	98.7%	1113	100.0%
Swansea Bay University Health Board	3522	3399	3345	98.4%	3394	99.9%
All Wales	30402	29487	29180	99.0%	29470	99.9%

This standard is met for babies across all of Wales.

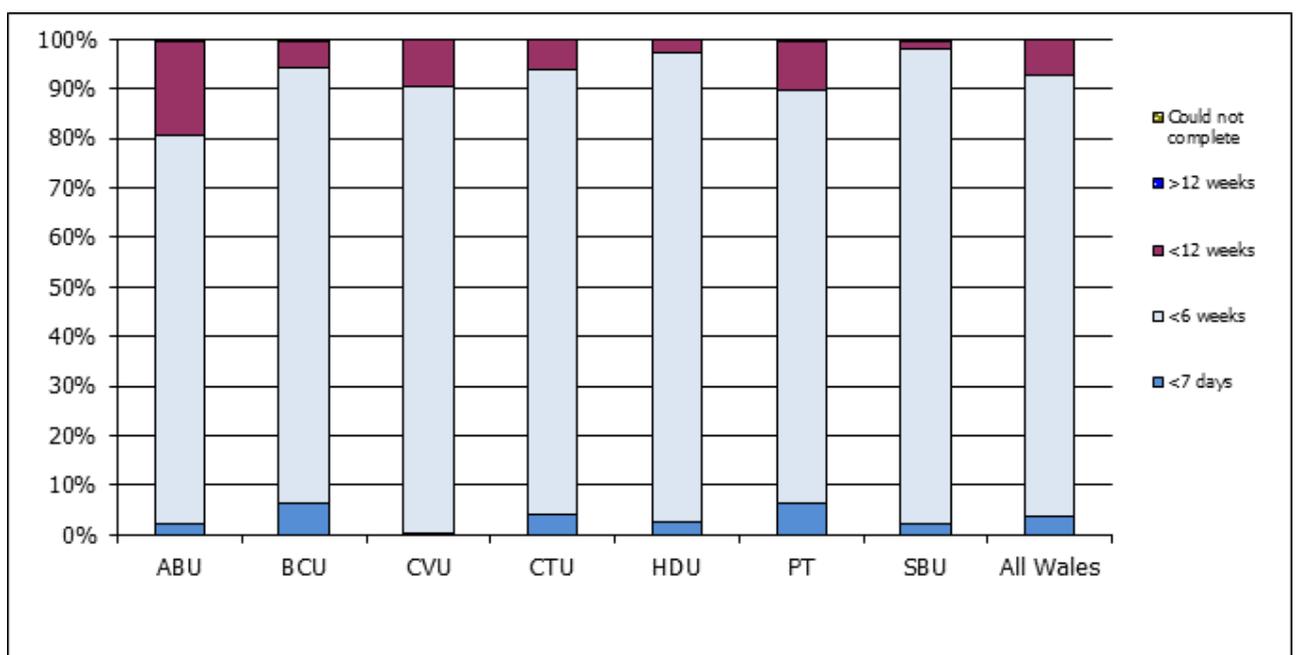
3.3 Timeliness of testing

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



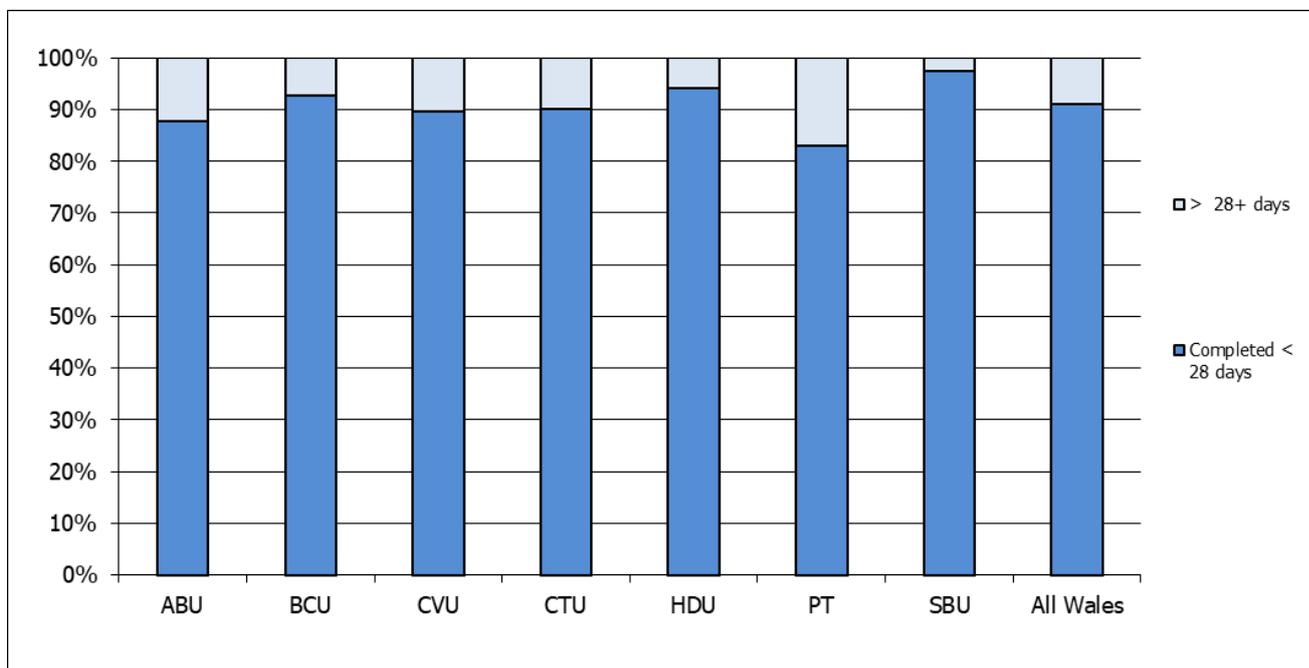
The all Wales average for Well babies having an initial test within seven days of birth in any setting is 70.1%. This is a decrease of 5.8% from the previous year.

Six hundred and ten Well babies were over six weeks old before their initial test. This is an increase of 203 babies from the previous year. Babies within the Aneurin Bevan and Cardiff & Vale Health Board areas were disproportionately represented in these figures, which reflects the shorter length of stay in hospital maternity units, reducing the opportunity to offer screening on these sites and increasing demand for clinic appointments. The reduced access to community clinic venues and safety measures in place increased waiting times for clinic appointments by reducing overall capacity. Whilst this was the case in all health board areas, Powys was particularly affected because of the lack of hospital based NBHSW delivery.

This indicator was removed as part of the 2021-22 standards review as it supports operational delivery planning, rather than being an agreed standard for the programme. Standard 4 is used to monitor timeliness of completion of screening.

Standard 4: ≥90% of eligible and suitable Well babies entering the screening programme complete screening within 28 days

Graph 3: Well babies completing screening within 28 days



Across Wales, 91.1% of Well babies completed screening within 28 days which achieved the service standard but was 2.7% less than the previous year. Screening is complete when the baby is discharged or referred for assessment. Performance against this standard was affected by COVID-19 disruption. As noted previously, there was both increased demand for and

reduced capacity of community clinic appointments, which extended waiting times. The definition for this standard was adjusted to provide greater clarity, with the previous standard wording referring to 'four weeks' rather than 28 days.

3.4 Attendance at screening appointments for Well babies

Standard 8: $\leq 3\%$ of offered screening appointments not attended (DNA appointments only)

Standard 9: $< 1\%$ of well babies decline the offer of screening

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

Screening Location	Attended (%)	DNA (%)	Cancelled (%)	Parent Declined (%)	Unknown (%)	Total
All Wales	29833 (91.6%)	997 (3.1%)	1669 (5.1%)	86 (0.3%)	0 (0.0%)	32585

Numbers are rounded to 1 decimal place

Figures refer to the number of appointments, individual babies may appear more than once

The DNA rate is just over the standard this year at 3.1%. Cancelled appointments are up this year from 3.0% to 5.1%. Throughout 2021-22, Covid safety measures, which included pre-clinic triage for Covid symptoms, were in place. This contributed to increased cancellation and DNA volumes.

Standard 8 refers to the number of individual appointments that have been missed, therefore individuals may appear more than once in the table.

Standard 9 was amended to focus on the percentage of babies for whom the offer of screening is declined, rather than percentage of individual appointments declined. The table above shows performance using the old definition. Only minor changes result from the new definition, with parental declines recorded for 85 babies, and the percentage remaining unchanged (0.3%).

Table 3.ii: Well baby attendance at screening appointments by Health Board

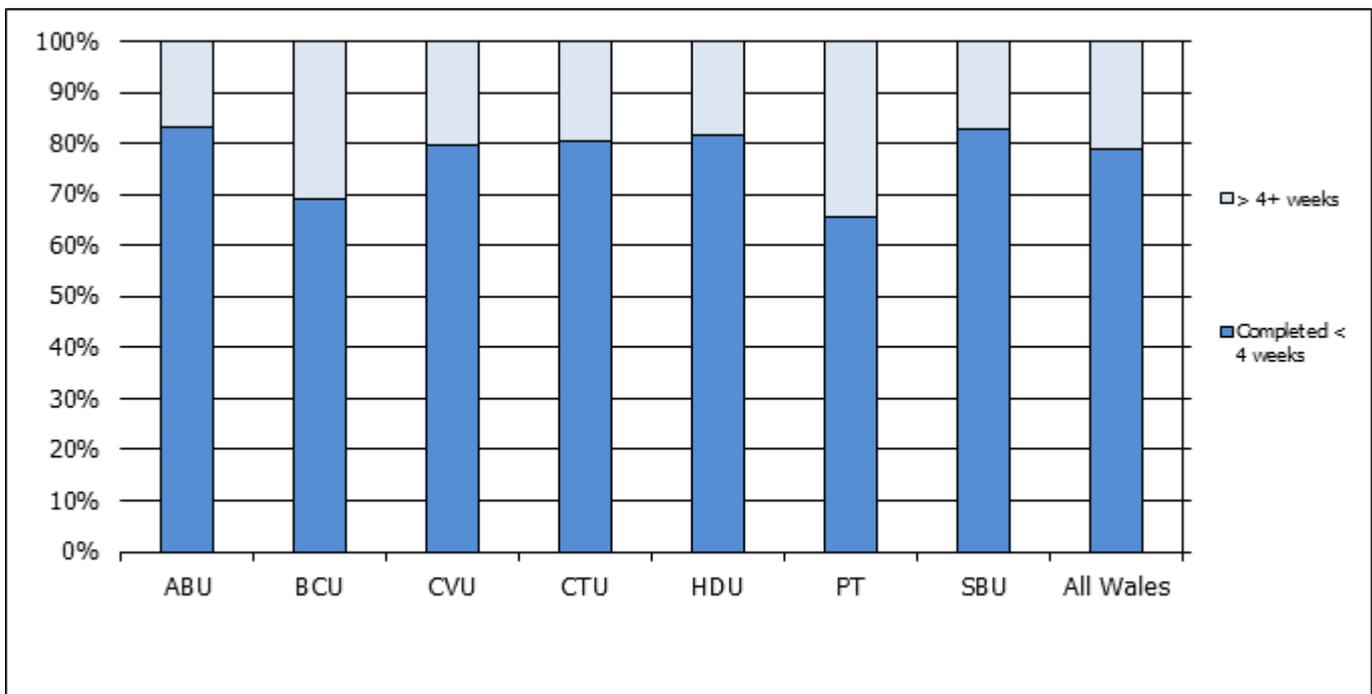
Screening Location	Attended (%)	DNA or Cancelled (%)	Parent Declined (%)	Total
Aneurin Bevan University Health Board	92.3%	7.5%	0.2%	6372
Betsi Cadwaladr University Health Board	94.0%	5.9%	0.1%	7122
Cardiff and Vale University Health Board	93.5%	6.1%	0.3%	6147
Cwm Taf Morgannwg University Health Board	88.9%	10.9%	0.2%	5452
Hywel Dda University Health Board	87.2%	12.0%	0.8%	3386
Powys Teaching Health Board	88.4%	10.9%	0.8%	783
Swansea Bay University Health Board	90.7%	9.1%	0.2%	3323

Figures refer to the number of appointments, individual babies may appear more than once

3.5 High risk babies completing screening

Standard 4: ≥ 98% 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. This standard was removed from use, as other indicators demonstrate the proportion of babies completing screening within allocated time periods.

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	96.4%	0.4%	2.4%	0.9%
Aneurin Bevan University Health Board	95.9%	1.7%	1.5%	1.0%
Betsi Cadwaladr University Health Board	97.8%	0.6%	0.9%	0.7%
Cardiff and Vale University Health Board	96.7%	1.2%	1.7%	0.4%
Cwm Taf Morgannwg University Health Board	97.8%	1.3%	0.4%	0.5%
Hywel Dda University Health Board	97.8%	1.1%	0.6%	0.6%
Powys Teaching Health Board	97.3%	1.0%	0.5%	1.3%
Swansea Bay University Health Board	98.1%	0.5%	0.3%	1.0%
All Wales Total	97.2%	1.1%	1.0%	0.7%

Numbers are rounded to 1 decimal place

The above table excludes High Risk babies and therefore shows that 1.1% of Well babies are referred for assessment following bilateral no clear response. Referrals to audiology for repeat screen following a one ear clear screening result are overall at 1.0%.

Standard 13 was removed from use in the standards review; reflecting that there is freedom of parental choice over whether a repeat screen from Audiology is requested in the case of a well baby with a one ear clear response.

Table 5: Screening outcomes for High Risk babies

Screening Location	Discharged	Referred for Assessment	Referred for Behavioural Test
Outside Wales	91.7%	5.6%	2.8%
Aneurin Bevan University Health Board	92.1%	7.0%	0.9%
Betsi Cadwaladr University Health Board	94.7%	3.2%	2.1%
Cardiff and Vale University Health Board	86.7%	12.0%	1.3%
Cwm Taf Morgannwg University Health Board	91.5%	7.4%	1.1%
Hywel Dda University Health Board	92.5%	6.9%	0.6%
Powys Teaching Health Board	66.7%	33.3%	0.0%
Swansea Bay University Health Board	93.4%	6.1%	0.4%
All Wales Total	91.7%	7.1%	1.2%

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
Aneurin Bevan University Health Board	6012	121	2.0%
Betsi Cadwaladr University Health Board	6404	50	0.8%
Cardiff and Vale University Health Board	4997	94	1.9%
Cwm Taf Morgannwg University Health Board	4240	72	1.7%
Hywel Dda University Health Board	3083	42	1.4%
Powys Teaching Health Board	1099	11	1.0%
Swansea Bay University Health Board	3345	37	1.1%
All Wales	29180	427	1.5%

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 39 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	563 (73.5%)	102 (13.3%)	2 (0.3%)	99 (12.9%)	766

The all Wales standard has not been met at 12.9%, an increase of 5.6% from the previous year. All services used pre-clinic triage to prevent the spread of Covid, which increased cancellation and DNA rates.

Table 7.ii: Attendance at assessment appointments by Health Board

Health Board	Attended	% DNA
Aneurin Bevan University Health Board	144	16.8%
Betsi Cadwaladr University Health Board	81	13.5%
Cardiff and Vale University Health Board	139	11.9%
Cwm Taf Morgannwg University Health Board	106	9.3%
Hywel Dda University Health Board	54	0.0%
Swansea Bay University Health Board	38	14.3%
Powys Teaching Health Board	1	0.0%

As in previous years, there is variability between Health Boards. Work is continuing at a local level to minimise the number of DNAs for the assessment appointments. For this period, individual hospital sites used different covid safety measures at different times, which may have affected attendance.

As part of the standards review, Standard 11 has been removed as Standard 12 considers overall non-attendance which results in babies not being seen for assessment. The focus of Standard 11 is more operational and relevant to Audiology services rather than NBHSW.

3.9 Time taken to start and complete assessments

Standard 6: $\geq 90\%$ Well babies were offered and attended an initial assessment appointment before 28 days from referral

Standard 6: $\geq 90\%$ of High Risk babies were offered and attended an initial assessment appointment before 56 days from referral

Table 8: Time taken to start assessment

Assessment Location	% Offered assessment within Set Timescales		% Attending appointment within Set Timescales	
	Well babies	High Risk babies	Well babies	High Risk babies
Breconshire War Memorial Hospital Clinic	100.0%	-	100.0%	-
University Hospital of Wales Children's Audiology Dept	66.7%	-	100.0%	-
Glan Clwyd Hospital	92.3%	100.0%	76.9%	100.0%
Gwynedd Hospital	100.0%	100.0%	87.5%	100.0%
Neath Port Talbot Hospital	100.0%	100.0%	100.0%	100.0%
Nevill Hall Hospital	100.0%	90.9%	91.2%	58.3%
Princess of Wales Hospital	100.0%	100.0%	100.0%	100.0%
Royal Gwent Hospital	98.2%	100.0%	81.5%	75.0%
Serennu Children's Centre	100.0%	100.0%	50.0%	100.0%
Singleton Hospital	93.3%	100.0%	75.0%	88.9%
University Hospital of Wales	98.4%	100.0%	90.3%	100.0%
West Wales General Hospital	100.0%	100.0%	100.0%	100.0%
Withybush General Hospital	100.0%	-	100.0%	-
Wrexham Maelor Hospital	100.0%	100.0%	88.9%	100.0%
Ysbyty Cwm Cynon Outpatients Dept	86.4%	100.0%	66.7%	95.5%
All Wales Total	96.3%	99.4%	84.7%	92.5%

All Wales figures show a slight performance improvement in the Well baby group compared to 2020-21. The High Risk figure relates to just 1 baby out of standard.

The definitions for standard 6 have been amended to provide greater clarity around starting the assessment procedure. They now distinguish between offering a timely assessment appointment, which is within the control of Audiology services, and the point at which the baby attends a clinical assessment appointment. Previous reports have included performance against the appointment offer standard and detailed timeframes in weeks rather than the more specific number of days. It should be noted that the timeframe monitored for these standards begins from the date of the screen result which prompts the referral, rather than receipt of referral by Audiology.

Standard 7: $\geq 85\%$ babies complete assessment before three months of referral

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

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

Assessment Location	Never Attended	Attended then DNA'd final test	Not Yet Complete	Completed < 3 Months	Completed 3+ Months
All Wales Total	3.6%	2.8%	0.2%	91.6%	1.7%

Standard 7 continues to be met but with a drop of 2.9% compared with the previous year's figures for babies completing assessment within three months. There was an increase of 0.8% in the number of babies referred but never seen.

The definition of Standard 7 has been amended, and now refers to completion of the hearing assessment before 3 months from referral. Previously, the standard has assessed 3 months from final screening test. This was amended to include those babies referred directly for assessment without screening.

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
Breconshire War Memorial Hospital Clinic	0.0%	0.0%	0.0%	100.0%	0.0%
Children's Audiology Dept, University Hospital of Wales	0.0%	0.0%	0.0%	100.0%	0.0%
Glan Clwyd Hospital	0.0%	8.7%	0.0%	87.0%	4.3%
Gwynedd Hospital	0.0%	5.0%	0.0%	95.0%	0.0%
Neath Port Talbot Hospital	8.3%	0.0%	0.0%	91.7%	0.0%
Nevill Hall Hospital	4.1%	6.1%	0.0%	81.6%	8.2%
Princess of Wales Hospital	11.1%	0.0%	0.0%	88.9%	0.0%
Royal Gwent Hospital	5.1%	1.3%	0.0%	91.0%	2.6%
Serennu Children's Centre	0.0%	20.0%	0.0%	80.0%	0.0%
Singleton Hospital	0.0%	3.8%	0.0%	92.3%	3.8%
University Hospital of Wales	4.5%	0.9%	0.9%	93.7%	0.0%
West Wales General Hospital	0.0%	0.0%	0.0%	100.0%	0.0%
Withybush General Hospital	0.0%	0.0%	0.0%	100.0%	0.0%
Wrexham Maelor Hospital	5.6%	11.1%	0.0%	83.3%	0.0%
Ysbyty Cwm Cynon Outpatients Dept	4.5%	1.5%	0.0%	94.0%	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 2021 and 31 March 2022 is 29. This was a prevalence of 1.0 per 1,000 babies screened.

Table 10: Number of babies with confirmed hearing loss born between 1 April 2021 and 31 March 2022 by Region.

Confirmed hearing loss as defined above. It should be noted that the South Wales region contains the highest population density of NBHSW regions.

Division	Total
North Wales	5
Mid & West Wales	8
South Wales	16
All Wales Total	29

Table 11 shows average and median age of confirmation of hearing loss in babies born between 1 April 2021 and 31 March 2022.

Table 11: Age of confirmation of hearing loss

Health Board	Average (weeks)	Median (weeks)
Aneurin Bevan University Health Board	11.7	9.0
Betsi Cadwaladr University Health Board	10.8	9.4
Cardiff and Vale University Health Board	7.9	7.8
Cwm Taf Morgannwg University Health Board	9.0	10.4
Hywel Dda University Health Board	8.8	7.1
Swansea Bay University Health Board	14.6	14.6
All Wales Total	9.9	8.7

3.11 Hearing aid fitting

Average and median age of hearing aid fitting by Health Board

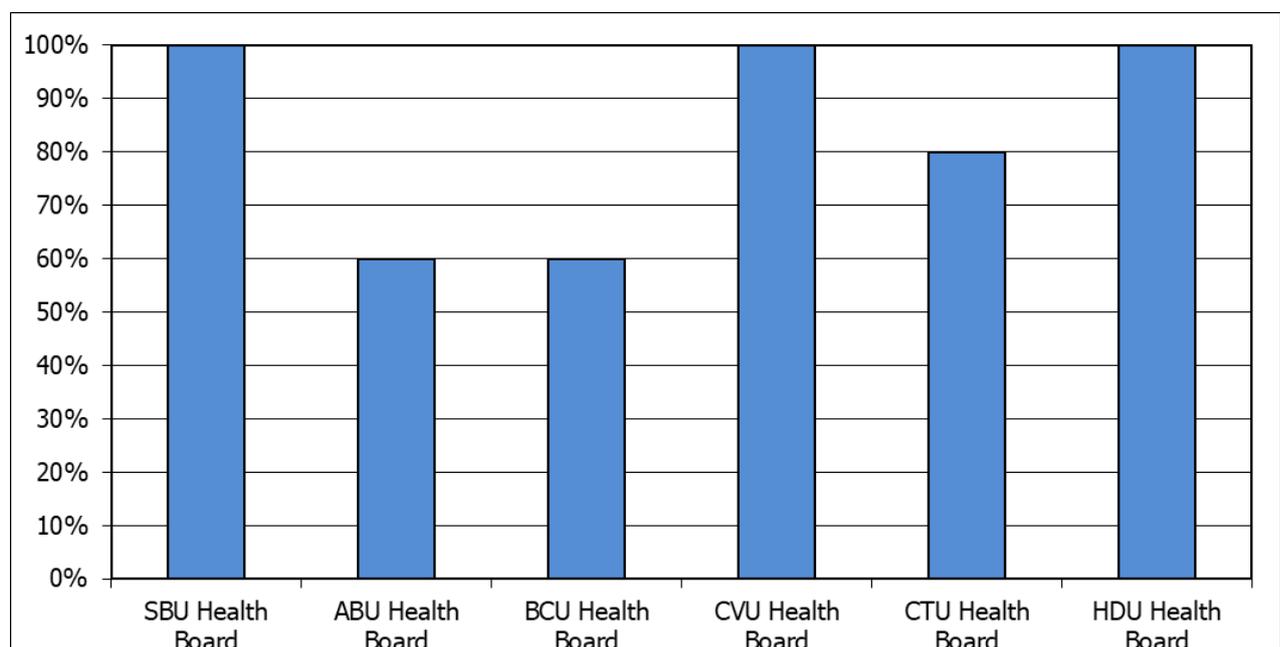
Table 12 shows average and median age of hearing aid fitting of babies born between 1 April 2021 and 31 March 2022. These figures allow for prematurity.

Table 12: Age at hearing aid fitting

Health Board	Average (weeks)	Median (weeks)
Aneurin Bevan University Health Board	21.4	12.1
Betsi Cadwaladr University Health Board	23.9	16.1
Cardiff and Vale University Health Board	10.4	10.3
Cwm Taf Morgannwg University Health Board	12.6	11.7
Hywel Dda University Health Board	10.7	9.4
Swansea Bay University Health Board	24.9	24.9
All Wales Total	16.5	11.6

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 2021 – 2022



81.5% of babies in Wales were 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. During this reporting period, audiology services were subject to staffing issues and capacity constraints linked to the pandemic.

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 1:809. The sensitivity of the programme is 90.3% with a specificity of 98.8%. The positive predictive value of the screen is 9.3%.

This means that the screening process worked well to identify the babies who require diagnostic assessment. However, as permanent deafness only affects a small number of babies and many babies will still have temporary fluid in the ears following birth, most will be assessed to have satisfactory hearing when they have a diagnostic test

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 ideally suitable for testing when the baby's gestational age is more than 36 weeks, but tests can be undertaken from 34 weeks onwards.

Uptake

The proportion of eligible and suitable babies who are tested.

High risk babies

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

Well babies

All babies that are not classified as High Risk.

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**Production Team:**

Jacqui Evans	Newborn Screening Manager, North Wales
Hayley Mills	Programme Co-ordinator, North Wales
Jackie Harding	Programme Co-ordinator, South Wales
Jude Kay	Head of Programme, Newborn Hearing Screening
Dr 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	Senior Informatics and Data Analyst
Rhys George	Cofus CTF (Welsh translation)

This report was not published as official statistics.