



COCHLEAR IMPLANT AND BONE CONDUCTOR HEARING IMPLANT HEARING DEVICE SERVICES FOR CHILDREN & ADULTS IN SOUTH WALES AND SOUTH POWYS



NO.	CONTENT	PAGE
1	INTRODUCTION	3
2	WHAT ARE COCHLEAR IMPLANTS AND BONE ANCHORED HEARING AIDS?	5
3	WHO NEEDS THESE SERVICES?	7
4	HOW ARE COCHLEAR IMPLANT AND BCHI SERVICES CURRENTLY ORGANISED IN SOUTH WALES?	8
5	HOW DOES THE SERVICE PERFORM?	12
6	WHAT ARE THE CHALLENGES FACING COCHLEAR IMPLANT AND BCHI HEARING DEVICE SERVICES IN SOUTH WALES?	15
7	WHAT OPTIONS DO WE HAVE TO RESPOND TO THE CHALLENGES?	18
8	DO WE HAVE A PREFERRED OPTION?	21
9	WHAT IS THE IMPACT OF THE CHANGE?	22
10	HOW CAN YOU GET INVOLVED?	23

APPENDICES

Appendix A – Glossary of terms

1. INTRODUCTION

Many people in Wales experience hearing loss. Specialist hearing services for patients needing a Cochlear or a Bone Conductor Hearing Implant are provided from 2 Centres in South Wales, one in Cardiff and one in Bridgend. Health Boards in South Wales, South West Wales, South East Wales and South Powys have been working together to identify the best way of providing these services in the future, and would like to hear your views on these ideas. The reason we need to talk with you now is that there are temporary arrangements in place for these services, and we would like to get them to a more permanent position.

This discussion paper will answer the following questions:

- What are Cochlear implants and Bone Anchored Hearing Aids?
- Who needs a Cochlear implant or Bone Anchored Hearing Aid?
- How are services in South Wales currently organised?
- What challenges are facing the service?
- What options do we have to respond to the challenges?
- Do we have a preferred option?
- What are the advantages and disadvantages?

We would like to hear your views on the issues shared in the paper, and have developed a questionnaire that you can use to respond at Annex A. If you have feedback that you would like to comment on issues that the questionnaire does not cover, please use the commentary section at the end to share this.

We welcome views from all residents and stakeholders in South East Wales, South West Wales and South Powys who may be affected by the contents of this paper. An Equality Impact Assessment screening has been developed for this service, which the responses to this engagement will further inform. Both will be published as part of the outcome of the engagement process.

Due to the nature of the service, we recognise that this document will have some medical terms within it that may not be familiar to all. There is a description of these words in Annex 2.

DRAFT

2. WHAT ARE COCHLEAR IMPLANTS AND BONE CONDUCTOR HEARING IMPLANTS?

Hearing loss affects over 10 million people across the United Kingdom. It can lead to significant health and mental health issues¹. It is a very common condition affecting around one in seven of the population. As we get older, the chance of us having hearing loss increases.

Many people with hearing loss wear a hearing aid which make sounds louder in the ear. Not everybody is able to wear a hearing aid because of the shape or size of their ear, or some other medical reason. Patients who are unable to wear a hearing aid may be considered for a cochlear implant or bone anchored hearing aid.

What is a Cochlear Implant?	What is a Bone Conductor Hearing Implant?
A cochlear implant stimulates the nerves in the inner ear. It is implanted in the ear	A Bone Conductor Hearing Implant(BCHI) is a hearing aid which uses bone conduction to help sound get to the inner ear.

Specialist services that support people needing cochlear and or BCHI aids aim to:

- Improve speech and quality of life.
- Promote normal development of hearing
- Provide a remediation service for paediatric rehabilitation – this could be through direct input or an advisory service.
- Provide a high quality, family focused cochlear implant and BCHI programme.

¹ [Overview | Cochlear implants for children and adults with severe to profound deafness | Guidance | NICE](#)

- Promote understanding and the use of spoken language in children
- Provide remote rehabilitation and care to ensure patients get the maximum benefit from their device.
- Use of auditory devices to restore hearing functions and enhance the listener's quality of life to optimise the patients experience.

DRAFT

3. WHO NEEDS THESE SERVICES?

What do we know about hearing loss in Wales?



There are approximately **613,000** people over the age of 16 with severe/profound deafness in England and Wales.

Around **370** children in England and **20** children in Wales are born with permanent severe/profound deafness each year. Around **90%** of these children live with hearing parents. About 1 in every 1,000 children is severely or profoundly deaf at 3 years old. It is 2 in every 1'000 between the ages of 9 – 16.

There are more women than men with hearing loss, which is because women live longer than men. Some ethnic groups may also have higher rates of hearing loss.

Patients that doctors believe could be helped by a hearing implant, are sent to a specialist hearing centre to be seen by a team of clinical staff (a multi-disciplinary team) who will assess whether a patient should have a hearing implant. Not all patients will be suitable for a hearing implant.

It is really important that children who have hearing loss are identified and seen early so that they can learn to speak well, take part in school and learning, make friends and have good conversations.

Patients who receive a cochlear implant or BCHI hearing device may have:

- A chronic ear disease
- Deafness in one or both ears
- Ear canal problems
- Malformations of or absent ear structures

4. HOW ARE COCHLEAR IMPLANT AND BCHI SERVICES CURRENTLY ORGANISED IN SOUTH WALES?

National Context

The Welsh Health Specialised Services Committee is responsible for the commissioning (buying and monitoring) of Cochlear Implant and BCHI Hearing Implant Device services for Welsh residents.

There are two specialist centres for Cochlear services:



- one at the University Hospital of Wales, Cardiff and Vale University Health Board and;



- one at the Princess of Wales Hospital, Cwm Taf Morgannwg University Health Board

These centres work together and are recognised as the South Wales Cochlear Implant service for children and adults in South Wales and South Powys.

There are three centres delivering the Bone Conductor Hearing Implant service and these are located at:



**The Royal Gwent
Hospital in
Newport**



**Neath Port Talbot
Hospital**



**Cardiff & Vale
University
Health Board**

Services from Cardiff & Vale and Neath Port Talbot are bought and monitored (commissioned) by WHSSC. The service at Aneurin Bevan University Health Board is not

People from across South Wales and South Powys are referred to one of the two centres.

People living in the following areas are referred to (sent to and seen at) the Princess of Wales Hospital Bridgend within the Cwm Taf Morgannwg University Health Board area:

Carmarthenshire
Ceredigion
Pembrokeshire
Pembrokeshire
Neath
Bridgend
small number of south Powys patients

People living in the following areas are referred to (sent to and seen at) the University Hospital of Wales, Cardiff:

Cardiff and Vale
Gwent
Merthyr Tydfil

Rhondda Cynon Valley
Taff Ely
small number of south Powys patients

The North Wales Cochlear Implant Programme and BCHI service is delivered in Glan Clwyd Hospital, Betsi Cadwaladr University Health Board, with the children's cochlear implant service being in Central Manchester University Hospitals NHS Foundation Trust. Services for people living in North Wales and North Powys are not included in this engagement.

To deliver these services the Hearing Device Implant Centre must provide the following²:

- All patient areas should be appropriate to the needs of a hard hearing population and take into account the needs of families and young children.
- A specialist hearing implant device centre should include the full range of staff to deliver it in line with the standards. Guidance suggests the following roles:

- Otorhinolaryngologist/ENT surgeon,
- Audiological Scientists,
- Hearing Therapist,
- Speech & Language Therapist,
- Clinical Psychologist

In addition for children:

- Paediatric Anaesthetist,
- Teacher of the Deaf
- Speech & Language Therapist,
- Clinical Psychologists,
- Specialist Radiologists
- Specialist Nurses

² <https://www.bciq.org.uk/wp-content/uploads/2021/03/QS-update-2018-WORD-final-v2.pdf>

- The hearing implant team must be suitably qualified and registered with the appropriate professional bodies. All members must continue to maintain continual professional development, and all will have training in deaf awareness and knowledge of the full range of hearing implants.
- Hearing implant services must have access to appropriately calibrated and up to date equipment and facilities to enable appropriate assessments to take place.
- Audiological testing will need to be undertaken in sound treated rooms where the ambient noise levels are compliant with the BBS EN ISO 8253-1 1998 standard.
- Day case
- Operating Theatres
- Outreach clinics to provide care closer to the patients home
- Offer remote programming for cochlear implants

5. HOW DOES THE SERVICE PERFORM?

There are three pieces of information that are reported by the service, these are:

- Referrals – the number of adults and children who need the specialist service and are referred by their doctor
- Waiting times – length of time adults and children have to wait in weeks or days to be seen for treatment
- Activity – number of adults and children who receive treatment

Table 1 shows the number of adults and children who are referred to the Cochlear and Bone Conduction Hearing Implant (BCHI) service over the last four years. The BCHI information is shown as an average figure.

Table 1: Referrals

Cochlear Implants Referrals	2017/18	2018/19	2019/20	2020/21
Adults	56	57	82	31
Paediatrics	20	17	31	12
Average Number BCHI Referrals				
Adults	42	42	42	42
Paediatrics	2.5	2.5	2.5	2.5

The next table shows the how long adults and children are likely to wait to receive treatment for a cochlear or bone conduction hearing implant during 2019/20. The Cardiff and Vale University Health Board is the only centre in south wales that has a cochlear implant service.

Table 2: Waiting Times 2019/20

Cochlear Implants Waiting time	Cardiff and Vale University Health Board	Swansea Bay University Health Board	Aneurin Bevan University Health Board
New adult patients	8 weeks	Not applicable	Not applicable
New paediatrics patients	4 weeks	Not applicable	Not applicable
BCHI Waiting Time			
New BCHI patients	2-3 weeks	12 weeks	24 weeks

Table 3 shows the number of adults and children that were treated in the last four years.

The numbers were much lower in 2020/21 due to the covid 19 pandemic.

Activity

Cochlear Implant Activity	2017/18	2018/19	2019/20	2020/21
Adults	14	28	32	30
Paediatrics	16	15	17	16
BCHI Activity				
Adults	25	21	18	4
Paediatrics	0	0	0	0

Outcome Measures for Cochlear Implants

The service are required to take account of national standards to ensure that treatment is provided in the best possible way. Patients are asked to complete a number of questionnaires asking about their hearing loss, how it is affecting them and whether the hearing implant has improved their hearing and general quality of life. These are called Patient reported outcome measures (PROMS).

There are other tests that can be used to measure how well a person can hear words or words in sentences, without lip reading. These tests are used to see if the adult or child is suitable for a cochlear implant. This is known as a speech test measurement and is performed before surgery but again after surgery to measure the change and whether there has been an improvement in the quality of their hearing.

For those adults or children who have been assessed and may be suitable for a bone conduction hearing implant, speech tests are not usually used. The measure is more around reduction in pain, ear infections, ear mould allergies or how well the implant fits compared to a general acoustic hearing aid.

DRAFT

6. WHAT ARE THE CHALLENGES FACING COCHLEAR IMPLANT AND BCHI HEARING DEVICE SERVICES IN SOUTH WALES?

Services face a number of current challenges which are outlined here:

- **Workforce challenges**

During 2019, it was established that the service provided from the Princess of Wales hospital in Bridgend service was facing workforce challenges and became unsustainable due to the immediate withdrawal of the Principal Clinical Scientist from the service. The Bridgend service was without Audiology support and were not able to meet some of the quality indicators to achieve the minimum standards as recommended by the British Cochlear Implant Group due the staffing shortage.

In line with the guidance on '*Changes to NHS services in Wales*', arrangements were made for the temporary transfer of Cochlear surgery services from Cwm Taf Morgannwg to Cardiff and Vale University Health Board. The change means that patients who would have gone to Princess of Wales Hospital Bridgend for surgery and out-patient appointments would temporarily be seen at the University Hospital of Wales Cardiff. Staff from the Bridgend service were also temporarily transferred to support the provision of the service in Cardiff, enabling a level of continuity to patients previously being seen in the Princess of Wales hospital.

- **Meeting Quality Standards**

To deliver services, specialist hearing centres should meet the 'British Cochlear Implant Group Quality Standards'. The key standards are set out overleaf:

Accept referrals based on agreed criteria e.g. NICE/Commissioning Policy	Be able to provide full Audiological care for patients across the pathway including assessment, surgery, and device programming
MDT where all referrals are discussed and planned for, and able to offer access to all types of commissioned hearing implants	Service has required recommended throughput required to maintain surgical (min 10 CI/surgeon/yr) and clinical scientist/physiologist's skills.(centre undertakes min 15 BAHA/yr)
Facilitate timely access to surgery	Facilitate rapid access to a Clinical Scientist/Physiologist when device failure is suspected(recommended that a centre should have a minimum of 3)
Provide equitable and life long access	Have clear governance processes
Facilitate effective liaison with relevant local services (local audiology, SLT and TOD)	Publish data on audit and outcomes

The British Cochlear Implant standards recommends:

- that a Cochlear Implant Centre should have a minimum of two experienced ear surgeons with an annual surgical activity level of 10 per year per surgeon in order to maintain high levels of skill and experience.

Recommendations on standards for BCHI services comes from a consensus statement of experts , which states:

- that BCHI fitting should take place in a specialist centre performing at least 15 procedures per year.³

Not all units are able to achieve the quality standards that are set out in the British Cochlear Implant Group guidelines ⁴ and NHS England Clinical Commissioning Policy for Bone Anchored Hearing.⁵

- **Services spread across the South Wales region**

Services are widely spread across the region. Some of the centres have single handed specialist staff, which means that there is no cross

³ <https://www.england.nhs.uk/wp-content/uploads/2013/04/d09-p-a.pdf>

⁴ <https://www.bci.org.uk/bci-constitution-quality-standard/>

⁵ <https://www.england.nhs.uk/wp-content/uploads/2013/04/d09-p-a.pdf>

cover when people are on leave. There is no arrangement in place for skilled staff to rotate into these posts and clinical staff are often also working in audiology and Ear Nose and Throat services. There are challenges in recruiting staff to roles and in some centres there has been a lack of opportunity for development due to the gaps in the workforce.

- **Waiting Times**

Waiting times across the region vary from centre to centre and there is no central Multi-Disciplinary Team provision, which means that not all patients have the opportunity to be considered for all types of hearing implant devices.

Impact of the challenges

All of the issues above have led to the suggestion of a centralised service in order to realise economies of scale and seek to address the challenges outlined.

7. WHAT OPTIONS HAVE WE CONSIDERED TO RESPOND TO THE CHALLENGES?

Our aim is to have a Cochlear Implant and BCHI Hearing Implant Device Service that:

- can deliver a safe and sustainable hearing implant device service for the adult and paediatric population of South Wales
- has equitable access
- meets national standards
- has staff in the right place with the right specialist skills
- facilitates timely access to surgery

To consider the best option, 3 pieces of work have been done:

- a) a clinical option appraisal
- b) an external assessment of the options and how they would deliver against relevant service standards
- c) a financial option appraisal

Underpinning all 3 were the British Cochlear Implant Group guidelines⁶ and the NHS England BCHI Commissioning document.

Below is a summary of the work:

- **Clinical Option Appraisal**

A series of workshops with clinical teams were held between September 2021 and June 2022 with the aim of discussing the best way of delivering a safe and sustainable hearing implant device service for the adult and paediatric population of South Wales that meets national standards.

The group considered 5 options for the delivery of specialist hearing services in the future and scored them against the following criteria:

- Quality and Patient Safety
- Achievability (Staffing, sustainability, and training)
- Accessibility
- Clinical Effectiveness and Efficiency
- Acceptability

⁶ <https://www.bciq.org.uk/>

The options considered were:

	Option	Description
A	Do Nothing	2 Cochlear hubs for adults and children, 3 BCHI hubs for adults and children
B	Central Cochlear/distributed BCHI	Single Hub (with outreach) for Cochlear 3 BCHI hubs for both adults and children
C	Central Cochlear Central Paediatrics BCHI Distributed adult BCHI	1 Cochlear hub with cochlear outreach 1 BCHI hub (Paediatrics) 3 BCHI hubs (adult)
D	Single implantable device hub	1 single centre for Cochlear and BCHI for both children and adults with an outreach support model
E	1 Cochlear hub (Children & adults) 1 BCHI hub (Children and adults)	1 single centre for BCHI (children and adults) 1 single centre for Cochlear (children and adults)

The clinical team expressed a preference for Option B.

- **External Assessment**

To consider the options against the National standards, a specialist hearing centre from within NHS England was asked to objectively review the options.

In undertaking this assessment, the external assessor arrived at the following ranking of the options:

Option	External hearing implant centre assessment
A	5
B	4
C	3
D	1
E	2

The outcome of the external assessment against the standards leads to option D being the preferred option.

- **Financial Appraisal**

Finally, each of the options was reviewed financially. It was concluded that none of the options would cost more than the money that is currently invested in the service, in fact that through consolidating the services that there was an opportunity to release money for investment in an out of hours service, and other service developments.

The outcome of the financial appraisal identified that Option D, a single implantable device hub for both children and adults with an outreach support model was the most cost efficient option.

In summary of the outcome of the 3 pieces of work:

Option	Title	Clinical Option Appraisal	External Assessment against of standards	Financial Appraisal
Option A	Do nothing			
Option B	Central Cochlear /distributed BCHI	√		
Option C	Central Cochlear, Central Paediatrics BCHI Distributed adult BCHI			
Option D	Single implantable device hub for both children and adults with an outreach support model		√	√
Option E	1 Cochlear hub (Children & adults) 1 BCHI hub (Children and adults)			

8. DO WE HAVE A PREFERRED OPTION?

Welsh Health Specialised Services as commissioner of the service has the responsibility to consider the most appropriate means of commissioning the service onward.

There are a number of key messages taken from the national standards that the service must have.

A service must:

- Accept referrals based on agreed criteria e.g. NICE/Commissioning Policy,
- Be able to provide full Audiological care for patients across the pathway including assessment, surgery, and device programming,
- Be able to offer access to all types of commissioned hearing implants,
- Have a functioning MDT where all referrals are discussed and planned for,
- Facilitate timely access to surgery,
- Facilitate rapid access to a Clinical Scientist/Physiologist when device failure is suspected,
- Provide equitable and lifelong access,
- Have clear governance processes,
- Facilitate effective liaison with relevant local services; and
- Publish data on audit and outcomes.

Having considered all three assessments against the national standards the only option that meets these requirements is **Option D, a single implantable device hub for both children and adults with an outreach support model. This is the model that WHSSC would like to commission onward.**

9. IMPACT OF THE CHANGE

The suggestion above will enable the safe and sustainable delivery of services for patients requiring an implantable device which will include assessment, surgery and device programming. It will also include the full range of staff required to support the service, and see sufficient numbers of patients for the clinical team to maintain a high level of skill.

The service would:

- support rapid access to a Clinical Scientist/Physiologist when device failure is suspected at all centres and provide equitable and lifelong access.
- ensure equity of access for all patients (i.e. all patients having the same options open to them, and considered for them).
- support a critical mass of patients required for the adoption of new technological advances.
- provide remote digital programming and outreach clinics in the local health boards to improve access to services.

What is the Impact?

- Some patients and families may need to travel further distance to receive the service.
- Patients would be treated at a centre carrying out higher numbers of the procedures, which is linked to improved outcomes
- There is the opportunity to use money more efficiently potential opportunity to reinvest in new developments for the service to have an improved service comparable to other regional hearing implant device centres

10. HOW CAN YOU CONTRIBUTE: ENGAGEMENT AND CONSULTATION

This is the start of our conversation with you about the Cochlear Implant and BCHI Hearing Implant Device service in South Wales and South Powys. We would like to you to share your views about what you have read.

Some of the things we would be interested to learn from you are whether:

- you have an understanding of the Cochlear Implant and BCHI Hearing Implant Device service as a result of reading this document
- you have a better awareness of how the services are currently provided as a result of reading this document
- the challenges facing the service and the options that have been considered for the future delivery of the services are clear
- your views on the preferred model

Next Steps

- When the engagement exercise has ended, all information received will be shared with the individual Health Boards and Board of Community Health Councils. We will also make available a report that outlines a summary of what has been received. We will consider all of your comments and decide take any necessary mitigating actions as a result. We will also update the Equalities Impact Assessment.

On discussing the outcome with Community Health Council, a further period of consultation may be needed. If this is required we will once again invite your views.

A questionnaire is available at the end of this document to aid your response. It should be returned to:

Cochlear and BCHI engagement
Welsh Health Specialised Services Committee
Unit G1 Main Avenue

Treforest
Pontypridd
CF37 5YL

Or alternately (insert WHSSC generic e-mail)

We would welcome your feedback by date.....



APPENDIX 1– GLOSSARY OF TERMS

Audiology	The branch of science and medicine concerned with the sense of hearing.
Cochlear Implant System	A cochlear implant is an implanted electronic hearing device designed to produce useful hearing sensations to a person with severe to profound nerve deafness by electrically stimulating nerves inside the inner ear.
Congenital	Existing from Birth or before
Otorhinolaryngologist/ENT surg	A doctor who studies or treats diseases of the ear, nose, and throat.
Audiological scientists	A clinical scientist that specialises in the diagnosis, analysis and treatment of human auditory disorders such as hearing, tinnitus and audio balance deficiencies.
Hearing therapist	A Hearing Therapist offers counselling to help with hearing difficulties
Speech and Language Therapist	A Speech and language therapists provide life-changing treatment, support and care for children and adults who have difficulties with communication, eating, drinking and swallowing.
Clinical Psychologist for children	Clinical child psychologists work with children by assessing, diagnosing and treating children and adolescents with psychological or developmental disorders, and they conduct academic and scientific research
Paediatric Anaesthetist	Pediatric anaesthesiologists are responsible for the general anesthesia, sedation, and pain management needs of infants and children
Teacher of the Deaf (TOD)	Teachers of the Deaf (also known as ToDs or teachers of the hearing impaired) are qualified teachers who provide support to deaf children, their parents and family, and to other professionals who are involved with a child's education.
Specialist Radiologists	Specialised Radiologists are medical doctors that specialise in diagnosing and treating injuries and diseases using medical imaging (radiology) procedures (exams/tests) such as X-rays, computed tomography (CT), magnetic resonance imaging (MRI), nuclear medicine, positron emission tomography (PET) and ultrasound.

Specialist Nurses	Specialist nurses are dedicated to a particular area of nursing; caring for patients suffering from long-term conditions and diseases
NICE	National Institute of Clinical Excellence
MDT	Multi-disciplinary Team
SLT	Speech and language therapy

DRAFT