UNIVERSITY OF Southampton

Auditory Implant Service

ACTIVITY REPORT 2018/19

AUDITORY IMPLANT SERVICE
USAIS
MAKING CONNECTIONS

SERVICE OVERVIEW

University of Southampton Auditory Implant Service (USAIS) is an Enterprise Unit in the Faculty of Engineering and Physical Sciences. This report is for the year 2018/19 starting on 1st April 2018 and ending on 31st March 2019.

The services offered by USAIS are multidisciplinary and involve a variety of clinical and medical staff. USAIS is in a unique position based within a university setting which is beneficial as it facilitates research driven clinical practice.

USAIS receives referrals for assessment from Audiology and Ear, Nose and Throat (ENT) specialists for consideration of cochlear implants (CI) and bone conduction hearing implants (BCHI).

USAIS also runs a Private Hearing and Balance (PHAB) clinic and offers assessment and guidance on Auditory Processing Disorder (APD).

USAIS is commissioned by NHS England Specialised Services for Cochlear Implants and Bone Anchored Hearing Implants and Devices. These services provide 92% of the income of the unit and are on a not-for-profit basis.

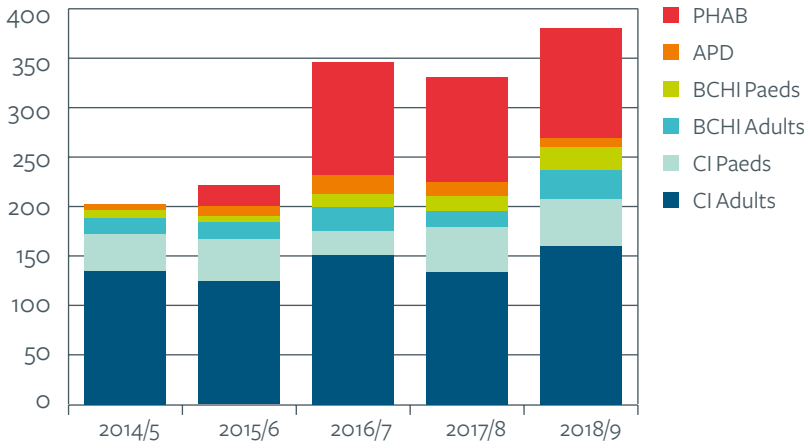
USAIS follows the service specifications for Cochlear Implants (D09/S/A) and for Implantable Hearing Aids for Microtia, Bone Anchored Hearing Aids and Middle Ear Implants (D09/S/B) and the Commissioning Policy for Bone Conduction Hearing Implants 16041/P.

Patient Referrals

Our referral numbers have continued to rise for the cochlear implant and bone conduction services. We anticipate the number of referrals for cochlear implants will rise significantly in 2019/20 due to the publication of the revised National Institute for Health and Care Excellence (NICE) Guidance:
https://www.nice.org.uk/guidance/ta566

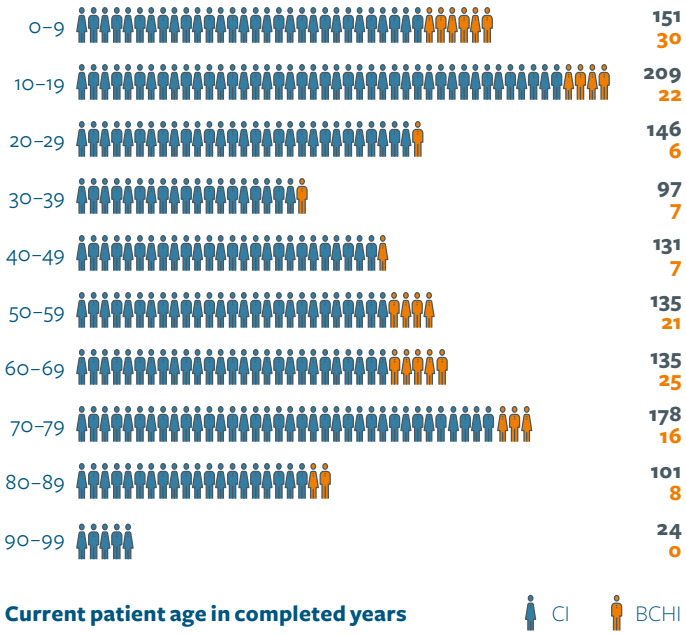
Since the implant centre opened in 1990 our surgeons have implanted almost 1900 devices (1831 cochlear implants and 65 bone conduction hearing implants).

AIS Referral Statistics



Age of service users

USAIS is an all age service and has auditory implant users in all sections of the age spectrum.



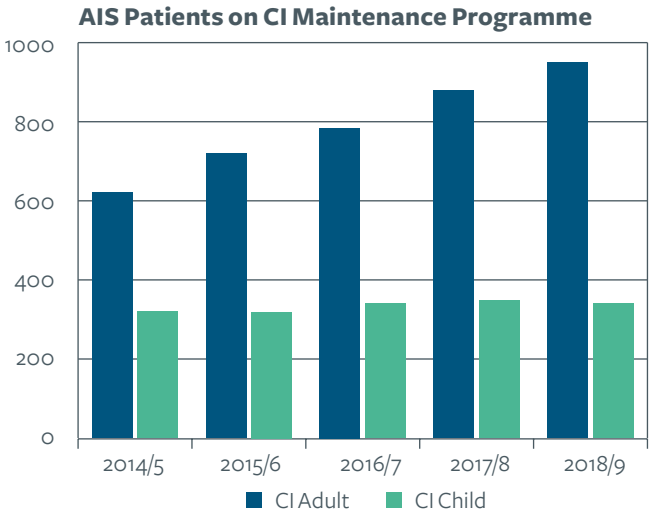
Location of service users

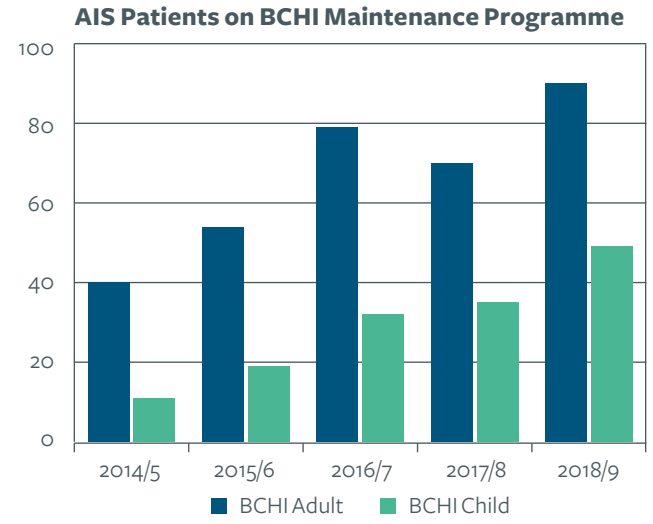
USAIS supports service users from a large geographical base across the South of England and the Channel Islands. The service is divided into four core teams: East, Central, West and North. This enables patients to see the same group of staff and helps with continuity of care.

Patients on maintenance programme

Patients with cochlear implants and bone conduction hearing implants are not discharged after implantation or fitting as they need access to a life-long maintenance programme. Patients have regular reviews to ensure that their device continues to function optimally, including making best use of assistive listening technology with their sound processors. Support for patients and families may be in the form of individual sessions at the clinic or in a local centre, at home or school, or in workshops.

The graphs below show all of our current cochlear implant and bone conduction hearing implant recipients on the maintenance programme over the past five years:





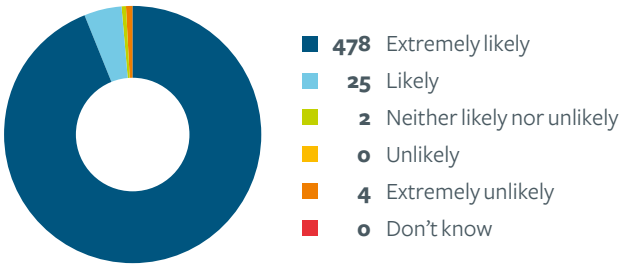
There are 36 patients who are no longer able to make use of their cochlear implants and have not had their implants removed, thus becoming non-users. 19 recipients have two implants but only use one. A further three patients are known to the service but are unable to be reached (lost to follow-up).

SERVICE USERS FEEDBACK

Audits—Patient Survey

Patients attending a review at USAIS are asked to complete a patient survey to enable USAIS to review the quality of the service provided. The NHS Friends and Family Test has been used and the results are shown below. 99% of the patients attending for review during 2018/19 who completed the questionnaire (n=503) would be likely or extremely likely to recommend USAIS to their family and friends should they require similar treatment.

How likely are you to recommend USAIS to friends and family if they needed similar care or treatment? (n=509)



CLINICAL OUTCOMES—COCHLEAR IMPLANTS

Patient Pathway

99.5% of referrals for Cochlear Implant Assessment were acknowledged within five working days.

100% of patients were offered an appointment within six weeks.

Referrals

During the period 2018/19 USAIS received referrals for 160 adults and 47 children for assessment for cochlear implantation.

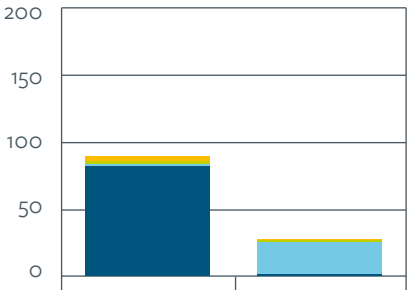
Discharges

71 patients referred for cochlear implant assessment during the year were discharged prior to cochlear implantation. The reasons for discharge were: 20 patients were audiologically out of criteria; six had additional difficulties or medical needs; four had cochlear abnormalities; 34 decided not to proceed for personal reasons or found it difficult to attend appointments at the centre and seven did not respond to any correspondence following referral.

Transferred patients

During 2018/19, 11 patients who had already been implanted with a cochlear implant were transferred to USAIS for their care. Six patients transferred out of the programme and seven died during the year.

Cochlear Implant Operations 2018-2019



	Adults	Paediatric
CI Unilateral	81	1
CI Bilateral	2	24
CI Contralateral	2	1
CI Explant/Reimplant	3	1

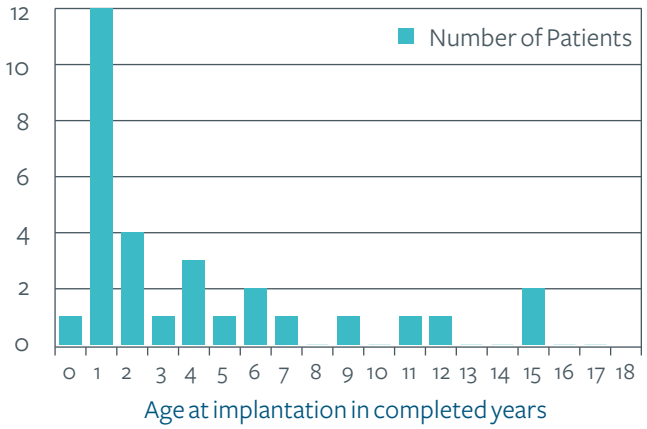
Waiting times

USAIS operates an 18 week care pathway from the multidisciplinary team decision to surgery. During 2018/19 there were 17 patients who did not get their surgery within this time due to a longer than usual waiting list or cancelled operations by the provider hospitals. This does not include the patients that chose to delay their surgery. USAIS is working with the NHS commissioners and the hospitals that provide operating facilities to reduce the number of patients waiting for surgery and the length of the waiting time.

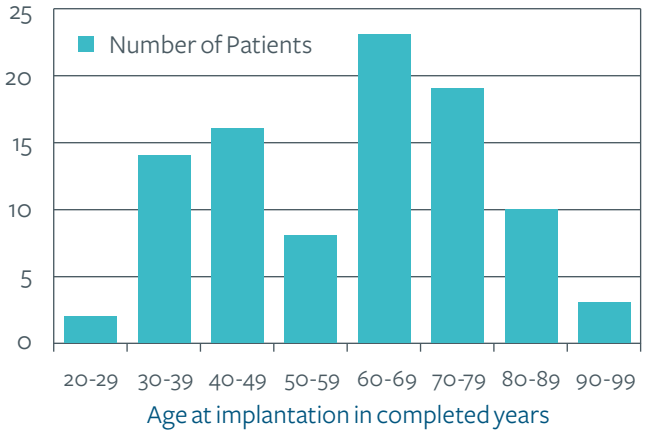
Age at Implant—CI Patients

USAIS treats patients of all ages. During the year 2018/19, the most common age for children to be implanted was between the age of one and two years old and adults were most often implanted between 60 and 69 years of age. USAIS is trying to reduce the age of implantation in children in order to improve potential outcomes. Children will normally have better hearing if implanted in their early years.

Children — age at cochlear implantation 2018-2019



Adults — age at cochlear implantation 2018-2019



Failures, Re-implantations and Non-Users

In the year 2018/19 six patients had device issues which were reported to the Medicines and Healthcare products Regulatory Agency (MHRA). The length of use of the devices varied from two months to over 20 years . Two of the implants had performance decrements and the patient was no longer receiving as much benefit; two were confirmed device failures; one patient needed radiology and the cochlear implant needed to be removed first and one gained no benefit. Four patients had their cochlear implants removed and three were subsequently re-implanted in the same ear. One patient is awaiting explant and re-implant. One patient died before the devices were explanted. In addition, one patient requested that her device be removed even though technically it was still functioning.

Twelve patients (three adults and nine children) became non-users of their cochlear implants during 2018/19. In some instances patients who stop using their devices do return to us and ask to try again.

Key Service Outcomes

The outcomes of cochlear implant patients are measured at their 12 month review. 97 patients attended for an annual review in the period 2018/19. One adult has not been reported on as they did not attend their appointment. One teenage patient decided to stop using their device before the 12 month review and this patient has been included in the data.

User Satisfaction and Benefit

For this Key Service Outcome the standard is >90% of implant recipients using their cochlear implant(s) consistently and reliably. 96% of patients (n=93) were wearing their implant often or always and 94% of adults (or parents/carers) (n=91) report the implant delivers a lot or a great deal of benefit.

Listening

A Key Service Outcome is for 80% of all patients to have hearing thresholds of 40 dB (HL) or better in implanted ears. 92% of the patients (n=89) were able to hear at levels of 40dB(HL) or quieter.

Improvement in Speech Perception and Quality of Life

Another Key Service Outcome is whether the recipient has an improvement in speech perception scores and/or quality of life. All of the adult patients were able to either understand speech better or felt their quality of life had improved as a result of having a cochlear implant.

Most of the children (89%) also had improved outcomes in auditory performance and/or speech perception compared with pre-implant. Two children did not have improved outcomes - one had complex needs and the other was no longer using the device.

All of the adult patients were able to either understand speech better or felt their quality of life had improved as a result of having a cochlear implant.

USAIS Specialist showing her patient a Bone Conduction Hearing Device

STOCK AND EQUIPMENT

Equipment

All audiological equipment has been calibrated to British Standards and daily checks have been carried out and recorded.

Repairs

The target for all replacement processor requests to be dealt with within three working days in the Service Specification is more than 80%. During the period 2018/19, USAIS dealt with 84% of the requests for replacement CI speech processors within two working days.

The current USAIS policy is to only replace BCHI processors immediately if the patient has no access to sound. Patients with a working processor or single sided deafness wait until their repaired processor is returned. This is partly due to infection prevention issues. USAIS is reviewing this policy. However, 91% of patients requiring an immediate replacement of a BCHI processor received a replacement within seven working days.

Upgrades

USAIS has an upgrade policy where patients are offered a processor upgrade at least once in every five years provided there is a newer processor suitable for their implant available. Over the past year USAIS has been able to upgrade 160 cochlear implant patients with the latest technology available for their implant. An additional 10 Bone Conduction Hearing Implant patients received an upgrade during the same period.

CLINICAL OUTCOMES—BONE CONDUCTION HEARING IMPLANTS

Bone Conduction Hearing Implants (BCHI) include Bone Conduction Hearing Devices and Middle Ear Implants.

USAIS supports the Cochlear Baha and Carina devices, the MED-EL BONEBRIDGE, VIBRANT SOUNDBRIDGE and ADHEAR devices and the Oticon Ponto. For the BCHI programme, patients are offered a choice of surgical or non-surgical options, depending on their degree of hearing loss. Those who follow a non-surgical route are referred to as 'fitted' using either a Softband, the Cochlear SoundArc or the MEDEL ADHEAR. Those who follow the surgical route are referred to as 'implanted'.

Patient Pathway

98% of referrals for BCHI assessment were acknowledged within five working days.
100% of patients referred were offered an appointment within six weeks.

Referrals

During 2018/19 USAIS received referrals for 30 adults and 23 children for assessment for Bone Conduction Hearing Implants.

Discharges

Seven patients referred for Bone Conduction Hearing Implant assessment were discharged prior to implantation/fitting in 2018/9. One adult did not meet the NHS policy for BCHI and four decided they did not want to proceed. Two children were discharged; one had complex needs and was unlikely to benefit and the other was due to the family's own decision to withdraw.

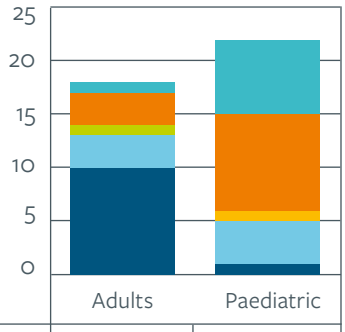
Transferred patients

During 2018/19 one paediatric patient and four adult patients were transferred into USAIS from another service with an existing bone conduction hearing implant prior to referral. Two paediatric patients transferred from our service to another service. One adult patient died during the year.

Operations and Fittings

14 adult patients were implanted with a Bone Conduction Hearing Implant in 2018/19 and four were fitted with a non-surgical device. 16 children were fitted with a device and five children were implanted.

AIS Operations and Fittings Bone Conduction Hearing Implants 2018 - 2019



	Adults	Paediatric
BCHI Unilateral	10	1
BCHI Bilateral	3	4
BCHI Contralateral	1	0
BCHI Abutment Replacement	0	1
BCHI Fitted Unilateral	3	9
BCHI Fitted Bilateral	1	7

Waiting times

During 2018/19 there was one patient who breached the Team Decision to Waiting Time 18 week pathway due to a longer than usual waiting list. This does not include the patients that chose to delay their surgery.

Successful Surgery—BCHI

The service specification for successful surgery is for 5% or fewer patients requiring revision of local skin graft within one year of surgery. No USAIS BCHI patients underwent skin revision surgery in this period.

In addition the percentage of patients reporting abutment loss during the past five years should be 5% or less for adults and 7% or less for children. None of the patients who had surgery at USAIS reported abutment loss.

Key Service Outcomes

The outcomes of Bone Conduction Hearing Implant patients are measured at their 12 month review. 25 patients attended for an annual review during 2018/19.

Use and benefit from the device

90% of adults (n=9) and 80% of children (n=12) were wearing their device often or always and 96% of adults and 80% of children (or parents) reported that they were satisfied or extremely satisfied with the device.

Improvement in Quality of Life

Patients are asked about how the device has impacted on their quality of life. 84% of patients who have been fitted with a BCHI and attended for an annual review said they felt it had improved their quality of life and two reported no change. Two children reported that wearing a processor on a soft band led to a decrease in their quality of life. It should be noted that neither child had an implanted device - one is now using the ADHEAR device which is not worn on a softband.

AIS PLUS SERVICES

In addition to the NHS Funded Services, 8% of USAIS income comes from research, consultancy, education, training and other patient services.

Research

In recent years USAIS has developed a strong research portfolio in the areas of improved diagnostics for cochlear implantation, evaluation of new materials for cochlear implant electrodes, remote care/telemedicine for cochlear implant users and enhancement of real-world listening by supplementing cochlear implants with tactile or hearing aid stimulation.

Teaching

USAIS staff contribute to teaching and training for audiologists and other health-care professionals involved in the delivery of care to hearing impaired individuals. The University of Southampton Audiology BSc (Hons) and Audiology MSci courses are ranked first in the Aural & Oral Sciences category in the 2020 Good University Guide. https://www.sheffield.ac.uk/materials/news/compuni2019-1.778082

Training

USAIS runs training events for local professionals to help them to support children and adults with auditory implants. Therapists also run patient workshops including Using the Telephone, Lipreading and Managing Tinnitus.

A list of training events can be found at this website location: http://ais.southampton.ac.uk/category/training-programme/

There is a range of free on-line resources including troubleshooting guides and advice. https://www.efolio.soton.ac.uk/blog/usaistrainingportal/

Self Funding Cochlear Implant Service

Four patients funded their own cochlear implant operations during the year 2018/19. Two of the patients had previously funded one implant; they received a second implant in 2018/19 and now benefit from bilateral hearing.

Auditory Processing Disorder

An Auditory Processing Disorder (APD) refers to difficulty processing what is heard. In most cases hearing thresholds are normal but sometimes APD can occur in the presence of a hearing impairment. USAIS accepts APD referrals from Hampshire, Isle of Wight, Dorset, Wiltshire and West Sussex for an interdisciplinary assessment and advice. Nine children were referred to USAIS during 2018/19.

Private Hearing and Balance Centre

Since 2015 USAIS has offered private hearing and balance assessments for adults and children. Referrals are received from local ENT surgeons and neurologists. These assessments are funded by the patient/family or via medical insurance. During 2018/19 111 referrals were received.

USAIS IN THE NEWS

USAIS has increased its reach and impact through ongoing media and publicity. This is part of a wider agenda of raising awareness about hearing loss and cochlear implants. USAIS staff contributed to the recent review of the National Institute for Clinical Excellence (NICE) guidelines on cochlear implantation which, as this article shows, will enable many more children and adults to benefit from cochlear implants:

https://www.nice.org.uk/news/article/hundreds-more-children-and-adults-eligible-for-cochlear-implants-on-the-nhs

USAIS uses digital and social media to keep patients and professionals updated with the work of USAIS and related news.

Contact us:

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