BRITISH ACADEMY
OF AUDIOLOGY

Redefining the Good:

Quality Standards in Paediatric Audiology

Draft for public consultation

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The BAA SQC wishes to acknowledge the work that has been undertaken in the past by numerous organisations which have informed these standards. Those of particular interest to members which have informed this document are:

Quality Standards in the Newborn Hearing Screening Programme – NHS England July 2010

Quality Standards in Early Years Services for Deaf Children – NDCS 2012

Quality Standards for Childrens' Hearing Services – NHS Wales 2016

Quality Standards for Paediatric Audiology Services – NHS Scotland 2009

Newborn Hearing Screening Quality Assurance Framework 2007

We would also like to thank all individuals and organisations which took part in the consultation.

List of Acronyms

ABR	Auditory Brainstem Response
BAA	British Academy of Audiology
BSA	British Society of Audiology
CAMHS	Child and Adolescent Mental Health Services
CHSWG	Childrens Hearing Services Working Group
DSL	Desired Sensation Level
ENT	Ear Nose and Throat
GP	General Practitioner
IMP	Individual Management Plan
ISO	International Organisation for Standardisation
NAL	National Acoustics Laboratory
NDCS	National Deaf Childrens Society
NHS	National Health Service
NHSP	Newborn Hearing Screening Programme
NICE	National Institute for Health and Care Excellence
OME	Otitis Media with Effusion
PCHI	Permanent Childhood Hearing Impairment
REM	Real Ear Measurement
RECD	Real Ear to Couplar Difference
S4H	Smart 4 Hearing
SQC	Service Quality Committee
UKAS	United Kingdom Accreditation Service
VRA	Visual Reinforcement Audiometry

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Introduction

It is known that without timely and effective intervention, hearing loss has a detrimental impact on a child's development, including their language and communication, educational achievement, emotional well-being and employment options [1,2,3].

Approximately 50% of cases of permanent childhood hearing impairment (PCHI) are detected by the newborn hearing screening programme (NHSP). However, this screen is not designed to detect milder hearing losses in infants, and a significant number of permanent hearing losses in children are mild or of later onset [4, 5]. In addition, fluctuating temporary hearing losses caused by middle ear effusions are common in children and can lead to delays in speech development, behavioural problems and educational achievement [6].

Paediatric audiology services play an essential role in the identification of all children with hearing loss, and timely and effective management of hearing loss identified by newborn hearing screening and later identified. Individual audiology services should aspire and strive to deliver the best possible care to children / young people and families.

This document builds on previously published Quality standards to describe good practice and provide benchmarks for quality assurance for paediatric audiology services in the UK. They allow services to audit their pathways and procedures to identify areas for service improvement, and can be used by external accreditation bodies (e.g. UKAS) as part of the accreditation process.

Purpose of this document

This document provides Quality Standards for the provision of audiology services in the UK for children and young people from birth to 25 years of age, including transition to adult audiology services.

It is for the use of audiologists and other healthcare professionals who work in the field of paediatric audiology, as well as for wider stakeholders who may need to benchmark services, such as families of deaf children, service commissioners and referrers.

The BAA recognises the complexity and range of procedures that make up "good practice" in paediatric audiology, and that services will be structured differently across the UK. Therefore, the processes and pathways have been broken down into key sections and components which should be common to most paediatric audiology services. The standards describe good practice for all components, and standards cover many aspects of these from timings of appointments, measures of functional hearing to use of tools to provide evidence of health outcomes.

A frequently asked questions document has been produced to assist services with some commonly asked questions, in addition to an audit tool spreadsheet.

Compliance however with the standards should not be used in isolation to specify or determine the efficacy of services, and should be used alongside other measures of health outcomes and service user satisfaction.

Section 1 – Access

Standard 1a - All services should have clearly defined pathways for patients and families to access audiology services in a timely fashion, at a convenient location and time and in facilities that are fit for purpose.

1a. 1. There are clearly defined referral pathways for all referral sources which are ideally reviewed at least every 3 years with commissioners. Ideally tier 2 services should accept referrals from parents/carers whilst all tiers should accept referrals from other sources e.g. School Nurses, Health Visitors or Speech and Language Therapy avoid any GP Gatekeeper issues.

1a. 2. The Newborn Hearing Screening Programme (NHSP) within the service meets the acceptable level of the programme standards and referrals for diagnostic assessment are seen within the standard timescales of the programme (NHSP-S04 and NHSP-S05)[7].

1a. 3. The Service has defined triage criteria for designating routine and urgent referrals. Urgent referrals should include, for example, hearing tests following confirmed or suspected bacterial meningitis and newly identified PCHI.

1a. 4. Routine new referrals of children outside of NHSP are offered an appointment for diagnostic hearing assessment within 6 weeks of receipt of referral. Referrals are accepted from recognised professionals and parents both within and outside NHS services. Acceptable threshold >= 99%[8].

1a. 5. Urgent new referrals for diagnostic hearing assessment are offered an appointment within 4 weeks of receipt of referral and being well enough to be test (100% acceptable and achievable).

1a. 6. When a hearing loss is identified and a decision to fit amplification is made, an initial appointment to fit the hearing aids is offered within 4 weeks from the date of decision (either for temporary or permanent hearing loss) - (100% acceptable and achievable).

1a. 7. Children requiring follow up hearing assessment or hearing aid review should be offered an appointment within 6 weeks of the previously agreed review date.

1a. 8. Flexibility in appointments is available where possible. Where the service is delivered from multiple locations, a choice of locations is offered, as is a choice of time, for example e.g. offering appointments outside of school time.

1a. 9. Where clinically appropriate the service offers virtual appointments/remote care in accordance with local remote care guidance, to offer greater appointment flexibility. Appointment reminders are offered in a variety of formats to promote accessibility, e.g. SMS, emails and phone-calls

1a. 10. The premises for providing care has ease of physical access, including for buggies or families with additional needs, and areas should be well sign posted [3]. Services should also have access to suitable interpreters for families and children where English is not their first language.

1a. 11. The department has sufficient facilities in order to assess children and all facilities are in good decorative order and condition.

1a. 12. Robust estate, cleaning and infection control policies are in place and adhered to. Compliance with these policies should be regularly reviewed and documented

1a. 13. There is a clear transition process for those patients requiring ongoing audiological care within adult services. These are established, embedded and regularly reviewed. Information on current hearing levels, hearing aid model, prescription formula and assistive listening devices should be held by the patient and circulated by the paediatric service to the adult service prior to transition

1a. 14. Audiology services should offer referral to other services including ENT, paediatrics, education, therapy, third-sector (e.g. NDCS) and independent practice, ideally without having to return to the GP.

1a.15. Criteria for discharge from the service follow documented policies, either through national or local guidance.

Standard 1b - Service demand and referral data are monitored, reviewed and reported to assist with service planning. This is particularly important following backlogs in service provision from COVID-19

1b. 1. Waiting times for the service are monitored, as per 1a, and are based on robust data collection which is reported to appropriate bodies (e.g. DM01 to NHS England)[8]. Where waiting times do not meet those set out in 1a, recovery plans are in place or being developed to ensure compliance.

1b. 2. The service has clearly defined acceptance and rejection criteria for referrals with action taken to address any compliance with referral criteria.

Section 2 – Communication

Standard 2 - Each service has process and structures in place to facilitate good communication with children, young people and families. Protocols are based on effectiveness and efficiency of procedures.

2. 1. Information regarding the appointment (for example how to prepare for the appointment) is provided as part of the appointment booking process. This should include access to directions/maps, parking facilities, public transport details, appointment duration, facilities available and, if possible, which member of staff the family will be seeing. This will also include a way for families to contact the department in advance, for example for changes in appointment or if an interpreter / any reasonable adjustments are required.

2. 2. Families are provided with a choice of communication methods to contact the department, including phone numbers, postal address, SMS text and email. Contacts are returned within 2 working days.

2. 3. Departments should offer condition-specific information, such as a guide to their services for young people who may be autistic or with learning disabilities. As a minimum, all information provided to families should be either from or a recognised source or where locally produced, in 'Plain English' [9], produced with patient input, kept up-to-date and reviewed at regular intervals.

2. 4. Children, young people and families will receive both an accessible verbal explanation of the assessment results and supporting literature (if required) on the same day that the assessment is carried out. This includes, information about any follow-up arrangements and time-scale. For patients who are discharged, information should be given on how to access the service again if required.

Where results are subject to peer review e.g. ABR, the family should be advised that these are preliminary results which will be confirmed by review and they will be notified if there are any differences between the results they are given and the final outcome.

2. 5. Departments should issue written information including copies of the clinical letters within 1 week of the appointment or peer review being returned to the families, referrer, the child's general practitioner (GP) and any other relevant professionals. This should include an explanation of the results and details of the agreed management plan with time scales.

2. 6. Where appropriate, children, young people and families are routinely given information about support services, including education sensory support, local and national voluntary groups for children and young people and options for independent practice, for example speech therapy and occupational therapy.

2. 7. Services should make best endeavours to ensure that children, young people and families have access to information in their preferred language with translated materials.

2. 8. For patients undergoing transition to adult services, information should be provided to young people on the transition process and future from the age of 14 so that they can take an active part in their own transition.

2. 9. All cases referred from the NHSP or with PCHI are input to the relevant database, such as S4H, for audit and monitoring of results and outcomes

Section 3 – Assessment

Standard 3a - All referred newborns, infants, children and young people receive an audiological assessment which is appropriate to their age and stage of development, designed to enable definition of degree and nature of hearing loss.

3a. 1. Local care pathways are available with a comprehensive range of recognised behavioural and objective audiology assessment techniques across age and developmental ranges. Each department will specify which techniques they offer and where others are available for an individuals need.

3a. 2. All audiological procedures follow national standards/guidelines (e.g. British Society of Audiology) where these exist. Where they do not, there is a well-defined local protocol with adequate equipment and experience in place to be able to make appropriate adjustments for the assessment of complex cases. Where local policy deviates from national standards / guidance, this should be documented locally and regularly risk assessed.

3a. 3. Cases for which degree and type of hearing loss is not defined at the first appointment have consideration of alternative procedures for the follow up appointment (staff, equipment, time, technique for testing).

3a. 4. All equipment is calibrated in line with the recommended frequency (mostly yearly) to international ISO or BSI standards and this calibration is documented.

3a. 5. Daily checks of equipment are carried out according to ISO, BSA or manufacturers' recommendations and completion of these checks is documented across all clinics for each piece of equipment in use that day.

3a. 6. Hearing assessments are carried out in appropriate acoustic conditions. Where there is a risk of ambient noise levels impacting hearing assessment there is a local policy in place for monitoring and mitigating this risk.

3a. 7. Consideration is given to the lay out of the room for optimal testing efficiency and accuracy including options for recording testing for peer-review (distance to VRA rewards, view of child by tester, positioning of parent, wires for inserts and bone conductor). The service has a range of engaging and developmentally appropriate toys and games, furniture and equipment for stimulus presentation.

3a. 8. Recording of results for behavioural testing is in line with BSA national guidance for the test[10].

3a. 9. The service takes an active part in both internal and external ABR peer review and all testers demonstrate clear competency with the technique.

Standard 3b -The results of audiological assessment should form a clearly defined, appropriate management plan for the child or young person

3b. 1. All assessments are interpreted using data-driven protocols with evidence-based practice (e.g. 2/3 positive responses, recording of non-responses on result-sheet correctly as per BSA VRA procedure [10]. This should be assured by internal peer-peer observation and documented.

3b. 2. Consideration is given to the developmental profile of the child, whether delayed or different with options for change in test strategy.

3b. 3. Written local and national protocols / guidelines, are routinely followed. Protocols / guidelines should define appropriate management options for the needs derived from the assessment, referral on, review appointment and decision to discharge. Regular audit that management decisions meet those detailed within the protocol / guidelines should be carried out to ensure it is embedded

3b. 4. Training opportunities in paediatric audiology are available with staff experienced in paediatric audiology. The experienced staff member will remain accountable for clinical activity within this session.

3b. 5. For children with PCHI, amplification shall be provided in accordance jointly in line with family centred care guidance, informed family / caregiver choice and consent with timely provision of information based on current scientific evidence.

3b. 6. Services adhere to the NICE guidelines for OME management which include consideration of watchful waiting, amplification, medical intervention and evidenced based non-invasive intervention (Otovent). Compliance with these guidelines is monitored and reported.

3b. 7. Audiology reports and testing should include patient/parent observations. Where discrepancy exists between patient/parent reported observation of hearing and audiometric results, further investigation should be carried out which may include but is not limited to OAEs, acoustic reflexes, functional speech testing, ABR etc. Where required further investigation, support and management should be arranged

3b. 8. NICE criteria for consideration of cochlear implantation for children and families are discussed with families. Where a child or young person is within those criteria, a documented conversation should take place at the earliest possible opportunity to offer the family a referral. All children and families whose audiological status meet these criteria should also be given information or directed to further information on cochlear implants in their preferred language (where this is available).

3b. 9. For children with permanent hearing loss, a discussion of the parent/carers choice for mode of communication should take place at the point of diagnosis and be documented including information visual/signing, total communication and talking and listening options. These options should be regularly reviewed with the family to ensure that informed choices are made.

3b. 10. An individual management plan is created for each child. This should be documented, updated and reviewed at each appointment. See section 4.

3b. 11. The involvement of support services (usually education) should be introduced to parents at the earliest opportunity following a diagnosis of PCHI. If parents / carers consent to a referral, support services should be informed about the diagnosis within two working days. Once consent has been obtained, support services should be included in copies of all assessment and rehabilitation information for that child thereafter and given the opportunity to attend appointments (face to face or virtually).

3b. 12. Ideally Children's Services (from education, speech therapy, or other specialist providers) should make contact with the family within 2 working days of being informed of a new PCHI diagnosis.

Section 4 – Individual Management Plan

Standard 4 - An individual management plan (IMP) is developed for each new patient, agreed with the parents and/or child or young person, updated on an ongoing basis and accessible to all professionals involved with the child or 's care.

4a. 1. An IMP is developed with each patient which includes the programme of audiological management and details of the next priority for assessment as required.

4a. 2. The IMP includes goals and priorities set jointly by the child or YP/family and audiologist for their audiological priorities and current speech, language and listening outcomes / progress. Where possible, a specified key-worker from the audiology team is named as a point of contact. These are discussed with key support professionals (in education, independent and NHS therapists and third sector) within the family-

4a. 3. Following consent from the family, the IMP is circulated to relevant professionals involved in the child or young person's care.

4a. 4. For those patients that require transition to adult services, the IMP follows the young person through transition and is forwarded to the adult service. This includes a synopsis of current hearing levels, hearing aids and prescription (NAL or DSL) for the fitting, ALDs and key personnel, with a copy for the young person.

Section 5 – Hearing aid management, selection, verification and evaluation

Standard 5a - All children and YP using hearing aids should have access to services they require in a timely fashion. The goal of amplification is to provide consistently audible speech across frequencies and levels, with flexibility for fine-tuning over time and changes in hearing. This relies on having accurate, recent hearing thresholds in each ear with air and bone conduction testing. Referrals for consideration of amplification are accepted from agencies within and outside the NHS (eg ENT, SLT, school screening services).

5a. 1. All children identified with PCHI through recognised audiological provision, amplification are offered an appointment for the fitting of their hearing aid(s) within 4 weeks of decision to aid.

5a. 2. For temporary hearing losses when hearing intervention is indicated, pathways are in place to facilitate effective amplification (eg hearing aid or bone conduction devices). Information should be provided to the family/child to make an informed choice on the options for managing their hearing needs in addition to referral and monitoring by ENT.

5a. 3. Families requesting routine replacement ear moulds are offered an impression appointment within one week of request. Misplaced / lost earmoulds are treated as hearing aid repairs as per 5a. 4.

5a. 4. Appointments for hearing aid repairs are offered within 2 working days of request.

5a. 5. Services offer a number of ways to repair hearing aids such as face-to-face appointments, drop in, postal repairs or drop off and collect.

5a . 6. The service supports its users without need to contact the service, such as by signposting to accessible video clips on simple fault finding or re-tubing from home, utilising other professionals and agencies contributing and maintaining effective amplification use (NDCS, voluntary services, therapists, hearing aid dispensers, ConnEvans, and charities such as Ewing Foundation).

Standard 5b - The service provides a variety of amplification devices, suitable for the needs of the individual child and signposts and supports families effectively to providers of environmental/assistive listening devices if they do not provide them, including through non-NHS agencies (such as NDCS, ConnEvans, Hearing clinics)

5b. 1. The service provides a specified range of types of amplification devices for the population they serve, e.g. different power hearing aids, bone conduction devices, wireless and radio aid ready devices and CROS hearing aids. The type of amplification and the features/programmes are activated based on the individual child's need with information provided to the child/family to allow them to make informed choices. Volume control and programs are activated when children are able to use them.

5b. 2. Where hearing aids are fitted, tamper-proof battery drawers are fitted to all children's hearing aids in line with national guidance[11].

5b. 2. The service discusses environmental assistive listening devices such as remote microphone technology with the child/family and options for provision of this technology.

5b. 3. There is a written policy on candidacy for radio aids and remote microphones, agreed with the provider of the device, taking account of recent research and recommendations on use of remote microphone technology and bone conduction devices in pre-school and school-age groups. Collaboration with education, therapy and charity sector agencies is optimised for seamless support in use of remote microphone technology including Bluetooth and streaming options.

Standard 5c - Where hearing aids are provided, the service ensures this provision adheres to agreed procedures and protocols. The performance of hearing aids is matched to the individual requirements of the child, with the settings recorded.

5c. 1. Local protocols comply with the latest professional bodies' guidance and bodies' national guidance concerning the selection, fitting and verification of hearing aids. Prescription targets are based on evidence-based formulae, taking into account observations from the child and family (DSL, NAL NL2 etc). Data-logging of the recorded hours of hearing aid use, or situations in which hearing aids are worn, is included in the IMP

5c. 2. Verification of hearing aid performance at first fitting is carried out using Real Ear Measurement (REM) or Real Ear to Coupler Difference measurements (RECD), in line with BSA recommended procedures[12] unless clinically contraindicated where predicted RECDs should be used.

5c. 3. Verification of hearing aid performance by REM or RECD takes place at standard intervals or when clinically relevant to do so and this is documented within the notes. The proportion of speech that is audible through the hearing aid fitting (aided SII score) is included in the IMP. Verification graphs of output of hearing aid fittings, unaided and aided SII score for 65 dB speech inputs and RECD type are included in reports to families and professionals.

5c. 4. Where REM/RECD measurements are performed, responses should be adjusted to fall within the recommended target tolerance[12], unless clinically contraindicated and this is recorded within the notes. The aided SII score is evaluated using the Ped Amp norms to validate the hearing aid fitting and fine-tuned to make a wide range of speech sounds audible to the child notes.

5c. 5. When REM/RECD is contraindicated, predicted RECD should be used. Where insitu REM / RECD is not attempted or cannot be completed or cannot meet target, an explanation is recorded in the notes. Where real ear verification has not been completed appropriate validation is essential. This may include, but is not limited to, review of SII scores and functional speech testing. Real ear verification should be prioritised at the next face to face appointment.

5c. 6. A range of outcome measures is regularly performed by the service to evaluate detection of sounds through the hearing aids fitting and functional listening of a child and to guide and support further management. This is particularly important when hearing thresholds or hearing aid verification is incomplete. These outcome measures may also include Littl'Ears, Peach and other questionnaires to monitor progress and speech/language outcomes. This information is included in the IMP so that therapy professionals know what signals are audible in planning structured listening input.

Section 6 – Skills and Expertise

Standard 6 -Each service and member of staff is clinically competent to support the assessments and intervention they undertake.

6. 1. All eligible, clinical staff are registered with a registration body, eg HCPC, RCCP or ACHS and participate in relevant CPD activity.

6. 2. Staff in senior positions within the service have significant practical experience of paediatric assessment and (re)habilitation.

6. 3. Staff understand the pathways within the Paediatric Audiology service and participate in quality assurance methods e.g. audit to ensure the quality, safety and efficiency of services.

6. 4. Competency of staff to perform clinical procedures is verified by peer review or competency checks on the use of equipment at least every year and these are formally documented.

6. 5. The service takes an active part in an external ABR peer review scheme if the service performs ABR and behavioural testing (conditioned play audiometry CPA and visual reinforcement audiometry VRA) peer-review procedures as specified in the NDCS Listen Up document.

6. 6. There is a service process for acting on Peer Review observations so that opportunities for re-training and upskilling are made available. Training is available within teams through ongoing processes of assessment and appraisal in clinical practice.

6. 7. When a case of mis-identified hearing loss occurs, the opportunity is used to review the case in an open and transparent way. Duty of candour to the family should be explored [13]. A senior professional should over-see this process to review the factors around the cause of the error, to prioritise and amend the patient-management pathway. A documented procedure and training opportunity is applied to make this error less likely to happen in future.

6. 8. All staff demonstrate competence in the roles performed. There is a record of appropriate training being accessed with at least annual updates on advances in paediatric audiology, hearing aid technology and assistive devices along with technical competency assessments and peer review appropriate to their current and future roles.

6. 8. All staff working with the audiology department undergo Deaf awareness training and refreshers.

Section 7 – Service Effectiveness and Improvement

Standard 7a - Each service has processes in place to measure service quality and outcomes which are then used to plan and implement service improvements.

7a. 1. Patients have the opportunity to feedback after every appointment through Friends and Family cards etc. The service should also formally survey patients and families regularly.

7a. 2. The audiology service seeks the views of stakeholders at least every 2 years, including support agencies, CHSWG, charities, education and therapy agencies around outcomes for communication and educational achievement goals for children with PCHI.

7a. 3. The results of surveys, quality assessments, outcomes and areas for improvement are made publicly available. The service level outcome from the NHSP management system (e.g. Smart 4 Hearing (S4H)) data-base is audited.

7a. 4. Services monitor their quality management on an ongoing basis. A robust audit and clinical assurance timetable and strategy should be in place including where all cases of discrepancies in hearing results are reviewed annually as information for sharing and training updates.

Standard 7b - The service actively participates with its local users/families and engages them in service planning/improvement.

7b. 1. The service takes an active role in a Children's Hearing Services Working Group (CHSWG)[14]. Where a local CHSWG is not in place, a local user group should exist including families, children and young adults, and meets at least twice a year. Services should promote CHSWG or the user group and encourage feedback and suggestions in service planning.

7b. 2. The outcomes of service level quality assurance work, surveys or accreditation are shared with CHSWG and/or reported to the local user group with opportunities for collaboration and inclusion, directed to improved outcomes of management for PCHI children and families.

Standard 8 – Collaborative Working

Standard 8 -Each service has processes and structures to ensure effective collaborative working within both the service and outside agencies, across professional and commissioning boundaries.

8. 1. The service has access to, or can refer children and young people to, as a minimum; educational services, specialist speech and language services, paediatricians, auditory implant services, social care, voluntary agencies and Child and Adolescent Mental Health Services (CAMHS) without the need for them to revisit their GP. Recommendation to independent agencies may be made if timing or specialism is limited under NHS provision (Speech therapy, sensory/occupational therapy, auditory verbal therapy, ENT) however the agencies must have recognised skills in areas of assessment and intervention.

8. 2. Where a family express that care has not met their expectations the service should be supportive in both exploring how this can be improved and with advice around how to seek onwards referral for a second opinion if desired.

8. 3. When a family/child is referred to another agency, following parental consent there is ongoing sharing of information both by that service and by audiology which routinely feeds back and informs the IMP regardless of whether provision is through NHS, independent or charity-sector agencies. Information around equipment settings is shared between agencies, as standard (grommet insertion, ear-mould provision, glasses prescription, radio aid settings, CI model).

8. 4. The service understands its role in the safeguarding of children, has a nominated safeguarding lead within the organisation and has a policy on safeguarding which is routinely followed.

8. 5. The service has a guideline/policy for children whom are not brought to appointments and this is followed routinely. Children with active management of PCHI should be discussed with the team around the child before discharge is made.

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