



Llywodraeth Cymru
Welsh Government



GIG
CYMRU
NHS
WALES

Quality Standards for Children's Hearing Services

The Assessment and Audit Tool



version 2 July 2016

Quality Standards for Children’s Hearing Services Version 2 July 2016 The Assessment and Audit Tool

Standard 1 Accessing the Service

Standard Statement	Rationale	Criteria	EVIDENCE OF COMPLIANCE This list contains examples that you may wish to include as evidence. You may have different forms of evidence to support your self assessment score.
<p>1a. All newborns, infants, children and young people have access to the audiological services they require in a timely fashion, with clearly defined referral pathways to audiological services that are widely disseminated and reviewed regularly.</p>	<p>Correct referral information results in more efficient use of available resources [1][2][3][4].</p> <p>Prompt identification of permanent hearing problems and subsequent intervention leads to improved outcomes for the child at a later date [2][5][6][7][8][9][10][11].</p> <p>Parents support the principle of early identification and intervention [12][13][14][15][16][17][18].</p> <p>Fluctuating hearing loss can have a disadvantageous effect on the child’s</p>	<p>Referral Pathways 1a.1. Clearly defined written referral pathways from all referral sources are in place, reviewed <u>at least</u> every three years, and disseminated to all potential referrers on a regular basis.</p>	<p>Written referral pathways, linked to referral criteria, for all referral routes for all ages of children.</p> <p>Pathways should include timings of appointments (urgent/routine) and request for referrers to detail any communication support requirements for the child/family.</p> <p>Referral forms to include communication support requirements</p> <p>Version numbers to be included, and documents to be updated at least every 3 years, or sooner should changes</p>

	<p>development [2][19][20][21].</p> <p>Young people need a clear transition route from child to adult services [22][23][24][25].</p>		<p>occur.</p> <p>Written/electronic document for referrers detailing referral pathways and criteria.</p> <p>Evidence that pathways have been disseminated to/discussed with referrers eg. email/Agenda for GP training/presentation.</p>
		<p>1a.2. Where local services are unable to provide all aspects of care, clear referral routes to external providers are in place.</p>	<p>Written referral pathways, with details as 1a.1.</p>
		<p>Speed of Access 1a.3. Routine new referrals, for hearing assessment, are offered an appointment within 6 weeks of receipt of referral.</p>	<p>Written policy on waiting times.</p> <p>Audit of waiting times, against 6 week target.</p> <p>Data collected a minimum of every three months for each clinic type/location.</p>
		<p>1a.4. Urgent¹ new referrals, for hearing assessment, are offered an</p>	<p>Written policy on waiting times.</p>

¹ Urgent cases are specified as: ≤6 months of age with parental concern; meningitis; plus any others deemed urgent by the service. Medical emergencies fall outside of the scope of these Standards.

		<p>appointment within 4 weeks of receipt of referral.</p>	<p>Sample/ Examples of waiting times, against 4 week target</p>
		<p>1a.5. Children requiring follow-up hearing assessment/hearing aid reviews are offered appointments within an identified timescale.</p>	<p>Audit of planned review date against actual review date, ≥80% should be seen within one month of scheduled appointment.</p> <p>Data collected a minimum of every three months for each clinic type/location.</p>
		<p>1a.6. NBHSW <i>Referrals from NBHSW for diagnostic assessment are offered an appointment within the nationally agreed timescales²</i></p>	<p><i>Local data</i></p>
		<p>Flexibility of Appointments 1a.7. Flexibility is available in appointment times, and where possible locations, to suit the individual needs and preferences of the parents and child or young person.</p>	<p>List of clinic locations.</p> <p>Clinic schedule from electronic records to show range appointment times/days available.</p> <p>Demonstration of flexibility, eg.partial booking/letters.</p>

² Within 4 weeks of date of last screening episode for Well Babies, and within 8 weeks of screening episode for High Risk Babies.

		<p>1.a.8 NBHSW <i>Flexibility is available in appointment times, and where possible locations, to suit the individual needs and preferences of the family</i></p>	<p><i>Patient management system schedule</i> <i>Letters</i> <i>Discussion with team</i></p>
		<p>Transition from Child to Adult Audiology Service 1a.9. Robust systems are in place, used and regularly reviewed, to manage the transition from child to adult audiology services.</p>	<p>Transition Protocol. Information sheets. Letters/or evidence of referral from children’s audiology to adult/transition service.</p>
<p>1b. Service demand and referral data are accurately monitored, reviewed and reported to guide service planning.</p>	<p>Effective allocation of health resources is reliant upon accurate information on the balance between demand for services and available resources. It is important that waiting times for all stages of the patient pathway are collected and monitored in an effective manner [1][2][3][4][16][26][27].</p> <p>The number of incorrect referrals to the specialist medical route informs the effectiveness/clarity of referral criteria and compliance of referrers to those criteria. Improvements can</p>	<p>Monitoring of Service Referrals 1b.1. The number of incorrect referrals to audiology is monitored annually, and action continuously taken to address any non-compliance with referral criteria.</p>	<p>Examples of incorrect referrals. Evidence from triage service. Action taken where non-compliance exists.</p>
		<p>Service Planning 1b.2. Key data are identified, collected, reviewed and used in annual service review.</p>	<p>A Report Detailing:</p> <ul style="list-style-type: none"> the number of children referred to audiology services, <i>with specific reference to the numbers referred by NBHSW</i>

	<p>then be made to ensure that children are correctly referred to appropriate services [1][2][3][4].</p>		<ul style="list-style-type: none">• the number of young people transferring to adult services• the number of appointments not attended and non-responders from partial booking (if used)• the number of NHS hearing aids fitted for the local paediatric population, including conductive and sensorineural losses, <i>with specific reference to those children referred by NBHSW</i>• subsequent reports monitor trends over time
--	--	--	--

Standard 2 Assessment

Standard Statement	Rationale	Criteria	EVIDENCE OF COMPLIANCE This list contains examples that you may wish to include as evidence. You may have different forms of evidence to support your self assessment score.
<p>2a. All referred newborns, infants, children and young people receive audiological assessment appropriate to their age and stage of development.</p> <p>There is a spectrum of audiology appointments from routine to more complex assessments. In some cases this may involve a multidisciplinary approach.</p> <p>The range of audiological assessments available enables definition of degree and nature of hearing loss.</p>	<p>Accurate and complete assessment is required to inform decisions and discussions regarding support and management options [2][3][28][29][30][31][32].</p> <p>It is important to be able to assess hearing status in children who may have other social, educational and medical difficulties; a multidisciplinary approach will assist with this [2][28][29][33].</p> <p>Parental involvement and that of the child or young person where possible, in the assessment and</p>	<p>Comprehensive Assessment 2a.1. A comprehensive range of audiological assessments is available³, either in the local audiology department or by a pre-arranged referral pathway with an alternative service.</p> <p>2a.2. NBHSW <i>A comprehensive range of audiological assessments is available.</i></p>	<p>List of assessments available.</p> <p>Two cases studies demonstrating the spectrum of assessments undertaken (can be linked with 2b.1.)</p> <p><i>Three case histories of newborns with hearing loss</i></p> <p><i>Where cases selected by NBHSW do not show the full range of assessments, local team should identify further cases to provide additional evidence</i></p>

³ See Appendix 1

	<p>habilitation process improves outcomes [6][7][9][28][34][35][36].</p> <p>The quality of assessment is more likely to be assured if undertaken in accordance with nationally recommended procedures [29][32][37][38][39][40].</p> <p>Measures are compromised if not gathered using equipment calibrated to national and international standards and in a quiet test environment [37][38][40][41][42].</p>	<p>2a.3. All audiological procedures follow national standard/guidelines where these exist.</p>	<p>Access to National Standards/Guidelines either electronically, or via hard copy, within Department.</p> <p>Local protocols for activity outside the scope of the above.</p>
		<p>2a.4. NBHSW <i>All audiological procedures follow national standard/guidelines where these exist.</i></p>	<p><i>Departmental protocols for newborn diagnostic assessment.</i></p> <p><i>Access to National Standards/Guidelines for diagnostic assessment.</i></p>
		<p>2a.5. NBHSW <i>Participation in the national peer review process for NBHSW diagnostic assessments is demonstrated and is monitored locally.</i></p>	<p><i>Departmental record of sending assessment for peer review, and participating as peer reviewer, whilst adhering to defined timescales.</i></p> <p><i>Spreadsheet or patient management system entries related to peer review.</i></p>

		<p>Assessment Equipment and Conditions</p> <p>2a.6. All equipment is calibrated at least annually and documented to international standards.</p>	<p>List of equipment with calibration dates/log.</p> <p>Current calibration certificates.</p>
		<p>2a.7. Daily checks are carried out and documented, across all sites.</p>	<p>Log of Stage A checks for all equipment available.</p> <p>Audit of Stage A checks for all equipment over 4 week period, twice in year prior to audit.</p> <p>4 = ≥95%, 3 = 85-94%, 2 = 75-84%, 1 = 50-74%, 0 = <50%</p>

		<p>2a.8. Hearing tests are always carried out in acoustical conditions conforming to national and international standards⁴</p>	<p>Results of acoustic testing to demonstrate compliance with the acoustic requirement available for all facilities used for hearing assessment. Such ambient noise level measurements shall be made at a time when conditions are representative of those existing when audiometric tests are carried out, including operation of the air-conditioning/ heating system and lighting.</p> <p>4 = 100%, 3 = 90-99%, 2 = 80-89%, 1 = 75-79%, 0= <75%</p>
<p>2b. The assessment process should inform a clearly defined management plan.</p>	<p>Prompt, accurate and complete audiological information informs appropriate management, and amplification, as required [2][15][28][29][32][43][44].</p>	<p>Assessment Process 2b.1. All assessments are interpreted taking into account the developmental status of the child and any co-existing medical conditions.</p>	<p>Two case studies (can be the same as those used in 2a.1.)</p>
		<p>2b.2. NBHSW <i>All behavioural hearing assessments are interpreted taking into account the developmental status of the child and any co-existing medical conditions.</i></p>	<p><i>Three case histories of newborns with hearing loss</i></p> <p><i>When cases selected by NBHSW do not show the full range of assessments, local team should identify further cases</i></p>

⁴ See Appendix 2

			<i>to provide additional evidence.</i>
		<p>2b.3. Written local protocols exist which define appropriate management options arising from the assessment (such as decisions to refer, review or discharge).</p>	<p>Protocols/Care pathways</p> <p>Two case studies (can be the same as those used in 2a.1./2.b.1)</p>

Standard 3 Audiology Individual Management Plan (IMP)

Standard Statement	Rationale	Criteria	EVIDENCE OF COMPLIANCE This list contains examples that you may wish to include as evidence. You may have different forms of evidence to support your self assessment score.
<p>3a. An audiology Individual Management Plan (IMP)⁵ is:</p> <p>Developed for each neonate, infant, child or young person</p> <p>Agreed with parents and/or the child or young person.</p> <p>Updated on an ongoing basis.</p> <p>Accessible to the-team members involved with the child’s care.</p>	<p>An audiology IMP is required as each child needs to be treated as an individual case as circumstances, medical condition, audiological status and family needs will vary [28][29][31][34][39].</p>	<p>Developing an IMP 3a.1. The IMP includes an initial programme of audiological management (including provision of hearing aids where appropriate) and details of ongoing assessment as required.</p>	<p>Audit of 20 cases</p>
	<p>There is evidence that families value joint working as it avoids duplication and there is less conflict of information [13][14][15][16].</p>	<p>3a.2. NBHSW <i>The IMP includes an initial programme of audiological management (including provision of hearing aids where appropriate) and details of ongoing assessment as required.</i></p>	<p><i>Three IMPs for babies identified with hearing loss</i></p>
	<p>Parental involvement and that of the child or young person where possible improves outcomes [7][9][13][14][26][28][34][36].</p>	<p>Record of Service Provision 3a.3. The IMP includes, where appropriate, service provision from those currently involved with the child and family.</p>	<p>Audit of 20 cases</p>
	<p>Regular revision allows the management plan to be responsive to the child’s changing needs. It also gives the plan the flexibility to</p>	<p>Further IMP Documentation 3a.4.</p>	<p>Audit of 20 cases</p>

⁵ See Appendix 3

	incorporate additional information for the benefit of the child's management [10][28][29][31][45][46].	The IMP details any requirements families have for information, family support and practical advice.	
		3a.5. Any agreed needs are documented in the IMP and reviewed at subsequent appointments.	Audit of 20 cases
		3a.6. The IMP is circulated to parents, and members of the multi-agency team where appropriate, with the consent of the family.	Audit of 20 cases
		3a.7. The IMP follows the young person through transition and is available to the adult service.	Provision of copies of IMP for all Transition Cases during audit year

Standard 4 Hearing Aid Management, Selection, Verification and Evaluation

Standard Statement	Rationale	Criteria	EVIDENCE OF COMPLIANCE This list contains examples that you may wish to include as evidence. You may have different forms of evidence to support your self assessment score.
<p>4a. All newborns, infants, children and young people using hearing aids should have access to all aspects of services they require in a timely fashion.</p>	<p>When families wish to go ahead with early amplification, appropriate fitting of hearing aids, coupled with good multidisciplinary and family support lead to better outcomes for the child or young person [9][10][11][14][18].</p> <p>Well fitting earmoulds are essential if hearing aids are to work to specification [15][47][48][49].</p>	<p>Speed of Access 4a.1. All referrals for hearing aids are offered an appointment for fitting within 4 weeks of decision to aid, with the exception of mild, unilateral and temporary conductive hearing losses, where appointments can be offered within 6 weeks of decision to aid.</p>	<p>Audit of time between decision to aid and fitting of aid against 4/6 week target</p> <p>Data should cover 20 cases and include at least 5 cases of sensorineural loss</p>
	<p>Regular reviews allow monitoring of the newborn, infant, child or young person's progress, underlying hearing loss and use of hearing aid(s). Information obtained can be used to fine tune the aiding as required [10][28][29][31][43][45].</p>	<p>4a.2. NBHSW <i>All referrals for hearing aids for babies identified via NBHSW, are offered an appointment for fitting within 4 weeks of decision to aid.</i></p>	<p><i>Audit of all babies identified via NBHSW during audit year</i></p> <p><i>Audit Care Pathway forms for babies with identified hearing loss</i></p> <p><i>NBHSW database</i></p>
		<p>4a.3. Appointments for replacement earmoulds are within 2 working days of request, in at least one site in the area, unless delayed at young person/family request.</p>	<p>Audit of time from request to appointment offered against 2 day target. Data to cover range of ages, including under 2s.</p>

			Audit should cover 20 cases and include 5 children under 2 years of age
		4a.4. Appointments for hearing aid repair are within 2 working days of request, in at least one site in the area, unless delayed at young person/family request.	Audit time from request to appointment offered against 2 day target. Data to cover range of ages, including under 2s. Audit should cover 20 cases and include 5 children under 2 years of age
		4a.5. Services offer the option of drop-off/postal repairs.	Information leaflet/Departmental literature.
		4a.6. Children and families are offered regular reviews, appropriate to their age and hearing loss ⁶ .	Audit of frequency of reviews for children of different ages with a range of hearing losses. Audits should cover a range of hearing losses: 5 cases <2 years 5 cases 2-5 years 5 cases >5 years
4b.		Selection of Hearing Aids	

⁶ See Appendix 4

<p>The service is able to provide a variety of amplification devices, and features, suitable for the needs of the individual child.</p>	<p>Children need appropriate amplification to safely access sound [7][11][36][44][46][50].</p>	<p>4b.1. The type of amplification, and features employed, are selected based on the individual child’s needs.</p>	<p>4 case studies detailing features and type of aids to include: One child under 1 year of age One primary age child One secondary age child/transition case One case, where possible, with non-conventional aid eg. Bone conduction softband/ITE</p>
		<p>4b.2. The Department signposts children and families to environmental/assistive listening devices.</p>	<p>Information available in Department. Case studies showing information given/signposted to families.</p>
<p>4c. Where provision of hearing aid(s) is required, the service ensures:</p> <ul style="list-style-type: none"> • nationally agreed procedures and protocols are followed at a local level • performance of hearing aid(s) is carefully matched to individual requirements and settings are recorded. 	<p>Audiologists ensure that the aid is working to specification before fitting it to a child to provide optimum benefit [43][45][46][51][52].</p> <p>Professional bodies’ and national guidelines are followed to ensure provision meets the needs of the child [43][52].</p> <p>Evidence suggests that hearing aids are most effective when their performance is carefully matched to the requirements of the child</p>	<p>Verification of Hearing Aids 4c.1. Local protocols which comply with the latest professional bodies’ and national guidance⁷ are in operation concerning selection, fitting and verification of hearing aids.</p>	<p>Protocols</p>
		<p>4c.2. Verification of hearing aid performance is carried out using Real Ear Measurement (REM) or Real Ear to Coupler Difference (RECD) measurement unless clinically contraindicated for individual children⁸.</p>	<p>Audit to ensure use of REM/RECD to verify all hearing aid fittings/reviews.</p> <p>20 cases (covering initial fittings and also reviews) which should include all children under 2 years of age with initial</p>

⁷ See BAA, BSA and MCHAS Guidelines.

⁸ Explained whenever IMPs are completed and recorded in patient held records.

	[28][43][45][51].		fitting during audit year
		4c.3. Where REM/RECD is performed, measurements are made according to BSA/BAA recommended procedure.	Audit to ensure compliance to BSA/BAA protocols. 20 cases which should include all children under 2 years of age with initial fitting during audit year
		4c.4. Where REM/RECD measurements are performed, responses fall within recommended target tolerances, unless clinically contraindicated for individual children.	Audit to ensure compliance to BSA/BAA protocols. 20 cases which should include all children under 2 years of age with initial fitting during audit year
		4c.5. When REM/RECD is not attempted, completed or is contraindicated, an explanation is recorded in the IMP.	Audit 20 cases which should include all children under 2 years of age with initial fitting during audit year
4d. The effectiveness of amplification is assessed, and is recorded in the IMP.	The effectiveness of hearing aid fitting is best assessed using functional measures, and	Evaluation of Hearing Aid Fitting 4d.1. A range of outcome measures ⁹ are available to, and used by, the service.	List of outcome measures used by service.

⁹ See Appendix 5

	supplemented by the use of age-appropriate questionnaires and feedback from the family and wider team [28][34][36][43][45][52][53].		
		4d.2. Outcome measures are appropriately used to evaluate hearing aid fitting, and to guide further management.	2 Case studies/IMPs covering a range of evaluation tools, and identifying the effect on further management.

Standard 5 Skills and Expertise

Standard Statement	Rationale	Criteria	EVIDENCE OF COMPLIANCE This list contains examples that you may wish to include as evidence. You may have different forms of evidence to support your self assessment score.
<p>5a. Each audiology service demonstrates that they have the clinical competencies necessary to support the assessments and interventions they undertake.</p>	<p>Newborns, infants, children and young people who require ongoing health interventions must have access to high quality evidence based care, delivered by staff who have the right skills for diagnosis, assessment, treatment and ongoing care and support [6][27][29][31][32][54][55][56][57][58].</p> <p>Audiology departments have a duty of care to newborns, infants, children, young people and families and must ensure that assessments and interventions are delivered by appropriately trained, qualified and registered clinicians [27][29][30][31][55][58].</p> <p>Through the clinical governance framework, organisations can manage their accountability for maintaining high standards [4][27][29][31].</p> <p>Children’s audiology is a rapidly</p>	<p>Experienced, Trained and Qualified Staff 5a.1. All eligible, clinical staff working in Audiology are registered with a registration body¹⁰.</p>	<p>List of all staff including temporary, part time and locum Registration numbers Reasons for not registering</p>
		<p>5a.2. Staff in senior positions (Bands 7/8) are trained to post-graduate level, or have significant practical experience in paediatric audiology.</p>	<p>List of qualifications for all staff/documentated experience</p>
		<p>5a.3. NBHSW <i>Audiology staff carrying out neonatal assessments should have appropriate qualifications and training/experience for newborn/early years work.</i></p>	<p><i>Audiologists should provide evidence of post graduate, or equivalent, training</i></p>
		<p>Staff Competency 5a.4. Competency of staff performing all clinical procedures is verified by peer review or competency checks at least every 3 years. These are formally</p>	<p>Local procedure/process for peer review Peer review checklist for all procedures and/or appointment types, includes information given on results at</p>

¹⁰ This includes Clinical Scientists, Audiologists and locum staff.

	<p>changing field and clinical competency must, therefore, be maintained through continuing professional development [27][29][31][58].</p>	documented.	<p>time of appointment</p> <p>List of details/dates of completed peer reviews</p>
	<p>Peer review provides a useful approach to help ensure clinical competencies are maintained [59][60][61].</p>	<p>5.a.5 NBHSW <i>Competency of staff performing neonatal assessment activity is verified by competency checks at least every 3 years. These are formally documented.</i></p>	<p><i>Log of competency checks</i></p>
		<p>5a.6. There is a Departmental process for dealing with the outcome of peer review observations, and concerns regarding clinical practice at any other time.</p>	<p>Departmental policy.</p> <p>Local procedure/process for peer review includes dealing with findings.</p> <p>Action plans in place, linked to peer review observations, if necessary.</p>
		<p>5a.7. NBHSW <i>There is a Departmental process for acting on the outcomes of peer review of assessment (including the national peer review system)</i></p>	<p><i>Spreadsheet or other departmental documented process to review and act on peer review of diagnostic assessments.</i></p> <p><i>Action plans or lessons learnt from</i></p>

			<i>peer reviewed evidence.</i>
		5a.8. All staff assisting audiologists demonstrate competence in the roles performed.	Competency checks
		Continuing Professional Development 5a.9. All clinical staff participate in relevant CPD activity in line with professional guidance.	Local systems for ensuring staff attend and record CPD Discussions with staff during external audit visit
		5a.10. All Audiologists have regular training, and annual updates on, advances in paediatric audiology, hearing aid technology and assistive listening devices.	Record of training and attendance
		5a.11. NBHSW <i>All Audiologists performing neonatal assessments participate in relevant CPD activity, including regular training and annual updates specific to NBHSW.</i>	<i>Relevant CPD for Audiologists undertaking neonatal diagnostic assessment documented (to include attendance at Divisional Audiology Meetings and Training Day)</i>
		Deaf Awareness 5a.12. All staff employed within Audiology are deaf aware.	Staff training records (Deaf awareness training at Induction and then at least every 5 years). Evidence from complaints/satisfaction surveys with regards to deaf

			awareness, if arisen. Written policies. Staff CPD records.
--	--	--	--

Standard 6 Information Provision and Communication with Children, Young People and Families

Standard Statement	Rationale	Criteria	EVIDENCE OF COMPLIANCE This list contains examples that you may wish to include as evidence. You may have different forms of evidence to support your self assessment score.
<p>6a. Each service has in place processes and structures to facilitate communication with children, young people and families.</p> <p>Use of interpreters, and other interpreting services, should be in line with Health Board policy.</p>	<p>Newborns, infants, children, young people and families need clear and timely information to facilitate attendance and reduce anxiety [26][35][36][62][63].</p> <p>Families need to be aware of ways to contact departments and professionals working with the child or young person [29][31][35][58].</p>	<p>Written Information to Families Prior to Appointment 6a.1. Written information regarding the audiology appointment (directions or maps, parking facilities, appointment duration, procedures, facilities, desirable baby state) is provided as part of the appointment process.</p>	<p>Sample appointment letters Community and Hospital</p> <p>Additional sources of information eg. Website, appointment cards</p>
	<p>It is important that information is provided in an accessible and understandable format [15][31][35][36][62][63][64].</p>	<p>6a.2. NBHSW <i>NBHSW specific letter is provided as part of the appointment process</i></p>	<p><i>Current NBHSW assessment appointment letter in use</i></p>
	<p>Effective communication enables newborns, infants, children, young people and families to participate in the development of the IMP and Multi-Agency Support Plan (MASP) Standard 8, to understand</p>	<p>6a.3. Families are provided with appropriate methods to contact departments including phone numbers and either text or email.</p>	<p>Sample appointment letters Community and Hospital</p> <p>Additional sources of information eg. Website, appointment cards</p>

	information and make informed decisions [29][31][35][36][58][64].	<p>Information Given After Assessment</p> <p>6a.4. Children, young people and families receive verbal explanation of the audiological assessment results, and supporting literature if required, on the same day that the assessment is carried out.</p>	<p>Documentation in Journal/IMP of test results/explanation</p> <p>Protocol including statement that verbal results are given on day</p> <p>Can also be included in Competency check</p>
		<p>6a.5. NBHSW <i>Families receive verbal explanation of the neonatal hearing assessment results, and supporting literature, if required, on the same day that the assessment is carried out.</i></p>	<p><i>5 IMPs for NBHSW assessments including standard 'discharge' letters</i></p> <p><i>Patient management system entries</i></p>
		<p>6a.6. Children, young people and families are offered written information following appointments within 10 working days of the appointment¹¹.</p>	<p>Audit of letters/IMPs of time from appointment to distribution against 10 working day target</p> <p>20 cases</p>
		<p>6a.7. NBHSW <i>Following completion of newborn hearing assessment, families are offered written information within 10 working days of the appointment.</i></p>	<p><i>Audit of letters/reports against 10 working day target, on completion of NBHSW assessment, to include the 5 cases in Standard 6a.5. NBHSW will advise on the sample size required for</i></p>

¹¹ NDCS and NBHS Wales/Scotland provide a number of documents that can be used to support information regarding outcomes of assessments undertaken.

			<i>each audit cycle.</i>
		<p>6a.8. Children, young people and families are routinely given information on support services (when appropriate) to include educational sensory service as well as local and national voluntary support groups for deaf children and young people.</p>	4 IMPs or Case Studies to demonstrate information given.
		<p>6a.9. NBHSW <i>Families of babies identified with a hearing loss through NBHSW are routinely given information on support services (when appropriate) to include educational sensory service as well as local and national voluntary support groups for deaf children and young people.</i></p>	<i>3 letters/reports/IMPs for babies with hearing loss</i>
		<p>6a.10. Children, young people and families have access to information in their preferred language via the provision of translated material where possible.</p>	<p>Interpreter policy</p> <p>Evidence of use of interpreters, where required, eg. IMPs/Journal/Invoices</p> <p>Evidence of access to information leaflets in other languages</p>

		<p>6a.11. NBHSW <i>Families of babies referred by NBHSW have access to information in their preferred language via the provision of translated material where possible.</i></p>	<p><i>Evidence of interpreters used for neonatal assessment, where required, e.g. invoice, letter documenting interpreter present.</i></p> <p><i>Local policy/process for identifying families requiring interpreter support and arranging this.</i></p>
		<p>6a.12. Information is provided to young people on the transition process and future service provision.</p>	<p>Departmental policy Examples of information provided to young person</p>

Standard 7 Collaborative Working

Standard Statement	Rationale	Criteria	EVIDENCE OF COMPLIANCE This list contains examples that you may wish to include as evidence. You may have different forms of evidence to support your self assessment score.
<p>7a. Each Children’s Audiology service has in place processes and structures to ensure effective collaborative working within a multi-disciplinary team which includes each newborn, infant, child or young person, and his/her family.</p>	<p>Working as a team leads to more effective use of time and resources [65][66].</p> <p>Effective joint working avoids the need for families to repeat the same information with each new set of professionals [35][27][50].</p> <p>Information sharing within the team ensures that management and care plans reflect the current needs of the child or young person and their family [2][35][27][50].</p>	<p>Expertise Required in Multi-Agency Team 7a.1. Each audiology service works within a team of professionals with expertise in:</p> <ul style="list-style-type: none"> • children’s audiology • development of language and speech skills • medical aspects of audiology • child development and family support • educational support • Primary Care 	<p>List of members of collaborative team</p>
	<p>Team working increases the family’s confidence in the support offered and reduces anxiety [13][14][35].</p>	<p>Access to Other Specialist Services 7a.2. The multi-agency team, with child and parents or young person as central members, includes or has access to:</p> <ul style="list-style-type: none"> • education services (in particular teacher of the deaf) • specialist speech and language 	<p>Evidence of referral to other specialist services</p>

		<p>therapy</p> <ul style="list-style-type: none"> • children's otology • children's medicine • genetics • Cochlear Implant services • vision care • social work services • voluntary agencies • educational psychology services • Child and Adolescent Mental Health Services (CAMHS) 	
		<p>Co-ordination of the Collaborative Team 7a.3. Each collaborative team has defined written roles</p>	List of team members with their role
		<p>7a.4. A co-ordinator ensures that the team working with the child or young person, and the family, meet regularly</p>	Local protocol Evidence of regular collaborative team meetings/appointments with families eg. Planner
<p>7b. Each team has in place processes and structures to underpin effective collaborative working and communication within the team</p>	Sharing of information between agencies in a timely manner ensures that all involved are kept informed, enabling them to provide the most	<p>Information Updates for Referrer and Other Relevant Professionals 7b.1. Results of audiological assessments are reported to the referrer and any</p>	Examples of reports/letters/IMP

and with outside agencies and services.	appropriate support to the child, young person and family [2][29][31][50][58].	other relevant professionals	
		7b.2. NBHSW <i>Results of neonatal hearing assessments are reported to the referrer and other relevant professionals/family</i>	<i>NBHSW will advise on the sample size required for each audit cycle but to include the 5 cases in Standard 6a.5.</i>
		7b.3. Reports are distributed to relevant professionals within 10 working days of the assessment.	Audit against 10 day target for distribution 20 cases
		7b.4. NBHSW <i>Reports are distributed to relevant professionals within 10 working days of completion of the neonatal hearing assessment.</i>	<i>Audit against 10 day target for distribution of letters/reports to include the 5 cases in Standard 6a.5. NBHSW will advise on the sample size required for each audit cycle.</i>
		7b.5. Non attendance is reported to the referrer, parent, and appropriate professionals e.g. GP, HV, Child Health, in accordance with local guidelines/protocols.	Local protocol Audit of DNAs and to whom reports are distributed 20 cases
		7b.6. NBHSW <i>Non attendance for newborn hearing assessment is reported in accordance with NBHSW guidelines</i>	<i>All DNA assessments over past 12 months</i>

		<p>Liaison With Other Services 7b.7. When Audiology refers families to other agencies and services, there is ongoing sharing of information by audiology.</p>	3 case studies
		<p>7b.8. Feedback from other agencies is used to inform the Audiology IMP.</p>	3 case studies
<p>7c. Each service has a major role in facilitating, and providing input to, the development and ongoing review of a Multi-Agency Support Plan (MASP)¹²¹³ for each newborn, infant, child and young person who has an ongoing significant¹⁴ hearing loss.</p> <p>The MASP takes into account the individual needs and views of the newborn, infant, child or young person and family and is clear, coordinated and flexible.</p>	<p>When a number of different services work with a family, the MASP ensures that individual components of the plan are understood in relation to one another and, more importantly, in relation to the overall aims and wishes of the family [2][29][31][50][58].</p> <p>MASPs encourage:</p> <ul style="list-style-type: none"> joint holistic discussions of an individual newborn, infant, child or young person’s needs 	<p>MASP Development 7c.1. Audiology initiate, and offer, the first multi-agency meeting, for pre-schoolers, with the family within 3 months of confirmation of a significant hearing loss.</p> <p>7c.2. Audiology provide input to the initial, and subsequent, MASPs.</p> <p>7c.3. Audiology meet the agreed actions of a MASP.</p>	<p>Audit of diagnosis to first collaborative meeting within 3 month target</p> <p>All cases over past year</p> <p>Examples of MASPs</p> <p>Examples of MASPs</p>

¹² May have different names in different areas, e.g. Team Around the Child

¹³ Information about the Multi Agency Support Plan can be found in Appendix 6

¹⁴ “Significant” hearing loss is not defined solely by the hearing level, but this must be considered alongside any other medical, developmental or social problems.

<p>The responsibility for the MASP for school age children and young people usually lies with the Local Education Authority.</p> <p>Children with complex needs may require a health led MASP in conjunction with the Local Education Authority throughout their childhood.</p>	<ul style="list-style-type: none"> • agreement of priorities • engagement with and involvement of the family • regular reviews of any support that is being provided, resulting in improved quality of ongoing care <p>Regular revision allows the MASP to be responsive to the newborn, infant, child or young person’s changing needs. It also gives the plan the flexibility to incorporate additional information for the benefit of the child or young person’s management [10][28][29][31][58].</p>	<p>MASP for School Age Children 7c.4 Audiology Services provide information to Education for School Age Children when requested.</p>	<p>Copies of reports sent/information provided.</p> <p>10 cases</p>
---	--	---	---

Standard 8 Service Improvement

Standard Statement	Rationale	Criteria	EVIDENCE OF COMPLIANCE This list contains examples that you may wish to include as evidence. You may have different forms of evidence to support your self assessment score.
<p>8a. Each service has processes in place to measure service quality.</p> <p>Quality measures are used to plan and implement service improvements.</p>	<p>Measurement of qualitative and quantitative data helps to inform ongoing service improvement [4][13][15][17][56][58][67].</p>	<p>Service Satisfaction and Monitoring 8a.1. The Audiology service, surveys service user views, including the views of children/young people where possible, at least every two years, or sooner if significant changes are made in service provision.¹⁵</p>	<p>Report(s) of consultation/questionnaires produced and action plan implemented.</p>
		<p>8a.2. NBHSW <i>The Audiology service surveys the views of parents of children with a hearing loss every three years.</i></p>	<p><i>Survey of view of parents of children with hearing loss</i></p>
		<p>8a.3. The Audiology service seeks the views of Stakeholders at least every five years.</p>	<p>Report(s) of consultation/questionnaires produced and action plan implemented.</p>
		<p>8a.4. Results of surveys and QRT scores,</p>	<p>Evidence of dissemination</p>

¹⁵ See Appendix 7 for example satisfaction questionnaire

		and outcomes, are made widely available	
		<p>8a.5. Using all of the information gathered above, and the outputs of the Quality Standards visit, an ongoing programme of service improvement, is in place.</p>	<p>Service Improvement Plan.</p> <p>Direct discussions with staff during external audit visit.</p> <p>Timescales for implementation of service improvements, where appropriate.</p>
<p>8b. Each Audiology service actively participates in the local Children's Hearing Services Working Group (CHSWG)¹⁶</p>	<p>Close working with parents and young people as well as across organisations will lead to improved services for deaf newborns, infants, children, young people and their families [29][31][34][35][54][58].</p> <p>Effective recruitment to CHSWGs will ensure appropriate representation for the child and family, and demonstrates a truly inclusive approach.</p> <p>CHSWGs can ensure that all children's and young people's hearing services remain high on the agenda of those responsible for</p>	<p>8b.1. A local CHSWG exists.</p>	<p>Local Terms of Reference Document</p> <p>Minutes of CHSWG meetings</p>
		<p>8b.2. The local CHSWG meets at least 6 monthly.</p>	<p>Minutes of CHSWG meetings</p>
		<p>8b.3. Audiology services participate in the local CHSWG.</p>	<p>Minutes of CHSWG meetings</p>
		<p>8b.4. Audiology ensures that the outcomes of Quality Standards and satisfaction surveys are reported to CHSWG.</p>	<p>Minutes of CHSWG meetings</p>

¹⁶ See Appendix 8

	planning and delivering services at a strategic level. They can offer advice and guidance to ensure high quality services are available.	8b.5. NBHSW <i>NBHSW is a standing agenda item at CHSWG.</i>	<i>Minutes of CHSWG meetings</i>
--	--	--	----------------------------------

Standard 9 The Wider Care of the Child

This standard reflects the wider team involvement of children and young people with hearing loss.

As many aspects of this standard are not under the control of Audiology Services, it will not be included in the overall Service score for Standards 1 to 8, but will be reported on separately.

Standard Statement	Rationale	Criteria	EVIDENCE OF COMPLIANCE This list contains examples that you may wish to include as evidence. You may have different forms of evidence to support your self assessment score.
<p>9a. All newborns, infants, children and young people are offered referral for appropriate aetiological investigations as part of their ongoing management.</p>	<p>The outcome of aetiological investigations, as part of the ongoing management, may lead to a better understanding and management of not only the hearing loss but also the whole child. It may also provide an opportunity to identify co-existing medical conditions and prevent further deterioration of these and the hearing loss in some cases [2][21][29].</p>	<p>Aetiological Investigations 9a.1. Local referral pathways from Audiology are in place regarding aetiological investigations for children with hearing loss.</p>	<p>Local pathways</p>
		<p>9a.2. Local guidelines, which reflect national guidelines, are in place regarding aetiological investigations for hearing loss.</p>	<p>Local guidelines</p>
		<p>9a.3. Aetiological investigations are offered, and carried out, in line with local and national guidelines.</p>	<p>5-10 case studies</p>

<p>9b. Each collaborative team demonstrates that within their team they have the clinical competencies necessary to support the assessments and interventions they undertake and to provide support and guidance for the newborns, infants, children, young people, their families and other involved professionals.</p>	<p>Newborns, infants, children and young people who require ongoing management and support must have access to high quality evidence based care, delivered by staff who have the right skills for the service they are providing [27][29][31][54][56][58].</p> <p>Health, education and social services have a duty of care to children, young people and families and must ensure that assessment, interventions and support are delivered by appropriately trained, qualified and registered individuals [27][29][31][56][58].</p> <p>Families are informed about different communication options and are supported in their chosen mode of communication [29][31][50][58].</p> <p>Through the clinical governance framework, organisations can manage their accountability for maintaining high standards [4][27][29][31].</p> <p>Paediatric audiology is a rapidly changing field and clinical competency must, therefore, be maintained through continuing professional development</p>	<p>Skills and Expertise 9b.1. All staff working within the collaborative team have appropriate qualifications, training and expertise for their role.</p> <p>9b.2. NBHSW <i>All medical staff working within the collaborative team have appropriate qualifications, training, expertise and competence for newborn/early years work.</i></p> <p>9b.3. The team informs the family about all communication options and supports the family to achieve an informed choice.</p>	<p>List of members of collaborative team</p> <p>Medics have specific experience/relevant training in medical aspects related to newborns and early years</p> <p><i>Medics should provide evidence of post graduate training, or equivalent competencies in medical paediatric audiology specific to newborn assessment</i></p> <p>Examples of cases showing discussion of communication options and support provided where required.</p>
---	--	---	--

	[27][29][31][58].		
<p>9c. All members of the collaborative team have a role in facilitating, and providing input to, the development and ongoing review of a Multi-Agency Support Plan (MASP)¹⁷ for each newborn, infant, child and young person who has an ongoing significant¹⁸ hearing loss. The MASP takes into account the individual needs and views of the newborn, infant, child or young person and family and is clear, coordinated and flexible.</p> <p>The responsibility for the MASP for pre-school children lies with the Health Service.</p> <p>The responsibility for the MASP for school age children and young people is agreed locally.</p> <p>Children with complex needs may require a health led MASP in</p>	<p>When a number of different services work with a family, the MASP ensures that individual components of the plan are understood in relation to one another and, more importantly, in relation to the overall aims and wishes of the family [2][29][31][50][58].</p> <p>MASPs encourage:</p> <ul style="list-style-type: none"> • joint holistic discussions of an individual child or young person’s needs • agreement of priorities • engagement with and involvement of the family • regular reviews of any support that is being provided, resulting in improved quality of ongoing care <p>Regular revision allows the MASP to be responsive to the newborn, infant,</p>	<p>Multi-Agency Support Plan (MASP)¹⁹ MASP Development 9c.1. The MASP is informed by the information gathered throughout the multi-agency assessment phase.</p>	Copies of 5 MASPs
		<p>9c.2. There are agreed processes in place to enable the MASP to be in place within 3 months of confirmation of a significant hearing loss.</p>	Protocols/pathways
		<p>The MASP Team – Collective Responsibilities 9c.3. A MASP meeting is offered at least 6 monthly for pre-school children.</p>	Audit of meetings offered for all pre-school children attending over past year
		<p>9c.4. There are recognised and agreed pathways for multi-agency review of school-age children.</p>	Pathways Examples of local practice

¹⁷ See Appendix 6 for further information regarding Multi-Agency Support Plans

¹⁸ “Significant” hearing loss is not defined solely by the hearing level, but this must be considered alongside any other medical, developmental or social problems

¹⁹ May be known by different names in different areas, e.g. Team Around the Child

<p>conjunction with the Local Education Authority throughout their childhood.</p>	<p>child or young person’s changing needs. It also gives the plan the flexibility to incorporate additional information for the benefit of the child or young person’s management [10][28][29][31][58].</p>	<p>The MASP Team – Individual Responsibilities 9c.5. Each agency undertakes the more detailed assessments and information gathering necessary to complete the clinical, educational and social input to the MASP. During this process information is shared with all members of the MASP team.</p>	<p>Copies of 5 MASPs</p>
		<p>Content of MASP 9c.6. The MASP includes details of service provision from those currently involved with the child / young person and family.</p>	<p>Copies of 5 MASPs</p>
		<p>9c.7. The MASP details any identified needs (desired outcomes) for the child /young person and family including agreed actions with responsible individuals and timescales recorded.</p>	<p>Copies of 5 MASPs</p>
		<p>9c.8. The MASP will be reviewed and updated regularly</p>	<p>Copies of 5 MASPs</p>

		9c.9. The MASP is circulated to all members of the collaborative team including the family.	Copies of 5 MASPs
--	--	---	-------------------

Bibliography and Reference List

Bibliography

General Overarching Documents:

Equality Act. 2010. London: HMSO.

THE SCOTTISH GOVERNMENT, 2012. *A Guide to Getting it Right for Every Child* [online]. Edinburgh: The Scottish Government. Available from: <http://www.gov.scot/resource/0042/00423979.pdf>

NDCS., 2013. *Audiology Service Provision in the UK* [online]. London: NDCS. Available from: http://www.ndcs.org.uk/about_us/ndcs_policies_and_position_statements/index.html

THE SCOTTISH GOVERNMENT, 2013. *Supporting Young People's Health & Wellbeing -A Summary of Scottish Government Policy*. Edinburgh: The Scottish Government.

THE SCOTTISH GOVERNMENT, 2013. *See Hear: A strategic framework for meeting the needs of people with a sensory impairment in Scotland*. Edinburgh: The Scottish Government.

NHS WALES, 2013. *All Wales Standards for Accessible Communication and Information for People with Sensory Loss*. Wales: NHS Wales. Available from: <http://gov.wales/topics/health/publications/health/guidance/standards/?lang=en>

Children and Young People (Scotland) Act. 2014. Norwich: TSO.

Public Bodies (Joint Working) (Scotland) Act. 2014. Norwich: TSO.

BRADLEY, P. and WILSON, A., 2014. *Achieving prudent healthcare in NHS Wales (revised)*. Cardiff: Public Health Wales.

Skills and Expertise:

DEPARTMENT OF HEALTH, 2004. *The NHS Knowledge and Skills Framework and the Development Review Process*. London: Department of Health Publications.

HCPC., 2014. *Standards of proficiency - Clinical scientists* [online]. London: HCPC. Available from:
http://www.hcpc-uk.org/assets/documents/1000050AStandards_of_Proficiency_Clinical_Scientists.pdf.

CLINICAL STANDARDS GROUP BRITISH ASSOCIATION OF AUDIOLOGICAL PHYSICIANS, 2011. *Clinical standards. Setting standards to improve care for patients with hearing and balance disorders* [online]. London: BAAP. Available from:
<http://www.baap.org.uk/Portals/0/Content/Documents/stories/baapcs.pdf>

Neonatal Services:

HARDING, J. 2013. *Report on Quality-Assuring the NBHSWW Peer Review Process, 2012*. Wales: NBHSWW. Available from:
<http://www.newbornhearingscreening.wales.nhs.uk/>

SCREENING DIVISION OF PUBLIC HEALTH WALES, 2015. *Newborn Hearing Screening Wales. Annual Performance Results 2013-14* [online]. Wales: Public Health Wales. Available from:
<http://www.newbornhearingscreening.wales.nhs.uk/>

Transition Services:

NDCS., 2011. *Quality Standards: Transition from paediatric to adult audiology services*. London: NDCS.

DEPARTMENT FOR CHILDREN, SCHOOLS AND FAMILIES (DCSF) AND

DEPARTMENT OF HEALTH (DH), 2007. *A Transition Guide for all Services. Key Information for Professionals about the Transition Process for Disabled Young People*. Nottingham: DCSF Publications.

Wider Care of the Child:

The Social Services and Well-being (Wales) Act. 2014. Wales: National Assembly for Wales. Available from: <http://gov.wales/legislation>

Draft Additional Learning Needs and Education Tribunal (Wales) Bill, 2015. Wales: National Assembly for Wales. Available from: <http://gov.wales/consultations>

WELSH GOVERNMENT, 2014. *Qualified for Life*. Cardiff: Welsh Government. Available from: <http://gov.wales/topics/education>

DONALDSON, G. 2015. *Successful Futures: Independent Review of Curriculum and Assessment Arrangements in Wales*. Cardiff: Welsh Government. Available from: <http://gov.wales/topics/education>

Paediatric Quality Standards Reference List

[1] MASON, C.A., GAFFNEY, M., GREEN, D.R. and GROSSE, S.D., 2008. Measures of follow-up in early hearing detection and intervention programs: a need for standardization. *American Journal of Audiology*. Jun, vol. 17, no. 1, pp. 60-67.

[2] HARLOR, A.D.,JR, BOWER, C., COMMITTEE ON PRACTICE AND AMBULATORY MEDICINE and SECTION ON OTOLARYNGOLOGY-HEAD AND NECK SURGERY, 2009. Hearing assessment in infants and children: recommendations beyond neonatal screening. *Pediatrics*, vol. 124, no. 4, pp. 1252-1263.

[3] MUNOZ, K., NELSON, L., GOLDGEWICHT, N. and ODELL, D., 2011. Early hearing detection and intervention: diagnostic hearing assessment practices. *American Journal of Audiology*. Dec, vol. 20, no. 2, pp. 123-131.

[4] DEEM, K.C., DIAZ-ORDAZ, E.A. and SHINER, B., 2012. Identifying quality improvement opportunities in a universal newborn hearing screening program. *Pediatrics*. Jan, vol. 129, no. 1, pp. e157-64.

[5] YOSHINAGA-ITANO, C., 2003. Early intervention after universal neonatal hearing screening: impact on outcomes. *Mental Retardation and Developmental Disabilities Research Reviews*. vol. 9, no. 4, pp. 252-266.

- [6] WATKIN, P., MCCANN, D., LAW, C., MULLEE, M., PETROU, S., STEVENSON, J., WORSFOLD, S., YUEN, H.M. and KENNEDY, C., 2007. Language ability in children with permanent hearing impairment: the influence of early management and family participation. *Pediatrics*. Sep, vol. 120, no. 3, pp. e694-701.
- [7] SININGER, Y.S., GRIMES, A. and CHRISTENSEN, E., 2010. Auditory development in early amplified children: factors influencing auditory-based communication outcomes in children with hearing loss. *Ear and Hearing*. Apr, vol. 31, no. 2, pp. 166-185.
- [8] PIMPERTON, H. and KENNEDY, C.R., 2012. The impact of early identification of permanent childhood hearing impairment on speech and language outcomes. *Archives of Disease in Childhood*. Jul, vol. 97, no. 7, pp. 648-653.
- [9] FULCHER, A., PURCELL, A.A., BAKER, E. and MUNRO, N., 2012. Listen up: children with early identified hearing loss achieve age-appropriate speech/language outcomes by 3 years-of-age. *International Journal of Pediatric Otorhinolaryngology*. Dec, vol. 76, no. 12, pp. 1785-1794.
- [10] CHING, T.Y., DAY, J., SEETO, M., DILLON, H., MARNANE, V. and STREET, L., 2013. Predicting 3-year outcomes of early-identified children with hearing impairment. *B-Ent*. vol. Suppl 21, pp. 99-106.
- [11] TOMBLIN, J.B., OLESON, J.J., AMBROSE, S.E., WALKER, E. and MOELLER, M.P., 2014. The influence of hearing aids on the speech and language development of children with hearing loss. *JAMA Otolaryngology-- Head & Neck Surgery*. May, vol. 140, no. 5, pp. 403-409.
- [12] YOUNG, A. and TATTERSALL, H., 2007. Universal newborn hearing screening and early identification of deafness: parents' responses to knowing early and their expectations of child communication development. *Journal of Deaf Studies and Deaf Education*. Spring, vol. 12, no. 2, pp. 209-220.
- [13] FITZPATRICK, E., COYLE, D.E., DURIEUX-SMITH, A., GRAHAM, I.D., ANGUS, D.E. and GABOURY, I., 2007. Parents' preferences for services for children with hearing loss: a conjoint analysis study. *Ear and Hearing*. Dec, vol. 28, no. 6, pp. 842-849.
- [14] FITZPATRICK, E., ANGUS, D., DURIEUX-SMITH, A., GRAHAM, I.D. and COYLE, D., 2008. Parents' needs following identification of childhood hearing loss. *American Journal of Audiology*. Jun, vol. 17, no. 1, pp. 38-49.
- [15] MCCRACKEN, W., YOUNG, A. and TATTERSALL, H., 2008. Universal newborn hearing screening: parental reflections on very early audiological management. *Ear and Hearing*. Jan, vol. 29, no. 1, pp. 54-64.

- [16] DANHAUER, J.L., PECILE, A.F., JOHNSON, C.E., MIXON, M. and SHARP, S., 2008. Parents' compliance with and impressions of a maturing community-based early hearing detection and intervention program: an update. *Journal of the American Academy of Audiology*. Sep, vol. 19, no. 8, pp. 612-629.
- [17] JACKSON, C.W., WEGNER, J.R. and TURNBULL, A.P., 2010. Family quality of life following early identification of deafness. *Language, Speech, and Hearing Services in Schools*. Apr, vol. 41, no. 2, pp. 194-205.
- [18] CHING, T.Y. and DILLON, H., 2013. Major findings of the LOCHI study on children at 3 years of age and implications for audiological management. *International Journal of Audiology*. Dec, vol. 52 Suppl 2, pp. S65-8.
- [19] SIMPSON, S.A., THOMAS, C.L., VAN DER LINDEN, M.K., MACMILLAN, H., VAN DER WOUDE, J.C. and BUTLER, C., 2007. Identification of children in the first four years of life for early treatment for otitis media with effusion. *The Cochrane Database of Systematic Reviews*. Jan 24, vol. (1), no. 1, pp. CD004163.
- [20] ZUMACH, A., GERRITS, E., CHENAULT, M. and ANTEUNIS, L., 2010. Long-term effects of early-life otitis media on language development. *Journal of Speech, Language, and Hearing Research : JSLHR*. Feb, vol. 53, no. 1, pp. 34-43.
- [21] LANG-ROTH, R., 2014. Hearing impairment and language delay in infants: Diagnostics and genetics. *GMS Current Topics in Otorhinolaryngology, Head and Neck Surgery*. Dec 1, vol. 13, pp. Doc05.
- [22] DOH., 2008. *Transition: moving on well*. London: Department of Health.
- [23] ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH, 2008. *Think Transition: Developing the essential link between paediatric and adult care*. Edinburgh: Royal College of Physicians in Edinburgh.
- [24] NDCS, 2011. *Quality Standards: Transition from paediatric to adult audiology services*. London: NDCS.
- [25] AMERICAN ACADEMY OF PEDIATRICS, AMERICAN ACADEMY OF FAMILY PHYSICIANS, AMERICAN COLLEGE OF PHYSICIANS, TRANSITIONS CLINICAL REPORT AUTHORIZING GROUP, COOLEY, W.C. and SAGERMAN, P.J., 2011. Supporting the health care transition from adolescence to adulthood in the medical home. *Pediatrics*, vol. 128, no. 1, pp. 182-200.

- [26] O'NEIL, M.E., COSTIGAN, T.E., GRACEY, E.J. and WELLS, N., 2009. Parents' perspectives on access to rehabilitation services for their children with special healthcare needs. *Pediatric Physical Therapy : The Official Publication of the Section on Pediatrics of the American Physical Therapy Association*, vol. 21, no. 3, pp. 254-260.
- [27] SHULMAN, S., BESCULIDES, M., SALTZMAN, A., IREYS, H., WHITE, K.R. and FORSMAN, I., 2010. Evaluation of the universal newborn hearing screening and intervention program. *Pediatrics*. vol. 126 Suppl 1, pp. S19-27.
- [28] BAGATTO, M.P., MOODIE, S.T., MALANDRINO, A.C., RICHERT, F.M., CLENCH, D.A. and SCOLLIE, S.D., 2011. The University of Western Ontario Pediatric Audiological Monitoring Protocol (UWO PedAMP). *Trends in Amplification*. Mar-Jun, vol. 15, no. 1, pp. 57-76.
- [29] AMERICAN ACADEMY OF PEDIATRICS, JOINT COMMITTEE ON INFANT HEARING, 2007. Year 2007 position statement: Principles and guidelines for early hearing detection and intervention programs. *Pediatrics*. Oct, vol. 120, no. 4, pp. 898-921.
- [30] AMERICAN ACADEMY OF AUDIOLOGY 2012. *Audiologic Guidelines for the Assessment of Hearing in Infants and Young Children*. Available from:
<http://www.audiology.org/publications-resources/document-library/pediatric-diagnostics>
- [31] JOINT COMMITTEE ON INFANT HEARING OF THE AMERICAN ACADEMY OF PEDIATRICS, MUSE, C., HARRISON, J., YOSHINAGA-ITANO, C., GRIMES, A., BROOKHOUSER, P.E., EPSTEIN, S., BUCHMAN, C., MEHL, A., VOHR, B., MOELLER, M.P., MARTIN, P., BENEDICT, B.S., SCOGGINS, B., CRACE, J., KING, M., SETTE, A. and MARTIN, B., 2013. Supplement to the JCIH 2007 position statement: principles and guidelines for early intervention after confirmation that a child is deaf or hard of hearing. *Pediatrics*. Apr, vol. 131, no. 4, pp. e1324-49.
- [32] NORRIX, L.W., 2015. Hearing Thresholds, Minimal Response Levels, and Cross-check Measures in Pediatric Audiology. *American Journal of Audiology*. Mar 10.
- [33] WATKIN, P.M. and BALDWIN, M., 2011. Identifying deafness in early childhood: requirements after the newborn hearing screen. *Archives of Disease in Childhood*. Jan, vol. 96, no. 1, pp. 62-66.
- [34] UMANSKY, A.M., JEFFE, D.B. and LIEU, J.E., 2011. The HEAR-QL: quality of life questionnaire for children with hearing loss. *Journal of the American Academy of Audiology*. Nov-Dec, vol. 22, no. 10, pp. 644-653.

- [35] ELEWEKE, C.J., GILBERT, S., BAYS, D. and AUSTIN, E., 2008. Information about support services for families of young children with hearing loss: A review of some useful outcomes and challenges. *Deafness & Education International*. vol. 10, no. 4, pp. 190-212.
- [36] MOELLER, M.P., HOOVER, B., PETERSON, B. and STELMACHOWICZ, P., 2009. Consistency of hearing aid use in infants with early-identified hearing loss. *American Journal of Audiology*. Jun, vol. 18, no. 1, pp. 14-23.
- [37] HYDE, M., 2008. *Audiological Assessment Protocol and Support Documentation*. Ontario: Infant Hearing Program.
- [38] NHSP CLINICAL GROUP. 2013. *Guidelines for the early audiological assessment and management of babies referred from the Newborn Hearing Screening Programme Version 3.1*. UK: The British Society of Audiology.
- [39] AMERICAN SPEECH-LANGUAGE-HEARING ASSOCIATION, 2014. *Permanent Childhood Hearing Loss* [online]. USA: ASHA. Available from:
<http://www.asha.org/Practice-Portal/Clinical-Topics/Permanent-Childhood-Hearing-Loss/>
- [40] BRITISH SOCIETY OF AUDIOLOGY. 2014. Recommended procedure: visual reinforcement audiometry. UK: The British Society of Audiology. Available from:
http://www.thebsa.org.uk/wpcontent/uploads/2014/04/BSA_VRA_24June2014_Final.pdf.
- [41] FONSECA, S., FORSYTH, H. and NEARY, W., 2005. School hearing screening programme in the UK: practice and performance. *Archives of Disease in Childhood*. Feb, vol. 90, no. 2, pp. 154-156.
- [42] HALLORAN, D.R., HARDIN, J.M. and WALL, T.C., 2009. Validity of pure-tone hearing screening at well-child visits. *Archives of Pediatrics & Adolescent Medicine*. Feb, vol. 163, no. 2, pp. 158-163.
- [43] FEIRN, R., WOOD, S., SUTTON, G., BOOTH, R., MEREDITH, R., BRENNAN, S. and LIGHTFOOT, G., 2014. *Guidelines for Fitting Hearing Aids to Young Infants. Version 2.0*. Manchester: The University of Manchester.
- [44] DURIEUX-SMITH, A., FITZPATRICK, E. and WHITTINGHAM, J., 2008. Universal newborn hearing screening: a question of evidence. *International Journal of Audiology*. Jan, vol. 47, no. 1, pp. 1-10.

- [45] ZHENG, Y., LI, G., MENG, Z.L., XU, K., TAO, Y., WANG, K. and SOLI, S.D., 2012. Outcome assessment alternatives for young children during the first 12 months after pediatric hearing-aid fittings. *International Journal of Audiology*. Nov, vol. 51, no. 11, pp. 846-855.
- [46] MCCREERY, R.W., BENTLER, R.A. and ROUSH, P.A., 2013. Characteristics of hearing aid fittings in infants and young children. *Ear and Hearing*. Nov-Dec, vol. 34, no. 6, pp. 701-710.
- [47] BAMFORD, J., SKIPP, A., HOSTLER, M., DAVIS, A., BARTON, G. and SITHOLE, J., 2004. *MHAS-P Final Report Volume 1: Studies, results and guidelines*. Manchester: University of Manchester.
- [48] MCKAY, S., GRAVEL, J.S. and THARPE, A.M., 2008. Amplification considerations for children with minimal or mild bilateral hearing loss and unilateral hearing loss. *Trends in Amplification*. Mar, vol. 12, no. 1, pp. 43-54.
- [49] CAPORALI, S.A., SCHMIDT, E., ERIKSSON, A., SKOLD, B., POPECKI, B., LARSSON, J. and AURIEMMO, J., 2013. Evaluating the physical fit of receiver-in-the-ear hearing aids in infants. *Journal of the American Academy of Audiology*. Mar, vol. 24, no. 3, pp. 174-191.
- [50] BENEDICT, R.E. and BAUMGARDNER, A.M., 2009. A population approach to understanding children's access to assistive technology. *Disability and Rehabilitation*. vol. 31, no. 7, pp. 582-592.
- [51] RISSATTO, M.R. and NOVAES, B.C., 2009. Hearing aids in children: the importance of the verification and validation processes. *Pro-Fono: Revista De Atualizacao Cientifica*. Apr-Jun, vol. 21, no. 2, pp. 131-136.
- [52] KING, A.M., 2010. The national protocol for paediatric amplification in Australia. *International Journal of Audiology*. Jan, vol. 49 Suppl 1, pp. S64-9.
- [53] MORET, A.L., BEVILACQUA, M.C., MELO, T.M., MONDELLI, M.F., MARTINEZ, M.A., CRUZ, A.D. and JACOB, R.T., 2013. Questionnaires on satisfaction of amplification in children: a systematic review. *Codas*. vol. 25, no. 6, pp. 584-587.
- [54] KASSINI, I., 2008. Professionalism and coordination: allies or enemies? *American Annals of the Deaf*. Summer, vol. 153, no. 3, pp. 309-313.
- [55] MCCARTHY, M., MUNOZ, K. and WHITE, K.R., 2010. Teleintervention for infants and young children who are deaf or hard-of-hearing. *Pediatrics*. Aug, vol. 126 Suppl 1, pp. S52-8.

- [56] GILBEY, P., 2010. Qualitative analysis of parents' experience with receiving the news of the detection of their child's hearing loss. *International Journal of Pediatric Otorhinolaryngology*. Mar, vol. 74, no. 3, pp. 265-270.
- [57] KAF, W.A. and STRONG, E.C., 2011. The promise of service learning in a pediatric audiology course on clinical training with the pediatric population. *American Journal of Audiology*. Dec, vol. 20, no. 2, pp. S220-32.
- [58] YOSHINAGA-ITANO, C., 2014. Principles and guidelines for early intervention after confirmation that a child is deaf or hard of hearing. *Journal of Deaf Studies and Deaf Education*. Apr, vol. 19, no. 2, pp. 143-175.
- [59] AUSTIN, Z., MARINI, A., MACLEOD GLOVER, N. and TABAK, D. 2006. Peer-mentoring workshop for continuous professional development. *American Journal of Pharmaceutical Education*, vol. 70, no. 5, pp.117.
- [60] EDWARDS, M.T. 2011. The objective impact of clinical peer review on hospital quality and safety. *American Journal of Medical Quality*, vol. 26, no. 2, pp.110-119.
- [61] MEEKS, D.W., MEYER, A.N., ROSE, B., WALKER, Y.N. and SINGH, H., 2014. Exploring new avenues to assess the sharp end of patient safety: an analysis of nationally aggregated peer review data. *BMJ Quality & Safety*. Dec, vol. 23, no. 12, pp. 1023-1030.
- [62] WATERMEYER, J., KANJI, A. and COHEN, A., 2012. Caregiver recall and understanding of paediatric diagnostic information and assessment feedback. *International Journal of Audiology*. Dec, vol. 51, no. 12, pp. 864-869.
- [63] BASTOS, B.G. and FERRARI, D.V., 2014. Babies' portal website hearing aid section: assessment by audiologists. *International Archives of Otorhinolaryngology*. Oct, vol. 18, no. 4, pp. 338-346.
- [64] DECKER, K.B., VALLOTTON, C.D. and JOHNSON, H.A., 2012. Parents' communication decision for children with hearing loss: sources of information and influence. *American Annals of the Deaf*. Fall, vol. 157, no. 4, pp. 326-339.
- [65] YOUNG, A., MCCRACKEN, W., TATTERSALL, H. and BAMFORD, J., 2005. Interprofessional working in the context of newborn hearing screening: Education and Social Services compare challenges. *Journal of Interprofessional Care*. Aug, vol. 19, no. 4, pp. 386-395.

- [66] BACHMANN, M.O., O'BRIEN, M., HUSBANDS, C., SHREEVE, A., JONES, N., WATSON, J., READING, R., THOBURN, J., MUGFORD, M. and National Evaluation of Children's Trusts Team, 2009. Integrating children's services in England: national evaluation of children's trusts. *Child: Care, Health and Development*. Mar, vol. 35, no. 2, pp. 257-265.
- [67] PERSAUD, R.A., RENNIE, C.E., MEHTA, N. and NARULA, A.A., 2011. A repeat audit of Action on ENT baseline standards in otolaryngology departments in England, UK: how we do it. *Clinical Otolaryngology: Official Journal of ENT-UK ; Official Journal of Netherlands Society for Oto-Rhino-Laryngology & Cervico-Facial Surgery*. Feb, vol. 36, no. 1, pp. 77-81.
- [68] NDCS., 2002. *Quality Standards in the Early Years: Guidelines on working with deaf children under two years old and their families*. London: NDCS.
- [69] DOH., 2008. *Transforming Services for Children with Hearing Difficulty and their Families. A Good Practice Guide*. London: DOH.
- [70] Public Health England, 2010. *Quality Standards in the NHS Newborn Hearing Screening Programme*. London: Public Health England.