Universal Newborn Hearing Screening and Early Intervention Programme

Summary of DHB service audit programme to September 2013

The Universal Newborn Hearing Screening and Early Intervention Programme (UNHSEIP) was implemented in all 20 district health boards (DHBs) over a three year period from 2007-2010. The aim of the programme is to identify newborns with hearing loss early, so that they can access timely and appropriate intervention to support the development of speech and language. The UNHSEIP is overseen by the National Screening Unit (NSU), in conjunction with the Ministry of Education.

Newborn hearing screening was implemented as a new service in most DHBs from 2007. The UNHSEIP has required establishment of a new workforce of screeners and development of audiologists' skills in working with young babies. It has also required different groups that did not have existing relationships, such as audiology and maternity teams, to work together.

An audit programme is an important component of continuous quality improvement of screening programmes. In 2012, the Ministry of Health contracted Deloitte through an open tender process to lead and co-ordinate a three year audit programme for the UNHSEIP reviewing activities in all DHBs. The first round of audits commenced in May 2012 and will be completed by June 2014.

This report summarises the audits of UNSHEIP services in 13 of the 20 DHBs.

Audit objectives and scope

The audits assess DHBs' compliance with:

- the Ministry's contractual agreement with the DHB for newborn hearing screening services
- UNHSEIP National Policy and Quality Standards (July 2013), including Appendix F, Diagnostic and Amplification Protocols.

As well as identifying any areas of non-compliance that need to be promptly addressed, a primary aim of these audits has been to help DHBs identify areas of focus for quality improvement of their local UNHSEIP. The audits also inform the NSU of areas for development of the UNHSEIP from a national perspective.

The audits are conducted in accordance with an audit tool developed by the NSU, in consultation with key stakeholders. The scope of the audit includes:

- newborn hearing screening, provision of results and referral for diagnostic assessment
- hearing assessment and diagnostic services for babies referred from screening
- service coordination, follow-up and collection of data and reporting.

Specifically excluded are: financial audit of UNHSEIP services; audit of Ministry of Education Early Intervention services for babies diagnosed with hearing loss through UNHSEIP; and medical/surgical intervention e.g. Ear, Nose and Throat specialist services.

It is important to recognise that the audit is a snapshot of service provision at the particular time of the site visit.

Audit process

The team for each audit comprises:

- a lead auditor (Deloitte)
- a technical expert in newborn hearing screening
- an audiologist technical expert
- a consumer representative
- an NSU representative.

For each DHB the audit team is on site for approximately two days. The approach of the audit team includes:

- interviews with key DHB staff
- onsite review of screening and audiology services
- review of documentation such as policies, procedures, protocols, clinical records
- monitoring of the timeliness of service provision through the screening and diagnostic pathways
- continuous feedback of findings to the NSU and DHB, both verbal and through the development of draft to final reports.

Within approximately six weeks, the DHB is sent a draft audit report based on the audit findings. They are given the opportunity to comment to Deloitte on any factual inaccuracies.

Once the report is final, the NSU works with the DHB to prioritise activities in response to the recommendations and agree on a timeframe for implementation. Action plans are developed detailing agreed activities and documenting progress. Progress against the plan is monitored by the NSU through DHB site visits and teleconferences.

Feedback from DHBs to date indicates that the audits and action plans are beneficial in identifying and facilitating quality improvements.

DHBs audited to date

- Waikato DHB: 23-24 May 2012
- Hawkes Bay DHB: 6-7 June 2012
- South Canterbury DHB: 13-14 June 2012
- Counties Manukau DHB: 25-26 July 2012
- Bay of Plenty DHB: 30-31 August 2012
- MidCentral DHB: 13-14 September 2012

- Tairawhiti DHB: 24-25 October 2012
- Southern DHB: 12-14 November 2012
- Nelson Marlborough DHB: 20-21 February 2013
- Canterbury DHB: 20-21 March 2013.
- Whanganui DHB: 9-10 May 2013
- Waitemata DHB: 12-13 June 2013
- West Coast DHB: 25-26 July 2013

Audit reports to be completed in the remainder of 2013/2014 include:

- Auckland DHB
- Northland DHB
- Lakes DHB
- Hutt Valley DHB
- Wairarapa DHB
- Taranaki DHB
- Capital and Coast DHB.

Common themes

The strong team of technical experts in the audit team has meant that they have been able to undertake a detailed appraisal of newborn hearing screening and follow-up audiology services from clinical, technical, consumer and management perspectives. As is to be expected with a recently established screening programme and a wide audit scope, many recommendations for improvements to DHB UNHSEIP services are being made.

A number of common themes have emerged from the audits undertaken to date. Broadly, most of these relate to either resourcing – staff, equipment, information systems– or reflect recommendations for on-going workforce training.

During the period of the audits there were incidents in a number of DHBs where screeners were not following the screening protocol. Many of the audit recommendations align with those of the 2012 incident report *Quality improvement review of a screening event in the Universal Newborn Hearing Screening and Early Intervention Programme*[1].

Since these incidents, new processes have been included in the audit to check for these types of problems.

Where there were areas of critical non-compliance identified, DHBs have been instructed to rectify these immediately.

Themes have been grouped below into the three main audit areas: Screening, Audiology and Programme Management.

[1] Available at: www.nsu.govt.nz/health-professionals/4627.aspx

1: Screening

A high standard of practice in the newborn hearing screening workforce relies on a supportive infrastructure. The audits have identified that the quality of screening services is better where the UNHSEIP Coordinator/ Lead Screener has sufficient support and resources to perform this role.

Ensuring high offer rates/ access to screening

The UNHSEIP has a principle of universality. The majority of DHBs have achieved offer rates greater than 90%. In some DHBs the audit team have found the coverage rate has been impacted by screening staff numbers below the NSU benchmark figure of 1250 births per FTE screener. This may be compounded by insufficient provision of capacity for in-patient screening, leading to large numbers of outpatient appointments with associated DNAs and later referral to audiology. Further efforts to develop more accessible community based clinics have been recommended to improve the screening coverage in some DHBs.

Management of failure to attend screening appointments (DNAs)/transfers

The audits have found room for improvement in some DHBs to systems for managing DNAs, as well as declines, missed offers and transfers. For example some inconsistency was found in the application of three attempts to contact parents who have not attended appointments. Recommendations for improving processes have included keeping good contact records, closer monitoring of DNA rates, working with Well Child and other providers of support services, and ensuring transfer letters are sent to receiving DHBs within 24 hours.

Resourcing, quality and maintenance of screening equipment

In some DHBs the audits have found improvement needed to systems for monitoring and recording calibration and maintenance of equipment. Two occurrences of screening devices outside calibration date have been identified. This non-compliance was regarded as critical requiring immediate corrective action, and use of the machines was halted until calibration was confirmed. In each of these cases prompt calibration of the equipment was performed and the equipment company verified that the machines in question were operating within acceptable levels. Recommendations have included implementing an equipment maintenance log for each machine.

Screener training and competence assessment

Screeners are generally making good progress in enrolling for and completing the NZQA qualification. In a minority of DHBs the auditors found monitoring and appraisal of screeners' practice to be irregular and untimely. There were instances of individual screener identification not being loaded onto the screening equipment and lack of monitoring of the daily check process. These issues could potentially impact on the quality of screening performed. Particular recommendations included monitoring of all data downloads and patient forms, and regular quality reviews of screening forms. Again, insufficient time for screener performance oversight in the Coordinator/Lead Screener role was felt to be a contributing factor. This issue has improved in more recently audited DHBs, largely due to increased attention and resources being directed to screener monitoring in the programme.

Informed consent/communication

Newborn hearing screeners rely on prescribed scripts for the informed consent process. The auditors noted occasions of some information being left out, vague presentation and patient

friendly language not always used. Direct questions were not always asked to confirm the parents' understanding of what they were being told.

Adherence to screening protocols

DHBs were assessed as not fully compliant in this area. There was no consistency as to the particular protocols that were not complied with. Evidence of non-compliance included:

- forms not fully completed
- inconsistent performance of daily checks
- screening outside the five hour requirement between sessions
- knowledge of risk factors
- improvements needed to infection control technique.

While no major concerns were noted during these observations of practice, the audits have pointed to the need for regular refreshing of screeners in aspects of the programme protocol.

After identification of screener non-protocol practice in July 2012, the audit tool was modified to include a limited audit of random data downloads for individual screeners. Preliminary concerns regarding a screener identified at audit in one DHB were subsequently confirmed on more in-depth analysis.

Data systems

Data systems used across all DHBs vary widely, ranging from customised DHB systems and Access databases to Excel spread sheets. In some DHBs the process for newborn screening tracking is very paper-based with no supporting electronic system.

Monitoring and audit of data input was found to be inconsistent across DHBs, which could affect the quality of service as well as data received by the NSU. More than one DHB was advised to establish a data validation process to ensure that all data is correctly entered into the newborn screening database. The auditors have recommended to the NSU that a common database and standardising of practice would contribute to the improvement of data quality.

Monitoring screening

A finding common to many DHBs has been the improvements that could be gained to local programmes by closer monitoring against performance indicators such as numbers/ trends /reasons for declines, DNAs, referral rates, and screening completed by one month.

2. Audiology

The audits to date have found no particular pattern to the level of compliance with audiology service provision expected for babies referred from UNHSEIP. A lack of understanding of the newborn hearing screening programme was evident in some audiology services. Audiologists are often not aware of how many babies to expect from screening referrals. The workload arising from newborn hearing screening has impacted on audiology service provision, with evidence of heavy workloads within audiology departments. In more than one case there was no charge audiologist in place, which was found to have impacted on the service provision. Two DHBs used contracted service provision to assist in the delivery of this service. There were variable levels of active linkages between screening and audiology, and with support services.

The following themes were identified.

Audiologist qualifications and competence assessment
No DHB rated as fully compliant. Variation in qualifications and level of practice was found. There were no particular commonalities identified, but issues noted included insufficient competency assessment, lack of linkages of job descriptions to the UNHSEIP, documentation not available and instances of audiometrists working beyond their expected scope.

Audiology facilities
The quality of audiology facilities has been identified as an area of concern across a number of DHBs. Issues include calibration of the sound-proof room and outdated/inappropriate facilities and equipment.

Awareness and adherence to UNHSEIP diagnostic protocols
While in general the audits have found protocols followed and adequate documentation has been sighted in the files, no DHB has been assessed as fully compliant. Partial and non-compliance has been particularly common in diagnostic ABR testing, impacting on the overall performance of assessment. Additional review and training was initiated in some cases and peer review processes have been encouraged. Other recommendations have included: review of some infection control processes; systems to ensure clearing of backlog of targeted follow-up appointments and improvement to tracking and follow-up of families who did not attend.

Audiology data
Data issues identified at the audits have varied across DHBs, with the absence of consistent data management systems and consistent practices contributing to issues. UNHSEIP Diagnostic Data Forms have not been consistently sent to the NSU, limiting the ability to accurately monitor the programme nationally. Recommendations have included audiology departments having access to the DHB screening database and providing feedback to screeners on referred babies.

3. Programme Management

The following key themes were identified.

Staff resourcing and premises

Staffing issues appear to be impacting on the delivery of services.

Coordinator role

The audits have generally found that a major contributing factor to overall quality of the programme is the expertise and time allocated to programme coordination. Where a dedicated and skilled UNHSEIP Coordinator/Lead Screener was in place, more consistent and effective practices and higher levels of compliance were identified. While the role may be undertaken by a screener, audiologist, otherwise trained person, or shared across multiple staff, the audit team have found that the effectiveness of programme coordination is extended by the level of knowledge of the UNHSEIP and by understanding of quality systems and procedures. Where allocated to a single person, there was often insufficient resource and time allowed. Two DHBs did not have a coordinator in place at the time of the audit, impacting on the quality of service provision, however the DHBs were in the process of filling vacancies.

Screener resources

While most DHBs appear to have screener numbers in line with the NSU benchmark figure (1 FTE per 1,250 births per annum), some were found to have FTE shortfalls impacting on service provision. This is particularly of concern for smaller DHBs or those covering a wide area with difficult topography, where a small deviation from the benchmark figure can have a disproportionate impact on the service.

In some places role sharing, such as combining the screening role with that of audiology technicians, appears to have resulted in insufficient time allocated for the effective delivery of screening services.

In some more remote clinics, screeners were found to be working in relative isolation. Peer review and collegial support systems need to be improved in these situations.

Auditors have commented that a good national data collection system would reduce the heavy administration duties associated with both screener and coordinator role.

Quality monitoring, management / improvement systems

The auditors identified a need for quality improvement plans to be developed and/or updated in some DHBs. In many cases the DHB's quality and risk team could be more involved in supporting UNHSEIP services.

Māori/Pacific health plans

No explicit mention of the hearing screening service in Māori and Pacific health plans was found in any of the DHBs visited, while cancer screening programmes are often covered in some detail. Recommendations were made to each DHB that the newborn hearing screening service should be better aligned or integrated with the work of Māori and Pacific teams.

Maintenance of linkages
Across the DHBs, areas of improvement to create better relationships with the community and within the DHB were identified.

Conclusion

It is evident from the audits undertaken to date that there is considerable variability between DHBs in their approach to and the resources they dedicate to their UNHSEIP programmes. While some audits found very well managed screening and audiology services with only a small number of improvement opportunities identified, others require considerable redirection of resources. There were many examples of dedicated and professional teams of screeners and audiologists demonstrating a strong commitment to the objectives of the programme. No DHB, however, was found to be fully compliant with NSU requirements and many specific areas were identified that provide DHBs, with support and guidance from the NSU, with an opportunity to improve the quality of their UNHSEIP services. For many DHBs, increasing governance and management oversight and directing more resource to ongoing training and support for coordinators, screeners and audiologists are key areas of focus. There were also good practices noted which would benefit by being shared more widely between DHBs.

From a national perspective the key recommendation from the auditors is that a robust national data system for newborn hearing screening, implemented as soon as possible, would alleviate many of the weaknesses they encountered in the programmes.