Update from Newborn Screening Unit

Moira McLeod
Newborn hearing screening
– what’s changing?

Update to the Annual NZAS Conference
2 July 2015
1. Brief background to the Universal Newborn Hearing Screening and Early Intervention Programme (UNHSEIP)

2. Drivers for change to Newborn Hearing Screening (NHS)

3. Three key changes and relationship with audiology.
Universal Newborn Hearing Screening and Early Intervention Programme

Government Announcement - November 2005

“All newborn children will be provided with a free hearing test”

Progressive Implementation of Newborn Hearing Screening 2007-2010

Progressive Implementation of Newborn Hearing Screening 2007-2010

% screening coverage

0 20 40 60 80 100

Oct-07 Dec-07 Feb-08 Apr-08 Jun-08 Aug-08 Oct-08 Dec-08 Feb-09 Apr-09 Jun-09 Aug-09 Oct-09 Dec-09 Feb-10 Apr-10 Jun-10

time
National Screening Unit Quality Principles:

- National screening programmes are committed to continuous quality improvement in programme management and clinical service delivery.

- Screening programmes should be monitored and evaluated on a regular basis.
Drivers for Change

UNHSEIP quarterly Monitoring Reports

UNHSEIP 3-yearly audits

Dec 2012- Quality improvement review of a screening event in the UNHSEIP, - 21 recommendations

Review of Newborn Hearing Screening Regimes and Associated Devices, March 2014 - 3 key recommendations - areas of change.
Three key areas of change to the programme....

1. One standardised type of equipment for all newborn hearing screens

2. Revised testing regime and protocol, including hearing surveillance

3. A new national information system for hearing screening and babies referred to audiology (NHIMS)
Universal Newborn Hearing Screening and Early Intervention Programme

1. One standardised type of equipment for all newborn hearing screens
Changes to regime & protocols

1. The screening ‘regime’ (the type of screening and number of stages or steps)

2. The screening ‘protocol’ The official procedure for carrying out screening e.g. timing, interval between screens, number of attempts, scripts, also new consumer resources

3. The risk factors for late onset hearing loss.
## Changes to regime and protocols

<table>
<thead>
<tr>
<th>Old protocol</th>
<th>New protocol</th>
</tr>
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<tbody>
<tr>
<td>AOAE then aABR1 then aABR 2</td>
<td>No AOAE</td>
</tr>
<tr>
<td>Different protocols for well babies, babies with risk factors and NICU babies</td>
<td>Same screening protocol for all babies</td>
</tr>
<tr>
<td>No clear age for beginning screening</td>
<td>Firm guidelines on screening between 36 wks and 3 mths of age</td>
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<tr>
<td>5 hours minimum between aABR screening ‘sessions’</td>
<td>No specific time - aABR2 close to discharge home and when conditions are good</td>
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<tr>
<td>Inpatient or outpatient screening</td>
<td>Emphasis on screening as inpatient</td>
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Perceived benefits

...for screeners, coordinators and families:
- Simpler protocol and one device – reduces screener training and reduces chance of protocol error
- Simpler and more concise screener scripts and explanation to parents
- Potentially fewer families requiring second test
- Potentially reduced workload stress.

...for audiology:
- Potentially younger babies at audiology - facilitates ABR test and earlier diagnosis.

...for the programme overall:
- Improved programme outcomes in relation to key quality indicators.
- Improved cost-effectiveness.
### Key changes to risk factors – hearing surveillance

<table>
<thead>
<tr>
<th>Old</th>
<th>New</th>
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</thead>
<tbody>
<tr>
<td><strong>10 categories of risk factors</strong></td>
<td><strong>Removed 5 risk factors</strong></td>
</tr>
<tr>
<td>• family history</td>
<td>• family history</td>
</tr>
<tr>
<td>• NICU &gt; 5 days</td>
<td>• NICU &gt; 5 days</td>
</tr>
<tr>
<td>• congenital infection herpes and syphilis</td>
<td>• congenital infection herpes and syphilis</td>
</tr>
<tr>
<td>• neuro-degenerative/developmental disorders</td>
<td>• neuro-degenerative/developmental disorders</td>
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<tr>
<td><strong>Most babies with risk factors followed up at 18 months</strong></td>
<td><strong>More detailed follow-up schedule for audiologists including babies with CMV, Down syndrome and Cleft palate.</strong></td>
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</table>
Why are the risk factors changing?

- Brings programme up-to-date with international best practice — discontinued risk factors have been found to have weak association with hearing loss.
- Fewer unnecessary appointments for families — reduced costs, inconvenience, anxiety.
- Reduced burden on audiology departments.

When does the new hearing surveillance policy begin?
- Changes to hearing surveillance begin at the same time as other UNHSEIP protocol changes in each DHB.

How will the changes be implemented?
- Communication of the changes to paediatricians, midwives and NICU nurses.
- Families already referred under discontinued risk factors will be given the option of keeping appointments.
The new national newborn hearing information system (NHIMS)

- A module within the Maternity Clinical Information Systems (MCIS) or a stand-alone module
- Being developed by Clevermed and NSU-CRG
- Repository for all babies’ hearing screening and audiology information
- Will interface with Beraphone and ABR equipment
- Includes audiogram
Universal Newborn Hearing Screening and Early Intervention Programme

Quality improvement opportunity
Audiogram from ABR testing
Other key features of NHIMS

- The new newborn hearing information system includes screening and audiology and will be the repository for clinical information in DHBs. The NSU will work with audiology advisors about how this system can support quality checks.

- Automatic reporting at the local and national level – regular reports generated, and ability for bespoke reporting

- Electronic repository for ABR traces to facilitate clinical review and support processes.
What doesn’t change?

✓ The ‘1, 3, 6’ goals

✓ Continue to work with NZAS on quality improvements to audiology

✓ Why we’re screening...
For further information on Beraphone equipment or revised protocols contact myself - Moira McLeod Programme Leader 09580 9086

On the Newborn Hearing Information Management System contact:
- Kathy Bendikson Antenatal and Newborn Screening Manager 09 580 9180
- Kim Amiria Senior Data Administrator 09 580 9048