Neonatal Transport Group.
Belfast 2014.

Andy Leslie
Chair of NTG.
National summary

• Work has gone up, but not evenly.
• Time critical numbers are static, but 77% mobile in 60 mins (up from 73%).
• More teams are arriving with infant within 3.5hrs for uplift: (72 – 86%).
• 91% of transfers are done by the commissioned team.
• Most cooled infants are transferred with active cooling.
• Overventilation rates improving (9% - 5%)
NTG Report.

- NTG terms of reference.
- Commissioning.
- Data systems.
- CEN is back....
- Air transport.
Commissioning

• ScotSTAR launched in Scotland
• England – mergers and redesigns
  – Mergers with PIC services
  – Merging NIC services
  – Re-tendering for NIC transport
Dataset/IT platform

- Dataset substantially unchanged
- Working group looking at Badger platform transport module.
CEN/TC 239/WG4 - Transportation of incubators

• Have started revising EN 13976-2 (incubator systems).

• Oct meeting in Lubeck had representation from Norway (3), Sweden (4), France (1), Germany (1), UK (1 from Ferno).

• “Preparation of the next meeting
Until next time all experts are to make detailed proposals, taking into account views from different stakeholders within their respective national mirror committees. Proposals and comments will be sent to the secretariat using the file "Template for comments" no later than January 7th 2015. The next meeting with WG4 will take place in Uppsala in the beginning of 2015…”
Air transport

Perinatal & Paediatric Air Transport Group.

• Brings together clinicians and providers.
• Aspires to securing a nationally-available system
Data 2014
Method

• Email to transport service’s medical and nursing leads requesting activity data from 1.1.14 to 30.6.14

• Brief additional information about each service.
Number of services

- 2012 – data from 22
- 2013 – data from 21
- 2014 – data from 19

– Scotland reported as one service, not 3
Dedicated vehicles & crews.
Consultants

• Consultant availability to attend transfers:
  – Scheduled, all of the time.
  – Scheduled, some of the time
  – Maybe available, ad-hoc.
  – Never available to attend.
# UK summary data Jan-Jun 2012, 2013, 2014

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total transfers</td>
<td>7152</td>
<td>7562</td>
<td>7892 (+4%)</td>
</tr>
</tbody>
</table>


Effect of counting round trips as 2 transfers…

<table>
<thead>
<tr>
<th></th>
<th>2012-13</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Total CenTre</td>
<td>1406</td>
<td>1518</td>
</tr>
<tr>
<td>transfers</td>
<td></td>
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</tr>
</tbody>
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Apparent workload increase = 112 transfers
Effect of counting round trips as 2 transfers…

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Apparent workload increase = 112 transfers

Effect of changing to counting round trips as 2 transfers accounts for 54 transfers
Effect of counting round trips as 2 transfers...

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Apparent workload increase = 112 transfers

Effect of changing to counting round trips as 2 transfers accounts for 54 transfers

So the real workload increase is 58 transfers.
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<tr>
<td>Total transfers</td>
<td>7152</td>
<td>7562</td>
<td>7892</td>
</tr>
<tr>
<td>Ventilated</td>
<td>1889 (26%)</td>
<td>1961 (26%)</td>
<td>1949 (25%)</td>
</tr>
<tr>
<td>CPAP/high-flow</td>
<td>847 (12%)</td>
<td>906 (12%)</td>
<td>819 (10%)</td>
</tr>
<tr>
<td>Cooling</td>
<td>247 (3%)</td>
<td>288 (4%)</td>
<td>249 (3%)</td>
</tr>
<tr>
<td>iNO</td>
<td>99 (1%)</td>
<td>111 (1%)</td>
<td>117 (1%)</td>
</tr>
<tr>
<td>Palliative</td>
<td>22 (0.3%)</td>
<td></td>
<td>19 (0.2%)</td>
</tr>
</tbody>
</table>
Operational reason for transfer for premature infants transferred on the first 3 days of life.
Operational reason for transfer for premature infants transferred on the first 3 days of life.

<table>
<thead>
<tr>
<th>Gestation at birth</th>
<th>Uplift n=</th>
<th>Capacity n=</th>
<th>Repatriation n=</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>23⁺⁰ to 26⁺⁶</td>
<td>208</td>
<td>9</td>
<td>11</td>
<td>228</td>
</tr>
<tr>
<td>27⁺⁰ to 31⁺⁶</td>
<td>255</td>
<td>97</td>
<td>46</td>
<td>398</td>
</tr>
<tr>
<td>Total</td>
<td>463</td>
<td>106</td>
<td>57</td>
<td>626</td>
</tr>
</tbody>
</table>
Operational reason for transfer for premature infants transferred on the first 3 days of life.
Change in workload/team 2013 (n=7562) to 2014 (n=7892)
Change in workload/team 2013 (n=7562) to 2014 (n=7892)

Scotstar
STARS Cumbria
Newcastle
CMNTS Mersey
GMNTS
Middlesbrough
Embrace
CenTre
W. Mids NTS
CHANTS
ANTS
Thames Valley
NEST
NeTS Solent
KSS
London
Peninsula

96
19
6
13
120
45
57
6
104
-39
56
-58
-51
-63
60
-2
-9
16
Total Transfers/team, Jan – June 2014
All transfers, 2012-14
All transfers, 2012-14 (1st 6 months of each)
Number of ventilated transfers, Jan-Jun 2014.

<table>
<thead>
<tr>
<th>Area</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scotstar</td>
<td>152</td>
</tr>
<tr>
<td>NISTAR</td>
<td>40</td>
</tr>
<tr>
<td>STARS Cumbria</td>
<td>16</td>
</tr>
<tr>
<td>Newcastle</td>
<td>61</td>
</tr>
<tr>
<td>CMNTS Mersey</td>
<td>61</td>
</tr>
<tr>
<td>GMNETS</td>
<td>119</td>
</tr>
<tr>
<td>Middlesbrough</td>
<td>112</td>
</tr>
<tr>
<td>Embrace</td>
<td>41</td>
</tr>
<tr>
<td>CentTre</td>
<td>138</td>
</tr>
<tr>
<td>W Mids NTS</td>
<td>168</td>
</tr>
<tr>
<td>ANTS</td>
<td>150</td>
</tr>
<tr>
<td>CHANTS N Wales</td>
<td>176</td>
</tr>
<tr>
<td>CHANTS</td>
<td>1</td>
</tr>
<tr>
<td>Thames Valley (TVNTS)</td>
<td>45</td>
</tr>
<tr>
<td>London NTS</td>
<td>49</td>
</tr>
<tr>
<td>NeTS Solent</td>
<td>111</td>
</tr>
<tr>
<td>Peninsula</td>
<td>331</td>
</tr>
<tr>
<td>NEST</td>
<td>160</td>
</tr>
<tr>
<td>KSS</td>
<td>43</td>
</tr>
<tr>
<td>NeTS Peninsula</td>
<td>36</td>
</tr>
</tbody>
</table>
Response standards

Data on

– Time critical (all)
– Time critical at base
– Referral response time
– Uplift transfers performed
% of time critical transfers team mobile within 60 minutes of start of referring call.

2013: 73 % (n=404)
2014: 77% (n=409)
% of time critical transfers team mobile within 60 minutes of start of referring call.

2013: 73% (n=404)
2014: 77% (n=409)
% of time critical transfers team mobile within 60 minutes of start of referring call (calls taken at base)
Team arrived with the patient within 3.5 hours of the start of the referring call (Intensive care; uplift) (%), Jan-Jun 2013, 2014.
Team arrived with the patient within 3.5 hours of the start of the referring call (Intensive care; uplift) (%), Jan-Jun 2013, 2014.

2013: 72% (n=1689)
2014: 86% (n=1836)
Team arrived with the patient within 3.5 hours of the start of the referring call (Intensive care; uplift) (%), Jan-Jun 2013, 2014.

2013: 72% (n=1689)
2014: 86% (n=1836)
Neonatal Transport Services transfer at least 95% of patients requiring transfer for uplift within its defined catchment area. (%) 

- Counting what we don’t do is difficult.
Neonatal Transport Services transfer at least 95% of patients requiring transfer for uplift within its defined catchment area. (%)

Of 3416 transfers for uplift, 3097 were done by their commissioned team (91%)
Number transferred on iNO – Jan – June 2012, 2013, 2014

Total for UK
2012: 99
2013: 111
2014: 117
Number transferred for cooling or assessment for cooling, Jan – June 2012, 2013, 2014

Total for UK
2012: 247
2013: 288
2014: 249
Number transferred for cooling or assessment for cooling, Jan – June 2012, 2013, 2014

Total for UK
2012: 247
2013: 288
2014: 249
Of 249 cooled infants transferred, 202 are ventilated. (33% - 100%)
Transferred for cooling, >6h at completion, temp 33-34°C (%)

Transferred for cooling, >6h at completion, temp 33-34°C (%)

- Scotsfarr: 5
- NISTAR: 1
- STARS Cumbria: 3
- Newcastle City: 10
- Middlesbrough: 9
- Embrace: 3
- CentTre: 16
- W Mids NTS: 14
- ANTS: 16
- CHANTS N. Wales: 41
- CHANTS Valley: 3
- Thames Valley: 17
- London NTS: 18
- NEST: 46
- KS: 24
- NeTS: 7
- Solent Peninsula: 4

The graph shows the percentage of cases transferred for cooling, with temperatures ranging from 33 to 34°C.
Active vs. passive cooling, number of teams.
Active vs. passive cooling, number of teams.
Active vs. passive, infants >6h, temp 33-34°C (%)
Over and under-ventilation

- pCO₂ <4 kPa

- pCO₂ >7 kPa and pH<7.2

...on the gas measurement on completion of transfer of uplift and resource transfers.
Over and under-ventilation

• Note that not all infants had pCO$_2$ available post-transfer.
Over and under-ventilation

<table>
<thead>
<tr>
<th>Over ventilated (pCO₂ &lt;4kPa)</th>
<th>2013 (n=1355)</th>
<th>2014 (n=1895)</th>
</tr>
</thead>
<tbody>
<tr>
<td>n=()%</td>
<td>n=()%</td>
<td></td>
</tr>
<tr>
<td>118 (9)</td>
<td>106 (5)</td>
<td></td>
</tr>
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# Over and under-ventilation

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<th>Over ventilated ((pCO_2 &lt; 4\text{kPa}))</th>
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<tbody>
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<td>118 (9)</td>
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<table>
<thead>
<tr>
<th>Under-ventilated ((pCO_2 &gt; 7\text{kPa} &amp; pH &lt; 7.2))</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>2014 (n=1895)</td>
<td></td>
</tr>
<tr>
<td>n=(%)</td>
<td></td>
</tr>
<tr>
<td>68 (3)</td>
<td></td>
</tr>
</tbody>
</table>
% pCO$_2$ <4 kPa on completion, per service. Jan – June 2013, 2014.
% pCO$_2$ >7kPa & pH<7.2 on completion, per service, Jan – June 2013, 2014.
Cooling, ventilated, pCO2<4kPa on completion of transfer
Cooling, ventilated, pCO2<4kPa on completion of transfer

27 of 202 ventilated cooling transfers pCO2<4 = 13%
National summary

- Work has gone up, but not evenly.
- Time critical numbers are static, but 77% mobile in 60 mins (up from 73%).
- More teams are arriving with infant within 3.5hrs for uplift: (72 – 86%).
- 91% of transfers are done by the commissioned team.
- Most cooled infants are transferred with active cooling.
- Overventilation rates improving (9% - 5%)
NTG

• Promote the quality & safety agenda.
  – Data – hypothesis generation & shared projects.
  – Research.
  – Incident sharing.
  – Promoting patient-focused best practice.
  – Benchmarking.

• New Chair next year…