NTG Annual Transport Data
2020/21

Allan Jackson (consultant neonatologist) and Colin Devon (data analyst)
ScotSTAR
Method

• Email to transport service’s medical and nursing leads requesting activity data from 1st April 2020 to 31st March 2021
  – Requests before 2019/2020 covered first 6 months of calendar year only
• Additional information about each service.
Reorganisations & additions for 2020/21 data

• Reorganisation:
  – ANTS became PaNDR in March 2021

• Data changes and additions:
  – Section 1.3 – Return to more detailed information on temperature before and after transfer
  – Section 1.5 – COVID transfers
  – Section 1.6 – Number of In Utero Transfers coordinated
  – Section 1.7 – Number of Advice Calls
Reorganisations & additions for 2020/21 data continued

– Section 1.8 – Bilious vomiting data
– Section 1.9 – Journeys over 3 hours
– Benchmark 3 - restricted to uplift referrals from level 1 and 2 units in the first 3 days of life
Reorganisations & additions for 2020/21 data continued

• Team Characteristics
  – Do you use a transcutaneous CO2 monitor in transit
  – Do you use ET CO2 monitoring in transit
  – Do you offer Volume Guarantee Ventilation in transit
Number of Services, UK

- 2012 – data from 22
- 2013 – data from 21
- 2014 – data from 19
- 2015 – data from 19
- 2016 – data from 18
- 2017 – data from 18
- 2018 onwards – data from 15

32%
All team annualised UK neonatal transport activity

2019-20 onwards data 12-month collection period, prior to that 6 months used
Birth data from relevant national bodies. The birth data is yearly so only for indication of possible change. 2019/20 using 2019 figures, 2020/21 using 2020 figures.
Birth data from relevant national bodies. The birth data is yearly so only for indication of possible change. 2019/20 using 2019 figures, 2020/21 using 2020 figures.
UK NTG transfers per 1,000 live births

Birth data from relevant national bodies. The birth data is yearly so only for indication of possible change. 2019/20 using 2019 figures, 2020/21 using 2020 figures.
UK Summary Data
Apr 2020 to Mar 2021

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Prior to 2019-20 data returns were for a 6 month period (Jan-Jun), thereafter they have been 12 month periods (Apr-Mar)
### UK Summary Data
#### Apr 2020 to Mar 2021 Adjusted

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Data for years 2012-2019 was adjusted by doubling the 6 month figures returned in those years
<table>
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<td>NISTAR</td>
<td>485</td>
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<tr>
<td>NNeTS</td>
<td>694</td>
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<tr>
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<td>KSS</td>
<td>933</td>
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<tr>
<td>Peninsula</td>
<td>288</td>
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Total Transfers by team from Apr 2020 to Mar 2021.
Changes in activity by team, 2019/20 v 2020/21

- ScotSTAR: 6.8%
- NISTAR: 6.8%
- NNets: 28.1%
- Connect NW: 15.3%
- Embrace: 12.2%
- CenTre: 14.1%
- KIDS NTS: 17.6%
- PaNDR: 20.8%
- N Wales NTS: 12.8%
- CHANTS: 3.9%
- SONeT: 10.2%
- NEST: 11.9%
- London NTS: 17.6%
- KSS: 4.2%
- Peninsula: 23.2%
Trends in transfer number by team, 2018 to 2020/21

2019-20 onwards data 12-month collection period, prior to that 6 months used, adjusted for comparison
Ventilation via an ETT during transfer
Numbers of infants ventilated via an endotracheal tube in transfer, by team Apr 2020 to Mar 2021

[Bar chart showing the numbers of infants ventilated by different teams, with the following counts: Scotch STAR 153, NISTAR 96, NNeTS 162, Connect NW 345, Embrace 279, CenTre 274, KIDS NTS 364, PaNDR 263, N Wales NTS 32, CHANTS 81, SONet 197, NEST 197, London NTS 506, KSS 197, Peninsula 71.]
Infants ventilated via an endotracheal tube in transfer, as a percentage of total transfers, by team Apr 2021 to Mar 2021
Trends in numbers of infants ventilated via an endotracheal tube in transfer by team 2018 to 2020/21.
Trends in infants ventilated via an endotracheal tube in transfer as a percentage of total transfers, by team 2018 to 2020/21
High Frequency Oscillation in Transfer
Number of transfers using High Frequency Oscillatory Ventilation (HFOV), by team Apr 2020 to Mar 2021
HFOV Transfers as a percentage of ventilated transfers, by team Apr 2020 to Mar 2021

- ScotSTAR: 4.6%
- NISTAR: 1.0%
- NNeTS: 0.0%
- Connect NW: 9.3%
- Embrace: 0.0%
- CenTre: 0.3%
- KIDS NTS: 0.0%
- PaNDR: 6.3%
- N Wales NTS: 7.1%
- CHANTS: 2.5%
- SONeT: 9.5%
- NEST: 0.0%
- London NTS: 0.5%
- KSS: 1.4%
- Peninsula: 0.0%
Trends in numbers on HFOV by team, 2018 to 2020/21
Trends in HFOV transfers as a percentage of ventilated transfers by team 2018 to 2020/21
Nasal Continuous Positive Airway Pressure (CPAP) in transfer
Transfers utilising continuous positive airway pressure (CPAP) by team, Apr 2020 to Mar 2021
CPAP Transfers as a percentage of total transfers, by team Apr 2020 to Mar 2021

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<th>Team</th>
<th>Percentage</th>
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<td>7.1%</td>
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<tr>
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<td>4.6%</td>
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<td>Connect NW</td>
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<tr>
<td>Embrace</td>
<td>4.0%</td>
</tr>
<tr>
<td>CenTre</td>
<td>11.1%</td>
</tr>
<tr>
<td>KIDS NTS</td>
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<td>PaNDR</td>
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<td>London NTS</td>
<td>4.6%</td>
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<td>KSS</td>
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<tr>
<td>Peninsula</td>
<td>4.2%</td>
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Trends in CPAP transfers by team, 2018 to 2020/21
Trends in CPAP transfers as a percentage of total transfers by team 2018 to 2020/21

ScotSTAR
NISTAR
NNeTS
Connect NW
Embrace
CenTre
KIDS NTS
PaNDR
N Wales NTS
CHANTS
SONeT
NEST
London NTS
KSS
Peninsula

2018 2019 2019/20 2020/21
High Flow Humidified Nasal Cannula support
Transfers utilising high flow humidified nasal cannula support (High flow) by team Apr 2020 to Mar 2021
High-flow Transfers as a percentage of total transfers, by team Apr 2020 to Mar 2021
Trends in numbers on High-flow by team, 2018 to 2020/211
Trends in High-flow transfers as a percentage of total transfers by team 2018 to 2020/21
Transfers with therapeutic hypothermia in transit by team Apr 2020 to Mar 2021
Transfers with therapeutic hypothermia in transit as a percentage of total transfers, by team Apr 2020 to Mar 2021
Trends in numbers of transfers with therapeutic hypothermia in transit by team, 2018 to 2020/21
Trends in transfers with therapeutic hypothermia in transit as a percentage of total transfers by team 2018 to 2020/21
Use of inhaled nitric oxide (iNO) in transfer
Transfers utilising inhaled Nitric Oxide in transit by team, Apr 2020 to Mar 2021
Transfers utilising inhaled Nitric Oxide in transit as a percentage of ventilated transfers, by team Apr 2020 to Mar 2021

- ScotSTAR: 2.5%
- NISTAR: 0.2%
- NNeTS: 2.0%
- Connect NW: 1.8%
- Embrace: 1.7%
- CenTre: 1.5%
- KIDS NTS: 2.7%
- PaNDR: 1.7%
- N Wales NTS: 1.5%
- CHANTS: 0.9%
- SOnET: 2.4%
- NEST: 2.7%
- London NTS: 3.1%
- PaNDR: 3.1%
Trends in numbers of transfers utilising inhaled Nitric Oxide in transit by team, 2018 to 2020/21
Trends in transfers utilising inhaled Nitric Oxide in transit as a percentage of ventilated transfers by team 2018 to 2020/21

ScotSTAR
NISTAR
NNeTS
Connect NW
Embrace
CenTre
KIDS NTS
PaNDR
N Wales NTS
CHANTS
SONeT
NEST
London NTS
KSS
Peninsula

2018 2019 2019/20 2020/21
Transfers for palliative care
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</table>
Palliative Transfers as a percentage of total transfers, by team Apr 2020 to Mar 2021
Trends in numbers of Palliative care transfers by team, 2018 to 2020/21

Bar chart showing the trends in numbers of Palliative care transfers by team from 2018 to 2020/21. The x-axis represents the teams, and the y-axis represents the number of transfers. The chart includes data for 2018, 2019, 2019/20, and 2020/21.
Trends in Palliative care transfers as a percentage of total transfers by team 2018 to 2020/21
Transfers by air
Air Transfers by team Apr 2020 to Mar 2021

- ScotSTAR: 60
- NISTAR
- NNeTS
- Connect NW
- Embrace: 10
- CenTre
- KIDS NTS
- PaNDR
- N Wales NTS: 8
- CHANTS
- SONeT: 11
- NEST: 12
- London NTS: 12
- KSS
- Peninsula
Air Transfers as a percentage of total transfers, by team Apr 2020 to Mar 2021

- ScotSTAR: 5.6%
- NISTAR: 0.8%
- NNeTS: 0.0%
- Connect NW: 0.0%
- Embrace: 0.0%
- CenTre: 0.0%
- KIDS NTS: 0.0%
- PaNDR: 0.0%
- N Wales NTS: 0.0%
- CHANTS: 1.9%
- SONeT: 1.1%
- NEST: 2.1%
- London NTS: 0.7%
- KSS: 0.0%
- Peninsula: 0.0%
Trends in numbers of Air transfers by team, 2018 to 2020/21
Trends in Air transfers as a percentage of total transfers by team 2018 to 2020/21

- ScotSTAR
- NISTAR
- NNeTS
- Connect NW
- Embrace
- CenTre
- KIDS NTS
- PaNDR
- N Wales NTS
- CHANTS
- SONeT
- NEST
- London NTS
- KSS
- Peninsula

- 2018
- 2019
- 2019/20
- 2020/21
Premature infant workload and indications for transfer
Premature Infant Workload and indications for transfer

Data on

- Transfer on first 3 days of birth by gestation
  - 22\(^{+0}\) weeks to 26\(^{+6}\)
  - 27\(^{+0}\) weeks to 31\(^{+6}\) weeks
  - 32\(^{+0}\) weeks to 36\(^{+6}\) weeks

- Operational reason for transfer
  - Uplift (transfer to receive a higher level of care than is available at the referring centre)
  - Capacity (transfer due to lack of capacity in the referring centre)
  - Repatriation (transfer back to the infant’s base unit)
Operational reason for transfer for premature infants transferred on the first 3 days of life: Uplift 2019-2020/21

- 22+0 to 26+6
- 27+0 to 31+6
- 32+0 to 34+6
Operational reason for transfer for premature infants transferred on the first 3 days of life: **Capacity 2019- 2020/21**

![Bar chart showing operational reason for transfer for premature infants transferred on the first 3 days of life: **Capacity 2019- 2020/21.**](image-url)
Operational reason for transfer for premature infants transferred on the first 3 days of life: Repatriation 2019-2020/21

![Bar chart showing the number of transfers for premature infants by gestational age and year. The chart is divided into three sections: 2019, 2019/20, and 2020/21. Each section is further divided into three categories: 22+0 to 26+6, 27+0 to 31+6, and 32+0 to 34+6. The y-axis represents the number of transfers, ranging from 0 to 400. The data shows a decrease in transfers from 2019 to 2020/21.]
2020/21 Uplift transfers by team, 1st 3 days of life, by gestation- 22-31\(^{+6}\) week infants
2020/21 **Uplift** transfers by Team as a percentage of total transfers 1st 3 days of life, by gestation- 22-31+6 weeks
2020/21 **Capacity** transfers by team, 1st 3 days of life, by gestation- 22-31+6 week infants
2020/21 **Capacity** transfers
by Team as a percentage of total transfers
1st 3 days of life, by gestation- 22-31+6 weeks
2020/21 **Repatriation** transfers by team, by gestation- 1st 3 days of life, 22-31+6 week infants

![Bar chart showing repatriation transfers by team and gestation]
2020/21 Repatriation transfers by Team as a percentage of total transfers 1st 3 days of life, by gesation- 22-31+6 weeks
Temperature on first assessment and on completion of transfer
Premature Infants 22 to 32+6 weeks in the first 3 days of life: temperatures on first assessment and on completion of transfer Apr 2020 to Mar 2021, by team.
Premature Infants 22 to 32+6 weeks in the first three days of life - temperature on first assessment and on completion of transfer scaled to 100% Apr 2020 to Mar 2021
Premature Infants in the first three days of life, 22 to 26+6 weeks gestation. Temperature on first assessment and on completion of transfer. Apr 2020 to Mar 2021
Premature Infants in the first three days of life, 22 to 26+6 weeks gestation. Temperature on first assessment and on completion of transfer scaled to 100% Apr 2020 to Mar 2021.
Premature Infants in the first three days of life, 27 to 32+6 weeks gestation. Temperature on first assessment and on completion of transfer scaled to 100% Apr 2020 to Mar 2021

---

**ScatSTAR**  **NISTAR**  **NNeTS**  **Connect NW**  **Embrace**  **CenTre**  **KIDS NTS**  **PaNDR**  **N Wales NTS**  **CHANTS**  **SONeT**  **NEST**  **London NTS**  **KSS**  **Peninsula**

- 1st Assessment 27+0 to 31+6
- Completed 27+0 to 31+6

- <36.5 deg C
- 36.5-37.5 deg C
- >37.5 deg C
1.3 Premature infants in the first three days of life, 22 to 32+6 weeks. Proportions normothermic on first assessment and completion of transfer. Apr 2020 to Mar 2021

ScotSTAR, NISTAR, NNeTS, Connect NW, Embrace, CenTre, KIDS NTS, PaNDR, N Wales NTS, CHANTS, SONeT, NEST, London NTS, KSS, Peninsula

- % of 1st assessment 22 to 31 36.5-37.5 deg C
- % Completed 22+0 to 31+6 36.5-37.5 deg C
Parents travelling with their baby
Parent Travelling

Data on

– Parents travelling with the baby simplified from last year
Numbers of parents travelling with their baby by team, Apr 2020 to Mar 2021

All teams significantly restricted parental presence in transfer due to COVID-19 pandemic requirements for social distancing.
Numbers of parents travelling with their baby by team Apr 2019 to Mar 2020

2019-20 data included for context
COVID-19 workload
Number of transfers of babies born to mothers with suspected or confirmed COVID in the first 72 hours of life. 2020/21

ScotSTAR
NISTAR
NNeTS
Connect NW
Embrace
CenTre
KIDS NTS
PaNDR
N Wales NTS
CHANTS
SONeT
NEST
London NTS
KSS
Peninsula
Number of transfers of babies suspected of having COVID-19 by team 2020/21
Number of transfers of babies confirmed as having COVID-19, by team 2020/21
Other workload
Other workload

- In Utero transfer coordination workload
- Advice call workload
- Bilious Vomiting workload
- Prolonged transfer workload
Numbers of In Utero Transfers Coordinated by team 2020/21

Only those commissioned to provide this service provided data.
Numbers of Advice Calls recorded by teams 2020/21

Only those commissioned to provide this service provided data
Number of transfers of babies with Bilious Vomiting by team, 2020/21

781 transfers in total, representing 5% of total neonatal transport workload
Prolonged Transfers- baby in transit for 3 hours or more, by team 2020/21

<table>
<thead>
<tr>
<th>Team</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ScotSTAR</td>
<td>31</td>
</tr>
<tr>
<td>NISTAR</td>
<td>11</td>
</tr>
<tr>
<td>NNeTS</td>
<td>5</td>
</tr>
<tr>
<td>Connect NW</td>
<td>5</td>
</tr>
<tr>
<td>Embrace</td>
<td>5</td>
</tr>
<tr>
<td>CenTre</td>
<td>2</td>
</tr>
<tr>
<td>KIDS NTS</td>
<td>6</td>
</tr>
<tr>
<td>PaNDR</td>
<td>5</td>
</tr>
<tr>
<td>N Wales NTS</td>
<td>5</td>
</tr>
<tr>
<td>CHANTS</td>
<td>5</td>
</tr>
<tr>
<td>SONeT</td>
<td>3</td>
</tr>
<tr>
<td>NEST</td>
<td>1</td>
</tr>
<tr>
<td>London NTS</td>
<td>1</td>
</tr>
<tr>
<td>KSS</td>
<td>1</td>
</tr>
<tr>
<td>Peninsula</td>
<td>23</td>
</tr>
</tbody>
</table>
Prolonged Transfers (baby in transit for 3 hours or more) as a percentage of total transfers, by team 2020/21

- ScotSTAR: 2.9%
- NISTAR: 0.0%
- NNeTS: 1.6%
- Connect NW: 0.3%
- Embrace: 0.4%
- CenTre: 0.1%
- KIDS NTS: 0.5%
- PaNDR: 0.5%
- N Wales NTS: 0.0%
- CHANTS: 1.2%
- SONeT: 0.3%
- NEST: 0.2%
- London NTS: 0.4%
- KSS: 0.1%
- Peninsula: 8.0%
Response standards
Data on

– Immediate response
  
• where the team deploys within 60 minutes of receiving a referral for selected transfers:
  – 1. Gastrochisis
  – 2. Ventilated infant with Tracheo-oesophageal fistula +/- atresia
  – 3. Intestinal perforation
  – 4. Suspected duct-dependent cardiac lesion not responding to prostin
  – 5. Unstable respiratory or cardiovascular failure not responding to appropriate management:
Referral response time for ICU uplift transfers from level 1 and 2 units in the first 3 days of life—standard 3.5 hours

- The time taken from referral to arrival at the cotside in the referring centre

The proportion of Uplift transfers performed in the transport service’s designated region
Immediate dispatch

• Benchmark:
  – Immediate dispatch (previously known as Time-critical) transfers are where the team should depart from base within one hour from the start of the referring call, for the following situations/diagnoses:
    • 1. Gastroschisis
    • 2. Ventilated infant with Tracheo-oesophageal fistula +/- atresia
    • 3. Intestinal perforation
    • 4. Suspected duct-dependent cardiac lesion not responding to prostin
    • 5. Unstable respiratory or cardiovascular failure not responding to appropriate management:
Immediate dispatch transfers/team
Apr 2020 to Mar 2021

N.b. this is benchmarking data on response for a defined group of transfers, this does not represent overall "emergency workload"
Immediate dispatch transfers by team as a percentage of total transfers 2019-20
Trends in numbers of Immediate dispatch transfers by team, 2018 to 2020/21
Immediate dispatch transfers as a percentage of total transfers, by team, 2018 to 2020/21
Immediate dispatch transfers dispatched within 60 minutes/team
Apr 2020 to Mar 2021
Immediate dispatch transfers dispatched within 60 minutes, as a percentage of total immediate dispatch transfers, by team. Apr 2020 to Mar 2021
Trends in percentage of Immediate dispatch transfers dispatched within 60 minutes by team, 2018 to 2020/21
Uplift transfers within a dedicated transport service’s own area

- Benchmark 2:
  - Dedicated Neonatal Transport Services transfer at least 95% of patients requiring transfer for uplift within its defined catchment area.
Numbers of Uplift transfers in dedicated area 2020/21

ScotSTAR: 567
NISTAR: 109
NNeTS: 344
Connect NW: 928
Embrace: 551
CenTre: 572
KIDS NTS: 632
PaNDR: 427
N Wales NTS: 68
CHANTS: 172
SONeT: 473
NEST: 303
London NTS: 992
KSS: 417
Peninsula: 142
Numbers of Uplift transfers conducted by other teams in dedicated area

- ScotSTAR: 0
- NISTAR: 0
- NNeTS: 2
- Connect NW: 7
- Embrace: 15
- CenTre: 10
- KIDS NTS: 0
- PaNDR: 8
- N Wales NTS: 0
- CHANTS: 15
- SONeT: 0
- NEST: 150
- London NTS: 44
- KSS: 2
- Peninsula: 5
Uplift transfers by Dedicated team in own area as a percentage of total uplift transfers

* As a proportion of uplift transfers during operational hours
Trends in the number of Uplift transfers by other team in their own area 2018 to 2020/21
Trends in Uplift transfers by dedicated team in their own area, as a percentage of uplift transfers 2018 to 2020/21

ScotSTAR
NISTAR
NNeTS
Connect NW
Embrace
CenTre
KIDS NTS
PaNDR
N Wales NTS
CHANTS
SONeT
NEST
London NTS
KSS
Peninsula

Year:
- 2018
- 2019
- 2019/20
- 2020/21

Target
Uplift referral response times

• Benchmark 3:
  – Referral response time & stabilising time: For transfers for uplift of care for intensive care patients in the first 72 hours of life from level 1 and 2 units the transport team will arrive with the patient within 3.5 hours of the referring call.
Number of Intensive Care Uplift transfers in the first 3 days of life from level 1 and 2 units 2020/21
Intensive care uplift transfers in the first 3 days of life from level 1 and 2 units, as a percentage of total transfers 2020/21
Numbers where the team arrived with the patient within 3.5 hours of the start of the referring call (ITU uplift transfers in the first 3 days of life from level 1 and 2 units), 2020/21
Team arrived with the patient within 3.5 hours of the start of the referring call as a percentage of ICU uplift transfers in the first 3 days of life from level 1 and 2 units 2020/21
Trends in team arrived with the patient within 3.5 hours of the start of the referring call as a percentage of ICU uplift transfers by team 2018 to 2020/21

Note that this benchmark was made more specific for the 2020-21 data, being restricted to ICU uplift transfers in the first 3 days of life from level 1 and 2 units, whereas previously all ICU uplift transfers were included.
Stabilising time (minutes), 2020/21
Median (25<sup>th</sup> & 75<sup>th</sup> centiles), uplift/ICU transfers, first 3 days of life, level 1 and 2 units

The red line shows the overall median. There is no benchmark for this measure, data is collected for comparison only.
Stabilising time (minutes), 2020/21
Median (25th & 75th centiles), uplift/ICU transfers first 3 days of life, level 1 and 2 units- ranked

The red line shows the overall median. There is no benchmark for this measure, data is collected for comparison only.
Benchmark 4: Overventilation and Underventilation
### Number of infants who are ventilated in transit by team

**Apr 2020 to Mar 2021**

<table>
<thead>
<tr>
<th>Team</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>ScotSTAR</td>
<td>160</td>
</tr>
<tr>
<td>NISTAR</td>
<td>96</td>
</tr>
<tr>
<td>NNeTS</td>
<td>162</td>
</tr>
<tr>
<td>Connect NW</td>
<td>345</td>
</tr>
<tr>
<td>Embrace</td>
<td>279</td>
</tr>
<tr>
<td>CenTre</td>
<td>274</td>
</tr>
<tr>
<td>KIDS NTS</td>
<td>364</td>
</tr>
<tr>
<td>PaNDR</td>
<td>263</td>
</tr>
<tr>
<td>N Wales NTS</td>
<td>32</td>
</tr>
<tr>
<td>CHANTS</td>
<td>81</td>
</tr>
<tr>
<td>SONeT</td>
<td>195</td>
</tr>
<tr>
<td>NEST</td>
<td>197</td>
</tr>
<tr>
<td>London NTS</td>
<td>506</td>
</tr>
<tr>
<td>KSS</td>
<td>198</td>
</tr>
<tr>
<td>Peninsula</td>
<td>69</td>
</tr>
</tbody>
</table>
Infants who are ventilated in transit as a percentage of total transfers, by team Apr 2020 to Mar 2021
Trends in numbers of infants ventilated in transit by team, 2018 to 2020/21
Trends in infants ventilated in transit as a percentage of total transfers, by team 2018 to 2020/21
Number of ventilated transfers with a pCO$_2$ recorded on completion of the transfer, by team Apr 2020 to Mar 2021

<table>
<thead>
<tr>
<th>Service</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>ScotSTAR</td>
<td>26</td>
</tr>
<tr>
<td>NISTAR</td>
<td>76</td>
</tr>
<tr>
<td>NNeTS</td>
<td>155</td>
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<tr>
<td>Connect NW</td>
<td>234</td>
</tr>
<tr>
<td>Embrace</td>
<td>192</td>
</tr>
<tr>
<td>CenTre</td>
<td>267</td>
</tr>
<tr>
<td>KIDS NTS</td>
<td>162</td>
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<tr>
<td>PaNDR</td>
<td>257</td>
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<tr>
<td>N Wales NTS</td>
<td>32</td>
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<tr>
<td>CHANTS</td>
<td>80</td>
</tr>
<tr>
<td>SONeT</td>
<td>179</td>
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<tr>
<td>NEST</td>
<td>130</td>
</tr>
<tr>
<td>London NTS</td>
<td>431</td>
</tr>
<tr>
<td>KSS</td>
<td>174</td>
</tr>
<tr>
<td>Peninsula</td>
<td>68</td>
</tr>
</tbody>
</table>
Ventilated patients with a pCO$_2$ recorded on completion of transfer, as a percentage of ventilated transfers by team, Apr 2020 to Mar 2021.
Numbers of ventilated patients with a pCO2 <4 kPa by team Apr 2019 to Mar 2020

- ScotSTAR: 4
- NISTAR: 7
- NNeTS: 9
- Connect NW: 7
- Embrace: 18
- CenTre: 13
- KIDS NTS: 12
- PaNDaR: 4
- N Wales NTS: 6
- CHANTS: 13
- SONeT: 40
- NEST: 9
- London NTS: 7
- KSS: 0
- Peninsula: 0
pCO2 <4 on completion of transfer as a percentage of ventilated transfers with CO2 data recorded by team, 2020/21
Trends in numbers of ventilated transfers with a pCO2 <4 kPa on completion by team 2018 to 2020/21
Trends in infants with pCO2 <4kPa on completion of transfer, as a percentage of ventilated transfers with CO2 data available, by team 2018 to 2020/21
Numbers where the pCO$_2$ was >7 kPa and the pH <7.2 in ventilated infants on completion of transfer by team, 2020/21
pCO₂ >7 kPa and pH <7.2 on completion of transfer as a percentage of ventilated transfers with CO₂ data available by team 2020/21

<table>
<thead>
<tr>
<th>Team</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>ScotSTAR</td>
<td>9.2%</td>
</tr>
<tr>
<td>NISTAR</td>
<td>3.9%</td>
</tr>
<tr>
<td>NNeTS</td>
<td>4.3%</td>
</tr>
<tr>
<td>Connect NW</td>
<td>1.9%</td>
</tr>
<tr>
<td>Embrace</td>
<td>5.6%</td>
</tr>
<tr>
<td>CenTre</td>
<td>3.9%</td>
</tr>
<tr>
<td>KIDS NTS</td>
<td>3.8%</td>
</tr>
<tr>
<td>PaNDR</td>
<td>6.7%</td>
</tr>
<tr>
<td>N Wales NTS</td>
<td>4.6%</td>
</tr>
<tr>
<td>CHANTS</td>
<td>5.3%</td>
</tr>
<tr>
<td>SONeT</td>
<td>5.9%</td>
</tr>
<tr>
<td>NEST</td>
<td>4.6%</td>
</tr>
<tr>
<td>London NTS</td>
<td>6.9%</td>
</tr>
<tr>
<td>KSS</td>
<td>5.9%</td>
</tr>
<tr>
<td>Peninsula</td>
<td>5.9%</td>
</tr>
</tbody>
</table>
Trends in numbers with $pCO_2 > 7$ kPa and pH $< 7.2$ in ventilated transfers by team 2018 to 2020/21
Trends in pCO₂ >7 kPa and pH <7.2 on completion of transfer as a percentage of ventilated transfers with CO₂ data available by team 2018 to 2020/21
pCO₂ <4 kPa or pCO₂ >7 kPa and pH <7.2 on completion of ventilated transfers by team as a percentage of ventilated transfers 2020/21
pCO$_2$ not $> 4$ kPa or pCO$_2$ $< 7$ kPa and pH $> 7.2$ on completion of ventilated transfers, as a percentage of ventilated transfers with data available, by team 2020/21
Team service characteristics

- 24 hour service
- Cot Bureau for ex utero transfers
- Conference calling available
- Local process in place for reviewing extreme preterm deliveries outwith level 3 NICUs
- Whether bilious vomiting transfers are treated as ‘time critical”
- Does your service offer support in locating neonatal and maternal beds for in utero transfers
- High Frequency Oscillation Ventilation available in transit
- Servo Controlled active cooling available in transit
- Dedicated vehicles for neonatal transport
- Consultant availability
- Use of transcutaneous CO2 monitoring
- Use of ET CO2 monitoring
- Volume targeted ventilation available in transit
Service Characteristics 2020/21
24 hour service

2018  2019  2019/20  2020/21

Yes  No
Service Characteristics 2020/21
Run a cot bureau

Yes  No

<table>
<thead>
<tr>
<th>Year</th>
<th>2018</th>
<th>2019</th>
<th>2019/20</th>
<th>2020/21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
Service Characteristics 2020/21
Conference Calling

Yes
No

2018
2019
2019/20
2020/21
Service Characteristics 2020/21
Local network “wrong place” review
Service Characteristics 2020/21
Infants referred with bile-stained vomiting/aspirates treated as time-critical transfers?

<table>
<thead>
<tr>
<th>Year</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>2019</td>
<td>9</td>
<td>6</td>
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<tr>
<td>2019/20</td>
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<td>9</td>
</tr>
<tr>
<td>2020/21</td>
<td>9</td>
<td>6</td>
</tr>
</tbody>
</table>
Service Characteristics 2020/21
Do you offer support for locating appropriate maternal and neonatal beds for in-utero transfers?

<table>
<thead>
<tr>
<th>Year</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>2019</td>
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<td>6</td>
</tr>
<tr>
<td>2019/20</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>2020/21</td>
<td>9</td>
<td>6</td>
</tr>
</tbody>
</table>
Service Characteristics 2020/21
HFO offered in Transit

Yes  No

2018  2019  2019/20  2020/21
Service Characteristics 2020/21
Provide servo-controlled active cooling in transit

<table>
<thead>
<tr>
<th>Year</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td></td>
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</tr>
<tr>
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</tr>
<tr>
<td>2020/21</td>
<td></td>
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</tr>
</tbody>
</table>
Service Characteristics 2020/21
Dedicated Vehicles
Service Characteristics 2020/21
Consultants

<table>
<thead>
<tr>
<th>Category</th>
<th>2018</th>
<th>2019</th>
<th>2019/20</th>
<th>2020/21</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Scheduled, all of the time</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. Scheduled, some of the time</td>
<td></td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. Maybe available, ad-hoc</td>
<td>5</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. None of the time</td>
<td></td>
<td>1</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

- a. Scheduled, all of the time
- b. Scheduled, some of the time
- c. Maybe available, ad-hoc
- d. None of the time
Service Characteristics 2020/21
Do you use a transcutaneous CO$_2$ monitor in transit?

![Bar chart showing the distribution of Yes and No responses for the use of a transcutaneous CO$_2$ monitor in transit for the year 2020/21. The chart indicates that 15 responses were Yes and 6 responses were No.]
Service Characteristics 2020/21
Do you use ET CO₂ monitoring in transit?

- Yes
- No
Service Characteristics 2020/21
Do you offer Volume Guarantee Ventilation in transit?

2020/21
Yes No
Conclusions/Trends 2020/21

- We are in a period of relative stability in terms of service configuration and modes of support available in transfer.
- Challenges around thermal care prior to and during transfer persist and require concerted cross network/transport focus.
- The more focused criteria for assessing response and stabilisation times appear to be more relevant for comparison between teams.
- Information from the new data points - bilious vomiting transfers, prolonged journeys etc provide a valuable insight into practice around the country.
and finally, a thought on COVID......

- The drop in the number of transfers over 2020-2021, and the small numbers of COVID transfers do not convey the huge challenges faced through this period by all services. It is a credit to all that excellent care continued to be provided over this time.
Thanks to

- All the team and data leads
- Colin Devon, ScotSTAR data analyst