Dear Colleague,

RE: Non-invasive ventilation in the management of children with bronchiolitis (NOVEMBR): A feasibility study

NIHR have asked us to undertake a feasibility study with a view to designing a trial on how best to provide non-invasive ventilation (NIV) for children in hospital with bronchiolitis. As part of this study, we are surveying paediatricians in the UK to find out how these children are currently managed. The questions in this survey will cover the number of children admitted to your hospital with bronchiolitis, the type of NIV intervention(s) used at your hospital and who administers them, and the number of paediatric research staff at your hospital.

We would be very grateful if you (or whoever you consider most appropriate within your hospital) could complete the following short survey. If there are any questions that you are unable to answer, there is an option at the end of the survey to suggest who could provide answers on your behalf.

Kind Regards

Professor Paul McNamara

On behalf of the NOVEMBR study team

Email: Novembr.study@liverpool.ac.uk
Telephone: 0151 252 5573 / 0151 794 9838
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* 1. Please indicate the name of the hospital where you work

2. Please provide your job title/role
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* 3. Is your hospital...
   - a District General Hospital
   - a Paediatric Tertiary Hospital
   - Other (please specify)

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4. **Approximately**, how many children with bronchiolitis are admitted to your hospital (with a minimum one day length of stay) per year?

- <50
- 51-100
- 101-200
- 201-300
- 301-400
- >401
- Don't know

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5. **Approximately**, what percentage of children admitted to your hospital for bronchiolitis receive the following treatments (total for the five options may add up to >100%). Please exclude A&E short stay patients:

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Oxygen</td>
<td></td>
</tr>
<tr>
<td>Oxygen</td>
<td></td>
</tr>
<tr>
<td>Non-invasive CPAP</td>
<td></td>
</tr>
<tr>
<td>Heated humidified high flow nasal oxygen</td>
<td></td>
</tr>
<tr>
<td>Intubation and ventilation</td>
<td></td>
</tr>
</tbody>
</table>

Other (please specify; if not known, enter NK)

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6. Do you have any local bronchiolitis care pathways and/or guidance?

- YES (Please email a copy to novembr@liverpool.ac.uk)
- NO
- Don't know
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7. What criteria do you use for starting oxygen?

☐ SpO2 <92%

☐ Other (please specify; if not known, enter NK)
8. Do you send otherwise well children with bronchiolitis who are improving, home on oxygen?

- Yes
- No
- Don't know

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9. Which of the following do you currently use to deliver oxygen therapy on the general medical paediatric wards? (please select all that apply)

- Nasal Cannula
- Head Box with cold humidity
- Non-rebreath mask
- Heated humidified high flow nasal oxygen
- Non-invasive CPAP
- Other (please specify; if not known, enter NK)
10. How many HDU beds do you have in winter? (If not known, enter NK)
11. Which of the following do you currently use to deliver oxygen therapy on the **HDU**? (Please select all that apply)

- Nasal Cannula
- Head box with cold humidity
- Non-rebreathing mask
- Heated humidified high flow nasal oxygen
- Non-invasive CPAP
- Not Applicable (no HDU beds)
- Other (please specify; if not known, enter NK)

12. Do you currently use a CPAP machine for children with bronchiolitis at your hospital?

- Yes
- No
- Don't know
13. If answered 'yes' to previous question, what type of CPAP machine do you currently use for children with bronchiolitis, and how many do you have available at your hospital? (please select the number available for each option below)

- Fisher & Paykel bubble nCPAP
- Phillips NeoPAP
- Infant flow SiPAP
- Other (please specify; if not known, enter NK)

14. What criteria do you use for initiating CPAP?
   - Criteria 1.
   - Criteria 2.
   - Criteria 3.
   - Criteria 4.
   - Criteria 5.
   - Any others (please specify; if not known, enter NK):

15. What criteria do you use for weaning CPAP?
   - Criteria 1.
   - Criteria 2.
   - Criteria 3.
   - Criteria 4.
   - Criteria 5.
   - Any others (please specify; if not known, enter NK):
16. Who is responsible for altering CPAP settings?

- [ ] Nursing Staff
- [ ] Medical Staff
- [ ] Respiratory Physiotherapist
- [ ] Don't know
- [ ] Other (please specify)

17. What are the minimum training requirements for staff to manage a child on CPAP?

- [ ] Attendance on an ad hoc training session run by manufacturer
- [ ] Annual attendance on an in-house training package without clinical competency assessment
- [ ] Annual attendance of an in-house training package with clinical competency assessment
- [ ] High dependency course
- [ ] None
- [ ] Don't know
- [ ] Other (please specify)
18. Do you currently use heated humidified high flow nasal oxygen for children with bronchiolitis at your hospital?

- [ ] Yes
- [ ] No
- [ ] Don’t know

19. If answered ‘yes’ to previous question, what type of heated humidified high flow nasal oxygen machine do you currently use for children with bronchiolitis, and how many do you have available at your hospital? (please select the number available for each option below).

- [ ] Fisher & Paykel Optiflow Junior
- [ ] Fisher & Paykel Airvo
- [ ] Vapotherm Precision Flow
- [ ] We do not use a heated humidified high flow nasal oxygen machine

Other (please specify type and number of machines at your hospital; if not known, please enter ‘NK’)


20. What criteria do you use for initiating heated humidified high flow nasal oxygen machine?

Criteria 1. 
Criteria 2. 
Criteria 3. 
Criteria 4. 
Criteria 5. 

Any others (please specify; if not known, enter NK): 


21. What criteria do you use for **weaning** heated humidified high flow nasal oxygen?

Criteria 1.  
Criteria 2.  
Criteria 3.  
Criteria 4.  
Criteria 5.  
Any others (please specify; if not known, enter NK):  

22. Who is responsible for altering heated humidified high flow nasal oxygen settings?

- Nursing staff
- Medical Staff
- Respiratory Physiotherapist
- Other (please specify; if not known, enter NK)

23. What are the minimum training requirements for staff to manage a child on heated humidified high flow nasal oxygen?

- Attendance on an ad hoc training session run by manufacturer
- Annual attendance on an in-house training package without clinical competency assessment
- Annual attendance of an in-house training package with clinical competency assessment
- High dependency course
- None
- Don't know
- Other (please specify)
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24. How many whole time equivalent (WTE) paediatric research nurses work at your hospital? (If not known, enter NK)

25. On an average shift, how many ward nurses are GCP (Good Clinical Practice) trained? (If not known, enter NK)

26. On an average shift, how many doctors are GCP (Good Clinical Practice) trained? (If not known, enter NK)
27. We are considering designing a clinical trial on how best to provide non-invasive ventilation in children with bronchiolitis. Would you be able to run such a trial out-of-hours (Monday - Friday 17:00 -08:00 or weekends), at your hospital?

- Yes
- No
- Don't know

Please provide a reason for your response.

28. Could you foresee any barriers to undertaking a trial on non-invasive ventilation at your hospital?
29. What would enable you to participate in the study at your hospital? (If not known, enter NK)

30. As part of the NOVEMBR feasibility study, we will be conducting a Delphi survey to identify important outcomes for use in future clinical trials. We would greatly appreciate your input. If you are interested in completing the survey, please enter your email address into the comments box below:
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Reminder: If you answered ‘yes’ to question 6. ‘Do you have any local bronchiolitis care pathways and/or guidance?’, please email a copy to novembr.study@liverpool.ac.uk.

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31. If there are any questions that you have been unable to answer, we would be grateful if you could provide details (name and email address) of anyone who might be able to provide this information.

Name: 

Email address: 

Name: 

Email address: 

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Many thanks for taking part in this survey, we greatly appreciate your input!

Best wishes,

The NOVEMBR team