



Acute Non Invasive Ventilation

National Confidential Enquiry into Patient Outcome and Death (NCEPOD)

ORGANISATIONAL QUESTIONNAIRE

CONFIDENTIAL

Name of Trust/Health Board: _____

Name of Hospital: _____

Who completed this questionnaire?

Name(s): _____

Position(s): _____

What is this study about?

To identify and explore avoidable and remediable factors in the process of care for patients aged 16 years or older receiving acute non invasive ventilation.

Inclusions

All hospitals from England, Scotland, Wales, Northern Ireland, Jersey, Guernsey and the Isle of Man that treat adult patients acutely with non invasive ventilation, are included in the study.

How to complete the form:

Information will be collected using two methods; box cross and free text.

This form will be electronically scanned. Please use a black or blue pen. Please complete all questions with either block capitals or a bold cross inside the boxes provided e.g.

Does this hospital have a guideline /protocol for acute NIV?

Yes No

If you make a mistake, please "black-out" the incorrect box and re-enter the correct information, e.g.

Yes No

Please only mark one box per question, unless indicated

Who should complete this form?

This questionnaire should be completed by the Medical Director of the Trust/Health Board or person(s) nominated by them who would have the knowledge to complete it accurately or be able to seek help to complete it accurately. Input from the relevant clinical leads is strongly recommended.

To ensure confidentiality of the data, please return the completed questionnaire directly to NCEPOD in the SAE provided.

Questions or help?

If you have any queries about this study or this questionnaire, please contact

niv@ncepod.org.uk or telephone: 020 7251 9060

further details available on our study web page: <http://www.ncepod.org.uk/niv.html>

Thank you for taking the time to complete this questionnaire. The findings of the study will be published in summer 2017.

NCEPOD number:

--	--	--	--	--	--



PLEASE CHECK THE DEFINITIONS BELOW AS THERE HAS BEEN SOME CONFUSION BETWEEN THE TERMS NIV AND CPAP IN CASES SUBMITTED FOR PEER REVIEW

Definitions		
CPAP	Continuous positive airway pressure	For the purposes of this questionnaire, CPAP refers to treatment for obstructive sleep apnoea, NOT treatment for hypoxaemic respiratory failure.
BIPAP	Bilevel positive airway pressure	Ventilation support delivering two levels of pressure and used to treat hypercapnic (ventilatory) respiratory failure.
NIV	Non Invasive Ventilation	This term is used CLINICALLY and in this study to refer to BIPAP. The terms are interchangeable. From a coding perspective, both BIPAP and CPAP are coded as NIV which may lead to confusion.
EPAP	Expiratory Positive Airways Pressure	This is the same as CPAP but is the accepted term used to describe expiratory pressure delivered to patients receiving non-invasive bi-level support.
IPAP	Inspiratory Positive Airways Pressure	This is the additional pressure delivered to support each breath and therefore to help with CO2 elimination when delivering bi-level support.
COPD	Chronic Obstructive Pulmonary Disease	
AHRF	Acute Hypercapnic Respiratory Failure	A combination of raised CO2 (>6.0kPa) and acidosis (pH<7.35)
Levels of care (Higher Dependency Care/ Critical Care is Level 2 and 3)	<p>Critical care includes Level 2 and 3 patients:</p> <p>Level 0: Patients whose needs can be met through normal ward care in an acute hospital.</p> <p>Level 1: Patients at risk of their condition deteriorating, or those recently relocated from higher levels of care whose needs can be met on an acute ward with additional advice and support from the critical care team.</p> <p>Level 2: (e.g. HDU) Patients requiring more detailed observation or intervention including support for a single failing organ system or post operative care, and those stepping down from higher levels of care. (NB: When Basic Respiratory and Basic Cardiovascular support are provided at the same time during the same critical care spell and no other organ support is required, the care is considered to be Level 2 care).</p> <p>Level 3: (e.g. ICU) Patients requiring advanced respiratory support alone or basic respiratory support together with support of at least two organs. This level includes all complex patients requiring support for multi-organ failure. (NB: Basic Respiratory and Basic Cardiovascular do not count as 2 organs if they occur simultaneously (see above under Level 2 care), but will count as Level 3 if another organ is supported at the same time).</p>	





A THE HOSPITAL

1a. Type of facility (please select one option that fits best).

- District general hospital: ≤500 beds University teaching hospital
 District general hospital: >500 beds Independent hospital
 Other (please specify)

2a. How many in-patient beds are there in your hospital?

2b. Does this hospital have an emergency department? Yes No

2c. If Yes what was the average emergency department attendance per day in 2015 (1st January - 31st December)?

2d. What was the average daily number of acute medical admissions in 2015 (1st January - 31st December)?

3a. How many patients were managed with acute NIV in 2015 (1st January - 31st December)?

- 1-50 51-100 101-150 151-200 201-250 251-300
 301-350 > 350

3b. Is this number?:

- Number of cases coded Routinely collected data within the department
 An approximation Other
(please specify)

4a. Does this hospital initiate home CPAP or NIV treatment (as opposed to referring to another centre for initiation)? Yes No

4b. Total number of patients on home CPAP? Number started on CPAP in the last 12 months? No CPAP service

4c. Total number of patients on home NIV? Number started on NIV in the last 12 months? No NIV service

B POLICIES, PROTOCOLS, GUIDELINES AND DOCUMENTATION

5a. Does this hospital have a guideline/protocol for acute NIV? Yes No

5b. If Yes please indicate what is included

- i) Indications for NIV Yes (please specify which below) Indications not included
 All acute hypercapnic respiratory failure (AHRF) (due to any cause) AHRF due to COPD exacerbation AHRF in obesity/obstructive sleep apnoea
 AHRF due to pneumonia AHRF due to neuromuscular disease AHRF due to pulmonary oedema
 AHRF due to acute presentation of chest wall deformity Other (please specify)





- ii. Location(s) where NIV treatment can be provided
- iii. Weaning guidance/protocol
- iv. Recommendation to make escalation plan
- v. Contraindications to NIV

6. Does your hospital use a NIV prescription form? Yes No

7a. Does your hospital use a specific NIV observation chart? Yes No

7b. If Yes, does the observation chart require recording of:

Ventilation mode Yes No

Oxygen flow rate or concentration Yes No

IPAP setting Yes No

Oxygen saturation Yes No

EPAP setting Yes No

Respiratory rate Yes No

Conscious level GCS AVPU Other No measurement

Other (please specify)

8a. Does this hospital have an identified medical lead clinician for the NIV service? Yes No

8b. If Yes, how much time is allocated in the job plan for the lead role (please put 0 if none) ? Hours/week

8b. If Yes to 8a what specialty is the lead clinician?

Respiratory medicine Emergency medicine Acute medicine

Critical care medicine Other

(please specify)

9. How many consultants in respiratory medicine are employed in your hospital?

Number of consultants:

WTE consultants:

10. Do you have an identified non-medical lead for the NIV service? Yes nursing Yes physio
 No

11. How is medical supervision of NIV provided out of hours (tick all that apply)?

Respiratory consultant on call rota General medical consultant on call rota

Other (please specify)

12a. How many consultants participate in the general medical on call rota?

12b. How many respiratory consultants participate in the general medical on call rota?

12c. For what percentage of the total out of hours period (nights, weekends, bank holidays) is the NIV service covered by a respiratory consultant (please approximate to nearest 10%)? %



Arrangements for NIV provision vary between hospitals. Please answer the following questions about your "Designated NIV Unit" in relation to the clinical area(s) where ongoing NIV treatment is generally provided to patients. PLEASE NOTE THE NIV DEFINITION FOR THIS STUDY(see page 2).

13. In which of the following areas is NIV mainly provided (i.e. not just initiated before transfer for ongoing treatment to the "Designated NIV unit"):

Clinical areas	Number of beds	Approximate percentage of acute NIV episodes provided in this area
Intensive care unit (level 3)	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>
High dependency unit (level 2)	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>
Respiratory high care within respiratory ward (level 1)	Number of high care beds: <input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>
Respiratory ward, not including high care beds (level 0)	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>
Other (please give details below)	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/> <input type="text"/>

Other (please provide details)

14. How many trained nurses and healthcare assistants staff the "designated NIV" unit during the early, late and night shifts?

	Early (10am)	Late (6pm)	Night (midnight)
Trained nurses	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>
Healthcare assistants	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>	<input type="text"/> <input type="text"/>

15a. Does your hospital have a defined staffing ratio for patients receiving NIV? Yes No

15a. If Yes, NIV patients/nurse?

16a. How is physiotherapy provided for acute NIV patients?

- Dedicated NIV physiotherapist General physiotherapy service
 Respiratory physiotherapy service Physiotherapy not provided

16b. Number of hours/day physiotherapy cover provided to designated "NIV unit":

Monday-Friday Saturday Sunday
 (hours per day)





C TRAINING

17a. Does your hospital run a training programme for delivery of NIV? Yes No

17b. If Yes, what is the frequency of training?

	Monthly	Quarterly	Six monthly	Annually	Other (please specify)
Nurses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Doctors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>
Physiotherapists	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="text"/>

18a. Do you have a staff competency assessment for delivery of NIV? Yes No

18b. Number of staff with competency (please tick unknown if you do not keep a record of competency?)

	Number	Unknown
Nurses	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="checkbox"/>
Doctors	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="checkbox"/>
Physiotherapists	<input type="text"/> <input type="text"/> <input type="text"/>	<input type="checkbox"/>

18c. Do staff without competency directly supervise patients receiving NIV? Yes No

D ORGANISATION/DELIVERY OF NON-INVASIVE VENTILATION SERVICE

19. Location of NIV provision and monitoring used in routine clinical practice (please mark any that apply):

	NIV initiated	NIV continued	Continuous Oximetry	Continuous ECG	Invasive BP (arterial line)
Emergency Department	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Acute Medical Unit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
General Medical Wards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Surgical Wards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Respiratory Ward	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Respiratory High Care Area	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ICU (level 3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HDU (level 2)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>





20a. Number of acute NIV machines (excluding ITU ventilators)?

20b. Number of ITU ventilators?

21a. In the last 12 months has your hospital ever had more patients requiring NIV than NIV machines available? Yes No

21b. If Yes, please explain how this was resolved:

22. How is oxygen delivered during NIV? (please state the number of NIV machines in use in each category – 0 if not available)

Pre-mixed through NIV machine Entrained through tubing Entrained through mask
 Number Number Number

23a. Do you offer a choice of mask Type for provision of acute NIV? Yes No

23b. If Yes, number of different Types of mask offered?

24. How many different mask Sizes does your unit offer for acute NIV?

25. Who in your service does the following? (please mark all that apply)

	Makes changes to ventilator settings	Takes arterial blood gas samples	Takes capillary blood gas samples
Respiratory specialist nurse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Physiotherapist	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Critical care outreach nurse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ward nurse	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Healthcare assistant	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Consultant (respiratory)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Consultant (emergency medicine)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Consultant (acute medicine)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Consultant (general medicine)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Respiratory trainee (ST3 and above)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Medical trainee (ST3 and above)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Medical trainee (below ST3)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other <input type="text"/> (please specify)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>





26a. Does your 'designated NIV unit' have a dedicated blood gas machine located within the ward? Yes No

26b. Which of the following gas sampling are used to assess the response to ventilation (please mark all that apply)? Arterial Capillary Venous

27a. Does your hospital have a critical care outreach service? Yes No

27b. If Yes, number of hours/day covered?

Monday - Friday

Saturday

Sunday

27c. Does this service cover the whole hospital? Yes No

E GOVERNANCE, AUDIT AND DATA COLLECTION

28. Did your hospital contribute cases to the British Thoracic Society NIV audit in 2013? Yes No

29. Does your hospital undertake an annual audit of the NIV service? Yes No

30a. Did your organisation investigate any serious incidents related to NIV provision in 2015? Yes No

30b. If yes, please describe below the incident and actions taken following investigation:





**If required please use this page to expand on any answers given throughout the questionnaire.
Please include the question number .**

Question number	
-----------------	--

Thank you for taking the time to complete this questionnaire



Funding for this study was provided by The Healthcare Quality Improvement Partnership (HQIP) as part of The Clinical Outcome Review Programme into medical and surgical care.

NCEPOD
Ground Floor, Abbey House
74-76 St John Street
London
EC1M 4DZ

