

Are we meeting the standards for provision of NIV services in the UK?: Results from the National COPD Audit 2008

Kaiser R¹, Patel A¹, Mallia P¹, Stone RA², Buckingham R², Roberts CM^{1,2}

¹Whipps Cross University Hospital

²Clinical Effectiveness and Evaluation Unit, Royal College of Physicians London

Whipps Cross University Hospital  NHS Trust



Introduction

- Non-invasive ventilation is an established treatment for type 2 respiratory failure in COPD exacerbations¹. The 2003 UK National Audit of acute COPD care highlighted marked variability in acute NIV provision, with observed outcomes for patients treated with NIV worse than in RCTs².
- The 2008 National Audit has examined key services for acute COPD care in more details, including NIV provision. Baseline quality data was collected and examined against 12 service quality indicators or treatment standards (see table 1) as used in the 2007 NCROP survey of 100 UK hospitals³.

Table 1

1	NIV is used as the treatment of choice for persistent hypercapnic ventilatory failure during exacerbations despite optimal medical therapy
2	NIV is delivered in settings suitable for COPD patients, designated area where staff have been specifically trained in NIV. E.g. ITU, HDU, Emergency admissions ward, dedicated respiratory ward
3	There is a named consultant responsible for the NIV service
4	There is an ongoing inter-professional training programme for ALL staff involved in the care of patients established on NIV
5	Nurses and doctors outside of specialist respiratory wards do know how to manage patients with COPD, and are aware of the indications for and benefits of NIV
6	There is a written protocol that defines the monitoring of patients receiving NIV, and includes a minimum of regular clinical assessment, pulse oximetry and arterial blood gas measurements
7	There is a clear set of individualised written instructions for the management of each patient receiving NIV, including what to do in the event of deterioration and agreed ceilings of therapy, along with an agreed protocol between ICU and the medical team
8	Locally adapted written protocols for the management of COPD patients requiring NIV, including weaning from NIV, are available in ALL relevant clinical areas for ALL relevant staff
9	A selection of nasal and full face masks, types and nasal pillows are available
10	All areas offering NIV provide written information for patients about the indications for and patient experience of NIV
11	There is a written policy for providing patient information about NIV to severe COPD patients whilst in a stable state e.g. in an outpatient setting or upon discharge from hospital
12	There is an annual audit of the use of NIV including all clinical areas. This audit covers both those patients offered NIV to examine its appropriate use and those that might have benefited for NIV but who were not provided with this therapy

Methods

- Lead respiratory clinicians from 239 UK hospital units completed an organisation of care proforma relating to NIV service provision, and were asked if their hospital met each of the 12 treatment standards in full, partially, or not at all.

Results

The details of responses to each service quality indicator is shown in table 2. The results are expressed as a percentage of 239

Table 2

Quality indicator number	Quality Indicator	Met in full (% of 239)	Only partially met (% of 239)	Not met at all (% of 239)
1	NIV used as treatment of choice	79	18	2
2	NIV delivered in suitable settings	80	16	3
3	Named consultant for NIV service	71	18	10
4	Ongoing NIV training programme	52	40	8
5	Staff outside specialist respiratory wards aware of NIV	34	59	7
6	Written NIV protocol	79	13	7
7	Individualised written instructions for patients receiving NIV	47	43	10
8	Locally adapted protocols for NIV	46	40	14
9	Full selection of nasal and full face masks	54	43	3
10	Written information for patients about NIV	14	25	61
11	Policy for providing patient information	4	18	78
12	Annual audit of NIV	24	52	24

Notable results were:

- 79% of 239 UK hospitals provided NIV for all eligible persistently hypercapnic COPD patients, with a further 18% providing some service.
- 80% were always able to deliver NIV in suitable settings.
- 71% had a designated consultant lead for NIV.
- When asked if staff outside of specialist respiratory wards were aware of indications and benefits of NIV, only 34% replied met in full, whilst 7% not at all.
- Only 52% provide a comprehensive ongoing training programme for all staff.
- 79% had written management protocols for NIV, but only 46% provided protocols in all areas where NIV was administered.
- Only 47% fully met the provision of clear individualised written instructions for each patient including escalation plan.
- Only 24% perform a comprehensive annual audit, whereas 24% perform no audit at all.
- Only 14% fully met the provision of written information on NIV to patients, 61% provided no information at all
- Only 4% had a policy to provide information to patients when in a stable clinical state

Conclusions

- Although a high proportion of UK hospitals surveyed now provide an acute NIV service, significant shortfalls exist in some treatment standards.**
- Areas of concern include poor knowledge of NIV amongst non specialist staff, the lack of ongoing training programmes, and the failure to audit the NIV service.**
- Provision of information to patients about NIV treatment remains very poor.**

References

- BTS Standards of care Committee. Non-invasive ventilation in acute respiratory failure. Thorax 2002; 57: 192-211
- Price L et al. The UK national COPD audit 2003. Impact of hospital resources and organisation of care on patient outcome following admission for acute COPD exacerbation. Thorax 2006; 61: 837-842
- Roberts CM et al. Quality indicators for non-invasive ventilation services: a survey of 100 UK NHS hospitals. Thorax 2007; Supp III: 153

Acknowledgements

This work was carried out by the National COPD Resources and Outcomes Project (NCROP) – a partnership between the Clinical Effectiveness and Evaluation Unit at the Royal College of Physicians of London, The British Thoracic Society and The British Lung Foundation, and is fully funded by The Health Foundation.

