

Sim-Man to NIV-Man.

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Background

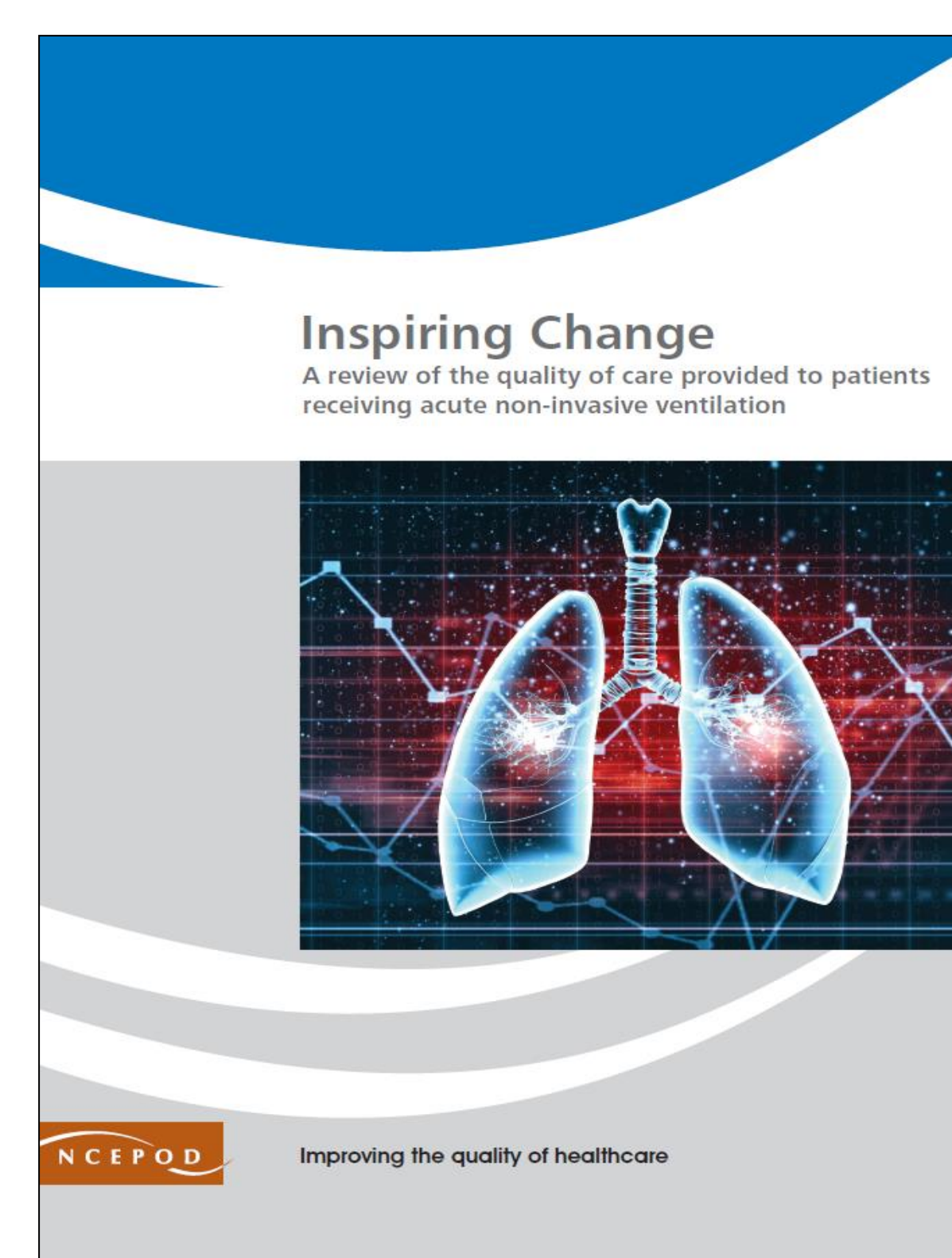
A National Confidential Enquiry into Patient Outcome and Death (NCEPOD) for NIV (Non-Invasive Ventilation) was conducted in response to excess UK mortality.¹ Independent case-review showed management of NIV was less than good in 73% of cases. The British Thoracic Society Quality Standards for acute NIV advise that staff who provide NIV have evidence of training and competency.² The Northumbria Healthcare NHS Foundation Trust NIV service was presented as an exemplar of good practice at the NCEPOD report launch. Since 2004 staff delivering NIV have completed NIV training and competency assessment. In 2017 this was enhanced with the introduction of simulation training.

Summary of education programme

Small group training, combining theory and practical training with challenging real-life cases, addressing essential aspects of good practice. Trainees are given the clinical history for each scenario. The Sim-man operator is concealed, but adjusts response depending on trainees' actions and communicates with the facilitator in the room.

Trainees are facilitated to follow local NIV guidelines, ask for early escalation of care decisions, and respond to early warning scores and changes in vital signs. Decisions about initiation and monitoring of NIV are scrutinised. Key skills of successful NIV including communication and mask fitting are incorporated. Trainees respond to deteriorating patients including hypotension, worsening hypercapnia and secretion retention and practice auscultation, insertion of naso-pharyngeal and oro-pharyngeal airways, suction and taking arterial blood gases.

As part of debriefing each case afterwards, key messages are discussed. Trainees are encouraged to complete accurate documentation regarding initiation of NIV and review detailed competencies of theoretical knowledge and practical skills.



Results

In 2017, we asked for feedback to evaluate the simulation sessions. Quantitative feedback reported that 100% (n=48) of physiotherapists felt that mixing theory and practical application benefited their training. Ninety-four per cent reported that the training was very good and 6 per cent good. Qualitative comments by the trainees included that they enjoyed the simulation training, they liked small groups with varied experience, found it a supportive environment, it was useful to experience uncommon clinical situations, and they would like more regular simulation training.

Conclusions

Compared to pre-existing training, use of simulation provides a more realistic experience of challenging real-life cases, and assessment of trainees' response to anticipated and unexpected clinical change. Trainees can practice clinical assessment and treatment skills, decision making and problem solving within a safe environment.

References

1. The National Confidential Enquiry into Patient Outcome and Death. *Inspiring Change*. 2017. London
2. Davies M, Allen M, Bentley A, *et al*. British Thoracic Society Quality Standards for acute non-invasive ventilation in adults. *BMJ Open Respiratory Research* 2018; **5**:e000283. Doi: 10.1136/bmjresp-2018-000283