



# Identifying barriers and facilitators to improve prehospital care of asthma

Deborah Shaw †\*, Stacey Knowles †, A Niroshan Siriwardena †\*, Mohammad Iqbal †\*

† East Midlands Ambulance Service NHS Trust, UK, \*University of Lincoln



## Context

- The National Ambulance Services Clinical Quality Group is responsible for benchmarking and driving improvement in the quality of clinical care provided by front line ambulance staff (paramedics and ambulance clinicians) across all twelve ambulance services in England.

## Problem

- 2008/09 there were nearly 80,000 emergency hospital admissions for asthma.<sup>1</sup>
- Current UK guidelines emphasise the importance of evidence-based prehospital assessment and treatment of asthma for improving patient outcomes and reducing hospitalisation, morbidity and mortality.<sup>2</sup>
- National benchmarking of ambulance clinical performance indicators for asthma, with performance analysed using funnel plots, revealed important unexplained variations in care across ambulance services.

## Assessment of problem and analysis of its causes

- Despite gradual improvements in care quality poor levels of prehospital assessment of asthma persist, particularly in recording of peak expiratory flow rates (PEFR: mean 50%, range 21-73% recorded) and saturation of peripheral oxygen (SpO<sub>2</sub>: mean 93%, range 85-100% recorded).
- Little research has been undertaken to understand the reasons for poor levels of care.

## Intervention

Qualitative data were collected focusing on

- ambulance clinicians' perceptions and beliefs around asthma management
- the barriers and facilitators to implementing current guidelines
- what measures would improve prehospital care and pathways for asthma.

## Study design

- We used a phenomenological qualitative approach focusing on participants' lived experiences of care delivery for asthma.
- We used focus groups of ambulance clinicians to gather data on barriers and facilitators to better asthma care.
- Recordings and notes were taken, transcribed and then analysed using QSR NVivo 8.
- A coding framework was developed based on a priori concepts but with emergent themes added during the analysis.

## Primary themes

A number of preliminary themes were identified:

- perceptions and beliefs of paramedics on the management of asthma,
- barriers and facilitators to following asthma guidelines,
- measures to improve prehospital asthma care and pathways.

## Results

Ambulance clinicians believed that asthma guidelines were usually followed with the exception of PEFR recording.

'...the majority of people do follow the guidelines because they are good.. It's just the peak flow thing...'

'The guidelines seem to be more set for hospitals than anything else. And being out on the road ... we haven't got 6 people to go round grabbing pieces of kit to help us out...'

They felt the guidelines were more suitable for the hospital environment, and that they were confusing or not always practical in the prehospital environment.

Ambulance guidelines and training were seen as barriers to pre-treatment assessment as the emphasis is on correcting breathing difficulties before carrying out other assessments

'With these it always starts with airway, breathing and circulation. They always say if you can't get past the first couple you treat those first couple. So the rest of the guidelines basically go out of the window...'

'...if we do the peak flow prior to...we are withholding treatment really so that isn't a priority for us. It's the airway and breathing that is...'

Pre-treatment objective assessments were not seen as a priority where airway or breathing difficulty was apparent and where these were not thought to affect patient outcome.

Peak flow measurement was believed by some to be detrimental to patients in respiratory distress and sometimes difficult to obtain.

'You're not going to ask them to, like, get rid of all the air in their lungs if they're struggling. So for me it goes on the back burner'

'...we only have them [SpO<sub>2</sub> monitors] connected to our Lifepak® 12 monitors...', '...But if you've got the Spo<sub>2</sub> in the bag you can put that on at the same time as giving the oxygen. Get a reading prior to the oxygen...'

Blood oxygen measurement was more likely to be carried out where equipment was readily to hand.

Reasons for not carrying out objective assessment were not always recorded.

'But that shouldn't be a problem [patient unable to give a peak flow] with the recording because you should put "not able to record" on that.', 'I would think that's where we've been let down.'

'We can refer a fall to social services...who will go out and assess. We need to have that backup from respiratory nurses in terms of asthma.'

Development of better pathways and co-operation between health agencies was advocated.

## Effects of changes

Our findings will inform system interventions to address current deficiencies in care. Improvements will be measured using control charts.

## Lessons learnt

Important barriers to improving care are often not evident without involving front line clinicians, gathering information from them in order to understand the issues affecting care delivery from their perspective. Perceptions and beliefs held by ambulance clinicians for asthma management need to be addressed in order to change practice. Ambulance training and guidelines need to reinforce the reasons for taking objective assessments, reinforcing the place of pre-treatment assessment in the overall patient journey and highlighting the dangers of over reliance on non-objective assessment.

## Messages for others

Detailed analysis of barriers and facilitators is an important precursor to real, sustained and systematic improvements in care.

1. Asthma UK: [http://www.asthma.org.uk/news\\_media/media\\_resources/index.html](http://www.asthma.org.uk/news_media/media_resources/index.html) accessed 29 August 2010

2. British Thoracic Society, Scottish Intercollegiate Guidelines Network, British Guideline on the Management of Asthma, A National Clinical Guideline. London: British Thoracic Society, 2009. <http://www.brit-thoracic.org.uk/Portals/0/Clinical%20Information/Asthma/Guidelines/sign101%20revised%20june%2009.pdf> Accessed 30 August 2010