

## Tell your story

NICE Shared Learning Awards 2008



# NICE training improves outcomes: making the right way the easiest way

## Aim

- To determine whether the introduction of multi-professional training in electronic fetal monitoring (EFM) interpretation and the use of a structured proforma in line with NICE guideline recommendations were associated with a reduction in suboptimal perinatal outcomes.
- To develop a cumulative sum (CUSUM) based surveillance system, using routinely collected data, which could provide serial monitoring of one of the recommended outcome measures of fetal hypoxia.

## Objectives

- To reduce the number of term infants who need resuscitation at birth as indicated by a 5-minute Apgar score of  $\leq 6$ , and the incidence of moderate or severe hypoxic-ischaemic encephalopathy (HIE), a predictor of neurological damage, in term liveborn infants;
- To detect increased rates for low Apgar scores in term infants of  $\geq 50$  above the baseline reference rate;
- To address any deterioration with root cause analysis, implement solutions, then identify improvements.

## Context

In the 7th Confidential Enquiry into Stillbirth & Deaths in Infancy, most cases had evidence of poor care, particularly EFM interpretation. Acknowledging the NICE guideline that recommends annual training in EFM, we introduced a multi-professional training course for EFM interpretation and mandated annual attendance by all staff. We developed a proforma to facilitate standard reporting and management and evaluated the result. Subsequently, we developed a CUSUM surveillance system to detect periods of deteriorating standards.

## Results

- Term infants born with HIE decreased from 27.3 to 13.6 per 10,000 births ( $p = 0.032$ ), and those with low Apgar scores from 86.6 to 44.6 per 10,000 births ( $p < 0.001$ ).
- The improvements were sustained until 2005 when CUSUM surveillance detected an increase in low Apgar scores to 67 per 10,000 births.
- Root cause analysis identified deficiencies that were addressed by targeted training. This was followed by an improved incidence of 34 per 10,000 births.

## Monitoring and evaluation

We organised regular multi-professional case reviews to monitor compliance, continue professional development and facilitate further improvement. We also kept updating our training materials and proformas in line with new NICE guidelines. We published our initial results in *BJOG* (Draycott, 2006) and pilot monitoring outcomes in *BMC Medical Research Methodology* (Sibanda, 2007); we initiated continuous prospective monitoring of outcomes.

## Key learning points

- Local solutions for successful implementation of national guidelines.
- Recruit multi-professional teams.
- Use structured proformas to reduce disparity in documentation and clinical interpretation: "Making the right way the easiest way".
- Ensure effectiveness, efficiency and access by training 'in-house'.
- Make training fun.
- Monitor clinical results.
- CUSUM charts are useful if alarms are followed by corrective action.
- Root cause analysis can inform the development of such actions and stimulate reflective practice.

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