Scottish Patient Safety Programme – the neonatal perspective

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The Scottish Patient Safety Programme (SPSP), led and supported by Healthcare Improvement Scotland, was launched in 2008 to support the Scottish Government's 2020 Vision.[1] Initially focused on acute adult services, it expanded and in 2013 the maternity, neonatal and paediatric strands were incorporated into the Maternity and Children Quality Improvement Collaborative (MCQIC).[2] The overall aim of MCQIC is to improve and reduce inequalities in outcomes by providing a safe, high-quality care experience for all women, babies and families in Scotland.

The neonatal strand of MCQIC had the further aim of achieving a 30% reduction in avoidable harm in neonatal services by December 2015. To ensure the programme was responsive and relevant to those with direct responsibility to neonatal care, a short-life working group (SLWG) was commissioned comprising representatives from a variety of disciplines from NHS boards. The result was a programme that aimed to reduce avoidable harm from mechanical ventilation, invasive lines, high-risk medicines, transitions of care, undetected deterioration and failure of screening programmes. In addition, it hoped to increase natural feeding and ensure service user engagement. Over 40 measures – process and outcome – resulted (**FIGURE 1**).

Rather than every unit working on all measures, it was agreed that engagement would be improved by each unit focusing first on a handful of measures considered most relevant to their population.

To achieve these aims, the method advocated by the Institute of Healthcare Improvement's breakthrough series collaborative was adopted.[3] This entails biannual national learning sessions that bring together the communities to share and learn from one another. Representatives from each unit are encouraged to bring along examples of improvement work they are involved with and, using storyboards or short presentations, share both their successes and their challenges.

The learning sessions are followed by action periods, during which front line staff test improvements in their own area. These periods are supported by online meetings, telephone calls, advice on data and quality improvement methodologies, along with site visits to speak to staff, allowing NHS boards to showcase their work, garner feedback and obtain advice where needed. To encourage individual units to use their data to drive improvement, Healthcare Improvement Scotland developed a monthly reporting spreadsheet template to capture both process and outcome data. Run charts are then automatically generated, allowing data analysis to inform the next steps towards improvement. A data self-assessment tool also encourages units to measure their own progress.

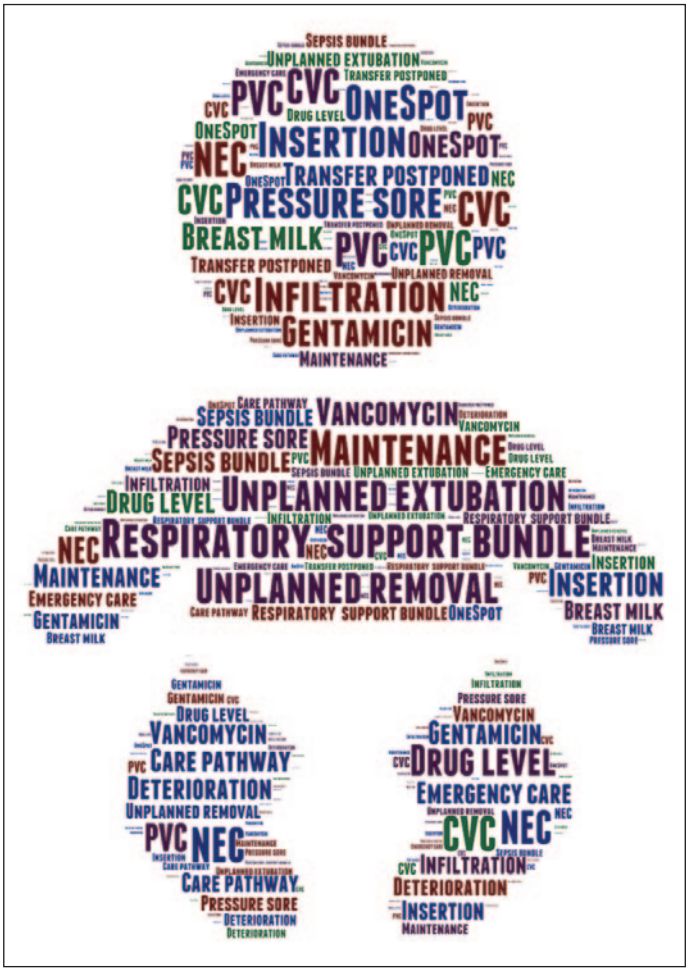

FIGURE 1 Measures to reduce avoidable harm in neonatal services.

Using these approaches, MCQIC has successfully developed a new national network of clinicians talking about safety and quality improvement and has enhanced the recognition of harm, which is now acknowledged to extend well beyond serious adverse events and deaths. Communication aids, such as the 'situation,

background, assessment, recommendation (SBAR)' technique and safety briefs (**FIGURE 2**), have been established in almost all units, and bundles of care for high-risk medicines, line insertion and maintenance are in widespread use. NHS boards are demonstrating good compliance at local level with many process measures and are now starting to see improvements in important outcomes (**FIGURE 3**).

There have also been developments that, although not part of the core programme, have arisen directly from the improvement work. The 'intubation pause', used to ensure that the correct staff and equipment are in place for intubation, and the 'warm bundle', a checklist of steps of thermal care to reduce hypothermia in newborn infants, are such examples.

There have, of course, been challenges. Quality improvement science methodology can seem counterintuitive to clinicians who are used to spending weeks or months seeking a perfect solution to a problem, and the PDSA (plan-do-study-act) cycles advocated to drive improvement are often misconstrued. This confusion can lead to a misunderstanding of why the data are being collected and a resultant lack of local ownership. MCQIC is planning a further series of online meetings to focus on the use of data for improvement and take every opportunity to encourage this during site visits.

In addition, experience has demonstrated that the huge raft of measures that arose from the enthusiasm of the SLWG at the start of the programme was overambitious and some of the measures seem less relevant than they did in the abstract. Having learnt from this, MCQIC is now looking at adopting a phased approach with greater focus on fewer outcomes to achieve greater traction, engagement and ultimately improvement in care delivery. There is no doubt there is an ongoing enthusiasm to build on previous work to improve the already good safety profile of neonatal services in Scotland. All the staff working within the SPSP neonatal strand and staff in the units look forward to developing the programme into 2016 and beyond.

FIGURE 2 A unit 'huddle' at the Ayrshire Maternity Unit, Crosshouse Hospital. At this meeting, clinical managers from each ward (eg maternity outpatients, labour ward, postnatal ward, neonatal unit) gather for 10-15 minutes with the consultant neonatologist and obstetrician to discuss workflow and staffing levels.

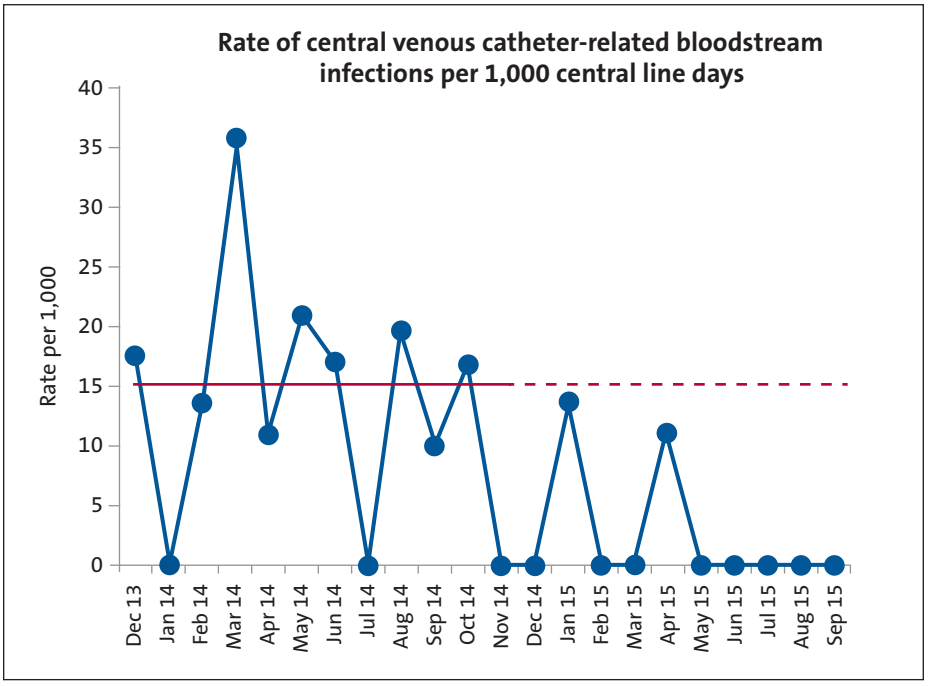

FIGURE 3 A reduction in the number of catheter-related bloodstream infections over the past 22 months at the neonatal unit at Ninewells Hospital in Dundee (NHS Tayside). The red line indicates the median rate. The reduction is attributed to various process measures that include strict adherence to two-person insertion, gloving and gowning with any procedure that involves a line breach and early removal of lines that are no longer needed. Published with permission from Alison Wright, NHS Tayside.

References

1. **Scottish Government.** *2020 Vision.* [Online]. Available from: www.gov.scot/topics/health/policy/2020-vision [Accessed 15 December 2015].
2. **Scottish Patient Safety Programme.** *Maternity & Children Quality Improvement Collaborative.* [Online]. Available from: www.scottishpatientsafetyprogramme.scot.nhs.uk/programmes/mcqic [Accessed 15 December 2015].
3. **Institute for Healthcare Improvement.** *The Breakthrough Series: IHI's Collaborative Model for Achieving Breakthrough Improvement.* IHI Innovation Series white paper. Boston: Institute for Healthcare Improvement; 2003.