

EDITORIAL

Wake up, it's time for bundles

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In recent years, the implementation of quality guidelines has gained interest.^[1,2] These quality guidelines have been bundled together in order to improve implementation. For instance, it is impossible to perform delirium screening using the confusion assessment method (CAM) without also taking the level of consciousness into account. Furthermore, this specific measure will also be influenced by the occurrence of pain and use of sedative medication. The same approach was used for improving the care of patients with severe sepsis, i.e. were cultures taken, antibiotics given in a timely matter, was fluid resuscitation performed, etc.

However, changing behaviour in daily critical care settings remains difficult to accomplish.^[3-8] Recent data from the USA underline that local settings may be responsible for different approaches regarding specific items of these bundles. Miller et al. showed that the level of implementation of the different components of the ABCDE bundle is quite variable.^[9] Indeed, ICU structure may play an important role. Bakhru et al. recently showed that staffing structure, e.g. multidisciplinary rounds, setting goals for individual patients, the presence of a physiotherapist and the nurse-patient ratio significantly affected the level of implementation of early mobility programs.^[10] Nevertheless, implementation seems to be far from complete, even if dedicated teams are in place, as was demonstrated in a USA study in the San Francisco Bay area.^[11]

Local setting may also play an important role in the Dutch setting. Addressing and mitigating pain in ICU patients should be a fundamental cornerstone of treating our patients. Nevertheless, measuring pain using a validated method is rarely performed in Dutch ICUs and warrants education and training.^[12] Also, delirium screening is still not universally implemented in all ICUs [personal communication]. The Intensive Care Delirium Screening Checklist (ICDSC) is useful for detecting

delirium after it occurred, or to identify pre-delirium symptoms and signs. However, the CAM-ICU has the advantage of the required interaction with the patient, which makes this tool useful for prospective monitoring and triggering potential interventions. And although most ICU caregivers may consider their ability to recognise delirium to be excellent, this may actually be far from the truth.^[13]

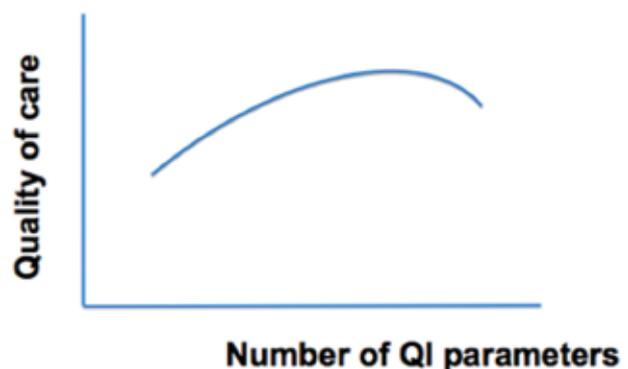


Figure 1. Relationship between the number of quality improvement parameters and the quality of care that is actually obtained

We have to wake up and really change our behaviour in daily care. Within the PAD (Pain, Agitation, Delirium) guidelines screening for pain with a matched protocol managed by nurses should be considered standard of care in all ICU patients.^[1] Also, light sedation will become the standard approach with preset targets in sedation goals in order to give nurses the tools for autonomous modification of sedative usage. Less sedation and more intense communication with patients will hopefully result in a lower incidence of delirium, particularly since screening 1-3 times a day for delirium is an integral part of the bundle. Newer drugs such as dexmedetomidine and remifentanyl may be useful adjuncts in our pharmacological armamentarium in the ICU.

Choices will have to be made to maintain the balance between actual implementation and the effects obtained. An increasing number of quality improvement parameters with inherent administrative workload will inadvertently result in a decrease in project quality of care (*figure 1*). In other words: we have to choose the quality indicators that most probably will impact strongly on the quality of care delivered in a specific ICU. This may be markedly different from setting to setting depending on case-mix, historic background, presence of local champions advocating certain strategies and the sufficient number of staff. Making choices where energy should go relies on training and education. Particularly focussing on implementation issues deserves attention, since changing behaviour remains difficult. After all, also critical caregivers are only human.

Disclosures

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References

1. Barr J, Fraser GL, Puntillo K, et al. Clinical practice guidelines for the management of pain, agitation, and delirium in adult patients in the intensive care unit. *Crit Care Med.* 2013;41:263-306.
2. Levy MM, Dellinger RP, Townsend SR, et al. The Surviving Sepsis Campaign: results of an international guideline-based performance improvement program targeting severe sepsis. *Crit Care Med.* 2010;38:367-74.
3. Haggman-Laitila A, Mattila LR, Melender HL. A systematic review of the outcomes of educational interventions to nurses with simultaneous strategies for guideline implementation. *J Clin Nurs.* 2016;doi: 10.1111/jocn.13405. [Epub ahead of print]
4. Van Spall HG, Shanbhag D, Gabizon I, et al. Effectiveness of implementation strategies in improving physician adherence to guideline recommendations in heart failure: a systematic review protocol. *BMJ Open.* 2016;6:e009364.
5. Richter-Sundberg L, Kardakis T, Weinehall L, Garvare R, Nystrom ME. Addressing implementation challenges during guideline development - a case study of Swedish national guidelines for methods of preventing disease. *BMC Health Serv Res.* 2015;15:19.
6. Kissoon N. Sepsis guideline implementation: benefits, pitfalls and possible solutions. *Crit Care* 2014;18:207.
7. Eslami S, Abu-Hanna A, de Keizer NF, et al. Implementing glucose control in intensive care: a multicenter trial using statistical process control. *Intensive Care Med.* 2010;36:1556-65.
8. Riekerk B, Pen EJ, Hofhuis JG, Rommes JH, Schultz MJ, Spronk PE. Limitations and practicalities of CAM-ICU implementation, a delirium scoring system, in a Dutch intensive care unit. *Intensive Crit Care Nurs.* 2009;25:242-9.
9. Miller MA, Govindan S, Watson SR, Hyzy RC, Iwashyna TJ: ABCDE, but in that order? A cross-sectional survey of Michigan intensive care unit sedation, delirium, and early mobility practices. *Ann Am Thorac Soc.* 2015;12:1066-71.
10. Bakhru RN, McWilliams DJ, Wiebe DJ, Spuhler VJ, Schweickert WD. ICU Structure Variation and Implications for Early Mobilization Practices: An International Survey. *Ann Am Thorac Soc.* 2016;13:1527-37.
11. Carrothers KM, Barr J, Spurlock B, Ridgely MS, Damberg CL, Ely EW. Contextual issues influencing implementation and outcomes associated with an integrated approach to managing pain, agitation, and delirium in adult ICUs. *Crit Care Med.* 2013;41(9 Suppl 1):S128-35.
12. van der Woude MC, Bormans L, Hofhuis JG, Spronk PE. Current Use of Pain Scores in Dutch Intensive Care Units: A Postal Survey in the Netherlands. *Anesth Analg.* 2016;122:456-61.
13. Spronk PE, Riekerk B, Hofhuis J, Rommes JH. Occurrence of delirium is severely underestimated in the ICU during daily care. *Intensive Care Med.* 2009;35:1276-80.



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