
How can we achieve better results with acute abdominal surgery?

EDITORIAL

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Knowledge on how to reduce mortality after acute laparotomy must be put into practice.

Acute laparotomy is a frequently performed emergency surgical procedure associated with significant morbidity and mortality. In this edition of the *Journal of the Norwegian Medical Association*, Wangen et al. present findings from a dataset comprising 939 patients who underwent emergency laparotomy at St Olav's Hospital, University Hospital Trondheim. The results revealed 30-day mortality of 8.2 %, doubling to 16.6 % in patients over 80 years of age.

There is increasing international awareness of the high mortality associated with acute abdominal surgery [\(1\)](#), and a number of large and small research and quality improvement projects have been conducted with the aim of reducing this mortality. In a prospective controlled study in Denmark, a significant reduction in 30-day mortality was observed following the introduction of a standardised multidisciplinary perioperative protocol [\(2\)](#). Other studies have obtained similar results. The quality improvement measures introduced include preoperative risk assessment, greater involvement of specialists in gastroenterological surgery and anaesthesia, shorter pre-surgical delay, and increased use of postoperative intensive care.

In the United Kingdom, a national quality improvement programme for acute abdominal surgery trialled the effects of some 37 interventions [\(3\)](#). More than 15,000 patients were included in a cluster-randomised study that lasted almost

two years. No change in mortality was observed in association with this complex quality improvement programme. However, the implementation of the programme turned out to be significantly more complicated than expected (3). The authors concluded that future quality improvement projects should involve fewer changes and should ensure that staff have sufficient time and resources to implement them. In their study in Denmark, Tengberg et al. also highlight the importance of the implementation of such programmes in the effort to improve patient outcomes after surgery (2).

«There remains a significant and meaningful gap in modern medicine – the gap between what we know and what we do»

The concept of evidence-based medicine has its philosophical origins in Paris in the mid-1800s, but it was not until the early 1990s that interest was truly awakened within the medical community. One of the most commonly used definitions of evidence-based medicine was introduced by Sackett et al. in 1996, who described it as 'the conscientious, explicit and judicious use of current best evidence in making decisions about the care of the individual patient' (4). In the medical community, there is broad acceptance that evidence from research, together with clinical expertise and the patient's right to shared decision-making, should form the basis for decisions about individual patients.

Nevertheless, there remains a significant and meaningful gap in modern medicine – the gap between what we *know* and what we *do*, also known as the implementation gap.

The lion's share of resources in research continue to go to basic and clinical research (5). If we are to benefit fully from the knowledge generated by this research, we must address the challenges involved in working out how best to implement this knowledge. On average, it takes 17 years for 14 % of new evidence-based findings to benefit patients (6), and less than 50 % of clinical innovations are integrated into clinical practice (7).

Implementation research is closely linked to quality improvement in the health service. Adverse events are still common in Norwegian hospitals, and in 2021, patient injury occurred in 12.8 % of all admissions to somatic departments (8). Wangen and colleagues undertake an important evaluation of their own results and compare them with international data. This makes it possible, as the authors note, to 'identify areas that could be targeted... to further reduce postoperative mortality'. They also highlight the importance of reviewing and discussing results and using them as a basis for implementing new measures.

Learning from one's own actions and measuring oneself against others' results is essential for improving treatment quality and for generating an evidence base for selecting the most appropriate treatment. Active use of benchmarking is useful for surveying current healthcare provision and for identifying variations in practice (9). It is enshrined in the Patients' Rights Act that everyone in Norway should have equal access to high-quality services regardless of where they live (10). By using data on the outcomes of our actions, we can ensure that

both new and existing knowledge is used to benefit patients more quickly, and we can achieve our goal of providing the right treatment for the right patient at the right time.

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