



## Cost Savings from Perioperative Goal-directed Therapy



Researchers in France say using perioperative goal-directed therapy (PGDT) during high-risk surgery can help reduce the patient's length of hospital stay and lead to significant cost savings by avoiding complications. Their findings will be published in the journal *Anaesthesia, Critical Care & Pain Medicine*. The study is available online as an accepted manuscript.

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"Our analysis demonstrates that patients with complications are significantly more expensive to care for than those without complications. In our model, it was projected that implementing PGDT during high-risk surgery may significantly reduce healthcare costs and the length of hospital stays in France while probably improving patient access to care," say Alain Landais, MD, Centre Hospitalier d'Argenteuil, France, and colleagues.

Previous studies have shown reduced complications during high-risk surgery associated with PGDT using specific haemodynamic protocols based on cardiac output, stroke volume or stroke volume variation. Despite this clinical evidence, PGDT adoption remains low in Europe and in the U.S. This situation may be related to the required changes in practice and the increased costs associated with new devices that evaluate continuous haemodynamic parameters.

This study aimed to evaluate the cost of complications, derived from French hospital payments, and calculate the potential cost savings and length of hospital stay reductions. The billing of 2,388 patients who underwent scheduled high-risk surgery (i.e., major abdominal, gynaecologic, urological, vascular, and orthopaedic interventions) over three years was retrospectively collected from three French hospitals (one public - teaching, one public, and one private hospital). A relationship between mortality, length of hospital stays, cost/patient, and severity scores, based mainly on postoperative complications but also on preoperative clinical status, were analysed.

The researchers found that a severity score of 3 or 4 was associated with complications in 90 percent of cases and this represented 36 percent of patients who, compared with those with a score of 1 or 2, were associated with significantly increased costs and a prolonged length of hospital stay.

According to estimates for complications avoided by PGDT, there was a projected reduction in average healthcare costs of between €854 and €1,458 per patient and a reduction in total hospital bed days from 2,573 to 4,423 over three years, the study says. Based on French National data (47,000 high risk surgeries per year), the potential financial savings ranged from €42 million to €65 million, not including the costs of PGDT and its

implementation.

"In this study, the development of a least one complication after major surgery had an impact on in-hospital mortality (from 1 percent up to 10 percent), an increase of close to 10 fold. Moreover, the length of hospital stays was also increased by 17 days," the authors note.

In an editorial article, which will also appear in the journal, Professor Rupert M. Pearse and Tom E.F. Abbott, BM, BCh, MA, MRCP, both with Queen Mary University of London, laud Landais et al. for their work. Since the team investigated 19 high-risk surgical procedures carried out at three hospitals, their results are generalisable to a broad range of French surgical services, the authors say. In addition to providing an estimate of per patient cost saving, they also illustrate potential efficiencies at the level of the national health system, translating to savings of between €40 and €60 million every year.

"However, in order to develop our understanding of the effect of hospital-based treatments on the wider health economy, the outcome data used should include healthcare utilisation outside of the hospital, including primary and social care settings," the authors note. "This is not a criticism of the work by Landais et al., but a commentary on the current paradigm of perioperative and surgical research, which is largely focused on health status in the immediate (30-day) postoperative period. The vast majority of patients who consent to undergo surgery do so, not to be alive or complication free 30 days later, but to return to a desired level of functional independence, or to enjoy the best possible quality of life for the longest time possible."

Source: [Anaesthesia, Critical Care & Pain Medicine](#)

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