Each year at least 100,000 people die in U.S. hospitals following elective surgery.

Major complications that can develop following surgery — such as blood clots, infections, and heart attacks — are a significant cause of these deaths, as well as disability and other serious health conditions.

In recent decades, advances in surgical quality, infection prevention, and other safety measures have decreased post-surgical complications, as well as the deaths that can result from them.

However, not all complications are preventable; the unexpected can and does happen after surgery. According to U-M research, we know that:

- Hospitals with higher death rates after surgeries do not have higher rates of complications, but do have higher rates of “failing to rescue” patients who experience them.
- Death rates among patients with major complications also vary widely between hospitals (as much as an 11-fold difference), and Failure to Rescue (FTR) is one of the key drivers of this variation.

Therefore, more rapidly identifying and effectively responding to complications when they do occur after surgery presents a major opportunity to improve patient safety and prevent loss of life. Rescuing a surgical patient is a dynamic process. It requires interpreting and exchanging complex information in moments of crisis among care team members who have different professions and roles.

What does the evidence say about how healthcare systems can improve rescue?

Takeaways from our research on improving rescue after surgery

- Some of the most effective targets to improve rescue include:
  - Increasing providers’ confidence and competence with earlier recognition and effective management of complications as they develop.
  - Developing strategies to strengthen communication and collaboration within interprofessional care teams.

- Hospital-level factors such as staffing ratios, technology, and teaching status explain only a third of variation in hospital rescue rates.

- Safety attitudes, team behaviors, and other organizational culture factors are also drivers of rescue.

The University of Michigan has one of only a few research programs in the country dedicated to improving rescue, evaluating effective rescue tools, and identifying opportunities for quality improvement.
What are the implications for practice and policy?

As U-M researchers continue to develop and refine effective tools to improve rescue, we must continue to evaluate where and why failures occur and ultimately implement effective prevention strategies:

Hospitals and health systems should consider:
• Implementing quality improvement strategies that increase providers’ confidence and competence with:
  • Earlier detection of major complications.
  • Effective interprofessional communication of early concerns.
• Ensuring a culture that prioritizes safety by:
  • Maximizing staffing strategies (within resource and training constraints), considering nurse:patient ratios and intensivist staffing.
  • Reevaluating workforce development to provide safe, reliable, and effective care.

Certification programs across health professions should consider:
• Enhancing training requirements that ensure greater exposure to effective rescue scenarios.

Professional specialty organizations should consider:
• Developing and implementing guidelines to improve rescue and response to crises.
• Developing networks to share information and best practices on post-operative rescue, including managing specific complications in high-risk groups.

Referenced studies on “Failure to Rescue” by IHPI members


FOR MORE INFORMATION, please contact Eileen Kostanecki, IHPI’s Director of Policy Engagement & External Relations, at ekostan@umich.edu or 202-554-0578.

The Institute for Healthcare Policy & Innovation is the nation’s leading university-based institute of health services researchers working together to improve the quality, safety, equity, and affordability of healthcare.

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