

Tackling the economic burden of postsurgical complications: would perioperative goal-directed fluid therapy help?

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INTRODUCTION: Pay-for-performance programs and economic constraints call for solutions to improve the quality of health care without increasing costs. Many studies have shown decreased morbidity in major surgery when perioperative goal directed fluid therapy (GDFT) is used. We assessed the clinical and economic burden of postsurgical complications in the University HealthSystem Consortium (UHC) in order to predict potential savings with GDFT.

METHODS: Data from adults who had a major surgical procedure in 2011 were screened in the UHC database. Thirteen post-surgical complications were tabulated. In-hospital mortality, hospital length of stay and costs from patients with and without complications were compared. The risk ratios reported by the most recent meta-analysis were used to estimate the potential reduction in post-surgical morbidity with GDFT. Potential cost-savings were calculated from the actual and anticipated morbidity rates.

RESULTS: A total of 75,140 patients met the search criteria, and 8,421 patients developed one or more post-surgical complications (morbidity rate 11.2%). In patients with and without complications, in-hospital mortality was 12.4% and 1.4% ($P < 0.001$), mean hospital length of stay was 20.5 ± 20.1 days and 8.1 ± 7.1 days ($P < 0.001$) and mean direct costs were $\$47,284 \pm 49,170$ and $\$17,408 \pm 15,612$ ($P < 0.001$), respectively. With GDFT, morbidity rate was projected to decrease to 8.0 - 9.3%, yielding gross costs savings of \$43 M - \$73 M for the study population or \$569 - \$970 per patient.

CONCLUSION: Postsurgical complications have a dramatic impact (+172%) on costs. Potential costs savings resulting from GDFT are substantial. Perioperative GDFT may be recommended not only to improve quality of care but also to decrease costs.