Could substantial health care savings be achieved by reducing complications from cancer surgery?

“Yes,” says Marah Short, M.A., co-author of a recent article in Cancer about the subject. “It is common sense that complications increase the cost of care, but our research identified many complications that raise the cost of care by 20 percent or more.”

The Agency for Healthcare Research and Quality has worked with researchers and medical providers to develop a set of transparent outcome measures called Patient Safety Indicators (PSIs), which provide information on potential in-hospital complications and adverse events following surgeries, procedures and childbirth. While PSIs do not identify all complications that could occur during a hospital stay, they do provide consistent measurable outcomes using definitions common to all hospitals. The study authors used these definitions to analyze the relationship between costs and patient complications for six types of cancer resections: colectomy, pulmonary lobectomy, rectal resection, pancreatic resection, esophagectomy and pneumonectomy.

After adjusting for patient, hospital and tumor factors, the study showed that several PSIs — including decubitus ulcers (bed sores), death among surgical inpatients with serious treatable complications, and postoperative thromboembolism (blood clots) — raised hospitalization costs by 20 percent or more for most cancer surgery types. Postoperative respiratory failure resulted in a more than 50 percent cost increase for all cancer resections. The procedure-specific data reveals several remarkable — and important — findings: A foreign body left in the patient, postoperative hip fracture, postoperative hemorrhage or hematoma, accidental puncture or laceration and several other PSIs all increase costs for one or more procedure. For colectomies and esophagectomies as well as rectal and pancreatic resections, postoperative wound dehiscence increases costs by more than 40 percent.

Many PSIs included in the study are potentially avoidable. This is clearly the case when a foreign body is left in the patient. Other conditions, such as accidental puncture or laceration, may be related to tumor factors that are unavoidable, but in other circumstances may reflect a need for more careful dissection. Another condition, which is actually easier to prevent than treat, is a decubitus ulcer.

Other safety issues may not be preventable by the surgeon or hospital. For instance, even with appropriate regimens there are many cases in which postoperative thromboembolism occurs in cancer patients with preexisting or chronic thromboembolic disease. Wound dehiscence could be caused by a combination of factors, some of which may be addressed by the provider, including proper surgical techniques (e.g., incision type and infection prevention) and conditions such as obesity, malnutrition and hypertension that predispose a patient for this complication. The results of the study indicate that quality improvement efforts may need to account for patient and tumor factors when attempting to influence patient outcomes and costs.

Significant pressure is being exerted on health care providers to simultaneously improve quality and reduce the cost of care. Improvements in patient safety with the reduction or elimination of common errors are certain to improve health care quality. This research provides a strong rationale for the development of targeted quality improvement programs in an effort to improve patient outcomes through a reduction in complications that may simultaneously lower the costs of care.

HEALTH POLICY research presents a summary of findings on current health policy issues. It is provided by Vivian Ho, Ph.D., James A. Baker III Institute Chair in Health Economics and Director of the Health Policy Forum at Rice University’s Baker Institute, in collaboration with Laura Petersen, M.D., M.P.H., chief of the Section of Health Services Research in the Department of Medicine at Baylor College of Medicine.

This publication aims to make research results accessible to regional and national health policymakers. The views expressed herein are those of the study authors and do not necessarily represent those of the Baker Institute or of Baylor College of Medicine.

The Baker Institute and Baylor College of Medicine’s Section of Health Services Research work with scholars from across Rice University and Baylor College of Medicine to address issues of health care — access, financing, organization, delivery and outcomes. Special emphasis is given to issues of health care quality and cost.

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