

Post-Op complications measurements differ, study finds

December 23 2016



Credit: Mayo Clinic

How do medical professionals determine whether or not a patient has experienced a post-operative complication? A team of Mayo Clinic physicians and researchers has published results of a three-year study

examining mechanisms for measuring and reporting postoperative infection complications. The study analyzed patient admissions between 2012 and 2014 at the four teaching hospitals across Mayo Clinic's campuses in Arizona, Florida and Minnesota. The results are published online in the *Annals of Surgery*.

In their analysis, the research team examined four common postoperative complications: pneumonia, sepsis, [surgical site infections](#), and [urinary tract infections](#). The goal of their study was to compare and contrast the different ways used to determine whether one of these complications occurred.

Administrative data are gathered by hospitals and providers for financial purposes. Complications that occur in the postoperative context are reported as part of these data, and they affect hospital-based reimbursement. These data are widely used, especially by the Centers for Medicare & Medicaid Services, to assess quality of care. While widely available, these data often are criticized for not being accurate because of an absence of clear standards.

According to David Etzioni, M.D., chair of the Division of Colorectal Surgery on Mayo Clinic's Arizona campus, registry data, on the other hand, are gathered by trained staff using strictly defined clinical criteria. While these types of data are considered to be more accurate and consistent, the process of gathering and reporting registry data is expensive, he says. Dr. Etzioni notes that the National Surgical Quality Improvement Program is the most commonly reported source of postoperative registry data.

"These two systems give very different assessments of postoperative complications, even for the same patient," explains Dr. Etzioni, who is lead author of the study. He and a group of researchers examined situations where these two data sources disagreed. "Every discordant

complication was examined by two independent reviewers—at least one of whom is a practicing surgeon," says Dr. Etzioni.

"What we find is that these two types of databases—even when looking at the same patient—report very different answers as to whether or not a complication occurred," Dr. Etzioni adds. "The rates of [complications](#) seen in these two databases can vary quite widely—up to fivefold."

What Dr. Etzioni finds most interesting, however, is why the two approaches differ so greatly. "It's tempting to think of registry data as right and administrative data as wrong, when it comes to assessing whether or not a complication occurred, he says. "The most important reason for the differences is that these two approaches use different approaches and different criteria."

The question raised by this study is, "How should we be assessing [postoperative](#) outcomes?" Dr. Etzioni concludes. "Given the impact of this question on every aspect of the health policy as it pertains to surgical care, the ramifications of this study are wide-reaching."

Provided by Mayo Clinic

Citation: Post-Op complications measurements differ, study finds (2016, December 23) retrieved 4 May 2024 from <https://medicalxpress.com/news/2016-12-post-op-complications-differ.html>

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