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Causes of Cancellations on the Day of Surgery at Two Major University Hospitals

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Introduction: Cancellations of elective cases on the day of surgery are an issue of healthcare quality and waste operating-room time. We studied cancellations at an American and a Norwegian university hospital to examine (1) whether causes of cancellations at these two major academic hospitals are comparable and (2) whether the quality of hospital administrative data on cancellations is sufficient for meaningful comparative analysis.

Methods: We prospectively identified cancellations and interviewed involved hospital personnel to establish root causes. Interviews were supplemented with prospective and retrospective hospital data. Specifically, we queried hospital databases for all cancellations of elective cases. We synthesized the prospective data on causes of cancellations into one cause-and-effect diagram for each hospital. We used our prospective root-cause analyses to test the validity of administrative cancellation data.

Results: The retrospective data indicate that the Norwegian hospital cancelled 14.58 % of cases in 2003 and 16.07 % in 2004, while the American hospital cancelled 16.52 % of all cases between May 1st 2003 and April 30th 2004. Of the cancellations by the American hospital, 36.6 % had no meaningful explanation in the administrative database, i.e., the stated reason for cancellation was 'other' or 'no reason given'. There was rough concordance between the distributions of root causes for cancellations in the prospective data and the distribution of meaningful explanations given in the retrospective databases.

Using either the prospective or the retrospective datasets, clear differences in the causes for cancellation can be discerned between hospitals (see Figure). [figure1] Using prospective data, the Figure shows that 55.2% of cancellations at the Norwegian hospital were attributable to capacity & personnel constraints, and 38.4% were caused by factors attributable to the patient or disease management. In contrast, only 24.5% of cancellations in the American hospital were caused by capacity & personnel constraints, while 64.4% were due to patient & workup issues. The cancellations due to lack of specialized personnel in the American hospital were all attributed to a single ill surgeon on a single day.

Discussion: Although some causes of cancellations are comparable in the prospective data, the two hospitals face dramatically different challenges in managing and reducing cancellations. We believe that this is due in part to the different reimbursement and staff compensation / incentive systems at work in the two environments. Limitations in the retrospective data, i.e., many cancellations without meaningful explanations, may compromise their utility for comparative analysis. Thus, administrative data may be useful for internal purposes within a hospital, but only if one understands the context within which they are collected. Regardless of the data-gathering mechanism, our results indicate that hospitals in different healthcare systems have differing constraints on their capacity.

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Figure 1

