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Administrative data set not always best source for number of surgical complications

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Hospital administrative databases, designed to provide general information on hospital stays and associated costs, are frequently used to find information that can lead to quality assessments of care or clinical research. Researchers at the University of California, San Francisco (UCSF) extracted data on hospital readmissions following spine surgery at their institution from an administrative database to assess the clinical relevance of the information and to define clinically relevant predictors of readmission. What they found were readmission numbers substantially larger than expected or appropriate. The researchers' findings are reported in the article "Pitfalls of calculating hospital readmission rates based on nonvalidated administrative data sets. Clinical article," by Beejal Y. Amin, M.D., and colleagues, published online today, ahead of print, in the *Journal of Neurosurgery: Spine*.

UCSF is a member of the UHC (University HealthSystem Consortium), an alliance of 116 academic medical centers and more than 270 affiliated hospitals that form the Quality and Accountability Study. The UHC houses a repository for data provided by member hospitals, which can be used for benchmarking and to improve patient care. Using this database the researchers identified 5780 initial patient encounters with spine surgeons at UCSF. Among these cases there were 281 instances of readmission (hospital admission within 30 days after hospital discharge; 4.9% of cases). The researchers examined individual patient files to identify the specific reasons for the readmissions. They found that 69 readmissions (25% of the total 281 readmissions) had nothing to do with complications of spine surgery. In 14 cases, the patient returned to the

hospital to undergo surgery that had been rescheduled; in 39 cases, the second admission was for the second part of a staged surgery; and in the other 16 cases, the reason for readmission was unrelated to spine surgery. In all these cases the "readmissions" were necessary and unavoidable. The other 212 readmissions (75%) were related to complications of the initial spine surgery.

The researchers note that after exclusion of the 69 readmissions unrelated to complications, the costs of hospital readmissions dropped 29%, reflecting a cost variance exceeding $3 million.

The authors state their concerns that the all-cause data collected from administrative databases on hospital readmissions following spine surgery may not accurately represent how patients fare following spine surgery. The researchers believe that unfiltered administrative data in this instance may lead to misinterpretations of both the quality and costs of patient care. This in turn could lead third-party payers (such as Medicare) to deny payments for some hospital "readmissions" that are unavoidable.

Inclusion of spine surgeons in defining the clinical relevance of data is important, say the authors. According to one coauthor, Dr. Praveen Mummaneni, "Our findings identify the potential pitfalls in the calculation of readmission rates from administrative data sets. Benchmarking algorithms for defining hospitals' readmission rates must take into account planned, staged surgery and eliminate unrelated reasons for readmission, which are not clinically preventable. With these adjustments in the calculation method, the readmission rate will be more clinically relevant. Current tools overestimate the clinically relevant readmission rate and cost, and spine surgeons' input is vital to ensure the relevance of such databases."

More information: Amin BY, Tu T-H, Schairer WW, Na L,

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