Pitfalls and Problems Related to the Use of Administrative Coding Data for Surveillance of Healthcare-Associated Infections and for Public Quality Reporting

The exclusive use of administrative billing coding for benchmarking quality purposes is unwise because such data are predictably inaccurate. A large number of studies have convincingly demonstrated that the concordance between administrative billing data on healthcare-associated infections (with the possible exception of surgical site infections) and data collected by infection control personnel is strikingly dismal. For example, a retrospective study of a total of 1505 central blood stream infections identified in one tertiary care and 2 community hospitals in North Carolina disclosed that only 13% of cases of CLABSI were concordant between coding personnel and infection control personnel. Primary reasons for discordance were differences in surveillance methods, poor documentation, clinical uncertainty, and most importantly different clinical definitions (1). Other investigators have reported similar findings in other medical centers (2-5). For example, investigators who studied the accuracy of billing coding data on the occurrence of catheter-associated UTI in 80 consecutive patients found that billing coding data did not accurately report a single case of CAUTI in this study cohort (2). As mentioned above, administrative billing claim data has been used successfully to enhance routine traditional surveillance methods to detect surgical site infections (6).

As a result of these findings and other similar studies, CMS uses data collected by NHSN rather than administrative billing data in their public reporting systems. And, most hospital epidemiologists have abandoned administrative billing coding claims data as a method for identifying healthcare-associated infections unless these administrative data are combined/compared with other data sources and then rigorously validated for accuracy (7).

The widespread interest in improving “accountability” in healthcare has led to a number of consumer-oriented websites that rank hospital “quality.” In general, these websites use different metrics and data sources. Thus there is almost a total lack of concordance in actual rankings among and between these websites (6).

The complexity and difficulties in assessing the accuracy of hospital quality rankings is well illustrated by the recently released hospital safety score rankings developed by Consumer
Reports (8). Consumer Reports developed a “safety score” that relies on administrative and other publically reported data on patient experience surveys, readmissions, mortality and duplicative imaging studies. To our knowledge the methods used to devise this safety score or to adjust for differences in case mix among hospitals have not been published nor have there been any attempts to assess or evaluate the accuracy of these data sources.

Conclusions: Although we do not deny that variations exist between the quality of care given at different institutions exist, we continue to be highly skeptical of the accuracy and utility of the exclusive use of administrative billing coding data for surveillance of healthcare-associated infections and of the metrics and methods used for public ranking hospital quality. However, we also recognize that the public and governmental desire for more accountability and “transparency” in healthcare delivery mean that hospital quality rankings and public reporting of outcomes of healthcare are now facts of life that hospital epidemiologists must deal with and explain.

References:

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