Diagnosis Related Group (DRG)-Based Metrics Are an Insufficient Indicator of Surgeon Financial Performance

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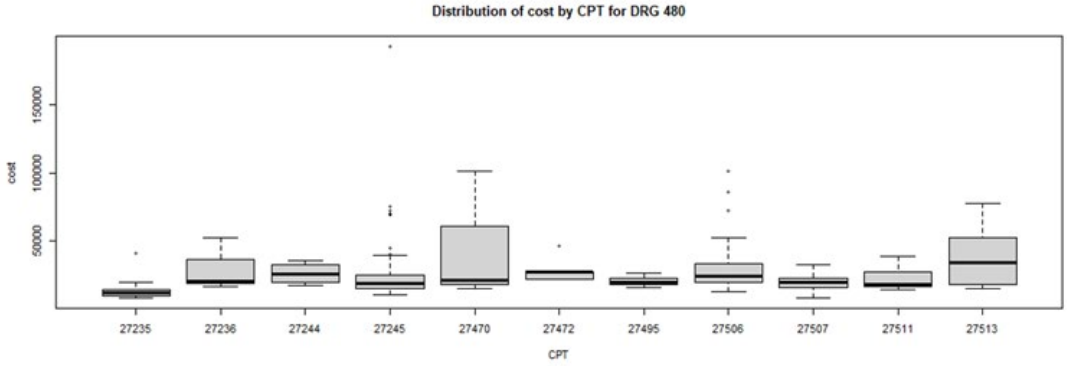
Purpose: The Diagnosis Related Group (DRG) prospective payment is a hospital reimbursement system that is frequently utilized to assess physician performance and cost efficiency. Although DRG incorporates patient complexity, CPT codes are more granular and therefore procedure-based metrics are believed to predict costs with less variability. The purpose of this study was to analyze cost variability of CPT codes within specific DRG groups for hip and femur fractures.

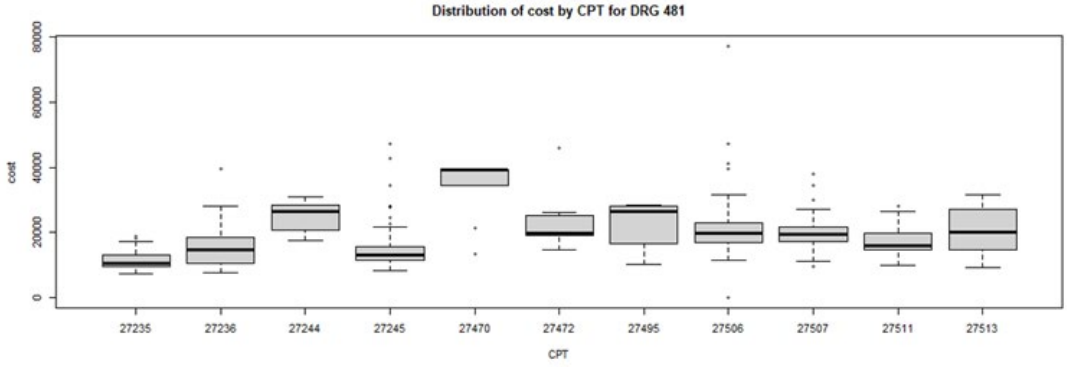
Methods: A retrospective cohort study was conducted using encounter data for patients with discharge DRGs 480, 481 or 482 (hip and femur fractures) within a 6-person orthopaedic trauma practice from a single Level I trauma center from 2019 to 2021. These DRGs represent the same groups of conditions, decreasing in patient complications and comorbidities from 480 to 482. CPT codes (27235, 27236, 27244, 27245, 27470, 27472, 27495, 27506, 27507, 27511, 27513) for each patient were matched to a hospitalization and associated DRG. Secondary codes for debridement and wound closure were excluded. Statistical comparisons of medians / distributions were performed using analysis of variance (ANOVA) and Kruskal-Wallis test and variances were compared using the Fligner-Killeen test assuming departure from normality.

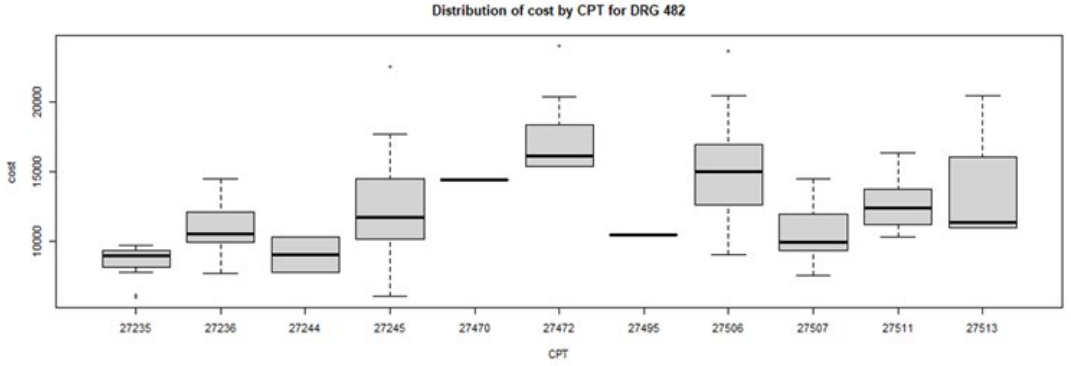
Results: 1595 patients were reviewed (DRG 480, n = 467; DRG 481, n = 932; DRG 482, n = 196), and 975 patients were eligible for analysis. Mean age was 63.6 years, and 51% were male. For each DRG, there were significant median cost differences via ANOVA ($P < 0.001$) and Kruskal-Wallis tests ($P < 0.001$) (Table). Despite being grouped within 1 DRG, there was wide variability between hospital costs based on the distinct nature of individual CPT codes using the Fligner-Killeen test of variance (480 $P = 0.016$; 481 $P < 0.001$; 482 $P = 0.033$). One illustration of this deficiency is demonstrated in comparing pertrochanteric femur fractures CPT 27245 ($14,257, n = 263) to femoral shafts ($21,271, n = 108) within DRG 481—the latter costing >$7,000 more (50% greater; $P < 0.001$).

Conclusion: We observed wide variability of CPT costs within a given DRG for hip and femur fractures. DRG-based analyses may not be an appropriate marker of physician performance. Hospitals should consider evaluating doctors using CPT-based metrics for a more accurate representation of performance. Caution should be used when making institutional decisions with DRG-based data.

The FDA has stated that it is the responsibility of the physician to determine the FDA clearance status of each drug or medical device they wish to use in clinical practice.







See the meeting website for complete listing of authors' disclosure information. Schedule and presenters subject to change.