

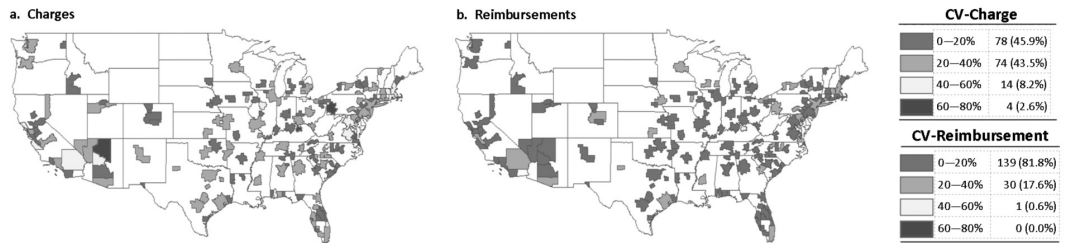
Geographic Variations in Orthopaedic Trauma Billing and Reimbursements for Pelvis, Acetabular, and Hip Fractures in the Medicare Population

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Purpose: Recently, there has been much discussion about geographic variations in hospital billing and Medicare reimbursement practices. Acetabular, hip, and pelvis fractures are among the top 100 diagnosis-related groups (DRGs) billed to Medicare. No study has yet investigated the variations in hospital charges or payment data surrounding these frequent orthopedic trauma injuries in the Medicare population.

Methods: We obtained hospital charge and Medicare reimbursement data for DRG 536 (acetabular, hip, and pelvis fracture) from 1142 hospitals accounting for 22,728 patients in the U.S. for 2011. Hospitals were aggregated into Core Based Statistical Areas (CBSAs), which are used by Medicare to assign a hospital wage index to all hospitals in the same area. These CBSAs control for variation in the cost of labor across the country. In order to evaluate the variations in both hospital billing and Medicare reimbursement within each area, we then calculated the coefficient of variation (CV) for each sector with regard to both the hospital charges and Medicare reimbursements. CV-Charge is calculated for each area as the ratio of the standard deviation (SD) of the hospital charges within the area to the mean hospital charge within the area multiplied by 100. CV-Reimbursement was calculated in a similar manner.

Figure 1. DRG 536: Acetabular, Hip, and Pelvis Fracture



Results: 875 hospitals, accounting for 22,634 patients with DRG 536, were assigned into 170 CBSAs. The average hospital charge and SD was \$17,516 ± \$8773 with a wide range of charges (\$3986-\$64,016). The average Medicare reimbursement and SD was \$4790 ± \$1070.31 with a range of reimbursements (\$3217-\$11,923). As demonstrated in Figure 1a, there was a very wide variation in hospital billing for DRG 536 within each area as evidenced by more areas with higher CVs; we identified 4 areas with very high CV-Charges between 60% and 80% (Fig. 1a, orange), and 14 with high CV-Charges between 40% and 60% (Fig. 1a, yellow). Medicare reimbursements also demonstrated variability within each area (Fig. 1b), but much less than hospital charges. Although the majority of areas (138) demonstrated a low CV (0-20%; Fig. 1b, blue), 30 areas maintained a higher CV (20%-40%; Fig. 1b, green).

• The FDA has not cleared this drug and/or medical device for the use described in this presentation (i.e., the drug or medical device is being discussed for an “off label” use). For full information, refer to page 600.

Conclusion: This study is the first to evaluate variability in hospital charges and Medicare reimbursement in patients with DRG 536. Hospital charges demonstrated a high degree of variability even when using areas to control for differences in hospital wages. We also found high variation in reimbursements in some areas that remain unexplained by Medicare's current method of calculating reimbursement. Medicare now makes charges per DRG public information and the driver of the variation in charges and reimbursement will be scrutinized by payers and the public. In a future bundled payment system in which Medicare could potentially provide a single payment for care, it is important for orthopaedic surgeons to understand the drivers behind such high variability in hospital charges for management of similar fractures.