

Assessing Associations of Tumor Excision Surgical Procedure Frequency and Physician Compensation Schemes Among Cancer Patients

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Abstract: Surgical treatment to excise locally occurring malignant and benign tumors is a commonly used medical procedure for cancer patients. It has been implemented in conjunction with accompanying procedures such as radiation and hormonal therapy, in order to improve clinical outcomes, and maximize patient survival rates. However, it is uncertain whether underlying financial factors beyond clinical and medical necessity, such as the manner in which physicians are compensated, promote the provision of surgical treatments and tumor excisions among cancer afflicted subjects, as has been demonstrated by the literature. To determine whether physician compensation type is correlated with the frequency of surgical treatments and tumor excision procedures performed for cancer patients, aggregated NAMCS data from 2011 to 2015 (n=236,117) was used. Logistic regression was the primary methodology implemented, in addition to descriptive and frequency statistics. Within the sample, 17,835 (7.6%) patients had cancer, with 1,130 (6.3%) cancer afflicted subjects experiencing surgical treatment. The physician compensation scheme frequencies were fixed salary (24.9%), payment admixture plus performance measures (31.4%), and share of practice billings and procedures (19.3%). Frequencies for cancer patient sample biopsies were 5.2% and 1.3% for radiotherapy. The statistically significant odds ratios (OR's) in descending order for provider compensation schemes were payment admixture plus performance measures (OR=0.72), share of practice billings and procedures (OR=0.58), and fixed salary (OR=0.55). Variation existed for cancer patients in relation to the odds of a subject receiving surgical treatment or tumor excision as a clinical procedure based on the physician's compensation category, while controlling for covariates and confounding factors within the model. Although heterogeneity existed when comparing the computed OR values for the different schemes, the prominence and magnitude of these differences were moderate when assessed with greater scrutiny. Performance measure enhanced schemes possessed only slightly greater odds of being associated with surgical procedures in comparison to their counterparts, which were essentially identical. Future research studies should concentrate on ascertaining why physician compensation arrangements infused with performance and quality metrics stimulate a greater propensity for the provision of surgical procedures as potential remedies for cancer patients, and to determine whether additional elements contribute to this observed phenomenon.