

## **Financial Burden of Orthopaedic Trauma: A Prospective Study**

Devon Tracey Brameier<sup>1</sup>, Abhiram Bhashyam, Ahmad Alnasser, Arvind Gabriel Von Keudell, Michael John Weaver<sup>2</sup>

<sup>1</sup>Orthopaedic Surgery, Brigham and Women's Hospital, <sup>2</sup>Brigham and Women's Hospital

### **INTRODUCTION:**

Many recent American health policy efforts have focused on improving the cost-effectiveness of medical care. While growing healthcare costs are a serious health policy concern, there is a paucity of data examining the impact of traumatic injuries and their associated medical care on patients' financial health. In a previous retrospective study, we found that, despite high rates of insurance, orthopaedic trauma patients still reported high rates of worry and financial distress, comparable to other significant medical conditions such as cancer. The purpose of this prospective study was to better understand the impact and progression of financial distress throughout the entire injury and recovery experience. We also sought to identify potential risk and protective factors for financial distress as related to orthopaedic trauma.

**METHODS:** This prospective cohort study included all adult patients presenting to two Level I trauma centers with a fracture requiring operative treatment over a two-year period. Patients who were non-English speaking, had cognitive impairment, or diagnosed with a terminal illness were excluded. Surveys assessing financial burden, worry, physical function, and pain catastrophizing scale (PCS) were administered at multiple intervals during the first year post-surgery. Descriptive and inferential statistical analyses were performed.

### **RESULTS:**

This study included 311 patients (IQR of Age 41.5 to 71.5 years old). The most common injuries were distal tibia (21.5%), distal fibula (19.5%), and pertrochanteric (13.9%) fractures. The majority of patients reported having private health insurance (43%) or public insurance (46%). Half of patients were employed and a third were retired.

At three months postoperation, there was no relationship between patients' financial worry scores and their employment status, access to paid leave, or insurance status. Due to their injury, 40% reported needing to use savings, 14% borrowed money or took out a loan, 15% could not pay bills, and 38% cut down on general expenses. Medical bills greater than \$1,000 were significantly associated with not attending physical therapy after three months ( $p = .036$ ), higher self-reported worrying ( $p = .015$ ), and higher average scores on the PCS ( $p < .05$ ). Women reported significantly higher worry scores than men at 3 months postoperative ( $p = 0.004$ ).

**DISCUSSION AND CONCLUSION:** Our study found that patients with traumatic orthopaedic injuries experience substantial financial burdens and worry regardless of employment status, insurance status, or access to paid leave. Medical bills greater than \$1,000 may negatively impact patient recovery by influencing decisions not to attend physical therapy, increasing anxiety, and increasing pain catastrophization. Surgeons should be mindful of the negative impact financial burdens have on their patients' medical care and recovery following injury.