

Quantifying value loss due to presenteeism and absenteeism in worker's compensation spinal patients

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INTRODUCTION: The upfront costs of surgical spine interventions for lower back and leg pain are comparatively higher than nonsurgical treatments, but the overall improvements in patient reported outcomes may indicate that surgery is ultimately more cost effective. Some recent studies suggest that better outcomes in work productivity following spine surgery eventually offset the higher cost of treatment. To measure work productivity, researchers commonly investigate presenteeism – inhibited at-work performance – and absenteeism – time spent away from work. By analyzing preoperative and postoperative changes in work productivity, studies can determine if surgery is cost effective and give patients more valuable information to make decisions about treatment in the future. Prior studies reviewing outcomes in work performance after spine surgery, however, have largely excluded patients on worker's compensation from the overall cost analysis. Thus, the aim of this study is to quantify the value of absenteeism and presenteeism among patients on worker's compensation receiving lumbar spinal surgery. This study additionally identifies gaps in patient reported outcomes at the Work Injury Recovery Center at the University of Iowa Hospitals and Clinics and assess the need for additional survey questions to quantify absenteeism and presenteeism more accurately.

METHODS: We present a retrospective review of work performance from patients on worker's compensation receiving spine surgery from 2008 to 2023 at the Work Injury Recovery Center at the University of Iowa Hospitals and Clinics. The preliminary review identifies presenteeism and absenteeism from designated work restrictions recorded in a patient's medical chart. Statistical analyses measuring patient reported outcomes, demographics, and information in a patient's medical chart were conducted using JMP Pro 17. The study was approved by the institutional review board at the University of Iowa.

RESULTS SECTION: A retrospective review of 278 patients was conducted, among whom 92 (33%) underwent spinal surgery of ≤ 3 levels and had an eligible worker's compensation case related to a spine injury. 101 spinal operations were performed for the 92 patients included in the study. 84 (83%) spinal surgery cases were able to return to work, 60 (59%) were able to return to work with no restrictions, 26 (26%) received permanent work restrictions, and 12 (12%) were still undergoing treatment. 86 (85%) experienced some form of presenteeism and 99 (98%) experienced some form of absenteeism. Of the cases that were able to return to work without permanent work restrictions, the mean presenteeism length postoperatively was 287.4 days (median 191 days) and the mean absenteeism length postoperatively was 232.5 days (median 142 days). 72 patients with recorded employment descriptions were identified as having sedentary or non-sedentary labor. After excluding outliers, the average return-to-work length, calculated as the date of a patient's injury to the date they were able to return to work with no restrictions, was 988.62 days for patients classified with sedentary employment types and 952.15 days for patients classified with non-sedentary employment types ($p=0.116$).

DISCUSSION: After receiving spinal surgery, our worker's compensation patient population's 83% return-to-work rate taking an average of 232.5 days (median of 142 days) exhibited considerably worse outcomes than a prior study's measurement with a population excluding worker's compensation patients. Presenteeism length within our worker's compensation population contributed more to decreased work productivity postoperatively than absenteeism length. Additionally, our results found no significant difference in return-to-work length between patients with sedentary and non-sedentary employment types from the date of their injury to the date they were able to return to work.

Future studies utilizing a tailored, prospective survey method can bridge the gap in current patient reported outcome measures that prevent us from accurately quantifying presenteeism, absenteeism, and return-to-work rates. These survey questions can include asking patients directly about how many hours they worked, how many hours they are expected to work, and how they would rate their at-work performance between 0-10.

SIGNIFICANCE/CLINICAL RELEVANCE: This study utilizes a novel retrospective approach to measure presenteeism and absenteeism in spinal patients receiving worker's compensation. Our findings suggest that presenteeism contributes more to decreased work productivity than absenteeism and should be considered when evaluating outcomes in worker's compensation patients receiving spine surgery.

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