Factors Influencing the Cost of Chronic Low Back Injuries: An Analysis of Data from Independent Medical Examinations

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Cost factors were examined in 157 patients with work-related spine injuries who were referred to a second opinion program between 1985 and 1991. The independent medical examination (IME) included a history, physical examination, and review of imaging and other studies. Data on demographic variables, litigation, work, injury history, physical examination, and imaging studies were recorded. A standard measure of psychological status (Low Back Pain Symptom Check List) was filled out. The instrument uses pain language as a clinical marker of psychological disturbance linked to a range of conflictual issues such as suppressed anger, burdensome feeling of inferiority, damaged self-esteem, role confusion, abnormal mentation, fear of responsibility or intimacy, gender issues, sexual concerns, disturbing arousal, and the like. Since it relies exclusively on pain language for diagnosis, it does not identify the specific nature of the psychological conflict. Data on treatment, final resolution, and cost were obtained from computerized files of the insurance company. The total cost incurred was $6,551,139. This averaged to $41,727 per case. More expensive cases were associated with a surgical intervention, psychological disturbance, litigation, motor weakness, and positive radiographs. These five variables accounted for 48% of the cost variance. Surgery accounted for 19.9% of the variance and contained the most expensive cases ($68,310 vs. $31,423). Psychological disturbance was detected in 27% of the sample and accounted for 10.5% of the cost variance. Litigation was present in 72% of the cases and accounted for 9.1% of the cost variance. Motor strength and radiographs taken together accounted for 8.4% of the variance. The usefulness of this information was explored from an actuarial and medical perspective.

KEY WORDS: low back pain; worker compensation; back injury; second opinion; cost; psychological disturbance; litigation.

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INTRODUCTION

Low back pain is extremely prevalent in all societies (1). In the U.S. alone, about 2% of the working population have a back injury each year, amounting to almost 500,000 injuries and a cost of more than $50 billion per annum. While the incidence and prevalence of back pain as such appears not to have increased over the past two decades, the rate of disability has (2).

Independent Medical Examinations (IME) have become increasingly common for industrially injured patients. This trend is motivated by third-party payers' concern about controlling costs, and individual need for advice and reassurance concerning the appropriateness of diagnostic tests and treatment. Second opinions may in some measure be looked upon as admissions to wide variability in medical judgment and experience, to important differences in medical opinion, to iatrogenic effects and that costly errors can be avoided (3). Implicit in this view is the notion that benefits accrue from second opinions resulting in better patient care and containment of costs.

Independent Medical Examinations do not ensure against high cost cases partly because very little is known about the economic values of different variables typically collected as part of the IME. The purpose of this research is to identify variables that impact on cost and are measurable at the time of the IME. Empirical identification of cost drivers can potentially serve as a base for development of different approaches to cost containment. Considering the rapidly increasing costs, such approaches are obviously important. The present study delineates the relative importance of background, medical, and psychological variables in accounting for variations in cost associated with work-related back injuries studied prospectively. Surgical treatment was also included as a cost variable, because of its known relationship to high-cost cases (4).

MATERIALS AND METHODS

Participants

Of 255 patients from one insurance company seen for a second opinion between 1985 and 1991, 157 met the two criteria for inclusion. They were (1) low back pain was present for a minimum of 8 weeks, and (2) patient’s case had been settled. These patients had been referred by prior agreement to be seen by a single examiner. A disability period of at least 8 weeks triggered a referral. During this period, all patients insured by this particular company, living in an insured district and absent for a work-related spine injury for at least that period were referred for examination. The examination included a patient history, physical examination, and review of radiographs and/or other images available. A diagnosis, treatment plan, and prognosis were provided, but treatment was not assumed. The data were recorded on a special “encounter form” and a letter was directed to the insurance company, but was shared with the treating physician.