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Associations with duration of compensation following whiplash sustained in a motor vehicle crash

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ABSTRACT

Context: Continued exposure to compensation systems has been reported as deleterious to the health of participants. Understanding the associations with time to claim closure could allow for targeted interventions aimed at minimising the time participants are exposed to the compensation system.
Study objective: To identify the associations of extended time receiving compensation benefits with the aim of developing a prognostic model that predicts time to claim closure.
Study design: Prospective cohort study in people with whiplash associated disorder.
Outcome measures: Time to claim closure, in a privately underwritten fault based third party traffic crash insurance scheme in New South Wales, Australia.
Method: Cox proportional hazard regression modelling.
Results: Of the 246 participants, 25% remained in the compensation system longer than 24 months with 15% remaining longer than three years. Higher initial disability (Functional Rating Index ≥ 25 at baseline) (HRR: 95% CI, 1.916: 1.324–2.774, $p < 0.001$); and lower initial mental health as measured by SF-36 Mental Component Score (HRR: 95% CI, 0.973: 0.960–0.987, $p < 0.001$) were significantly and independently associated with an increased time-to-claim closure.

Shorter time to claim closure was associated with having no legal involvement (HRR: 95% CI, 1.911: 1.169–3.123, $p = 0.009$); and, not having a prior claim for compensation (HRR: 95% CI, 1.523: 1.062–2.198, $p = 0.022$).
Conclusions: Health and insurance related factors are independently associated with time to claim closure. Both factors need to be considered by insurers in their assessment of complexity of claims. Interventions aimed at minimising the impact of these factors could reduce claimants' exposure to the compensation system. In turn insurers can potentially reduce claims duration and cost, while improving the health outcomes of claimants.

Introduction

Whiplash associated disorder (WAD) is the most frequently reported injury in traffic crash insurance schemes [1,2] and through these schemes a large proportion of people with WAD are treated. Whilst the economic costs associated with delayed recovery from WAD are dependent on the compensation scheme they can be significant, with one study suggesting that a small minority (12%) of people who were unrecovered at six months account for half of all compensation payments [3].

There is increasing evidence that compensation processes and prolonged exposure [4] may have a negative effect on participants' longer term health and recovery [5], and the 'time taken to deal with a claim' is associated with stresses that may hinder recovery [6]. At the same time, some researchers have cautioned against limiting access to compensation based on these findings, and the unintended consequences that might ensue. It has been argued that there is insufficient evidence to draw a causal relationship between exposure to a compensation system and negative outcomes [7]. This side of the argument proposes that the relationship is in fact an association and the direction of the causal relationship remains unclear: does exposure (and length of exposure) to the compensation system cause poor health or does a

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poor health profile (or other factors) lead to prolonged exposure to the compensation system?

A recent systematic review suggests that there is strong evidence of an association between compensation status and poorer psychological outcomes, and moderate evidence for an association between compensation status and poorer physical outcomes. Importantly, it found no studies where participation in a compensation scheme was associated with improved health outcomes [8].

Compensation participants, particularly those with a poorer baseline health profile may be more vulnerable to the impact of the system complexities [9–11] which have been found to have a negative impact on health and recovery [6]. However, a poor baseline health profile does not wholly account for the poorer psychological and physical health seen post injury [6,11] perhaps suggesting that the causal relationship occurs cyclically, in the manner of a vicious cycle. Prolonged exposure to the scheme increases the likelihood of participants coming into contact with system complexities known to be stressful including; numerous assessments [12] and the overall adversarial nature of dealing with compensation players [13].

There is substantial evidence about the predictors of recovery from WAD [1,14] within compensation systems, there is less focus in the literature on understanding the predictors of time to claim closure. Yet, the literature suggests that time-to-claim closure and time-to-recovery (recovery) are not necessarily coincident events and that many people who finalise their claim remain unrecovered [15]. Accordingly, researchers remain critical of using claim closure as a proxy for recovery as the relationship has not been sufficiently established [16,17].

The appropriate recovery metric, health outcome data, is rarely routinely collected within the compensation insurance context; rather, insurers collect data in order to assess insurance risk, which is usually claim duration and claim cost [18], and typically referred to as complexity. Therefore, identifying predictors of time to claim closure may be of more practical use to insurers and claims handlers where interventions aimed at minimising claim duration and claim cost may be implemented.

Predicting complexity based on information that includes health measures collected shortly after claim lodgement may also assist to build the business case for insurers or claims handlers to include health outcome information as part of their routine data collection methodologies, thus increasing knowledge on the longer term health profile of this group.

WAD Clinical Guidelines used in many compensation jurisdictions, including New South Wales (NSW), where this study was conducted, focus on interventions and treatment within the first 12 weeks post injury where they report that approximately 40% of people with WAD are likely to be symptom free within this timeframe. Those people with continuing symptoms beyond three months post injury are considered at risk of chronicity [19]. For this reason it would be useful for insurers and claims managers to understand the claimant profile for those with a claim remaining open beyond three months post lodgement.

The present study contributes to understanding the factors associated with prolonged time in the system. This understanding is essential to developing interventions that limit the exposure of claimants to the system-generated complexities and stressors, and would therefore be useful in terms of recovery and health.

Methods

Study design and context

The study is a prospective inception cohort where the design and recruitment process has been described previously [18]. The study was conducted in NSW, Australia. The NSW Compulsory Third Party (CTP) motor accident insurance scheme is fault-based where people who are injured due to the fault of another driver are eligible for compensation. Important features of the NSW CTP Scheme include; provisions for early notification and treatment; speedy and simplified accident notification and provisional liability provisions; and a threshold to access common law damages (non-economic loss payments for pain and suffering).

Sample size and retention

A sample size estimate of 510 was made in the study design phase to detect a significant difference in the primary outcome measure of SF 36 Physical Component Score (PCS) and informed by response rates in previous studies of WAD claimants between 25% and 40%. A sample size of 246 participants were recruited at the end of the study period. This number, which is less than our initial conservative estimate has allowed us to detect differences in the health outcome measures used.

Recruitment occurred over a 20 month period during which time efforts were made to increase the participation rates. Follow up was by postal questionnaire at 12 and 24 months post injury. To maximise retention rates at both assessment points if a returned questionnaire was not received within ten days a total of five follow-up telephone calls were made. Participants were also given the option of completing the questionnaire over the phone.

Participants

Participants were eligible if they had sustained WAD and lodged a claim for compensation after a motor vehicle crash no longer than 3 months previously, were 18 years or older, had no concurrent workers' compensation claim and did not require the services of an interpreter. Recruitment was through a large NSW-based motor accident insurer. Information on participants' socio-demographic, socio-economic, insurance claim and health status were collected at baseline (within 3 months of injury). WAD injury was graded by the participant's General Practitioner in accordance with Quebec Taskforce Classification [1], and socio-economic status was measured with the Index of Relative Social Disadvantage (IRDS), published by the Australian Bureau of Statistics [20].

Health outcome measures and participant current work status were updated at each time point. Work disability was measured for those in paid employment at baseline, where those who were unable to work at all, those who had to change jobs as a result of their injury and those who returned to work in a reduced capacity as compared to their usual pre-injury work status, were deemed to have a work disability. Those who were not in paid employment were categorised as 'Other'.

Participants also consented to the insurer releasing information relating to their compensation claim. Updated monthly for the duration of the study, this information included claim status (open, closed) and lawyer involvement.

Health measures

Health measures were assessed at baseline (within three months post injury). Recovery from pain and disability was measured using the Functional Rating Index (FRI). The FRI measures the perception of function and pain in the spinal musculoskeletal system including back pain [21]. It uses a 5-point scale ranging from "0" = no pain or full ability to function to "4" = worst possible pain and/or unable to perform the function at all. An index score is generated with a range of scores from zero (no disability) to 100 (severe disability). Recovery (absence of significant disability) was defined as a FRI of less than or equal to 25 as has been used previously [2,18].