PATTERNS AND PREDICTORS OF RETURN TO WORK AFTER MAJOR TRAUMA: A PROSPECTIVE, POPULATION BASED REGISTRY STUDY.

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Running Head

Return to work after major trauma

ABSTRACT

Objective

To characterise patterns of engagement in work over the four-year period following major traumatic injury, and to identify factors associated with those patterns.

Summary Background Data

Employment is an important marker of functional recovery from injury. There are few population-based studies of long-term employment outcomes, and limited data on the patterns of return to work post injury.

Methods

A population-based, prospective cohort study using the Victorian State Trauma Registry. A total of 1086 working age individuals, in paid employment or full-time education before injury, were followed-up through telephone interview at 6, 12, 24, 36, and 48-months post-injury. Responses to return to work (RTW) questions were used to define four discrete patterns: early and sustained; delayed; failed; no RTW. Predictors of RTW patterns were assessed using multivariate multinomial logistic regression.

Results

Slightly more than half of respondents (51.6%) recorded early sustained RTW. A further 15.5% had delayed and 13.3% failed RTW. One in five (19.7%) did not RTW. Compared with early sustained RTW, predictors of delayed and no RTW included being in a manual occupation and injury in a motor vehicle accident. Older age and receiving compensation predicted both failed and no RTW patterns. Pre-injury disability was an additional predictor of failed RTW. Presence of co-morbidity was an additional predictor of no RTW.

Conclusions

A range of personal, occupational, injury, health and compensation system factors influence RTW patterns after serious injury. Early identification of people at risk for delayed, failed or no RTW is needed so that targeted interventions can be delivered.

INTRODUCTION

Employment is an important determinant of health status [1] and engagement in employment or return to work (RTW) is associated with recovery and improved health status after injury [2]. In developed countries, markers of functional recovery from injury, such as participation in employment, represent a key rehabilitation goal [3, 4]. This follows improvements in prevention and acute care that have contributed to significant increases in survival [5, 6]. Identifying the early prognostic factors associated with RTW can help avoid the personal, financial and social impact of non-RTW, and may help alleviate the burden of injury through more effective occupational rehabilitation.

Studies of RTW following traumatic injury have been limited to specific mechanisms such as occupational or transport injury [7, 8]. Return to work studies also typically assess employment status at a single time point post injury [9] or in single centres [10]. Follow-up is usually limited to the first year or two post injury [11]. In one of the few population-based studies of RTW following major trauma, Gabbe and colleagues [12] reported improvements in RTW status up to 24 months post injury. Recovery trajectories differed by individual characteristics including gender, age, pre-existing conditions, socioeconomic status, injury type and occupation. There is now evidence that recovery continues beyond these time points following major trauma [13] , though we have little evidence of longer-term RTW outcomes.

Effective service planning and design of occupational rehabilitation interventions requires an understanding of the patterns of employment post-injury. Individuals may experience disrupted, delayed or failed return to work before ultimately achieving a successful employment outcome [11, 14]. Others may fail to RTW at all, or may experience an initial successful return followed by a longer-term exit from the workforce. The aim of this population based, longitudinal study was to characterise patterns of work engagement in the 4-year period following major trauma, and to identify factors associated with those patterns.

METHODS

Setting and Participants

The state of Victoria has a population of approximately 5.8 million residents, representing one quarter of the Australian population. The state has an integrated trauma system, which is monitored using the Victorian State Trauma Registry. The Registry captures data about all hospitalised major trauma cases. Major trauma is defined as any of the following; death following injury, an Injury Severity Score >12, urgent surgery, or admission to intensive care for >24h [15]. Survivors to hospital discharge are followed-up by telephone at 6, 12 and 24 months after injury to collect data about RTW, function, pain and health status. The REcovery after Serious Trauma--Outcomes, Resource use and patient Experiences (RESTORE) study extended follow-up to 36-, 48- and 60-months post-injury for all individuals with a date of injury from July 2011 to June 2012 [16]. Among those enrolled in the RESTORE study, adults of working age (18 to 64 years) who were employed at the time of injury were included in this study. The Registry and RESTORE project have been approved by the Human Research Ethics Committee of each participating hospital and Monash University.

While Australia's publicly funded health care system (Medicare) provides health care coverage for all Australian citizens and permanent residents, 57% of the adult population purchase private health insurance [17]. Additionally, Victoria has no-fault third party insurers for transport and work-related injury who provide financial compensation for healthcare, wage replacement and life-time care services.

Procedures

The protocol for the RESTORE study is described elsewhere but summarised here [16]. Follow-up data was collected using a standardised telephone interview which included validated self-reported outcome measures.

Predictors

Demographic factors, injury event, injury type and severity, pre-existing conditions and other relevant variables were extracted from the Registry and RESTORE for analysis. Predictors were selected on the basis that they assessed demographic (sex, age), health status (comorbidities, pre-injury disability),

injury (external cause, injury type), treatment (major trauma service), funding (compensable/funding status) and occupational factors. The Registry receives the 10th Revision of the International Classification of Diseases – Australian modification (ICD-10-AM) codes for each individual from the index admission. The Charlson Comorbidity Index (CCI) was mapped from the ICD-10-AM codes for each individual using published algorithms [18, 19]. The CCI weight was dichotomised for analysis; 0 representing no CCI conditions and 1+ representing individuals with at least one CCI condition with a weight of one or greater [18]. Abbreviated Injury Scale 2005 (2008 revision) diagnosis codes were used to categorise each individual's injuries into one of seven nature of injury groups, representing the six most common nature of injury groups and one residual group of individuals with burns or multiple injuries but without serious neurotrauma. The cause of injury categories were collapsed for analysis into the eight most common causes and one residual category. Age was categorised into three age bands. Self-reported pre-injury disability was determined using a validated question asking the individual's level of disability in the week prior to injury [20]. The mild, moderate marked and severe categories were combined for analysis due to the low number of individuals reporting pre-injury disability in these categories. Compensable cases were defined as those whose treatment was funded by either of the state's two no-fault injury compensation systems, the Transport Accident Commission (TAC) or workers' compensation. Individuals funded through the Australian public healthcare agency, Medicare, or via private health insurance were combined into a non-compensable category. Self-reported occupation prior to injury was captured at the initial follow-up interview and was coded into eight categories reflecting the Australian Standard Classification of Occupation (ASCO) 2nd edition [21].

Outcomes

The outcome measure was the pattern of engagement in paid employment or study over the 48 months post injury. Return to work (in paid employment: yes or no) was recorded at each time point when the individual reported working for income prior to injury. Return to study (yes or no) was recorded at each time point when the individual reported being in full time education prior to injury. Individuals were allocated to one of four groups based on their patterns of response to these questions over the five study interviews as follows:

1. Early and Sustained RTW – Individual returned to work at 6 months and reported being at work for all subsequent follow-up interviews.
2. Delayed RTW – Individual not at work initially but then reported returning to work for at least two consecutive interviews. Working at all subsequent interviews.
3. Failed RTW – Any self-reported episode of returning to work, followed by an interview at which the individual reported not being back at work.
4. No RTW – Individual reported not being at work at all interview time points.

Individuals were considered to be working if they reported any paid employment, and regardless of the extent (part-time, full-time) or type of work (same/different job; same/different employer). Individuals were excluded from the analyses if RTW status was missing on more than two of the five post-injury time points (N=137 of 1223 who met all other inclusion criteria)

Data Analysis

Frequencies and percentages were used to describe the population given that outcomes were categorical. Lasagna plots were used to visualise the trajectories of individuals, and the whole cohort, between working and non-working states over time [21]. Mixed effects logistic regression models with a random effect for case were used to estimate both the marginal probability of working and not-working at each follow-up. Logistic regression models were used to estimate the probability of transitioning from working at 6 months to not-working at any of the following time-points; and the probability of transitioning from not-working at 6 months to working at any subsequent time-points.

As the categories in the outcome variable were discrete, nominal and unordered, the association between predictors and outcomes were assessed using multinomial logistic regression models. Multinomial logistic regression assumes that the inclusion or exclusion of any category of the dependent variable from the model does not change the coefficients of the other categories. This is called the independence of irrelevant alternatives (IIA) and when tested using the Hausman diagnostic test, the model did not violate this assumption. The early and sustained RTW pattern was defined as the reference category. Initially, univariate models were run for each predictor with those demonstrating statistical significance retained in the final model. The adjusted relative risk ratio (ARRR) represents the risk of an individual

belonging in a particular RTW group (relative to the early sustained RTW group) compared with the reference category for each predictor. Analysis were performed using STATA Version 13.1, and a p value of <0.05 was considered significant.

RESULTS

Overview of Participants

A total of 1086 individuals met inclusion criterion. The mean (SD) age was 39.0 (13.7) years; 81% were men, and the predominant causes of injury were road transport crashes (56%) and falls (21%). The median (IQR) ISS was 17 (14-22) and the median (IQR) hospital length of stay was 7.3 (4.0-14.2) days. The overall rate of RTW was 60% at 6 months, 66% at 12 months, 71% at 24 months, 70% at 36 months and 71 % at 48 months.

Patterns of Return to Work

Figure 1 summarises the movement of individuals between working states over the follow-up period. A majority of individuals were either working at all follow-up time points (52%, N=560) or did not work at any time point (20%, N=214). These are indicated by green and red bands at the top and bottom of the columns in the lasagne plot. Of the remaining individuals, 16% (N=168) recorded a delayed RTW but then sustained RTW, while the remaining 13% (N=144) recorded a failed attempt to RTW. Predicted probabilities from the marginal models had high agreement with the observed probabilities, with absolute differences of 0.5% to 2.5%.

(Insert Figure 1 about here)

There were notable differences in patterns of RTW by demographic, injury, occupation, funding and health status variables (Table 1). For example, 123 (18%) of 18 to 34 year olds did not RTW or recorded a failed RTW attempt, compared with 125 (42%) of 50 to 64 year olds. Seventy-one percent without a CCI condition recorded a sustained RTW (early or delayed) compared with 58% with any CCI condition. Seventy-eight percent of non-compensable cases recorded an early or delayed RTW compared with 58% of those funded through an injury compensation system. A majority of individuals with spinal cord

injury either did not RTW or recorded a failed RTW, in contrast to those with isolated chest/abdominal injury in which 73% recorded early and sustained RTW. The occupations with the highest prevalence of early and sustained RTW included professionals, advanced/intermediate clerical, managers and associate professionals. In contrast, individuals whose occupation was labourer, intermediate production/transport or elementary clerical worker recorded higher prevalence of no RTW. Bicyclists had a higher prevalence of early and sustained RTW than those with injury caused by other factors. Pedestrians and motor vehicle occupants had the highest prevalence of no RTW.

(Insert Table 1 about here)

The adjusted predicted probability of transitioning from working at 6 months to not working at any subsequent time point was 47%. The probability of transitioning from not working at 6 months to working at any subsequent time point was 15%.

Predictors of Return to Work Patterns

Table 2 presents the findings from multivariate multinomial logistic regression models.

Delayed RTW

Few significant effects were observed between individuals with delayed- and early sustained RTW patterns. Professionals had a 73% lower relative risk of delayed RTW compared with the reference category of Managers (Table 2). Relative to individuals with isolated head injury, those with isolated chest or abdominal injury had a 75% lower risk of delayed RTW. Individuals with spinal cord injury had a near three-fold greater risk of delayed RTW compared to those with an isolated head injury, however this was not significant (ARRR=2.90, 95% CI 0.89-9.49). Sex, age, comorbidity, pre-injury disability, compensable status and whether the individual was managed at a major trauma service were not predictors of delayed RTW (Table 2).

No RTW

Older people had a higher adjusted relative risk of not returning to work during the follow up period compared to those with an early sustained RTW. Those in the 50 to 64 year age band had a more than three-fold increased risk compared with those in the youngest age band of 18 to 34 years, while those

aged 35 to 49 years had an 81% greater probability of no RTW compared to the younger group (Table 2). Two associations were observed for injury group, in which the comparator group was individuals with isolated head injury. Those with isolated chest or abdominal injury had a 75% lower probability of no RTW. In contrast, individuals with spinal cord injury were at more than six times the risk of no RTW. For occupation, both labourers and those in occupations classified as intermediate production/transport/elementary clerical had higher risk of no RTW. For labourers the relative risk was more than three-times that of Managers, while for production/transport/clerical workers the risk was 2.74 times that of Managers. External cause of injury, compensation status and presence of co-morbidity were also significant predictors. Gender, whether the individual was managed at a major trauma service and pre-injury disability were not important predictors of No RTW (Table 2).

Failed RTW

Individuals with any pre-injury disability compared to those without pre-injury disability were 2.6 times more likely to have a failed attempt to RTW than have an early sustained RTW. Compared with those experiencing isolated head injury, individuals without a head or spinal cord injury were at lower risk of failed RTW; those with isolated orthopaedic injury had a 78% lower relative risk, those with isolated chest or abdominal injuries had a 79% lower relative risk, those with multi-trauma had a 60% lower relative risk, and those with chest, abdominal and other injuries had a 63% lower risk. Individuals whose healthcare was funded through Medicare or private health insurance (non-compensable) had a 67% lower relative risk of failed RTW than those whose care was funded through an injury compensation scheme. Gender, whether the individual was managed at a major trauma service, cause of injury or occupation were not important predictors of Failed RTW (Table 2).

(Insert Table 2 about here)

DISCUSSION

Engagement in employment is an important marker of functional recovery following injury, associated with better health and well-being. [2]. This study presents new data from a large, population based longitudinal study on the patterns of RTW following serious injury in adults who were in paid

employment when injured. Four discrete patterns of RTW were identified over the four year follow-up period. Over half of individuals had returned to work by six months post injury and remained in employment throughout the follow-up period., whilst a further 16% returned to work after more than six months absence, but then remained at work for at least 12 months, demonstrating a sustained re-engagement in the labour force. Two substantial groups of seriously injured individuals recorded less encouraging labour market participation. Nearly 1 in 5 seriously injured individuals did not RTW at any time during the follow-up period, while a further 13% recorded an unsuccessful attempt to RTW. Multiple factors, present at the time of injury or early thereafter, were identified as predictors of these patterns of employment, including; age, nature of injury, occupation, compensable status, presence of comorbidity or pre-injury disability, and cause of injury.

Individuals whose injury did not involve the brain or spinal cord were less likely to record a failed pattern of RTW or No RTW. Individuals with SCI showed the lowest rates of RTW. These findings are consistent with patterns of functional recovery reported from this cohort, where individuals with SCI demonstrated significantly poorer outcomes, while those with isolated chest or abdominal injuries experienced better functional recovery and quality of life [13]. Systematic reviews have reported low rates of employment following SCI, ranging from 21% to 67% in one study [23]. While qualitative studies in people with SCI report that a complex range of work, personal and environmental factors interact during the RTW process [24], there are few examples of effective RTW interventions in this population. This is an area for exploration to improve practice.

While prior studies have reported poorer RTW outcomes in compensable cases following traumatic injury [12, 25], to our knowledge this is the first study to demonstrate that individuals receiving compensation are at increased risk of specific negative patterns of RTW. In our study, claiming compensation from the state's third party motor vehicle or workers' compensation systems was a predictor of both not returning to work and failed RTW attempts, but not delayed RTW. Evidence from work injury cohorts suggests that a range of compensation processes and policies may contribute to this effect [26], and that navigating complex compensation system processes can contribute to both poorer functional recovery and poorer RTW [27, 28]. Compensation systems also interact with healthcare

delivery and may affect the provision of healthcare in ways that can negatively influence RTW outcomes [29].

Presence of comorbidities was associated with failure to RTW following injury, while having any pre-injury disability was a predictor of failed RTW attempts. These findings demonstrate a strong interaction between an individual's pre-injury health status and their subsequent ability to engage in employment after injury [30, 31]. Independent of comorbidity and other key characteristics, increasing age was also a predictor of not returning to work and of failed RTW attempts. This finding is consistent with prior studies of work injury cohorts, showing a close relationship between older age and duration of work time lost after injury [14], and with findings of an association between increasing age and poorer functional status post injury [12, 13]. In most industrialised nations there is a growing economic imperative to enhance labour market participation of older workers, in order to maintain income tax revenue and grow retirement savings to support longer periods of life expectancy [32]. However there is currently limited evidence regarding the effectiveness of clinical and workplace-based employment interventions in older workers [33]. As both the workforce and the trauma population age, the need for effective RTW interventions will become more pressing.

Our findings also present evidence of the interplay between injury and occupational factors in RTW. Those employed in a professional occupation (e.g., scientists, engineers, health professionals, educators, information technology professionals) returned to work earlier than those employed in manual occupations such as labourers and transport workers, who were also at increased risk of not returning to work. Consistent with prior studies, these findings suggest that reductions in physical capacity following severe injury has a larger impact in those whose occupation is physically demanding [34], or with lower job control [35]. In contrast those working in occupations with relatively high levels of job control and lower physical capacity requirements, may have an advantage in their ability to RTW [35]. Return to work programs targeted at those with traumatic injury and manual occupations may be warranted.

Finally, our analysis of transitional probabilities identified that a small proportion of individuals who were not working at 6 months post injury will transition to a working state over the following 3.5 years.

Conversely, nearly half of those working at six months will transition to a non-working state over that time period. This finding suggests that a focus on occupational rehabilitation in the early post injury phase may be important for both short-term and longer-term employment outcomes, although we note the absence of quality trial evidence in this area [36].

Together, these findings demonstrate that a range of personal, occupational, injury, health and compensation system factors influence RTW patterns after serious injury. Established explanatory models of RTW and work disability prevention propose that engagement in employment after injury and disease is influenced by factors across these domains [37]. Our study extends these models by demonstrating that these factors operate differentially to influence the pattern of engagement in work after injury. For example, we observed that occupation and injury type were predictors of delayed RTW, while there were more and different predictors for patterns of failed and non RTW.

The strengths of this study include the large, population-based sample, the long period of prospective data collection, use of standardised and validated outcome measures. Additionally, the multiple follow-up interviews enabled the differentiation of patterns of employment, a novel approach that differentiates this study from prior research. Limitations include the limited range of occupational and psychosocial predictors available to be examined. The study was conducted in a jurisdiction with low incidence of penetrating trauma and with universal health coverage, which may limit generalisability to settings with different patient and health system characteristics.

In conclusion, this large study of working age, hospitalised individuals with major trauma who were employed before injury identified four discrete patterns of engagement in paid employment over the four year period post injury. The findings highlight the high prevalence of failed attempts to RTW and not returning to work in seriously injured people, with contributing pre-injury factors including older age, comorbidities, pre-injury disability, manual occupation, and injury-related causes including presence of SCI and compensation status. . Study findings have substantial implications for occupational rehabilitation of injured people. Effective approaches to identifying people at risk for delayed, failed or no RTW are clearly needed, so that interventions to target specific populations can be delivered to people following injury.

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Figure Legends

Figure 1. Lasagna plot and marginal distribution table of return to work status by time since injury in the RESTORE study. Green sections indicate individuals who have returned to work at each follow-up assessment. Red sections indicate individuals who were not working at that follow-up assessment. Figures in the table above the graph are marginal probabilities of return to work and no return to work states based on regression models.

RTW	62.5%	66.7%	71.0%	70.5%	71.4%
No RTW	37.5%	33.3%	29.0%	29.5%	28.6%

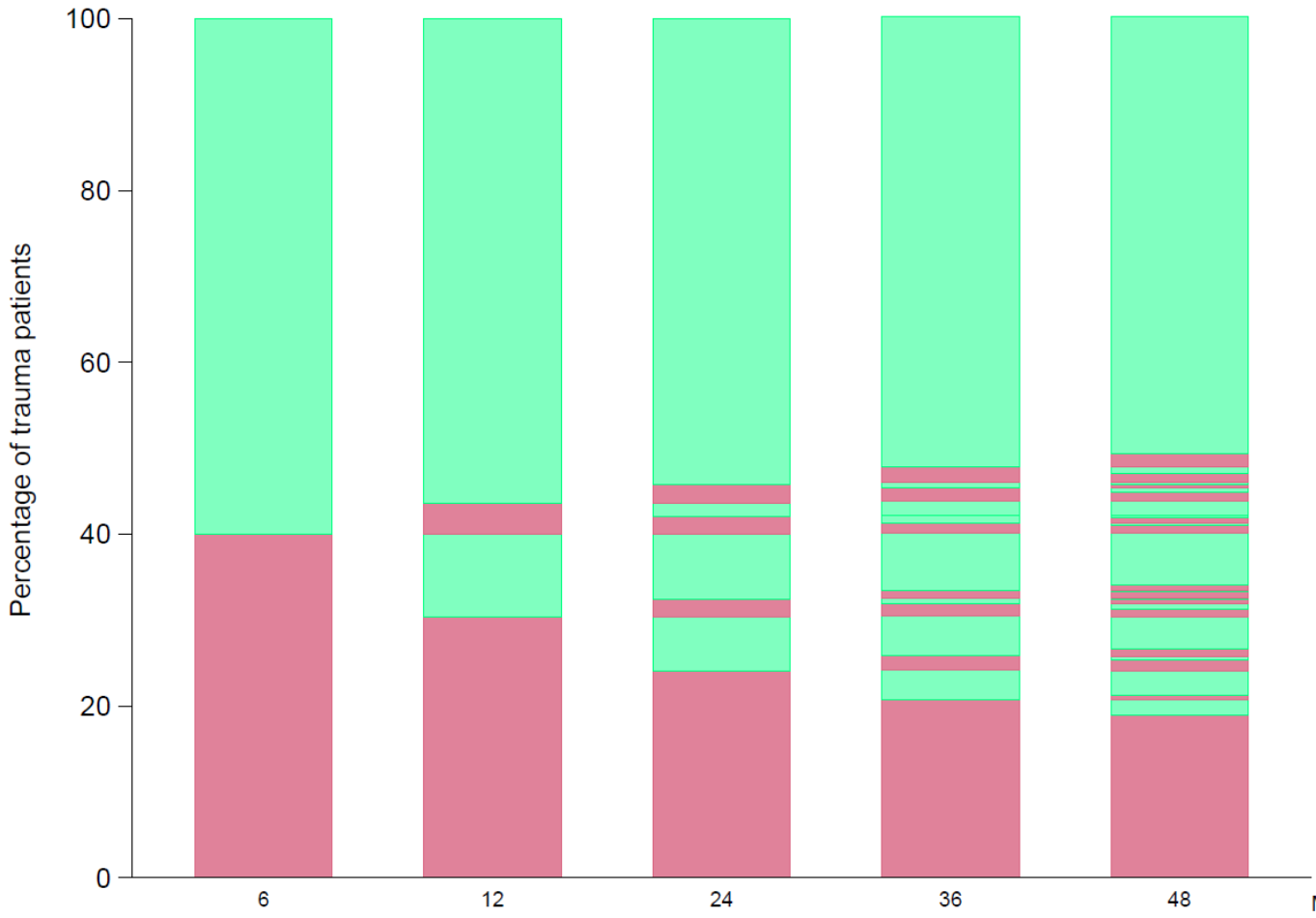

Table 1: Summary of return to work patterns

		Early Sustained RTW	Delayed RTW	No RTW
	N	N (%)	N (%)	N (%)
Sex				
Male	881	465 (52.8)	135 (15.3)	168 (19.1)
Female	205	95 (46.3)	33 (16.1)	46 (22.4)
Age				
18-34 years	445	237 (53.3)	85 (19.1)	65 (14.6)
35-49 years	346	184 (53.2)	52 (15.0)	70 (20.2)
50-64 years	295	139 (47.1)	31 (10.5)	79 (26.8)
Charlson comorbidity index				
0	768	426 (55.5)	117 (15.2)	131 (17.1)
1+	318	134 (42.1)	51 (16.0)	83 (26.1)
Pre-injury disability level				
None	1008	531 (52.7)	162 (16.1)	190 (18.8)
Mild/moderate/marked/severe	78	29 (37.2)	6 (7.7)	24 (30.8)
Major trauma service				
No	120	79 (65.8)	11 (9.2)	16 (13.3)
Yes	966	481 (49.8)	157 (16.3)	198 (20.5)
External cause of injury				
Motor vehicle	288	109 (37.9)	56 (19.4)	78 (27.1)
Motorcycle	173	84 (48.6)	31 (17.9)	36 (20.8)
Pedal cyclist	103	80 (77.7)	8 (7.8)	6 (5.8)
Pedestrian	45	16 (35.6)	6 (13.3)	17 (37.8)
Low fall	80	50 (62.5)	8 (10.0)	12 (15.0)
High fall	143	84 (58.7)	19 (13.3)	23 (16.1)
Struck by/collision with person/object	117	68 (58.1)	22 (18.8)	14 (12.0)
Other	137	69 (50.4)	18 (13.1)	28 (20.4)

Compensable status				
Compensable	584	241 (41.3)	99 (16.9)	153 (26.2)
Non-compensable	495	315 (63.6)	69 (13.9)	59 (11.9)
Occupation				
Managers	78	44 (56.4)	14 (18.0)	9 (11.5)
Professionals	163	112 (68.7)	12 (7.4)	20 (12.3)
Associate Professionals	117	64 (54.7)	21 (17.9)	18 (15.4)
Tradespersons	338	171 (50.6)	59 (17.5)	68 (20.1)
Advanced/intermediate clerical	72	45 (62.5)	11 (15.3)	10 (13.9)
Intermediate production/transport	107	43 (40.2)	11 (10.3)	39 (36.4)
Elementary clerical	28	9 (32.1)	2 (7.1)	9 (32.2)
Labourers	93	31 (33.3)	20 (21.5)	29 (31.2)
Students	72	36 (50.0)	13 (18.1)	9 (12.5)
Injury group				
Isolated head injury	93	48 (51.6)	12 (12.9)	14 (15.1)
Head and other injuries	252	120 (47.6)	41 (16.3)	59 (23.4)
Spinal cord injury	43	11 (25.6)	7 (16.3)	20 (46.5)
Orthopaedic injuries only	111	62 (55.9)	20 (18.0)	19 (17.1)
Chest / abdominal injuries alone	111	81 (73.0)	6 (5.4)	12 (10.8)
Chest / abdominal and other injuries	307	155 (50.5)	54 (17.6)	57 (18.6)
Other multi-trauma and burns	169	83 (49.1)	28 (16.6)	33 (19.5)
Total	1086	560 (51.6)	168 (15.5)	214 (19.7)

Note: N = number; % = row percentage; RTW = Return to Work.

Table 2: Predictors of Return to Work patterns from the multivariable multinomial logistic regression

	Delayed RTW vs Early sustained RTW		No RTW vs Early sustained RTW		Failed
	ARRR (95% CI) *	p-value	ARRR (95% CI) *	p-value	ARRR
Sex		0.37		0.13	
Male (reference)	1		1		
Female	1.27 (0.75, 2.16)		1.46 (0.89, 2.39)		1.38
Age		0.94		<0.001	
18-34 years (reference)	1		1		
35-49 years	0.93 (0.59, 1.47)		1.81 (1.14, 2.87)		1.10
50-64 years	0.92 (0.54, 1.56)		3.25 (1.99, 5.31)		1.78
Charlson comorbidity index		0.26		0.01	
0 (reference)	1		1		
1+	1.28 (0.83, 1.96)		1.71 (1.15, 2.56)		1.48
Pre-injury disability		0.50		0.09	
None (reference)	1		1		
Mild/moderate/marked/severe	0.72 (0.27, 1.88)		1.94 (0.91, 4.15)		2.60
Major trauma service		0.30		0.92	
No (reference)	1		1		
Yes	1.46 (0.71, 2.96)		0.96 (0.49, 1.91)		0.93
External cause of injury		0.09		<0.001	
Motor vehicle (reference)	1		1		
Motorcycle	0.78 (0.44, 1.39)		0.74 (0.42, 1.31)		0.86
Pedal cyclist	0.25 (0.10, 0.66)		0.20 (0.08, 0.53)		0.52
Pedestrian	0.67 (0.21, 2.10)		1.71 (0.77, 3.78)		1.02
Low fall	0.38 (0.13, 1.15)		0.42 (0.16, 1.12)		0.64
High fall	0.55 (0.26, 1.18)		0.58 (0.28, 1.22)		0.92
Struck by/collision with person/object	0.93 (0.44, 1.97)		0.67 (0.27, 1.64)		1.06
Other	0.83 (0.38, 1.81)		1.61 (0.75, 3.49)		1.89
Compensable status		0.40		<0.001	

Compensable (reference)	1		1		
Non-compensable	0.79 (0.45, 1.37)		0.33 (0.19, 0.60)		0.33
Occupation		0.01		<0.001	
Managers (reference)	1		1		
Professionals	0.27 (0.11, 0.65)		0.59 (0.23, 1.52)		0.52
Associate Professionals	0.85 (0.38, 1.93)		1.05 (0.41, 2.72)		0.70
Tradespersons	0.79 (0.39, 1.63)		1.57 (0.68, 3.62)		0.75
Advanced/intermediate clerical	0.48 (0.19, 1.19)		0.66 (0.22, 1.99)		0.36
Intermediate production/transport/ elementary clerical	0.58 (0.24, 1.42)		2.74 (1.13, 6.65)		1.18
Labourers	1.41 (0.59, 3.39)		3.26 (1.28, 8.34)		1.12
Students	0.74 (0.28, 1.96)		0.99 (0.32, 3.10)		1.33
Injury group		0.01		0.001	
Isolated head injury (reference)	1		1		
Head and other injuries	1.07 (0.46, 2.47)		0.88 (0.42, 1.86)		0.35
Spinal cord injury	2.90 (0.89, 9.49)		6.30 (2.12, 18.7)		1.11
Orthopaedic injuries only	1.11 (0.44, 2.85)		0.60 (0.25, 1.42)		0.22
Chest / abdominal injuries alone	0.25 (0.08, 0.76)		0.25 (0.10, 0.64)		0.21
Chest / abdominal and other injuries	1.18 (0.50, 2.80)		0.54 (0.25, 1.16)		0.37
Other multi-trauma and burns	1.04 (0.41, 2.59)		0.63 (0.29, 1.40)		0.40

Note: RTW = Return to Work; ARRR = Adjusted Relative Risk Ratio. Data presented are relative risk ratios the table and compared to the early and sustained RTW group.