


The association between attributions of responsibility for motor vehicle accidents and patient satisfaction: a study within a no-fault injury compensation system

Clinical Rehabilitation
2015, Vol. 29(5) 500–508
© The Author(s) 2014
Reprints and permissions:
sagepub.co.uk/journalsPermissions.nav
DOI: 10.1177/0269215514546009
cre.sagepub.com


Jason Thompson^{1,2}, Michael Berk^{1,3,4,5}, Meaghan O'Donnell^{5,6}, Lesley Stafford^{5,7} and Trond Nordfjaern⁸

Abstract

Objective: This study set out to test the relationship between attributions of responsibility for motor vehicle accidents and satisfaction with personal injury compensation systems.

Design: The study analysed survey data from 1394 people injured in a motor vehicle accident who were compensated under a no-fault personal injury compensation system. Patients' ratings of satisfaction with the compensation system across five domains (resolves your issues, keeps you up-to-date, treats you as an individual, cares about you, and overall satisfaction) were analysed alongside patient attributions of responsibility for their accident (not responsible, partly responsible, totally responsible). Postaccident physical and mental health status, age, gender, and duration of compensation claim were controlled for in the analysis.

Results: A multivariate analysis of covariance indicated attributions of responsibility for accidents were significantly associated with levels of patient satisfaction across all five domains under study ($F(10, 2084) = 3.7, p < 0.001, \eta^2 = 0.02$). Despite access to virtually indistinguishable services, patients who attributed responsibility for their accidents to others were significantly less satisfied with the injury compensation system than those who attributed responsibility to themselves.

Conclusions: Satisfaction with no-fault motor vehicle injury compensation services are associated with patients' attributions of responsibility for their accident. Compensation systems and other rehabilitation services monitoring patient satisfaction should adjust for attributions of responsibility when assessing levels of patient satisfaction between time periods, services, or injured populations. Differences in levels of patient satisfaction observed between compensation or rehabilitation populations may reflect differences in attributions of responsibility for accidents rather than objective service quality.

¹IMPACT Strategic Research Centre, Deakin University, Victoria, Australia

²Monash University Accident Research Centre, Monash University, Victoria, Australia

³Orygen Youth Health Research Centre and the Centre of Youth Mental Health, Victoria, Australia

⁴Florey Institute for Neuroscience and Mental Health, University of Melbourne, Melbourne, Australia

⁵Department of Psychiatry and School of Psychological Sciences, University of Melbourne, Melbourne, Australia

⁶Australian Centre for Posttraumatic Mental Health, University of Melbourne, Melbourne, Australia

⁷Centre for Women's Mental Health, Royal Women's Hospital, Melbourne, Australia

⁸Norwegian Institute for Alcohol and Drug Research, Oslo, Norway

Corresponding author:

Jason Thompson, Monash University Accident Research Centre (MUARC), Monash Injury Research Institute, Room 310, Building 70, Level 3, Clayton Campus, Monash University, Victoria 3800, Australia.

Email: jason.thompson@monash.edu

Keywords

Injury, satisfaction, attributions, accidents, motor vehicles

Received: 6 March 2014; accepted: 12 July 2014

Introduction

Well-functioning rehabilitation and healthcare systems are frequently distinguished by their association with highly satisfied patients.^{1,2} Further, government financial incentives for both hospitals and injury insurers alike are often tied to patient satisfaction ratings.^{3,4}

In addition to being regarded as an important measure of service quality and function,⁵ high levels of patient satisfaction contribute to improved adherence to medical regimens,^{6,7} reduced likelihood of changing medical providers,⁸ reduced likelihood of litigation,⁹ and increased care-seeking from medical professionals rather than laypeople.¹⁰ Increasing patient satisfaction, therefore, appears to benefit both organisations and individuals, alike.

Attempts to improve patient satisfaction among healthcare, rehabilitation, and compensation services are often based on an assumption that satisfaction is driven by the behaviour and characteristics of services, themselves.¹¹ Interpersonal manner of staff, perceived technical competence, accessibility and convenience, financial arrangements, continuity of care, and efficacy of service¹² are all factors previously reported to influence patient satisfaction. However, subjective measures of satisfaction across these domains do not solely assess the performance of organisations; they are also reflective of patients' expectations, preferences, prior experiences, and desired levels of care.^{12–15}

A wide range of demographic and patient characteristics can also affect patient satisfaction,^{14,16} including age, gender, socioeconomic status, education,^{1,17,18} mental health status,^{19–21} pain,²² depression,^{22,23} and absolute health outcomes after injury or illness.²⁴ Therefore, both the individual characteristics patients bring to rehabilitation settings and the eventual health outcomes they achieve have considerable influence over their ultimate ratings of satisfaction with services.

Theoretical understanding of patient satisfaction has advanced little in the past two decades. A recent area of development, however, relates to injury compensation research. Here, perceptions of organisational justice following injury, and the quality of patient interaction with compensation systems, have emerged as areas of interest.^{25–31} However, in contrast to the work mentioned above, the quality of interaction between patients and services within these studies has been viewed as a moderator of health outcomes rather than a result of them.

Within road trauma and injury populations, internal attributions of responsibility for accidents have been shown to have protective effects across posttraumatic stress disorder,^{32–35} depression,³⁶ and general psychological distress.^{37,38} Similarly, compensable patients and those who attribute responsibility for injuries to others have shown heightened perceptions of injustice, blame, and anger.^{29,30,39,40} Despite this literature suggesting that external attributions of responsibility for accidents or injuries may lead to interactions with service providers more likely to be viewed by patients as unjust, attributions of responsibility have been absent from previous assessment of factors associated with patient satisfaction.^{13,16,22,41–43} If patient satisfaction is indeed affected by more than just service quality and health outcomes alone,²⁴ it is possible that attributions of responsibility may also play a significant role. Attributions of responsibility for accidents may influence levels of patient satisfaction even in circumstances where accessibility of healthcare services and support is largely indistinguishable, as is the case in no-fault injury compensation systems.

The aim of this study was, therefore, to assess whether attributions of responsibility for accidents are associated with patient satisfaction among clients who have received care within a no-fault injury compensation system.⁴⁴ It was hypothesised

that, after controlling for physical health outcomes, mental health outcomes, compensation claim duration, age, and gender, people who attributed responsibility for accidents to others would demonstrate lower levels of satisfaction with no-fault compensation services than those who attributed responsibility to themselves.

Method

Data were extracted from a de-identified patient outcomes survey data set of persons injured in a motor vehicle accident and compensated by the Victorian Transport Accident Commission.

People insured by the Victorian Transport Accident Commission have access to ambulance cover, hospital treatment, medical services, allied health services, occupational rehabilitation, pharmaceuticals, loss of earnings payments for time off work, and a wide range of other assistance, including lump-sum payments for ongoing disability.⁴⁵ In addition, persons considered 'not-at-fault' in their accident who suffer serious injuries have recourse to additional lump-sum payments through the pursuit of common-law (tort) cases if they are deemed to have suffered serious injuries resulting in significant permanent incapacity.⁴⁴

The physical and mental health rehabilitation services available to both 'at-fault' and 'not-at-fault' clients through the Victorian Transport Accident Commission is virtually identical and arguably the most generous in Australia.⁴⁶ Where differences do exist between services available to 'at-fault' and 'not-at-fault' parties (i.e. reduced access to compensation for drink-drivers), they favour 'not-at-fault' person.⁴⁷ The system operates similarly to other no-fault injury schemes in New Zealand, Canada, and the United States.^{47,48}

Participants

Participants were clients of the compensation system that had been injured in a motor vehicle accident and received payment for medical services within in the previous 25 months. Participants were excluded from the study if they had suffered catastrophic injuries as deemed by the system, were

dependents of deceased accident victims, had previously indicated to the system that they did not want to participate in research programmes or communicate with representatives of the compensation system, were multiple family members of other persons in the sample populations, were persons whose accident anniversary occurred two-weeks either side of the potential interview period, or were employees of the compensation system.

Procedures

A hard-copy letter of invitation to participate in the research was mailed to a sample of 3500 persons who met criteria for study inclusion as described above. The letter described the purpose of the research, that they may be contacted by telephone to participate, the voluntariness of participation, and time commitment requested. At this stage, potential participants had a two-week period in which they could contact the compensation system's client research division to withdraw participation consent, or request a specific interview day and time.

A contracted research company then conducted the survey via Computer Assisted Telephone Interview under the supervision of compensation system representatives. Participants were free to withdraw consent at any stage through the initial contact or interview process. Interviews were conducted over a four-week period between the hours of 10 am and 8 pm. The average interview length was 25 minutes. Data collection from the potential pool of participants ceased when sufficient rates of participation as desired by the compensation scheme ($N=1394$) had been met. The overall response rate for persons contacted via telephone and eligible for participation was 70%.

Ethics approval for this research was granted by the human research and ethics committees of Deakin University (2012-234) and the equivalent body within the Transport Accident Commission.

Measures

The full survey contained a wide range of measures relating to postaccident recovery and participants'

experience with the compensation system. Those relevant to the current study are listed below.

Satisfaction with the compensation system was measured using five variables rated on a scale from 1 to 10. Participants were asked: 'How satisfied are you on a scale of 1 to 10 with 1 being the least satisfied and 10 being the most satisfied with the way the system; 'resolves your issues'; 'keeps you up to date'; 'treats you as an individual', and; 'cares about you'. Finally, participants were asked to respond to the question; 'Overall, how satisfied are you with the system on a scale of 1 to 10 with 1 being least satisfied and 10 being the most satisfied you could possibly be?'

To assess attributions of responsibility for their accident, participants were asked whether they believed they were 'totally responsible', 'partially responsible', or 'not responsible at all' for their motor vehicle accident.

The Short-Form Health Survey-12, Version 2 (SF-12, V2) was used to measure mental and physical health outcomes at the time of interview. Based on physical health composite (PCS) and mental health composite scores (MCS) produced by the SF-12 V2, participants were then divided into equally distributed quartiles (low, medium low, medium high, high) across each domain.

Demographic information was collected for each respondent, including gender, age, and claim duration. Claim duration is a compensation administration variable that closely approximates time elapsed since accident.

Statistical analysis

To determine the association between attributions of responsibility for accidents and satisfaction with compensation services, a multivariate analysis of covariance was undertaken with five dependent variables (resolves your issues, keeps you up to date, treats you as an individual, cares about you, and overall satisfaction), and the three independent variables of responsibility for accident (not responsible, partly responsible, totally responsible), MCS score quartiles, and PCS score quartiles. To adjust for the influence of age, gender, and claim duration, these factors were entered as covariates into

the model. Planned posthoc tests (Fischer's Least Squared Difference (LSD)) were then undertaken to assess differences between groups on levels of satisfaction with the compensation system.

Results

After list-wise screening for missing data across all participant records ($N=1394$), 297 participants were excluded, leaving a total of 1097 available for analysis. Assessment of differences between included and excluded participants (see Tables 1) showed no significant differences between groups on variables under study, with the exception that those excluded from analysis were, on average, marginally older ($\mu=46.5$ years, $\sigma=16.7$) than included participants ($\mu=42.3$ years, $\sigma=14.9$) ($p<0.05$). Assessment of demographic differences across responsibility for accident groups demonstrated that 'not responsible' participants were proportionately more likely to be females and were also slightly older ($\mu=44.2$ years, $\sigma=14.3$) than either partially ($\mu=39.3$ years, $\sigma=14.9$) or totally responsible ($\mu=38.9$ years, $\sigma=15.5$) participants (see Table 2).

Included participants had incurred a range of injuries ranging in severity from musculoskeletal injuries (26%) (e.g. soft tissue sprains, strains, whiplash), orthopaedic injuries (41%) (e.g. fractures, dislocations), 'severe' injuries (21%) (e.g. amputations, mild brain injury, head injury, degloving, internal, spinal injuries), and 'other' injuries (12%) (e.g. lacerations, abrasions, concussion).

Observing Pillai's trace criteria, results demonstrated a significant multivariate effect for attributions of responsibility for accident across the combined satisfaction-related variables ($F(10, 2084) = 3.7, p<0.001, \eta^2=0.02$) indicating that attributions of responsibility were independently associated with satisfaction with the compensation system. Between-subject effects demonstrated significant associations between attributions of responsibility and all satisfaction-related variables under study, including: overall satisfaction with the system ($F(2, 1095) = 14.90, p<0.001, \eta^2=0.03$); rating of how the system resolves issues ($F(2,$

Table 1. Descriptive statistics associated with age, gender, and duration of claim for included and excluded participants.

		Included cases (N= 1097)				Excluded cases (N= 297)			
		%	n	Mean	SD	%	n	Mean	SD
Gender	Male	62.7	688			58.2	173		
	Female	37.3	409			41.8	124		
Age				42.3 _b	14.9			46.5 _a	16.7
Duration of claim	0–12 months	29.1	319			26.6	79		
	13–24 months	32.2	353			24.6	73		
	25–36 months	19.1	209			25.3	75		
	37+ months	19.7	216			23.6	70		

Values in the same row not sharing the same subscript are significantly different at $p < 0.05$ level.

1095) = 11.41, $p < 0.001$, $\eta^2 = 0.02$); rating of how the system keeps the patient up to date ($F(2, 1095) = 7.07$, $p < 0.01$, $\eta^2 = 0.01$); rating of whether the patient believes the system treats them as an individual ($F(2, 1095) = 8.54$, $p < 0.001$, $\eta^2 = 0.02$); and rating of whether the system cares about them ($F(2, 1095) = 8.97$, $p < 0.001$, $\eta^2 = 0.02$).

A series of posthoc tests (Fisher's LSD) revealed the direction of effect between levels of attributions of responsibility and satisfaction (see Table 3). Persons who attributed responsibility to others for their accident reported lower ratings of overall satisfaction, resolution of issues, being kept up to date, being treated as an individual, and ratings of whether patients believed the system cared about them in comparison to those who reported being totally responsible for their accident ($p < 0.001$). Linear trends were observed between level of responsibility and estimates of individual elements of patient satisfaction, indicating that satisfaction with the compensation system increased with increasing internal attributions of responsibility for accidents.

Significant multivariate effects were also observed for SF-12 V2 PCS ($F(15, 2877) = 1.7$, $p < 0.05$, $\eta^2 = 0.01$) and SF-12 V2 MCS quartile groups ($F(15, 2877) = 1.7$, $p < 0.05$, $\eta^2 = 0.01$), indicating that both mental and physical health status were positively associated with levels of satisfaction after controlling for age, gender, and duration of claim. Duration of claim was the only covariate to record a multivariate effect ($F(5,$

1042) = 7.0, $p < 0.001$, $\eta^2 = 0.03$) with descriptive data showing that shorter claim durations were associated with higher levels of satisfaction. No significant multivariate interaction effects were observed between independent variables.

Discussion

Results supported our hypothesis in that, after controlling for mental and physical health status, age, gender, and duration of claim, people who attributed responsibility for their motor vehicle accident to others were significantly less satisfied with the injury compensation system than those who attributed responsibility either partially or completely to themselves. This finding is novel because, to the authors' knowledge, no previous investigation has considered the role of attributions of responsibility for accidents or injury on perceptions of satisfaction with injury compensation or other health services.

The compensation and rehabilitation resources available to all participants under study were virtually identical. It is therefore curious that persons who attributed responsibility for accidents to others remained less satisfied with the support they received. We believe that is particularly interesting given that the differences observed between levels of responsibility on patient satisfaction are independent of health outcomes and occurred within a no-fault scheme specifically designed to reduce disadvantages associated with fault-based

Table 2. Descriptive statistics associated with age, gender, and duration of claim for all participants within each attribution of responsibility group.

		Totally responsible				Partially responsible				Not responsible			
		n	%	Mean	SD	n	%	Mean	SD	n	%	Mean	SD
Gender	Male	143 _c	73.0			162 _c	74.7			383 _{a,b}	56.0		
	Female	53 _c	27.0			55 _c	25.3			301 _{a,b}	44.0		
Age				38.9 _c	15.5			39.3 _c	14.9			44.2 _{a,b}	14.3
Duration of claim	0–12 months	59	30.1			63	29.0			197	28.8		
	13–24 months	65	33.2			67	30.9			221	32.3		
	25–36 months	42	21.4			49	22.6			118	17.3		
	37+ months	30	15.3			38	17.5			148	21.6		

Values in the same row not sharing the same subscript are significantly different at $p < 0.05$ level.

Table 3. Estimates of satisfaction elements associated with levels of attributions of responsibility for accidents after adjusting for age, gender, time since accident, injury severity group, and mental and physical health component scores from the SF-12 V2.

		Totally responsible		Partially responsible		Not responsible	
System resolves your issues	Mean	8.03 _c		7.66 _c		7.08 _{a,b}	
	SE	0.20		0.18		0.10	
System keeps you up-to-date	Mean	7.84 _{b,c}		7.18 _a		6.94 _a	
	SE	0.22		0.19		0.10	
System treats you as an individual	Mean	8.10 _c		7.69 _c		7.20 _{a,b}	
	SE	0.21		0.19		0.10	
System cares about you	Mean	7.74 _{b,c}		7.08 _c		6.68 _a	
	SE	0.23		0.21		0.11	
Overall satisfaction with system	Mean	8.21 _{b,c}		7.46 _{a,c}		6.98 _{a,b}	
	SE	0.21		0.19		0.10	

Values in the same row not sharing the same subscript are significantly different at $p < 0.05$ level. SE denotes Standard Error.

systems. Although unmeasured in this study, these results add weight to themes relating to perceptions of injustice, blame, and anger among patients^{29,30,36,39,40} that may contribute to decreased levels of satisfaction among not-responsible persons.

These findings are important from both an applied and theoretical perspective for the conceptualisation and study of patient satisfaction among injury compensation and rehabilitation service providers. From an applied perspective, they highlight that factors associated with satisfaction among clients of no-fault injury compensation systems are not wholly under the control of the service provider. Organisations and clinicians seeking to

measure the quality and function of the services they deliver are met by a casemix that may vary in relation to the degree in which it attributes responsibility for injury or illness to themselves or others. It is plausible that two services delivering identical care to separate groups of patients for whom the genesis of their ailment is either internally or externally attributable could encounter considerable differences in their mean ratings of patient satisfaction. Without adjusting for casemix between the two services, satisfaction results may not provide an accurate reflection of actual differences in service quality. Similarly, compensation or health services that monitor satisfaction over time, but do not adjust for casemix, may misconstrue the true nature

of observed changes in satisfaction ratings between time periods.

Adjusting for attribution, casemix may be particularly important in injury compensation services where the changing popularity of transport modes over time (e.g. cars, cycling, walking, motorcycles) produces differences in the circumstances under which 'average' compensable injuries occur. For example, between 2008 and 2013 there was a 31% increase in motorcycle registrations within Australia, a more rapid increase than of any other vehicle type.⁴⁹ A large proportion of motorcyclists are involved in single-vehicle 'run-off road' accidents⁵⁰ and hence, may more likely attribute responsibility for accidents to themselves.³⁸ If recent trends of increased mode share by motorcycles translates into increased proportional representation of motorcyclists within injured populations,⁵¹ it could conceivably affect levels of satisfaction within compensation systems, leading them to be higher than they might otherwise have been.

Limitations of the results presented here relate to the degree to which findings are transferrable to populations other than those injured in motor vehicle accidents (e.g. workplace accidents, sporting injuries, physical assaults) and whether patients' views of the compensation system are also consistent with opinions of medical care quality across other services received by the patient (e.g. ambulance or emergency services, allied health, hospital care). Future research may wish to explore these areas.

Attributions of responsibility for accidents are independently associated with satisfaction with no-fault compensations systems among people injured in motor vehicle accidents. This effect is independent of mental and physical health outcomes, age, gender, and claim duration. Even within no-fault compensation systems where access to benefits and resources to assist one's rehabilitation are indistinguishable or may even favour 'not-at-fault' parties, persons who attribute responsibility for accidents to others demonstrate lower levels of patient satisfaction than those who attribute responsibility either partially or wholly to themselves. Compensation systems, rehabilitation providers, or

other health services attempting to monitor patient satisfaction may wish to adjust for attribution casemix when assessing results over time or when attempting to compare performance between services or injured populations. Future research should control for the effect of attributions of responsibility for accident or injury when assessing satisfaction or quality of interactions between patients and compensation systems.

Clinical messages

- Patients injured in motor vehicle accidents who do not consider themselves responsible for their accident may demonstrate lower levels of satisfaction with compensation or rehabilitation services.
- Differences in patient satisfaction ratings between injured populations or compensation systems may reflect differences in attributions of responsibility for accidents or injuries rather than differences in objective service quality.

Acknowledgements

The authors would like to thank Nina Ellis, Greg Karstens, and Rani Khaira of the Client Research Team at the Victorian Transport Accident Commission for their assistance in gathering data used in this study.

Conflict of interest

The authors declare that there is no conflict of interest.

Funding

MB is supported by a NHMRC Senior Principal Research Fellowship 1059660.

References

1. Hall JA and Dornan MC. Meta-analysis of satisfaction with medical care: description of research domain and analysis of overall satisfaction levels. *Soc Sci Med* 1988; 27: 637–644.
2. Cleary PD and McNeil BJ. Patient satisfaction as an indicator of quality care. *Inquiry* 1988; 25: 25–36.
3. WorkSafe Victoria. WorkSafe Annual Report, 2013.
4. DerGurahian J and DoBias M. Comparative satisfaction. *Modern Healthcare* 2008; 38: 6–7.

5. Victorian Transport Accident Commission. TAC annual report. Melbourne, Victoria: Transport Accident Commission, 2012.
6. Pascoe GC. Patient satisfaction in primary health care: A literature review and analysis. *Eval Program Planning* 1983; 6: 185–210.
7. Wartman SA, Morlock LL, Malitz FE and Palm EA. Patient understanding and satisfaction as predictors of compliance. *Med Care* 1983; 21: 886–891.
8. Marquis MS, Davies AR and Ware JE. Patient satisfaction and change in medical care provider: a longitudinal study. *Med Care* 1983; 21: 821–829.
9. Penchansky R and Macnee C. Initiation of medical malpractice suits: a conceptualization and test. *Med Care* 1994; 32: 813–831.
10. Ware JE and Davis AR. Behavioral consequences of consumer dissatisfaction with medical care. *Eval Program Planning* 1983; 6: 291–297.
11. Strasser S, Aharony L and Greenberger D. The patient satisfaction process: moving toward a comprehensive model. *Med Care Rev* 1993; 50: 219–248.
12. Ware JE, Snyder MK, Wright WW and Davies AR. Defining and measuring patient satisfaction with medical care. *Eval Program Planning* 1983; 6: 247–263.
13. Staniszevska S and Ahmed L. The concepts of expectation and satisfaction: do they capture the way patients evaluate their care? *J Advd Nursing* 1999; 29: 364–372.
14. Jackson JL, Chamberlin J and Kroenke K. Predictors of patient satisfaction. *Soc Sci Med* 2001; 52: 609–620.
15. Sofaer S and Firminger K. Patient perceptions of the quality of health services. *Ann Rev Public Health* 2005; 26: 513–559.
16. Rahmqvist M. Patient satisfaction in relation to age, health status and other background factors: a model for comparisons of care units. *Int J Qual Health Care* 2001; 13: 385–390.
17. Hall JA and Dornan MC. Patient sociodemographic characteristics as predictors of satisfaction with medical care: a meta-analysis. *Soc Sci Med* 1990; 30: 811–818.
18. Hall JA, Milburn MA and Epstein AM. A causal model of health status and satisfaction with medical care. *Med Care* 1993; 31: 84–94.
19. Greenley JR, Young TB and Schoenherr RA. Psychological distress and patient satisfaction. *Med Care* 1982; 20: 373–385.
20. Johnson JA, Coons SJ, Hays RD and Pickard AS. Health status and satisfaction with pharmacy services. *Am J Managed Care* 1999; 5: 163–170.
21. Kaldenberg DO. Patient satisfaction and health status. *Health Marketing Quarterly* 2001; 18: 81–101.
22. Bair MJ, Kroenke K, Sutherland JM, McCoy KD, Harris H and McHorney CA. Effects of depression and pain severity on satisfaction in medical outpatients: analysis of the Medical Outcomes Study. *J Rehabil Res Dev* 2007; 44: 143–152.
23. Marshall GN, Hays RD and Mazel R. Health status and satisfaction with health care: results from the medical outcomes study. *J Consult Clin Psychol* 1996; 64: 380–390.
24. Kane RL, Maciejewski M and Finch M. The relationship of patient satisfaction with care and clinical outcomes. *Med Care* 1997; 35: 714–730.
25. Franche RL and Krause N. Readiness for return to work following injury or illness: conceptualizing the interpersonal impact of health care, workplace, and insurance factors. *J Occupat Rehabil* 2002; 12: 233–256.
26. Franche RL, Severin CN, Lee H, et al. Perceived justice of compensation process for return-to-work: Development and validation of a scale. *Psychol Injury and Law* 2009; 2: 225–237.
27. Cameron P and Gabbe B. The effect of compensation claims on outcomes after injury. *Injury* 2009; 40: 905–906.
28. Collie A, Fitzharris M and Gabbe B. Evaluation of a compensation claims management intervention for improving recovery from traumatic injury. *Injury* 2012; 43: 1335–1336.
29. Elbers NA, Hulst L, Cuijpers P, Akkermans AJ and Bruinvels DJ. Do compensation processes impair mental health? A meta-analysis. *Injury* 2013; 44: 674–683.
30. Murgatroyd DF, Cameron ID and Harris IA. Understanding the effect of compensation on recovery from severe motor vehicle crash injuries: a qualitative study. *Injury Prev* 2011; 17: 222–227.
31. Grant G, O'Donnell M, Spittal M, Creamer M and Studdert D. Relationship between stressfulness of claiming for injury compensation and long-term recovery: A prospective cohort study. *JAMA Psychiatry* 2014; 71(4): 446–453.
32. Hickling EJ, Blanchard EB, Buckley TC and Taylor AE. Effects of Attribution of Responsibility for Motor Vehicle Accidents on Severity of PTSD Symptoms, Ways of Coping, and Recovery Over Six Months. *J Traum Stress* 1999; 12: 345–353.
33. Delahunty DL, Haberman HB, Craig KJ, et al. Acute and chronic distress and posttraumatic stress disorder as a function of responsibility for serious motor vehicle accidents. *J Consul Clin Psychol* 1997; 65: 560–567.
34. Harris I, Young JM, Rae H, Jalaludin BB and Solomon MJ. Predictors of post-traumatic stress disorder following major trauma. *ANZ J Surg* 2008; 78: 583–587.
35. O'Donnell M, Creamer M, Parslow R, et al. A predictive screening index for posttraumatic stress disorder and depression following traumatic injury. *J Consul Clin Psychol* 2008; 76: 923–932.
36. Hart T, Hanks R, Bogner JA, Millis S and Esselman P. Blame attribution in intentional and unintentional traumatic brain injury: Longitudinal changes and impact on subjective well-being. *Rehabil Psychol* 2007; 52: 152–161.
37. Ho R, Davidson G, Van Dyke M and Agar-Wilson M. The impact of motor vehicle accidents on the psychological well-being of at-fault drivers and related passengers. *J Health Psychol* 2000; 5: 33–51.

38. Thompson J, Berk M, O'Donnell M, Nordfjaern T and Stafford L. Attributions of responsibility and recovery within a no-fault injury compensation scheme. *Rehabil Psychol*. Epub ahead of print 7 April 2014.
39. Hart T, Bogner JA, Whyte J and Polansky M. Attribution of blame in accidental and violence-related traumatic brain injury. *Rehabil Psychol* 2003; 48: 86–92.
40. Bulman RJ and Wortman CB. Attributions of blame and coping in the “real world”: Severe accident victims react to their lot. *J Personality Social Psychol* 1977; 35: 351–363.
41. Tse DK, Nicosia FM and Wilton PC. Consumer Satisfaction as a Process. *Psychol Marketing* 1990; 7: 177–193.
42. Giese JL and Cote JA. Defining consumer satisfaction. *Acad Marketing Sci Rev* 2000; 1: 1–22.
43. Aharony L and Strasser S. Patient satisfaction: what we know about and what we still need to explore. *Med Care Rev* 1993; 50: 49–79.
44. State Government of Victoria. Transport Accident Act 1986. *Melbourne, Victoria*, 2011.
45. Cockfield S. Road safety—the experience of the Transport Accident Commission in Victoria, Australia. *International Transport Forum Discussion Paper*, 2011.
46. Federal Government of Australia. National injury insurance scheme issues discussion paper. Canberra: Treasury, 2013.
47. Fronsko A. Road safety and insurance markets overview. *International Transport Forum Discussion Paper*, 2011.
48. Tennyson S. The design of auto insurance systems, 2012.
49. Australian Bureau of Statistics. Motor vehicle census, Australia. 23 July 2013 ed. 2013.
50. Victorian Transport Accident Commission. Searchable road trauma statistics. Melbourne, Australia: Victorian Transport Accident Commission, 2013.
51. Haworth N. Powered two wheelers in a changing world—Challenges and opportunities. *Accident: Analysis and Prevention* 2012; 44: 12–18.