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# J The impact of compensation on health outcomes and recovery

A key goal of any insurance system for personal injury is to improve an injured person's health and functioning. This appendix explores the challenges of empirically determining the link between people's compensation status at injury and health outcomes at a more detailed level than chapter 17.

A sizeable body of empirical work has accumulated over the past 40 years (particularly over the last decade) in which epidemiologists and multi disciplinary researchers have investigated the possible link between the recovery and health outcomes of an injured person based on whether or not they are potentially eligible to pursue compensation. The majority of studies and, indeed, systematic reviews of such studies, find a link between various measures of an injured person's compensation status and worse health outcomes. This link — which has variously been coined 'the compensation effect' or 'compensation neurosis' — has a long heritage (for example, in so-called 'railway spine' resulting from railways accidents in the 1800s). However, the idea that it is a 'neurosis' per se, is now generally discredited.

This appendix focuses on the specific empirical literature considering the links between health outcomes and the use of common law fault-based processes as the gateway to obtaining compensation. This includes the involvement of legal practitioners in fault-based compensation systems and other aspects of the legal landscape affecting an injured client's experiences, incentives to recover and medium to long-term health outcomes.

## J.1 The conceptual link

There are several conceptual grounds for concern that an adversarial fault-based system could lead to increased reporting of injury-related symptoms, poorer health and quality of life, and worse long-term disability outcomes compared with a no-fault system of access to benefits. In particular:

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- litigation processes are often protracted (reflecting legal disputes about liability and the size of damages), stressful, and may accentuate a person's preoccupation with the disabling aspects of an injury (Psychosocial factors play a significant role in recovery.)
  - the size of a person's award for compensation under the common law is dependent on the severity of the injury. The usual strong incentives for people to maximise recovery may be undermined, or complicated, by an awareness that the greater the recovery, the lower the potential level of compensation. Rehabilitation and recovery may be more difficult and costly to achieve if common law proceedings delay early intervention and intense rehabilitation after an injury. In effect, the prospect of injury-related compensation may act like a tax on recovery. It would not be surprising for such a tax to have an effect. This interpretation does not require the person to 'manufacture' their disability, although that will sometimes happen
  - no-fault schemes manage costs on a lifetime basis (with existing schemes being fully-funded to do this). That provides strong incentives for schemes to reduce long-term liabilities by developing strong capabilities in the management of severe injuries and through appropriately-timed interventions. Consequently, no-fault insurance schemes directly seek to achieve better health and functioning by:
    - providing assured lifetime supports (without rationing as in the current general disability service system and without the risks that lump sums may be spent too quickly or slowly under common law arrangements)
    - building knowledge about optimal clinical practices
    - explicitly managing cases and consumption of (clinically proven) services and supports to get better outcomes as fast as possible.
    - regularly surveying their clients and developing tools to measure and better understand how to improve client outcomes and progress
  - In contrast, the development of such capabilities and a long-run focus are not the priority concerns of fault-based systems. Without access to such capabilities, an injured individual and their treating doctor may not be able to make equally informed clinical decisions. In any case, the person may face conflicted objectives in the important early years when a case for compensation is proceeding.<sup>1</sup>

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<sup>1</sup> While clinical interventions may be accessible during the litigation process, some studies find evidence of 'supplier induced demand' (encouraged by health professionals and lawyers), which may be costly and ineffective in addressing 'symptoms', especially if symptoms are not necessarily consistent with a clinical diagnosis.

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## **J.2 The empirical literature and its methodological weaknesses**

A clinical study framework is often used to assess the health impacts of compensation systems. Under this framework, the impact ('treatment effect') is measured as the difference in health and quality of life outcomes for people using common law compensation processes (the 'treatment' group) and a control group of *similar* people who are not able to use the common law (such as those in a no-fault system).

However, just as in many other areas of social policy, it is hard to estimate treatment effects reliably.<sup>2</sup>

### **No genuine experiments**

In assessing the health impacts of different compensation arrangements there are no genuine clinical experiments of the kind where people are randomly assigned to access to the common law or not. Even if there were, there would need to be separate experiments of the impacts of different variants of common law schemes and their alternatives, as well as consideration of the impacts in different contexts (such as high versus low severity cases). In the absence of genuine experiments, analyses of the impact of compensation arrangements generally try to infer the results of a formal experiment by:

- comparing outcomes of litigating and non-litigating clients
- comparing outcomes across cohorts pre- and post-scheme changes
- using multivariate analysis to isolate the impact of specific claim-related factors within a broader econometric analysis of health determinants.

Depending on the form of these analyses, they can all be valid ways of measuring impacts. For example, comparisons between litigating and non-litigating clients may mimic genuine experiments if they use information from 'natural' experiments in which selection into the treatment and control groups is effectively random.

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<sup>2</sup> Some of the general difficulties in this area are discussed by Grant and Studdert (2009). Various econometric solutions in epidemiological studies are analysed and discussed by Zohoori and Savitz (1997); Rothman, Greenland and Lash (2008); and Cuddleback, Wilson, Orme and Combs-Orme (2004).

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## Defining a ‘treatment’ is problematic

The features of different compensation systems are often poorly described by the available data (with terms such as ‘fault’, ‘blame’, ‘litigation’, ‘liability’, ‘compensation’, ‘use of a lawyer’ and ‘time’, generally not well-defined). Critical reviews of the research claim that legal terminology is often used inappropriately and variables are not sufficiently disaggregated to capture the mechanism at work or to attribute causality with strong reliability (Grant et al. 2009). Moreover, common law processes for seeking compensation vary over time and between jurisdictions. For example, legislative caps and time limits are sometimes imposed on common law arrangements, or some heads of damage are not permitted.

Accordingly, it is important to differentiate ‘treatments’. While that has not always been done, some studies have been much clearer about the nature of the systems or processes being compared. Some of the compensation process factors evaluated in qualitative and quantitative studies include:

- whether the scheme is common law-based or no-fault and whether the form of compensation is a lump sum or periodical payment (Cameron et al. 2008; Cassidy et al. 2000; Pryor 2006)
- claim lifespan factors, including duration of litigation and delays (Bhandari et al. 2008; Green et al. 2008; Harris et al. 2008; Wood et al. 2006; Lippel 2007)
- aspects of the adversarial claims environment that may disempower the injured claimant (Wise 2001; Green 2008; Ison 1986; Lippel 2007; O’Donnell 2000)
- causation, liability and other evidentiary factors, including medico-legal processes and the burden of having to prove the validity of a claim for benefit, including pain and suffering (Fulcher 2004; Ison 1986; Lippel 2007; Wilkinson 1994; Cassidy et al. 2000)
- attribution of blame and a sense of responsibility for accident circumstances (Harris et al. 2008)
- use of lawyers (Cassidy et al. 2000; Pryor 2006; Harris et al. 2008).

The implication of this heterogeneity is that a finding of an effect in one compensation system may not be generalisable to other apparently similar systems. However, findings that generally point to negative impacts of common-law compensation systems build a case against broad classes of such systems, and expose the processes that have the most adverse impacts.

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## **What is a ‘dose’?**

It is not clear what might constitute a ‘dose’ of any treatment. For example, does dosage relate to the time period of litigation, to the resourcing of the legal team or some other aspect of the litigation process? Grant et al. 2009 suggests that studies that have used retention of a lawyer as a ‘legal exposure’ variable (such as in Harris et al. 2008) or ‘ongoing litigation’ (such as in Bhandari et al. 2008) are flawed because the exposure experienced (including its specific nature and dose) among claimants is insufficiently differentiated.

## **Context may matter significantly to the measured impacts**

Studies often report differences between the characteristics of people who pursue litigation (including behavioural tendencies and experience of depression) compared with those who do not (Lanyon et al. 2002; Bhandari et al. 2008). But whether or not such differences reflect actual differences in choices and personality traits or, in fact, differences associated with the compensation process itself would require information on pre-injury characteristics and this is typically not available.

It can sometimes be hard to untangle the impacts of compensation arrangements from other policies bundled with them. For example, legislative changes in 1999 to the fault-based motor vehicle accident scheme in NSW involved various changes that affected the ‘compensation effect’, including limiting access to legal redress for ‘pain and suffering’ and implementing measures to encourage earlier settlement of claims. In addition, however, there were also changes to encourage early medical treatment and access to clinically recommended services. Evaluations of these changes (Walsh et al. 2007; Cameron et al. 2008) found positive impacts of the reform package on health outcomes and long term disability (in addition to reduced scheme costs). However, it is more difficult to estimate the individual impacts of the separate features of the package.

## **Determining causality**

The determination of causality is empirically challenging (as it is more generally in social policy). This is because some of the association between litigation and poorer health is likely to reflect the greater tendency of patients with poorer health and disability outcomes to litigate — an example of self-selection bias (Harris et al. 2008). This is matched by the incentives of lawyers to select injuries that cause long-term disability (and generate non-trivial damages) and where the circumstances surrounding the injury mean that litigation is likely to be successful. Given their experiences in law, Grant et al.’s (2009) subjective judgment was that:

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... to the extent that full or speedy recovery is evident or predictable at the time legal services are sought, it drastically reduces the chances of a lawyer taking the case. (p. 880)

The authors suggest that failure to control for the profit-based selection of more seriously injured clients by lawyers weakens the validity of some study findings on the impacts of compensation systems. However, they do not provide evidence concerning the seriousness of this issue, and comparisons involving serious injuries are less likely to be susceptible to this criticism.<sup>3</sup>

### **Defining injury severity**

It is sometimes difficult to measure injury severity (with clinical validity lacking for some types of injury including, for example, the general term ‘back pain’) and to ascertain the extent of pain and suffering associated with an injury. This makes it hard to ensure ‘like with like’ comparisons when examining the impacts of different insurance schemes.

A particular problem is that people able to access compensation have incentives to exaggerate or embellish the personal impact of an injury on their lives. For example, in a meta study, Pietrzac et al. found:

... strong evidence that financial incentives are a major motive for exaggeration of symptoms (illness behaviour) in patients with mild TBI. (p. 4)

The authors also found that claimants pursuing pain and suffering compensation were approximately twice as likely to exaggerate psychological symptoms as compared with participants of no-fault schemes.

In summarising the research in this area, Harris et al. note the potential for conscious exaggeration of a patient’s illness and symptoms, citing evidence that ‘coaching’ by lawyers may influence the reporting of symptoms by patients. However, they drew on evidence suggesting that it probably only accounts for a small proportion of the difference in outcomes between people able to access compensation and those not (Fishbain et al. 1999; Melzack et al. 1995; Mendleson 1986).

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<sup>3</sup> It is possible to control for self-selection bias using various econometric techniques or by considering whether the health outcomes for *all* injured people in a common law system (including cases where a party cannot find an at-fault party and cannot sue) are different from the health outcomes for all injured people in a no-fault system. However, few have adopted these approaches.

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These findings point to two separate processes that may be at work. On the one hand, people may embellish their symptoms to get bigger payouts, leading to insurance premiums that are inefficiently high even if such exaggeration does not actually affect real health outcomes. On the other hand, exaggeration may have the dual impact of leading to higher payouts while actually degrading health outcomes given the sickness orientation of the injured party. Distinguishing the two is hard, though both lead to undesirable outcomes.

These concerns are likely to be much less for catastrophic level injuries. For these injuries, a clear diagnosis is usually available and pathological symptoms are verifiable, even if the injury has not fully stabilised. In these instances, this enables comparisons of outcomes between clinically valid, like-for-like injuries. Pietrzac et al. found that there was less incentive to inflate the severity of symptoms for such major injuries.

### **Determining post-injury health impacts**

Similarly, it can be difficult to measure health outcomes, which often rely on self-reported measures rather than objective assessments and consistent measurement tools. In addition, the length and completeness of follow-up is often insufficient. While an emerging consensus about appropriate measures of general health outcomes used in quantitative studies (such as the SF-12 and Glasgow Outcomes Scale Extended), measurement issues continue to hamper comparison of outcomes. This mainly reflects a lack of consistent data collection and long-term follow up. That said, greater attention is being taken to monitor medium to long term indicators, such as through the Community Integration Questionnaire, the Sydney psychosocial reintegration scale, and family member (proxy) ratings to capture current participation levels across a range of life domains.

## **J.3 Implications**

Overall, there are significant shortcomings of the literature, principally stemming from misclassification and measurement error, which gives rise to confounding or a blurring of effects, and sample selection bias. Most of the problems could be resolved with adequate data and appropriate methods, and some studies have used more sophisticated techniques to address the problems.

While the literature is flawed, the balance of evidence based on primary studies and meta-analyses suggests that exposure to a variety of fault-based compensation processes is generally linked to poorer health outcomes than alternative systems

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(table J.1; Harris et al. 2008 and 2005; Cameron and Gabbe 2009; Cameron et al. 2008; Bhandari et al. 2008; Cassidy et al. 2000 and 2003; Carron et al. 1985; Katz et al. 2001; Dichraff 1993; Taylor et al. 2000; Klekamp et al. 1998; Pietrzac et al. 2009).

For example, a meta-analysis of 211 studies (Harris et al. 2005) found:

... patients treated under compensation schemes or undergoing litigation consistently have worse outcomes after surgery than non compensated patients. ... Overall, compensated clients have more than 3 times the odds of an unsatisfactory outcome compared with noncompensated patients. (Harris et al. 2005, p. 1651)

A recent systematic review by Pietrzac et al. also concluded:

Based on three meta-analysis with hundreds of individual studies the evidence for association of compensation and adverse health outcomes appears irrefutable. ... There is some evidence that claimants in no-fault insurance systems have better health outcomes compared to fault systems. (2009, p. 1)

That evidence is consistent with a set of plausible processes likely to lead to such outcomes (section J.1), with the views of clinicians, and with anecdotal experiences and case studies. As stated by Cameron and Gabbe 2009:

There is a strong, consistent, temporal relationship between compensation and delayed recovery from injury. There are also plausible reasons for a causal relationship. It is intuitive that protracted involvement with courts and the consequent focus on pain and suffering, could influence recovery (p. 1).

However, it is important not to oversell these findings. As noted in chapter 17, the careful research by Spearing and Connelly (2009, 2011) indicates that few studies reach the highest standards of evidence. This is not surprising given data limitations and the associated formidable technical difficulties in establishing causation and effect size. But as also emphasised in chapter 17, in all but a few cases, study after study suggest that common law compensation processes are likely to be injurious in their own right. No study finds that common law processes have desirable health outcomes compared with alternatives.

Where there are good theoretical grounds for harm, and reasonable (if far from perfect) empirical evidence that harm occurs, it is justifiable to consider policy alternatives. Of course, a critical issue is the appropriate alternative, since an ill-chosen one may pose its own risks. As Spearing and Connelly (2011, p. 430) note, alternatives ‘may themselves have negative consequences for the wellbeing of injured people’. For example, a strictly rationed and poorly managed alternative system might produce even more adverse outcomes. However, as noted in section J.1, the Commission’s proposed no-fault scheme (modelled on the NSW Lifetime Care and Support Scheme) has design features that provide unrationed



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lifetime support, combined with close management and evidence-based interventions. Given the available evidence on the adverse impacts of common law, and the evidence in favour of modern clinical approaches to injury, it is hard to see how these specific no-fault arrangements could have any such negative consequences. Given that, maintaining the common law status quo for claims for long term care and support involves risks to the wellbeing of catastrophically injured people that are not obviously present under the *proposed* alternative.

That said, the no-fault-based system advocated by the Commission does not resolve all of the problems posed by the common law arrangements.

The proposed arrangements only relate to catastrophic injuries, so that any adverse health impacts of the common law will persist for other kinds of injuries (including relatively serious ones).

Moreover, accident schemes (including the NIIS as currently proposed) frequently provide no-fault access to care and support services alongside fault based access to recover any additional losses, such as for income and ‘pain and suffering’. This means that any weaknesses of fault-based compensation processes remain relevant and, to some extent, will continue to be observed in health and disability outcomes. In particular, a variety of studies have identified particular concerns about the links between access to compensation for pain and suffering and adverse health outcomes (Cassidy et al. 2000; Cameron et al. 2008). For example, Cassidy et al. concludes:

... providing compensation for pain and suffering after whiplash injury increases the frequency of claims for compensation and delays the closure of claims and recovery. Under a tort-system, claims are filed in a potentially adversarial environment that can promote the persistence of symptoms on claimants. In the course of proving that their pain is real, claimants may encounter conflicting medical opinions, unsuccessful therapies, and legal advice to document their suffering and disability. In the United States, excess use of medical services for traffic injuries (mostly strains and sprains) in response to incentives under the tort system is estimated to have accounted for about \$4 billion in health care resources in 1993. (2000, p. 1185)

The Commission has not recommended the elimination of this or the other remaining heads of damage given the broader issues involved, with the questions of their form or continuation being one of the matters proposed for review in 2020 (chapter 18 and appendix I).

**Table J.1 Some findings on the effect of legal processes on health outcomes**

<i>Study</i>	<i>Methodological approach</i>	<i>Main findings</i>
Bhandari et al. 2008	Observational study comparing health outcomes of litigating and non-litigating injured persons. Health status was self-reported, and adjustment analyses used to standardise the populations of litigators and non-litigators	Litigators were found to have lower quality of life and lower mental and physical health status than non-litigators
Cassidy et al. 2000	Compared health outcomes across 2 cohorts of claimants pre- and post-reform to compensation scheme arrangements (from tort-based to no-fault). Used multivariate analysis to analyse health outcomes, lawyer engagement, fault status and claim duration for whiplash claimants	The no-fault cohort were found to have shorter duration claims and faster recovery rates. The availability of damages for pain and suffering were linked to adverse outcomes under the tort-based approach
Cameron et al. 2008	Compared health outcomes pre- and post-reforms to NSW transport accident compensation arrangements, (including removal of damages for pain and suffering for whiplash, introduction of clinical practice guidelines and new rules to encourage early access to treatment and resolution of claims)	The post reform cohorts were found to have better health outcomes, with lower levels of disability and pain reported, and improved recovery. The authors emphasised the important contribution of scheme design and structure for long-term health outcomes
Harris et al. 2008	Used multivariate regression analysis to evaluate the independent effect of a broad range of potential determinants of general health outcomes. Individuals were evaluated between 1-5 years after major trauma, observing a range of claim-related, demographic and clinical variables	General health outcomes were found to be more strongly associated with compensation factors (including legal process factors) than with the severity of the initial injury. Process factors found to be harmful to health included the adversarial nature of the process, use of non-recognised and subjective diagnoses, medico-legal reports and processes and bureaucratic complexity
Mickeviciene et al. 2002 and 2004	A cohort study surveying people with minor head injury (loss of consciousness for <15 minutes) in Lithuania. The population was chosen to capture responses outside of the medico-legal context and where prospects of monetary compensation are minimal (Ferrari 2000), and hence is absent of many confounding factors in studies of Western populations. Subjects were age and sex matched to control for underlying factors influencing health outcomes	Despite subjects having acute head aches after the trauma, 96 per cent reported symptoms disappearing within one month. This contrasts to the presentation and duration of reported symptoms in Western countries. A follow-up study at 1 year, again found no differences in the reporting of head aches between the study group and controls. A mix of compensation-conditioned expectations and sociodemographic factors are suggested to influence the reporting of symptoms after concussion
Walsh et al. 2007	Evaluates legislative changes to access to legal redress for 'pain and suffering' and implementing measures to encourage earlier settlement of claims and early access to treatment	Finds positive effects on medium and long term health outcomes associated with the package of scheme reforms, which was in addition to reduced scheme costs
Pryor 2006	Evaluates the grief and recovery literature	Finds a plausible link between a lawyer's role and a client's suffering

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## How do legal processes affect a plaintiff's suffering?

It is sometimes claimed that the outcome and journey of the legal process can be beneficial to an individuals' recovery, especially by fulfilling a person's need for formal attribution of responsibility. In this respect, litigation may address more than just compensation and takes on a wider purpose of restorative justice and 'closure'.

However, there is relatively little statistical evidence about the extent to which tort processes may reduce the emotional suffering and grief of an injured person. If anything, the evidence from an extensive psychological literature on experiences of grief and trauma challenges the argument that litigation necessarily provides 'closure' (Wexler 2000). The psychological literature on grief and trauma identifies various ways in which legal processes affect injured people's suffering and loss, such as:

- immersion in a system of which many understand little (such as having to understand the nature and implications of legal terms such as liability, fault and contributory negligence)
- sorting and re-sorting the question of cause (including exploring 'what if' scenarios) and responsibility at various different points in time (liability is often not decided until the very end of a case, even if the amount of damages is largely resolved)
- discovery and counter-discovery (including requests from the defendant party for information)
- requirements to describe events in writing or by deposition, and possibly call on family members as witnesses.

There appears to be a significant risk that explaining and building the legal fault case could intensify the suffering process and interfere with rehabilitation and recovery from catastrophic injury. Indeed, the experiences of mental health professionals and social workers indicate that litigation provides no quick fix for 'moving on' from grief or trauma associated with a catastrophic injury, with plaintiffs often finding that even at the completion of litigation grieving is renewed, irrespective of the outcome (Schneider 2003). As summarised by Schneider:

The process of litigation is very time consuming and very labor intensive. Discovery can be brutal, and the emotional experience of counter-discovery, discovery conducted by defendants against plaintiffs, is often particularly difficult and stressful. The extent of counter discovery frequently surprises plaintiffs who tend to think of tort litigation as purely affirmative — as a means of “getting the defendants” for the harm they have caused. Many plaintiffs are either not fully advised by their lawyers, or cannot really understand at the time that they are making the decision to sue, how much investigation

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the defendant will be able to do of them and their lives, and the degree to which their actions and lives will be part of the lawsuit. (2003, p. 494).

Similarly, Prior 2006 states that:

.... the legal claim process will be an overlay onto and will affect how the plaintiff experiences and makes meaning of his or her suffering. ... [It] continues to replay the loss — both the loss event and each step of the painful and difficult work of grasping the loss and understanding it. Perhaps, for some, this replaying is congruent with, or not disruptive to, their journey through this loss. For others, however, the opposite might be the case. (pp. 564, 582)

Shuman (2000) suggests that the prolonged time for resolving common law cases can be especially harmful for plaintiffs dealing with grief and trauma, especially since a lawsuit follows its own timeline, which is often out of kilter with the progression of a person's loss and suffering.

A recent qualitative study by Murgatroyd, Cameron and Harris (2010) sought to better understand the relationship between compensation and recovery following severe motor vehicle injuries, and found that while the injury recovery experience is difficult for all subjects, it is particularly stressful for those claiming compensation. This mainly reflected the difficult claims/settlement process, an inability to 'move on' with their life during the period of accessing compensation and 'an extreme dislike of medico-legal examinations'.

In sum, the overall effect of litigation processes on a plaintiff's suffering is most likely to reflect a composite of personal attributes of the injured party<sup>4</sup>, the nature of the circumstances of the injury and variations in the legal process 'exposure'. Some legal disputes are less adversarial, resolved quickly and less likely to generate stress-impeded recovery. Other cases, however, involve points of tension and aggravate personal turmoil following a traumatic event (such as determining negligence and responsibility).

In addition, some heads of damage under which compensation is claimed may be more problematic than others. In particular, because damages for pain and suffering are not objectively verifiable, a complex and often prolonged process of providing legal proof and iterations of ambit claims between the legal representation of plaintiff and defendant parties often ensues. However, this report is primarily concerned with appropriate care and support arrangements, and not with other heads of damage (chapters 17 and 18).

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<sup>4</sup> For example, studies find that gender differences are important determinants of emotional responses to disability and injury (e.g. Niemeier 2008), and hence, implies different risks from exposure to adversarial processes.

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While settlement procedures still include an adversarial element, the increasing popularity of less adversarial process of mediation and settlement to reach an earlier resolution may reduce people's grief and suffering.