

## Original Research

**Cite this article:** Varker T, McGregor K, Pedder DJ, *et al.* Best practice injury compensation processes following intentional vehicular assaults and other large scale transport incidents: A Delphi review. *Disaster Med Public Health Prep.* **17**(e43), 1–7. doi: <https://doi.org/10.1017/dmp.2021.285>.


### Keywords:

compensation; injury; intentional vehicular assault; vehicle-ramming attacks

### Corresponding author:

Tracey Varker,  
Email: [tvarker@unimelb.edu.au](mailto:tvarker@unimelb.edu.au).

# Best Practice Injury Compensation Processes Following Intentional Vehicular Assaults and Other Large Scale Transport Incidents: A Delphi Review

Tracey Varker<sup>1</sup> , Kari McGregor<sup>1</sup>, David J. Pedder<sup>1</sup>, Ros Lethbridge<sup>1</sup>, Genevieve Grant<sup>2</sup>, Holly Knight<sup>1</sup>, Kimberley A. Jones<sup>1</sup>, Jurriaan Jacobs<sup>3</sup> and Meaghan O'Donnell<sup>1</sup>

<sup>1</sup>Phoenix Australia - Centre for Posttraumatic Mental Health, Department of Psychiatry, University of Melbourne, Victoria, Australia; <sup>2</sup>Australian Centre for Justice Innovation, Faculty of Law, Monash University, Victoria, Australia and <sup>3</sup>ARQ Centre of Expertise for the Impact of Disasters and Crises, Diemen, Netherlands

## Abstract

**Objective:** Intentional vehicular assaults on civilians have become more frequent worldwide, with some resulting in mass casualties, injuries, and traumatized witnesses. Health care costs associated with these vehicular assaults usually fall to compensation agencies. There is, however, little guidance around how compensation agencies should respond to mental and physical injury claims arising from large-scale transport incidents.

**Methods:** A Delphi review methodology was used to establish expert consensus recommendations on the major components of “no fault” injury claim processes for mental and physical injury.

**Results:** Thirty-three international experts participated in a 3-round online survey to rate their agreement on key statements generated from the literature. Consensus was achieved for 45 of 60 (75%) statements, which were synthesized into 36 recommendations falling within the domains of (1) facilitating claims, (2) eligibility rules, (3) payments and benefits for clients, (4) claims management procedures, (5) making and explaining decisions, (6) support and information resources for clients, (7) managing scheme staff and organizational response, (8) clients with special circumstances, and (9) scheme values and integrity.

**Conclusions:** The recommendations present an opportunity for agencies to review their existing claims management systems and procedures. They also provide the basis for the development of best practice guidelines, which may be adapted for application to compensation schemes in different contexts worldwide.

## Introduction

Intentional vehicular assault (also known as *vehicle-ramming*) is defined as intentionally driving a motor vehicle into a crowd of people, building, or other vehicles, with the intention of causing multiple injuries or destruction.<sup>1,2</sup> These incidents are usually associated with mass casualties, injuries, and bystanders who witness and are affected by the traumatic incident. Recent examples of such intentional vehicular assaults include the 2016 truck attack in Nice, France; the 2014 Christmas market attack in Nantes, France; the 2016 Christmas market attack in Berlin, Germany; the 2017 Westminster Bridge attack on pedestrians in London; and the 2017 Bourke Street attack in Melbourne, Australia.

The immediate service response to an intentional vehicular assault is to ensure those who are physically injured access to immediate treatment. More controversial, however, is the funding of health care services for those who sustain mental injury. This is especially true for those who witness the horror associated with these attacks without necessarily being physically injured. Individuals who are exposed to a traumatic event, either by directly witnessing the event, being involved in the recovery effort, or as a family member of an individual who was directly impacted by the event, may experience a range of stress reactions.<sup>3</sup> Common stress-related reactions include distress, grief, anger, sadness, fear, horror, and shame.<sup>4</sup> Individuals may also experience a disruption to their sense of safety, meaning, and justice in the world. In the short term, these psychological reactions can be part of a normal stress response. However, if symptoms persist and impair functioning, they may require psychotherapeutic intervention.<sup>5</sup> It is therefore important that support and resources are available to individuals to assist with their recovery when required.

In many countries, access to physical and mental health care for persons injured in intentional vehicular assaults occurs through no-fault injury compensation schemes. “No fault” refers to a compensation system whereby impacted individuals can access benefits such as medical and allied health treatment costs and replacement of lost income without a need for entering the civil justice system and demonstrating that another party is liable for damages.<sup>6</sup> When a comprehensive compensation scheme response is lacking, victims are often confronted with direct costs from medical expenses for both mental and physical injuries, resulting in personal financial and material losses.<sup>7</sup>

In addition to the variable way injury arising out of intentional vehicular attacks might be addressed by standing injury compensation arrangements, terrorism-related compensation schemes have been developed by several countries in response to the increasing frequency of attacks on civilians. One example of a high-profile, terrorism-related compensation scheme is the Victim Compensation Fund (VCF), established by the US Government in the aftermath of the 9/11 attack.<sup>8</sup> Germany, France, and Belgium have also developed their own compensation models following terrorism-related incidents.<sup>9</sup> Despite an increasing number of intentional vehicular assaults worldwide, there is little consensus around the best practice for responding to claims related to these types of incidents,<sup>2</sup> and whether a special response is required in the context of existing transport crash compensation schemes.

In the emergent field of terrorism-related compensation, there is also variation in the extent of coverage provided, highlighting differing standards of practice in eligibility and support, which results in differing experiences for individuals in various geographic regions. For example, the American *International Terrorism Victim Expense Reimbursement Program* excludes compensation for mental injury, whereas the Belgian Federal Department of Justice provides lifelong support for medical and psychological costs.<sup>9,10</sup> The *Victim Compensation Act* in Germany provides support for mental injury but does not cover injuries resulting from attacks involving the use of a motor vehicle. For injuries caused by motor vehicle attacks, claimants must go through a separate compensation scheme, the *Verkehrsofferhilfe*.<sup>9</sup> The differences in the coverage and benefits provided by various schemes make it challenging to evaluate or compare their performance in terms of claimant outcomes. Despite this, there is strong evidence to suggest that the design of injury compensation schemes contributes to the health outcomes experienced by claimants.<sup>11,12</sup> Accordingly, attention to the optimal design features of compensation arrangements for intentional vehicular assault survivors is an important foundational step to ensure that the support and rehabilitation of these persons are best promoted by the compensation scheme response.

The aim of this study was to use a Delphi review methodology to establish expert consensus recommendations on the optimal components of no-fault injury compensation claim processes for mental and physical injury, following large-scale transport incidents. We defined *large-scale* transport incidents as those that involved a number of casualties, such as vehicle-ramming attacks, non-deliberate collisions causing mass casualties (for example, those caused by a medical episode), collisions involving a number of vehicles, bus crashes, or fires or explosions involving vehicles. A deliberate decision was made to include large-scale transport incidents, in addition to intentional vehicular assaults, given that they occur with relative frequency and the outcomes for compensation schemes are likely to be similar.

## Methods

### The Delphi Method

The Delphi method of inquiry recognizes the value of experts’ opinions, experience, and intuition when full scientific knowledge is lacking and the published evidence available is limited.<sup>13</sup> A carefully selected group of experts is engaged to answer surveys in 2 or more rounds. After each round, a facilitator provides an anonymous summary of the experts’ survey responses and comments, enabling all raters to compare these against their own.<sup>13,14</sup> The aim of this iterative process is for the range of responses to decrease and for the group of raters to converge toward a consensus in their responses.<sup>15</sup> Using the Delphi method, an international group of experts was surveyed to reach agreement on key domains of no-fault injury compensation claim processes following large-scale, transport-related incidents and inform the development of recommendations.

### Expert Raters

Raters had to satisfy at least 1 of these selection criteria: a publication record in the field; a national or international research profile in the field; and significant clinical or practical experience in the field. First, potential raters were identified by the research team (experienced researchers and practitioners in the field of trauma or compensation scheme law). Second, potential raters were identified by their profiles and reputation in the field of compensation and trauma. Finally, a snowballing approach was used whereby raters who had already been identified were asked to nominate other experts in the field in accordance with the same selection criteria.

A total of 86 potential raters were invited to take part in the first round, and 33 (38%) responded, from 8 countries. The majority of raters were from an academic or clinical researcher background (70%) with a small number of mental health professionals (15%). Other experts were from a policy (9%), legal (6%), or compensation (3%) background. The characteristics of the 33 expert raters are presented in [Table 1](#).

### Literature Search

A literature search was conducted focusing on the peer-reviewed and gray literature on compensation sector responses to intentional vehicular incidents and subsequent no-fault mental injury claim processes. The aim of the literature search was to inform the development of the statements for the expert raters to consider.

The databases used in the literature search included Discovery, ProQuest, PsycINFO, and Google Scholar. The search for relevant research also covered compensation sector websites in order to capture reports unlikely to be detected in a database search. These included websites for transport crash compensation schemes and regulators. Key search terms entered into these databases included “psychological injury claim,” “mental injury claim,” “compensation assessment process,” “no fault claim,” “intentional mass casualty,” “critical incident,” “vehicular assault,” and “vehicle ramming.” Articles were reviewed in full if they described mental injury compensation practices relevant to large-scale, mass-casualty incidents involving a motor vehicle.

### Statements and Questionnaire Development

Drawing from emerging themes in the reviewed literature, a series of 60 statements was generated by the research team for inclusion in the survey (see Supplementary Table 1).

**Table 1.** Expert rater characteristics

Characteristic	n (%)
Gender	
Male	21 (64)
Female	12 (36)
Age	
21-30 years	0 (0)
31-40 years	4 (12)
41-50 years	11 (33)
51-60 years	8 (24)
61+ years	10 (30)
Country/region of work	
Australia/New Zealand	23 (70)
UK	2 (6)
Canada	3 (9)
Netherlands	2 (6)
Norway	1 (3)
Sweden	1 (3)
Austria	1 (3)
Profession*	
Academic/Researcher	21 (64)
Mental health professional	5 (15)
Legal professional	2 (6)
Policy-maker	3 (9)
Compensation scheme designer	1 (3)
Clinician/Researcher	2 (6)
Experience with compensation claims*	
Academic/Researcher	30 (91)
Clinician	8 (24)
Manager/Administrator	6 (18)
Policy-maker	5 (15)
Legal professional	2 (6)
Trainer/Educator	2 (6)
Other	1 (3)
Years involved in the field of compensation	
	2 (6)
2-5 years	1 (3)
5-10 years	3 (9)
10-20 years	9 (27)
>20 years	18 (55)

Note: \*Raters could select as many categories as applied for this statement.

The questionnaire for Round 1 was developed by grouping the 60 statements using thematic analysis into 9 categories: (1) facilitating claims; (2) eligibility rules; (3) payments and benefits for clients; (4) claims management procedures; (5) making and explaining decisions; (6) support and information resources for clients; (7) managing scheme staff and organizational response; (8) clients with special circumstances; and (9) scheme values and integrity.

Raters were asked to indicate the level to which they agreed or disagreed with each statement, using a 9-point scale (1 = completely disagree, 9 = completely agree). Ratings between 1 and 3, 4 and 6, and 7 and 9 were considered as “disagreement,” “neutrality,” and “agreement,” respectively. The 9 ratings were collapsed into these 3 categories to increase the likelihood of obtaining consensus. In line with previously published Delphi methodologies, a statement was considered to have achieved

consensus when 70% or more of participants scored the statement in the same direction (ie, disagree, neutral, or agree).<sup>16</sup> Participants were given the opportunity to provide comments for each statement. All participant comments made were collated, and these informed discussions by the working group around inclusions, omissions, and amendments to statements to be included in subsequent rounds of the survey.

Those statements that did not reach consensus in Round 1 were represented in Round 2, and those statements that did not reach consensus in Round 2 were represented in Round 3. In Round 2 and Round 3, raters were provided with an Excel spreadsheet containing a de-identified list of all raters' responses (with their own responses highlighted), as well as the mean, standard deviation, and mode for each statement. Raters were provided with a list of all comments made by fellow raters for each statement.

The Round 1 survey was completed by all 33 raters (100%), Round 2 was completed by 27 raters (83%), and Round 3 was completed by 23 (70%) raters.

## Analysis

The online survey tool, SurveyMonkey (San Mateo, CA), was used to capture ratings for each statement, and any comments that raters contributed. The raw data were exported to Microsoft Excel, which was used to calculate which statements had reached consensus, and in what direction. Rater comments made in relation to any of the survey items were collated and summarized to identify emergent themes to inform the following round and interpretation of the final results.

## Consensus Recommendations

Upon completion of the 3-round Delphi process, the statements that reached consensus were used to develop a set of recommendations for good practice in mental injury compensation following large-scale, mass-casualty incidents involving a motor vehicle.

## Results

Twenty-eight (47%) of the original 60 statements reached consensus in Round 1. Raters were asked to rate the remaining 32 statements in Round 2, and, of those, 10 (36%) reached consensus. Following the removal of 4 items from the survey after Round 2 due to redundancy, raters were asked to rate the remaining 18 statements in Round 3, and, of those, 7 (39%) reached consensus. Forty-five (75%) of the original 60 statements reached consensus over the 3 rounds of the survey. Of the statements reaching consensus, 42 indicated agreement with the statement, 1 indicated a neutral attitude toward the statement, and 2 indicated disagreement with the statement. A full list of the consensus (agree, neutral, or disagree) and non-consensus statements, along with consensus percentages, is presented in Supplementary Table 1.

## Key Areas of Consensus

The following section provides a detailed description of the results of the consensus process. The consensus statements have been summarized to generate the 36 recommendations shown in Table 2.

### Facilitating Claims

The consensus on optimal processes for insurer facilitation of claims was that people injured in large-scale transport incidents

**Table 2.** Complete list of recommendations

Recommendations	
<b>Part 1:</b>	<b>Facilitating claims</b> <i>Relates to how the insurer facilitates the process by which a claimant can lodge a claim</i>
1.1	People injured in large-scale transport incidents should be encouraged to make compensation claims.
1.2	A person with a physical injury should be encouraged to make a claim as soon as possible after a large-scale transport incident.
1.3	People should be able to lodge claims either online, over the telephone, or in writing.
1.4	A third party (for example, a family member, doctor, or another agency) should be able to lodge a claim on behalf of a person.
1.5	Injured people who are entitled to make a claim with more than 1 organization should be required to make only 1 claim managed by a lead agency where possible.
1.6	To facilitate claims, information sharing and referral protocols should be developed between responding organizations.
<b>Part 2:</b>	<b>Eligibility rules</b> <i>Relates to eligibility criteria for claims determination</i>
2.1	A person who has sustained a mental injury (without a physical injury) should be able to make a claim.
2.2	A person with a mental injury should be required to demonstrate the link between the large-scale transport incident and their injury (for example, a diagnosis from a family doctor or psychologist) before making a no-fault compensation claim.
<b>Part 3:</b>	<b>Payments and benefits for clients</b> <i>Relates to the payments and benefits clients should be considered eligible for</i>
3.1	People who make a mental injury claim should be provided with a psychological recovery plan.
3.2	Receipts for claimable expenditure should be required in order for claimants to be reimbursed.
3.3	Where a claimant is eligible for funeral expenses for a person who has died, those expenses should be paid by the compensation scheme as a fixed lump sum without the need for receipts.
<b>Part 4:</b>	<b>Claims management procedures</b> <i>Relates to the insurer's procedures for managing compensation claims</i>
4.1	Compensation schemes should have a dedicated team for dealing with mental injury claims.
4.2	Claimants should have to deal with the smallest number of claims staff possible.
4.3	Claims managers should communicate with claimants using the claimants' preferred form of correspondence (ie, face to face, phone, e-mail, text message)
4.4	Claiming processes should be streamlined to minimize any stress claimants might experience.
<b>Part 5:</b>	<b>Making and explaining decisions</b> <i>Relates to how the insurer makes decisions regarding claims, and how these decisions are explained to clients</i>
5.1	Where a claimant's initial eligibility is unclear, their claim should be assessed on a case-by-case basis by a specially appointed work group within the compensation scheme.
5.2	Once the initial claim has been accepted, decisions about whether a particular benefit will be paid to a claimant should be made within 10 business days of the date of the benefit being claimed.
5.3	Where an initial claim or the payment of a particular benefit to a claimant is declined, that decision should be communicated in writing and explained to the person either face-to-face or over the telephone.
5.4	Where an initial claim is declined, the scheme should take steps to refer the injured person to alternative sources of support.
5.5	To facilitate decisions about their claims, claimants should provide as much relevant documentary evidence as possible (for example, medical certificates and reports, pay slips, tax records).
<b>Part 6:</b>	<b>Support and information resources for clients</b> <i>Relates to the level and nature of support and information resources the insurer is responsible for providing to claimants</i>
6.1	An outreach team should be set up following a large-scale transport incident to contact people who may be eligible to make a claim but unaware.
6.2	Hospital patient liaison staff should be involved in assisting claimants to communicate with the compensation agent representatives.
6.3	Claimants should be able to nominate a support person or agent to interact with the compensation scheme on their behalf.
6.4	Compensation schemes should provide claimant-centered online resources that clearly explain the claims process and the benefits claimants are entitled to claim.
<b>Part 7:</b>	<b>Managing scheme staff and organizational response</b> <i>Relates to how the insurer manages the resourcing and organizational-level response to a large-scale incident involving mass casualties</i>
7.1	A core team of trained claims managers should be established and provided with training to support sensitive communication with claimants, particularly around trauma responses/mental health issues.
7.2	A training manual and policy guidelines should be established for compensation agency staff who will be responsible for responding to large-scale transport incidents.
7.3	A policy should be established clearly directing staff across all levels away from regular duties, to manage the crisis response.
7.4	Case manager caseload and experience need to be assessed prior to assigning complex claims.
7.5	The mental health and potential burnout of scheme staff should be monitored frequently, particularly during management of large-scale incidents.
7.6	Claims management procedures should be evaluated after every large-scale incident.
<b>Part 8:</b>	<b>Clients with special circumstances</b> <i>Related to how the insurer manages cases in which clients present with special circumstances</i>

(Continued)



Table 2. (Continued)

Recommendations	
8.1	Non-residents injured in large-scale transport incidents should be eligible for the same no-fault claim as permanent residents of the country where the incident happened.
8.2	A person with a pre-existing mental health condition should be required to show that the current mental injury they are claiming compensation for is a direct result of, or has been exacerbated by, the large-scale incident.
8.3	Payment of lump sums for permanent injury should not be made any earlier than 3 months post-injury for either mental or physical injuries.
<b>Part 9:</b>	<b>Scheme values and integrity</b> <i>Relates to how the insurer upholds their organizational values and maintains the integrity of the scheme without compromising client well-being</i>
9.1	Large-scale transport incidents have characteristics that require a special response from compensation schemes.
9.2	The chief objective of the compensation scheme following large-scale transport incidents should be helping affected individuals access the treatment they need as quickly as possible.
9.3	In the circumstances of a large-scale transport incident, ensuring that affected people are able to access treatment is more important than enforcing the boundaries of scheme liability.

should be proactively encouraged to make compensation claims, and that a person with a physical injury should be encouraged to make a claim as soon as possible after a large-scale transport incident. It was also agreed that people should be able to lodge both mental and physical injury claims in their preferred form, whether in writing, via telephone, or online, and that claimants should be able to have a third-party proxy, such as a family member or a doctor, to lodge a claim on their behalf. With regard to the broader emergency response system, it was agreed that information sharing and referral protocols should be developed between responding organizations to facilitate claims, and that injured people entitled to make a claim with more than 1 organization should, where possible, only be required to make a single claim managed by a lead agency.

#### Eligibility Rules

It was agreed that a person with a mental injury but without a physical injury should be able to make a claim and that a person with a mental injury should be required to demonstrate the link between the large-scale transport incident and the injury. It was suggested that this evidence be provided in the form of a diagnosis from a family doctor or psychologist.

#### Payments and Benefits for Clients

It was agreed that people who make a mental injury claim should be provided with a psychological recovery plan by their treating professional to structure and support their treatment and recovery. It was also agreed that, ordinarily, receipts for claimable expenditure should be required in order for claimants to be reimbursed. Where a claimant is eligible for funeral expenses for a person who has died, however, it was agreed that those expenses should be paid by the compensation scheme in the form of a fixed lump sum, and that no receipts should be required of the claimant.

#### Claims Management Procedures

It was agreed that claimants should have to deal with the smallest number of claims staff possible, and that claims management processes should be streamlined in order to minimize any stress that claimants might experience associated with their claim. It was also agreed that compensation schemes should have a dedicated team for processing mental injury claims, and that claims managers should communicate with claimants using the claimant's preferred form of correspondence. The majority of raters disagreed that claims manager interactions with claimants should be conducted primarily by post, as this statement conflicted with the notion that

claimants should be entitled to communicate via their preferred means.

#### Making and Explaining Decisions

There was a high degree of consensus among the expert raters with regard to how schemes should make and explain their decisions around compensation and claimant eligibility. It was agreed that, in cases where a claimant's initial eligibility is unclear, the claim should be assessed by a specially appointed work group. It was also agreed that where an initial claim or payment of a particular benefit is declined, the decision should be both communicated in writing and explained to the claimant in person – either face to face or via telephone. The expert raters also agreed that where a claim is declined, the insurer should be responsible for referring the injured person to alternative sources of support. Consensus was narrowly achieved with regard to decision-making time frames, with raters agreeing that after an initial claim has been accepted, decisions about whether a particular benefit will be paid to a claimant should be made within 10 business days of the date of the claim lodgement. It was also agreed that claimants should be required to provide as much relevant documentary evidence as possible in support of their claims in order to facilitate claim managers' decisions.

#### Support and Information Resources for Clients

All of the statements regarding support and information resources for claimants achieved consensus among the raters. It was agreed that an outreach team should be set up following a large-scale transport incident to contact eligible individuals who may be unaware of their eligibility, and that hospital liaison staff should be involved in assisting claimants in communications with the compensation agent representatives. It was also agreed that claimants should be able to nominate a proxy to interact with the compensation scheme on their behalf. There was total agreement among the expert raters that compensation schemes should provide claimant-centered online resources that clearly explain the claims process and the benefits that claimants are entitled to.

#### Managing Scheme Staff and Organizational Response

There was consensus across all statements regarding the management of compensation scheme staff and organizational response. It was agreed that a core team of claims managers should be established and provided with training to support sensitive communication with claimants, particularly around trauma responses and mental health issues. It was also agreed that a training manual and policy guidelines should be established for compensation

agency staff responsible for responding to large-scale transport incidents, and that these guidelines should include a policy to clearly direct scheme staff across all levels away from regular duties in order to manage the incident response. In identifying staff to assign to complex claims, it was agreed that case manager caseload and prior experience should be assessed and taken into account. There was also a high level of agreement around the view that the mental health and potential burnout of scheme staff should be monitored frequently under business-as-usual conditions, particularly during the management of large-scale incidents.

#### *Clients with Special Circumstances*

Where caseloads include clients with special circumstances (ie, circumstances that might exist in some schemes that are associated with challenges in assessing entitlements), it was agreed that non-residents of the country in which the incident occurred should be eligible for the same no-fault compensation as permanent residents. It was also agreed that payments of lump sums for permanent injury should not be made any earlier than 3 months post-injury for either physical or mental injuries in order to allow for confirmation of the claimant's circumstances. With regard to claimants with pre-existing mental health conditions, it was agreed that there should be a requirement for the claimant to demonstrate evidence that their injury was either a direct result of, or exacerbated by, the large-scale incident.

#### *Scheme Values and Integrity*

Regarding the values and integrity of the compensation scheme, there was consensus that the chief objective of the scheme should be to support affected individuals in accessing the treatment they need as quickly as possible, and that ensuring that affected people are able to access treatment is more important than enforcing the boundaries of scheme liability. It was also agreed that there are reputational risks for a compensation scheme in the way large-scale transport incident claims are managed, and that such incidents have characteristics that require a special response from the compensation scheme. With regard to the risk of fraud by claimants, the expert raters reached consensus on neutrality, with the majority undecided as to whether the risk of fraud by claimants is greater in connection with large-scale incidents than with regular claims. The expert raters disagreed that people injured in or affected by large-scale crisis transport incidents should be managed more sensitively than regular claimants.

## **Discussion**

Until a rigorous body of research exists upon which to build best practice guidelines, the Delphi process is a valuable means of achieving expert consensus. Guidelines developed by individual compensation schemes are vulnerable to selective use of evidence and the intrusion of organizational or ideological biases. This can be mitigated by consulting with an international array of experts with expertise in relevant fields. In the current study, care was taken to identify expert raters from a range of professional backgrounds and geographic regions. Our independent group of 33 experts from 8 different countries provides a broad representation, thus helping mitigate the potential for biases and promote widespread acceptance of the consensus items that form the basis of the recommendations produced.

The 3 rounds of the Delphi review served as an opportunity for asynchronous discussion between raters, allowing them to

consider one another's responses and reconsider their own. The high retention of raters across the 3 rounds of the review was a major positive feature of this study, indicating willingness to consider other raters' perspectives and converge toward consensus. Across the 3 rounds of the Delphi review, there was evidence of both changes in rating of items, and adherence to initial ratings. That 15 items failed to reach consensus indicates that conformity with other raters was not the main objective.

In geographic regions where there is a compensation scheme that meets health care costs for individuals affected by intentional vehicular assaults, individuals may be eligible for support in covering the costs of medical and mental health treatment, as well as loss of income and other expenses. In the emerging field of compensation scheme response to such intentional incidents and their subsequent mental health impacts, it is useful to learn from the experiences of compensation agencies internationally where schemes have been adapted or developed to respond to similar incidents. In this way, it is possible to develop consensus-based recommendations to inform best practice responses to future intentional vehicular assaults.

If health care costs are to be met by compensation schemes responding to no-fault mental injury claims in accordance with best practice following large-scale, mass-casualty incidents involving a motor vehicle, it is essential that there be agreement regarding the core aspects of best practice. In determining the principles of best practice, both the objectives of the compensation scheme and the processes of mental injury claims management are considered. This is the first study to generate recommendations from a group of international experts working in the field of trauma and mental injury compensation with regard to large-scale, mass-casualty incidents involving a motor vehicle. Given the lack of consistency in response to such incidents across compensation schemes worldwide, this consensus is a necessary step in developing a foundation upon which research can be built. The recommendations developed through this review present an opportunity for compensation schemes to review their existing claims management systems and procedures. The recommendations also provide the basis for the development of best practice guidelines, which may also be adapted with relative ease for application to compensation schemes in different contexts worldwide.

Achieving a clear understanding and agreement regarding the features of compensation claims management processes is fundamental for several reasons. First, established consensus enables agencies to be proactive about their response to claims rather than reactive following the occurrence of incidents, when rapid responses are necessary. A high level of organizational preparedness implies proactive consideration of resourcing requirements such as directing staff and resources away from business-as-usual activities,<sup>17,18</sup> flexibility around managing demand and building surge capacity, provision of training and support for staff well-being, a risk management strategy, and production of manuals and policy guidelines.<sup>17-21</sup>

Achieving understanding and agreement regarding best practice sets a framework for evaluation of any given scheme, as it is only when the key indicators of an effective system are clear that it becomes possible to design strategies for measuring a scheme's effectiveness. Shared understanding of the optimal features of compensation claim schemes and processes for intentional vehicular assault survivors will enable compensation schemes to best achieve their objectives of restoring survivors to health and work through financial support.

### Limitations

There are limitations to the Delphi methodology. A small minority of the items achieved total or near-total consensus (9 items above 90% agreement), but slightly more items (10 items) were only just above the requisite 70% cutoff for consensus. This indicates that there are still differences of opinion on some issues. Policy-makers will also need to interpret the recommendations in the context of relevant legislation and specific jurisdictional needs (such as the interaction of compensation schemes with social security and other support mechanisms). Additional research could build upon the current study and seek clarity by reviewing the agreed statements of practice and evaluating their uptake and effectiveness within compensation agencies.

### Conclusion

The recommendations developed in this study represent the current views of experts in the field of mental injury compensation design and systems, and, as such, can be expected to evolve as more research is conducted and knowledge across the field develops. This study has attempted to ensure that the findings are applicable across international settings and capable of evolving over time. Given that a range of international experts has participated in this study, it is likely that these outcomes are generally acceptable to experts in the field. It is hoped that the recommendations will be used to formulate best practice guidelines, facilitating both the development of claims management practice and future research and evaluation initiatives.

**Supplementary Material.** To view supplementary material for this article, please visit <https://doi.org/10.1017/dmp.2021.285>

**Acknowledgments.** We would like to thank all of the raters who contributed to the Delphi process.

**Funding statement.** This research was funded by the Victorian Transport Accident Commission (TAC) in Australia. TAC has provided permission for the submission of the manuscript for publication.

**Conflict(s) of interest.** The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this paper.

### References

1. Jasiński A. Protecting public spaces against vehicular terrorist attacks. *Czasopismo Techniczne*. 2018;2:47-56.
2. Almogly G, Kedar A, Bala M. When a vehicle becomes a weapon: intentional vehicular assaults in Israel. *Scand J Trauma Resusc*. 2016;24(1):149.
3. Ben-Ezra M, Hamama-Raz Y, Mahat-Shamir M, et al. Shattering core beliefs: psychological reactions to mass shooting in Orlando. *J Psychiatr Res*. 2017;85:56-58.
4. Ben-Ezra M, Pitcho-Prelorentzos S, Mahat-Shamir M. A blast from the past: civilians immediate psychological reactions and associative memory of prior events following exploding bus in Israel. *Psychiatry Res*. 2016; 246:545-547.
5. O'Donnell ML. Psychosocial recovery after serious injury. *Eur J Psychotraumatol*. 2014;5(1):26516.
6. Luntz H, Hambly D, Burns K, et al. *Torts: cases and commentary*. 8th ed. Chatswood, NSW: LexisNexis; 2017.
7. Letschert R, Staiger I, Pemberton A. *Assisting victims of terrorism: towards a European standard of justice*. New York: Springer Science & Business Media; 2009.
8. Ramirez J. The Victims Compensation Fund: a model for future mass casualty situations. *Transp L J*. 2001;29:283.
9. Alkema D. *Money isn't everything. A qualitative study on the characteristics and explanations surrounding international compensation schemes for victims of terrorism* [Masters Thesis]; 2017.
10. Office for Victims of Crime, US Department of Justice, Office of Justice Programs. *International Terrorism Victim Expense Reimbursement Program*. Washington, DC: Author; 2014.
11. Anema JR, Schellart AJM, Cassidy JD, et al. Can cross country differences in return-to-work after chronic occupational back pain be explained? An exploratory analysis on disability policies in a six country cohort study. *J Occup Rehabil*. 2009;19(4):419-426.
12. Collie A, Lane TJ, Hassani-Mahmooei B, et al. Does time off work after injury vary by jurisdiction? A comparative study of eight Australian workers' compensation systems. *BMJ Open*. 2016;5(5):e010910.
13. Bisson JI, Tavakoly B, Witteveen AB, et al. TENTS guidelines: development of post-disaster psychosocial care guidelines through a Delphi process. *Br J Psychiatry*. 2010;196(1):69-74.
14. Jorm AF. Using the Delphi expert consensus method in mental health research *Aust N Z J Psychiatry*. 2015;49(10):887-897.
15. Skulmoski GJ, Hartman FT, Krahn J. The Delphi method for graduate research. *J Inf Technol Res*. 2007;6:1-21.
16. Sumsion T. The Delphi technique: an adaptive research tool. *Br J Occup Ther*. 1998;61(4):153-156.
17. Admi H, Eilon Y, Hyams G, et al. Management of mass casualty events: the Israeli experience. *J Nurs Scholarsh*. 2011;43(2):211-219.
18. Sloan HM. Responding to a multiple-casualty incident: room for improvement. *J Emerg Nurs*. 2011;37(5):484-486.
19. McIntyre J, Goff BSN. Federal disaster mental health response and compliance with best practices. *Community Ment Health J*. 2012;48(6): 723-728.
20. North CS, Weaver JD, Dingman RL, et al. The American Red Cross disaster mental health services: development of a cooperative, single function, multidisciplinary service model. *J Behav Health Serv*. 2000;27(3):314-320.
21. Tucker P, Pfefferbaum B, Vincent R, et al. Oklahoma City: disaster challenges mental health and medical administrators. *J Behav Health Serv Res*. 1998;25(1):93-99.