

BehaviourWorks Australia

(through the Monash Sustainable Development Institute)

WHAT ARE THE NEEDS OF PEOPLE AND ORGANISATIONS WHO ENCOUNTER TRAUMATIC BRAIN INJURY?

December 2021

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What are the needs of people and organisations who encounter traumatic brain injury?

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Conflicts of interest: The authors have no conflicts to declare.

Acknowledgements: Thanks to Lucy Clynes and Mia Calabritto from Research Australia for recruiting survey participants and developing the stakeholder map, which supported targeted roundtable discussion, and to Professor Melinda Fitzgerald and Naomi Fuller from Connectivity for their valuable insights and feedback.

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EXECUTIVE SUMMARY

Traumatic brain injury (TBI) can result in life-changing impacts and permanent care needs if the injury is moderate or severe. However mild TBI, including concussion, accounts for 70-90% of TBI.¹ Furthermore, ongoing impairments associated with all forms of TBI can have substantial impacts on individuals and those around them, even if they are not physically obvious. This project aimed to understand current barriers to and facilitators of best practice management of TBI across a broad array of Australian sectors and settings that encounter it.

To address this aim, a national survey was undertaken to ascertain current knowledge and awareness of best practice in management of TBI and explore implementation practices and challenges across a broad array of Australian sectors who encounter TBI. Specifically, the target audience of the survey included Government Departments of Health, Aboriginal health organisations, medical colleges, correctional services, community sporting organisations, clinicians, and researchers. The survey was followed by three roundtables to explore survey themes in more depth with participants from sport, social policy, and work health & safety and insurance funds.

Forty-eight people participated in the survey, with high representation from government ($n = 26$), sports ($n = 6$), and allied health ($n = 8$). The roundtables had representatives from sport ($n = 7$), social policy ($n = 11$), and work health & safety and insurance ($n = 4$). Key themes across both the survey and roundtables were:

- (i) the need for accessible, nationally consistent guidelines for both clinicians and non-clinicians;
- (ii) the importance of building research literacy to address key knowledge needs and evaluate the credibility of sources of guidance; and
- (iii) acknowledgement that many sectors who encounter TBI do not have clinical expertise to manage it but need to be able to identify those in need of healthcare and connect them with appropriate services.

The findings of this project can be used to support under-recognised sectors who deal with TBI on a regular basis and provide a foundational needs assessment for groups developing and disseminating TBI information for non-clinicians. Ideally, this information should be linked to and inform relevant clinical practice guidelines.

¹ Tavender EJ, Bosch M, Green S, O'Connor D, Pitt V, Phillips K, et al. Quality and Consistency of Guidelines for the Management of Mild Traumatic Brain Injury in the Emergency Department. *Acad Emerg Med* 2011;18:880–9. <https://doi.org/10.1111/j.1553-2712.2011.01134.x>.

BACKGROUND

Traumatic brain injury (TBI), in all its forms, can have long-lasting negative consequences for patients and their families. Dealing with these consequences requires significant engagement of healthcare resources and is a substantial burden on governments and society. A TBI can range in severity from mild to moderate or severe. Symptoms can be mild and quickly resolving or debilitating and life changing. As such, a TBI can dramatically impact the lives of both the patient involved and the people around them.

Established in April 2020, Connectivity Traumatic Brain Injury Australia (Connectivity) is an Australian-wide not-for-profit organisation working to raise awareness of TBI, including concussion, in the community.

Connectivity's vision is for a healthier Australia through the enhanced knowledge and management of TBI of all severities. Connectivity links together patients, carers, researchers, clinicians, and healthcare providers to build the evidence base and improve outcomes for people following TBI of all severities.

PROJECT AIM AND RATIONALE

The aim of this project is to understand current barriers to and facilitators of best practice management of TBI across a broad array of Australian sectors and settings that encounter it. Gaining a better understanding of this space will aid Connectivity to identify high priority areas where they can direct future efforts. The project will provide an understanding of how key implementation and awareness barriers for best practice TBI management can be addressed and optimise the treatment that individuals with TBI receive in the future.

This project focused on:

- Mild TBI / concussion;
- Moderate to severe TBI in the rehabilitation / outpatient context;
- Knowledge needs and how they are addressed; and
- Barriers to and facilitators of best management

In collaboration with Connectivity, the project team addressed these aims through a nationwide survey and a series of three roundtable discussions. The roundtable discussions had a specific focus on stakeholders under-represented in the survey—the sporting sector; social policy and services (including Aboriginal and Torres Strait Islander health, homelessness and housing, and corrective services); and work health & safety and insurance funds. We received ethical approval by Monash University's Human Research Ethics Committee (project number: 28983).

This report presents findings and key themes from all project activities.

INSIGHTS AND RECOMMENDATIONS

This section provides an overview of the key findings. Figure 1 illustrates the focus of each research activity of the project (survey and the three roundtables), mapped to phases of concussion or TBI severity and management (e.g. early response through to ongoing management for people living with TBI). These are then linked to the key themes that emerged from the analysis.

Three key themes emerged from analysis of the survey and roundtables:

- Accessible, nationally consistent plain language guidance for non-clinicians who encounter TBI
- Building research literacy within education and professional development program
- Knowing your role in TBI identification and management

Table 1 outlines the key insights for each of these themes, associated examples, and recommendations arising from this research. Insights are included in Table 1 if they a) had supporting evidence from the roundtable and at least two datapoints from the survey (i.e., two respondents) or b) were of importance in the roundtable but were not asked about in the survey. Further findings and insights from the research can be found in the summary of findings (from page 18).

Figure 1: Illustration of TBI management stages and severity, mapped to research stages and key themes from the research.

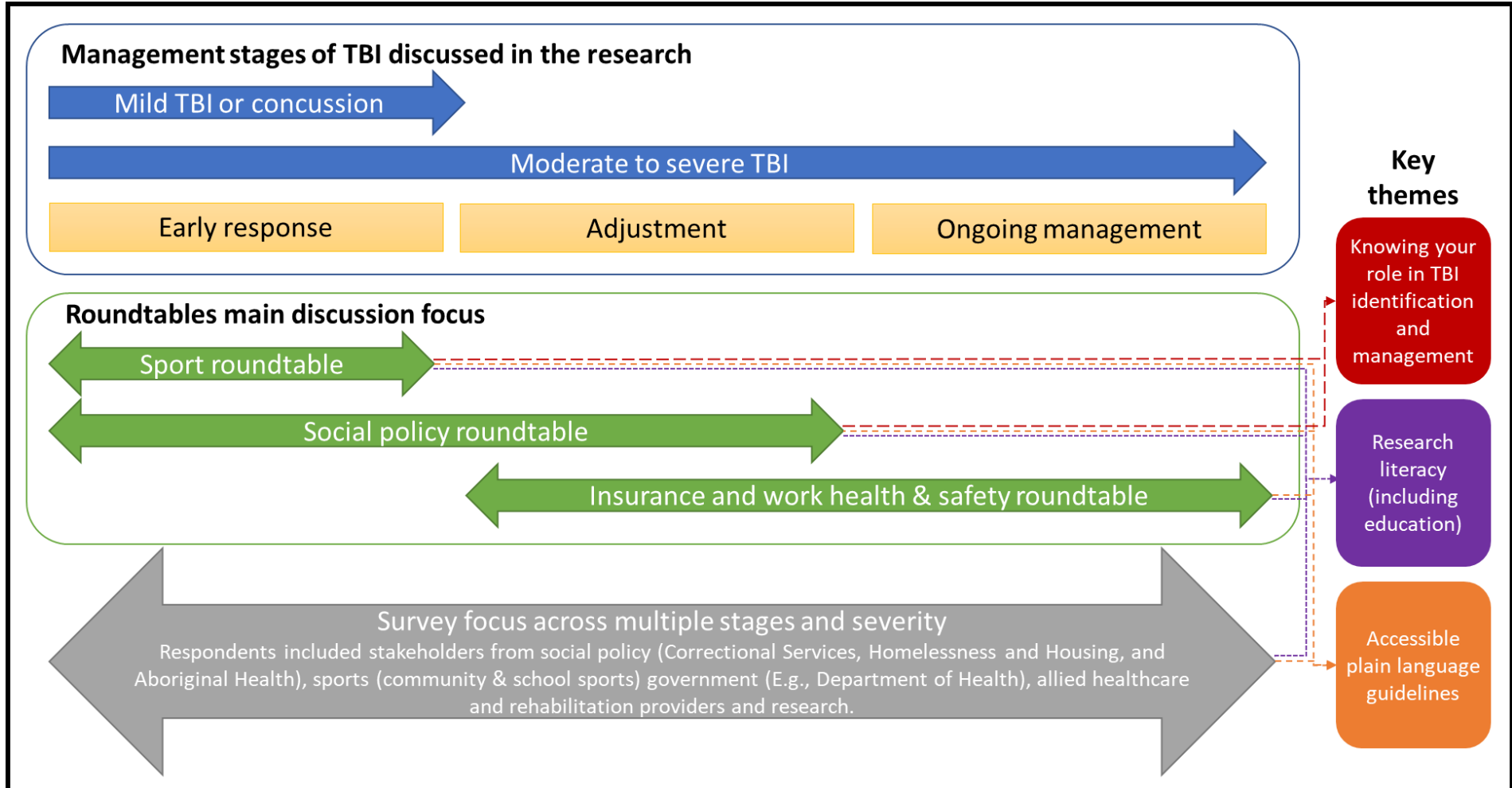


Table 1: Key insights and recommendations arising from the survey and roundtables.

Insight	Relevant example from survey	Relevant example from roundtable	Recommendations arising from research
<p>Accessible, Nationally Consistent Plain Language Guidelines¹</p> <p>Insights on this theme emerged in both the survey (minimum of two data respondents) and all three roundtables. Sub themes were included if they were discussed in at least two roundtables.</p>			
Guidelines are an influential source of information.	62% of participants said that guidelines influenced on their behaviour. The majority (90%) were highly confident that guidelines were the best sources of information.	Insurance and work health & safety representatives highlighted the need for guidelines that were less scientific to reduce the gap between the academic, clinical, and corporate worlds that interact with people with TBI.	Ensure guidelines are nationally consistent; easy to access for both clinicians and non-clinicians; and provide summaries in plain language of key points.
Any screening or triage tool must be followed with appropriate care management pathways.	In text responses, 8 participants (from Government, sports, research, allied health, and social policy) commented that they / their organisations lacked knowledge regarding what to do after diagnosis (e.g., treatments, therapies, follow-up procedures, efficacy of interventions).	Social policy representatives discussed how there is no point in knowing a diagnosis if nothing can be done about it (e.g., if it is too complex and the right systems or resources aren't in place).	Ensure that guidelines and other forms of guidance ² enable end-users to access practical support underpinned by nationally consistent principles.
Lack of time is a key barrier to accessing and implementing information	This barrier was particularly salient for Government (69.2%, $n = 18$), social policy (66.7%; $n = 2$),	Sports representatives reported lack of time being a barrier, especially considering the	Ensure that resources and practical steps (for example, referring to an expert clinician) are easy to access and widely

²The specific type of guidance was not a focus of the survey or discussed in the roundtables, but there was a strong emphasis on the need for accessible and plain language guidelines to support referral for those people who need to access information (e.g., people with TBI).

Insight	Relevant example from survey	Relevant example from roundtable	Recommendations arising from research
for some organisations.	and allied healthcare and rehabilitation providers (75%, $n = 6$).	amount of information that is available to sift through.	publicised. Identify and promote time-efficient screening tools (e.g., for different management stages if a concussion or TBI is known to have occurred) that enable non-experts to determine where further assessment or referral may be necessary.
Frequently identified methods of information dissemination include emails, training, meetings, and social media.	28 participants said that they got information from emails, 15 from training, and 15 from meetings.	Sports representatives reported getting information from a variety of sources, including social media and training (e.g., coach education programs).	Build awareness of how to ascertain whether information sources are credible (e.g., from a research or other recognised organisation), for example through basic fact sheets that identify key characteristics of credibility (industry / peak body affiliation and involvement of university-based researchers) or a database of high-quality resources. Link information (for example from screening tools and fact sheets to Clinical Practice Guidelines (CPGs) as a known influential source of information that should take precedence over other sources where available. CPGs are primarily designed for clinicians, but may contain some relevant information for non-clinicians, who should have access to more basic fact sheets also.

Insight	Relevant example from survey	Relevant example from roundtable	Recommendations arising from research
<p>Collaboration and sharing of resources could be improved.</p>	<p>In text responses, respondents noted that there could be more cross-sector collaboration and opportunities for sharing information (<i>n</i> = 7), including links with stakeholders, information libraries (e.g., on shared drive), presentations to the whole organisation, meetings with clinicians, and conferences.</p>	<p>Insurance and work health & safety representatives discussed how communication and collaboration could be improved and that difficulties arise when parties have different perceptions of an individual's abilities.</p>	<p>Identify and promote core resources with relevance to all sectors.</p> <p>Provide opportunities for cross-sector linking to share challenges and insights, accepting that some of these may be sector-specific.</p>
<p>Having reliable sources of information (including on TBI identification and management) is important.</p>	<p>50% of participants reported reliability as a driver of implementing information.</p>	<p>Sports representatives commented on how it is important to follow reliable people on social media (e.g., academics who don't have an agenda, journals etc.). They also discussed how there is a lot of misinformation around concussion and that it is an industry where people have vested interests (e.g., with commercialising treatments).</p>	<p>Build awareness of how to ascertain whether information sources are credible (e.g., from a research or other recognised organisation), for example through basic fact sheets that identify key characteristics of credibility (industry / peak body affiliation and involvement of university-based researchers) or a database of high-quality resources.</p> <p>Try to link information to CPGs as a known influential source of information that should take precedence over other sources where available.</p> <p>Promote freely accessible, research-based information that is independent of commercial and other vested interests.</p> <p>If a sporting, non-profit or other organisations are considering investing in</p>

Insight	Relevant example from survey	Relevant example from roundtable	Recommendations arising from research
			commercial products or services, they should ask to see the underlying peer-reviewed research that supports them (rather than testimonials or other forms of evidence).
Knowing where to access information is a driver of whether it is applied.	69% of survey participants believed that this was a driver of accessing information.	Insurance and work health & safety representatives discussed how having a central, accessible source of information is important (e.g., one website for people or professionals to see what evidence and services are available).	Identify and promote guidelines and other information sources (e.g. Australian Institute of Sport resources), especially where they are linked to plain language summaries. Work with peak bodies representing sporting, homeless and other community organisations to disseminate useful resources using methods that work for specific sectors.
<p>Building research literacy</p> <p>Insights on this theme emerged in both the survey (minimum of two respondents) and all three roundtables. Sub themes were included if they were discussed in at least two roundtables.</p>			
There is an emphasis on common sense (referred to as 'gut feeling' in sport) or based on peoples experience to guide decision making and subsequent behaviours.	66.7% (<i>n</i> = 4) of participants from sport said that common sense is influential on their behaviour.	Sports representatives discussed how diagnosing TBI is hard for everyone, and to reduce pressure there should sometimes be a greater reliance on 'gut feeling' than diagnosis.	Provide infographics on warning signs, which use visual cues where possible and are specific to different contexts (e.g. sport and prisons). Reinforce that some signs of severe brain injury are not immediate or visible, therefore 'gut feeling' is not a reliable strategy.

Insight	Relevant example from survey	Relevant example from roundtable	Recommendations arising from research
Training could be improved.	In text responses, respondents noted that training could be specific to TBI, compulsory, and free, and that refreshers could be offered.	Social policy representatives suggested that training could be mandatory rather than voluntary, and that it should be brief rather than comprehensive.	Develop training resources that are a) transferable across sectors; b) ideally free and; c) cater to varying knowledge needs within sectors (e.g., what is the minimum that everyone should know? What additional information is required for those in roles with more intense exposure to TBI?).
<p>Knowing your role in TBI identification and management</p> <p>Insights on this theme emerged in two roundtables and were not investigated as part of the survey.</p>			
There are many complex, systemic issues involving TBI.	N/A	<p>Social policy representatives highlighted that system-wide complexities (e.g., dual diagnoses, discontinuity of care in corrective services) may be difficult for Connectivity to solve.</p> <p>Insurance representatives noted that what they can see and discuss is very regulated and this makes it hard to advocate for the best outcome.</p>	<p>Acknowledge that traditional CPGs have limitations and that some challenges are beyond the reach of TBI experts alone.</p> <p>Document system-level challenges and the groups that need to be engaged to address these.</p>
Solutions should be centred around co-design.	N/A	Social policy representatives emphasised that solutions should be co-designed with those with lived experience and Aboriginal and Torres Strait Islander communities.	Consistent with consumer-centric models of care, provide opportunities for those with TBI, their families and carers and other key groups to be involved in efforts to promote best practice TBI care.

Insight	Relevant example from survey	Relevant example from roundtable	Recommendations arising from research
		A social insurance company noted that they are now trying co-design with the disability sector to improve service and understand community needs.	
In most cases, the people managing TBI won't be medical professionals.	N/A	Sports representatives noted that the pressure often falls onto individuals who may have limited knowledge (e.g., a 12-year-old referee) to assess the severity of a situation. Social policy representatives commented that most people who come across people with TBI will be non-experts.	Tailor education toward the people that will likely be present (e.g., teachers, parents, volunteers, coaches), not only doctors and physiotherapists.

RESEARCH METHODS

NATION-WIDE SURVEY METHODS

We conducted a national survey to assess current knowledge and awareness of best practice in management of TBI and explore implementation practices and challenges across a broad array of Australian sectors who encounter TBI. Specifically, the target audience of the survey was determined with Connectivity, and included representatives from:

Government, including departments of health

Aboriginal health

Colleges of medicine

Correctional services

Insurance funds

Transport commissions

Community sports

School sports

Consumer groups

Allied healthcare and rehabilitation Providers

Occupational health and safety regulators

Health and medical researchers

Survey development was informed by behavioural science³ to explore the behavioural enablers and barriers to accessing and implementing best practice knowledge. A full list of survey items can be found in Appendix A.

Research Australia undertook extensive stakeholder mapping to identify relevant stakeholders in the key sectors listed above that could complete the survey. In addition to desktop research, Research Australia organised and conducted targeted meetings with key organisations and used these meetings to introduce Connectivity and the national survey. These meetings engaged organisations from Aboriginal health, correctional services, school sports, and consumer groups.

Following stakeholder mapping, Research Australia sent survey invitations through their member organisations. The email linked to the survey platform (Qualtrics) which contained the explanatory statement and consent form on the first page of the survey. The survey could not be completed without viewing and consenting on the first page.

Research Australia also conducted reminder calls and emails to survey participants. These follow-up calls and emails were targeted at certain sectors that had not yet responded to the

³ <https://www.behaviourworksaustralia.org/resources/the-method-book>

survey to ensure responses were gained across the identified sectors. While the survey was in field, certain key organisations, from both within and outside of Research Australia's membership, also promoted it through their marketing and social media channels. The survey was in field for approximately 2 weeks.

Survey data analysis methods

Quantitative survey data were analysed in R. Given small sample sizes, we grouped together similar organisations when segmenting the data by sector. These groupings comprised:

- Social policy: correctional services, homelessness and housing, and Aboriginal and Torres Strait Islander health
- Sports: community sports and school sports
- Government (e.g., department of health)
- Allied healthcare and rehabilitation providers
- Research

Qualitative survey data, such as open-text questions, were analysed using thematic analysis.

ROUNDTABLE METHODS

Three roundtables were conducted to ensure that key stakeholder groups who were not well-represented in the survey had an opportunity to contribute their perspective. These groups were:

- 1) Sport
- 2) Social policy (including Aboriginal and Torres Strait Islander health, homelessness and housing, and corrective services)
- 3) Work health & safety and insurance funds

Stakeholders relevant to the above groups were identified through the same stakeholder mapping process described in the survey methodology. These stakeholders were invited to participate in the roundtables by email. They were provided with an explanatory statement of the project and required to complete a consent form prior to attending.

The roundtables were two hours long and semi-structured, allowing the facilitators to explore emerging themes as well as salient issues in relation to TBI and their respective roles⁴. They were facilitated by the research team and representatives of Connectivity were not present. The guiding questions mirrored those in the survey, given that the purpose of the roundtables was to collect data from stakeholders not captured in the survey process. This included questions such as:

- What type of engagement with TBI do you / your organisation have?
- Where do people at your organisation access information about managing TBI?
- What makes it harder or easier to access best practice information?
- Are there challenges in implementing best practice information?
- What makes it harder or easier to implement best practice information?

⁴ Spencer L, Ritchie J, Lewis J, Dillon L: Quality in qualitative evaluation: a framework for assessing research evidence. 2003.

Roundtable data analysis methods

Roundtables were recorded and one research team member took notes. Roundtable transcripts were coded and analysed thematically.⁵ The thematic analysis was guided by the roundtable questions, identifying any enablers and barriers of TBI management across the respective stakeholder groups. Following this initial analysis, two authors (DG and EG) discussed findings and compared the themes to what was captured in the notes taken during the roundtables. Initial themes were then discussed for comparisons and consistency of understanding. While the researchers were looking at consistent themes across all roundtables that could subsequently be triangulated with survey findings, themes specific to particular stakeholder groups deemed to be pertinent to TBI management were considered important.

⁵ Boyatzis, R.E. (1998). Transforming qualitative information: Thematic analysis and code development. Thousand Oaks, CA: Sage.

SUMMARY OF FINDINGS

The following summaries of the survey and roundtable findings informed the three key themes that emerged from analysis of the survey and roundtables (1. Accessible, plain language guidelines; 2. Building research literacy; and 3. Knowing your role in TBI identification and management). Other findings that did not meet the higher theme criteria are discussed as part of the summary.

SURVEY RESULTS

Demographics

In total, 48 respondents completed the survey (female: 79.2%; male: 20.8%). Most respondents were from New South Wales (72.3%) followed by Victoria (10.6%), Western Australia (6.4%), Northern Territory (4.3%), South Australia (4.3%), and Queensland (2.1%). Just over three fifths of the respondents lived in major cities (62.5%), followed by regional cities or towns (27.1%), and rural areas (10.4%). Most respondents had an Undergraduate degree, Master's degree, or Doctorate (82.9%). Regarding the cultural and linguistic diversity of the sample, 12.8% of the sample were born in a country other than Australia, 4.2% spoke a language other than English, and 4.2% were Aboriginal.

Professional and personal experience with TBI

Three quarters of the sample (75%) responded regarding their experience with moderate-severe TBI in the survey, with 25% responding regarding their experience with mild TBI or concussion. Over half of respondents (52.1%) reported always engaging with individuals with TBI, 31.2% reported that it was often a part of their or people in their organisation's role, 8.3% said it was rarely, 4.2% reported sometimes, and 4.2% indicated that it varied within their organisation. Most respondents reported that their work involved moderate engagement with Aboriginal or Torres Strait Islander communities (58.3%), with a third saying it involved minimal or no engagement (33.3%). The geographic focus of respondents' work was mainly major cities (41.7%), followed by regional cities or towns (31.2%).

Over half of respondents ($n = 26$; 54.2%) were from a government organisation, followed by allied healthcare and rehabilitation providers ($n = 8$; 16.7%), school sports ($n = 2$; 4.2%), community sports ($n = 2$; 4.2%), research ($n = 1$; 2.1%), homelessness and housing ($n = 1$; 2.1%), correctional services ($n = 1$; 2.1%), and Aboriginal health ($n = 1$; 2.1%). Other organisations included disability care, aged care, acute care, swim schools, professional sports, and self-employment. We had no representatives from colleges of medicine, aged care, work health and safety regulators, insurance funds, transport commissions, or consumer groups. After grouping similar organisations together, we had the following sample sizes:

- Social policy ($n = 3$): correctional services, homelessness and housing, and Aboriginal and Torres Strait Islander health
- Sports ($n = 6$): community sports, school sports, swim schools, and professional sports
- Government ($n = 26$): E.g., department of health
- Allied healthcare and rehabilitation providers ($n = 8$)
- Research ($n = 1$)

- Other ($n = 4$)⁶

Half of respondents were healthcare providers, 18.8% were heads of organisations / units / departments, 14.6% were senior leaders, and 2.1% were volunteers. Other roles included administration staff, educators, coaches, allied health workers, and working directors.

AWARENESS

Knowledge

Over two thirds of respondents (70.9%) report that they or their organisation have high knowledge levels regarding the management of individuals with TBI, with 27% reporting moderate, and 2.1% reporting low knowledge levels.

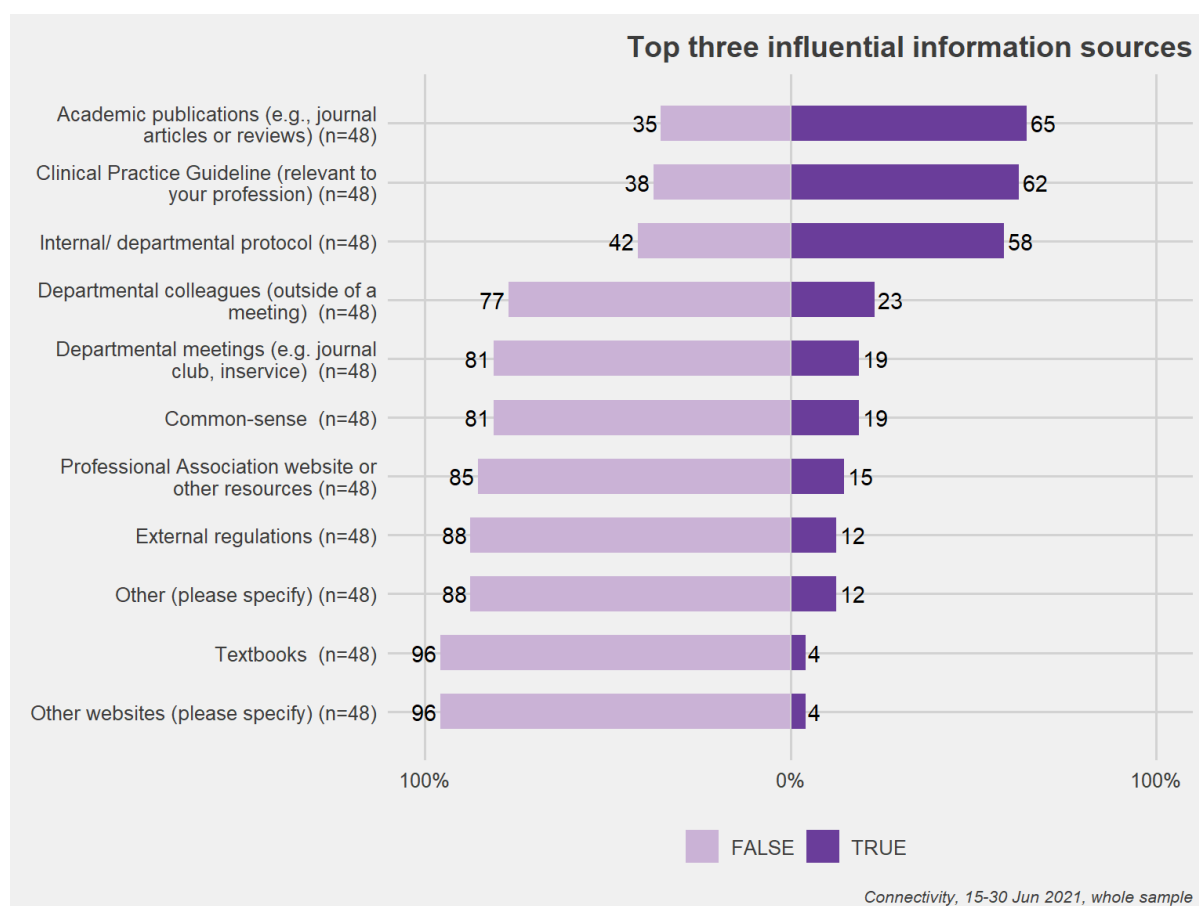
Most participants from government (84%; $n = 22$) and allied healthcare and rehabilitation sectors (88%; $n = 7$) reported high knowledge levels. One research respondent and one sport respondent reported high knowledge levels, but none of the three social policy respondents did.

Top information sources

Respondents were asked to indicate the sources of information that had most influenced their or their organisation's management of people with TBI (see Figure 2). Academic publications, clinical practice guidelines, and internal / departmental protocols were the most influential sources overall.

⁶ Other organisations included acute medical care and self-employment.

Figure 2. The most influential information sources (selecting up to three) for the whole sample.



The following breakdown presents which resources the majority of respondents stated were influential, according to sector:

- Sports: Internal / departmental protocol (66.7%); External regulations (50%); Common sense (66.7%)
- Government (e.g., Department of Health): Internal / departmental protocol (61.5%); Clinical Practice Guideline (relevant to your profession) (65.4%); Academic publications (e.g., journal articles or reviews) (73.1%);
- Allied Healthcare and Rehabilitation Providers: Internal / departmental protocol (62.5%); Clinical Practice Guideline (relevant to your profession) (100%); Academic publications (e.g., journal articles or reviews) (62.5%)

The one research respondent in the sample reported that clinical practice guidelines, academic publications (e.g., journal articles or reviews), and common-sense were all influential. Two of the three social policy respondents reported that academic publications and professional association websites were influential.

Confidence in information sources

We asked respondents to indicate how confident they were that the information sources they or their organisation used were the best sources. Respondents were most confident about clinical practice guidelines and academic publications, with 90% and 87% reporting having high confidence, respectively, in these sources. Respondents were less confident about common sense, with 22% reporting that they had low confidence in this source.

How is information disseminated to people in your organisation?

Text responses indicated that information about managing TBI is disseminated through emails, training, meetings, conferences, informal discussions, information libraries, supervision, guidelines, peak bodies, clubs or groups, and individual initiation. Table 2 outlines the number of respondents that raised each dissemination method (note that respondents could raise more than one).

Table 2: Information dissemination for the whole sample (text responses)

Method of dissemination	Number of respondents
Emails	28
Training (e.g., first aid, in-service training, department education sessions, professional development, and learning sessions)	15
Meetings	15
Informal discussions with colleagues	5
Conferences	4
Clubs or groups (e.g., journal clubs, special interest groups)	4
Individual initiation (i.e., individuals being responsible for seeking out information themselves)	4
Supervision	3
Guidelines or protocols available in guideline portals and linked to TBI organisations	3
Peak bodies (e.g., Agency for Clinical Innovation (ACI), Synapse, and Brain Injury Rehabilitation & Development)	3
Information libraries (e.g., shared drives)	2
Expert consultation	1
Single person within the organisation disseminating material to others	1

Where do people access information?

Respondents reported accessing information from scientific research, conferences / workshops, networking and colleagues, training, specific organisations, clubs or groups, tertiary education, meetings, and supervision.

Scientific research sources, such as journal articles, was the most common method of accessing information ($n = 20$). Conferences / workshops, guidelines (internal or external to the organisation), and networking and colleagues (e.g., networking with other professionals, clinical networks, peer groups, access knowledge through the team) were each reported by 11 participants. Training, such as professional development, department training modules, and first aid courses, were also frequently mentioned ($n = 10$). Eight respondents reported that they access information through specific organisations such as the Australasian Society for the Study of Brain Impairment, Synapse, or the ACI Brain Injury Rehabilitation Network. Clubs or groups (e.g., special interest groups, brain injury groups) and tertiary education were both mentioned by 3 respondents, whilst meetings and supervision were each reported by 2. Other methods of accessing information included expert opinion, professional experience, local health practitioners, and concussion management plans.

Barriers to accessing information

As seen in Figure 3, over half of respondents (56%) agreed that there isn't enough time to access best practice information on managing individuals with TBI. This barrier was particularly salient for Government (69.2%) and allied healthcare and rehabilitation providers (75%). Not having the resources to access the information (21%) and difficulties accessing information (17%) were also among the top barriers across the whole sample. Other barriers specified by respondents included not having enough time to collaborate with other providers and there being limited best practice information and research available. See Table 3 for a breakdown of barriers to accessing information by organisation. Note that, given low sample sizes for research and social policy groupings, we do not present summary data on those groups.

Figure 3. Barriers to accessing information for the whole sample

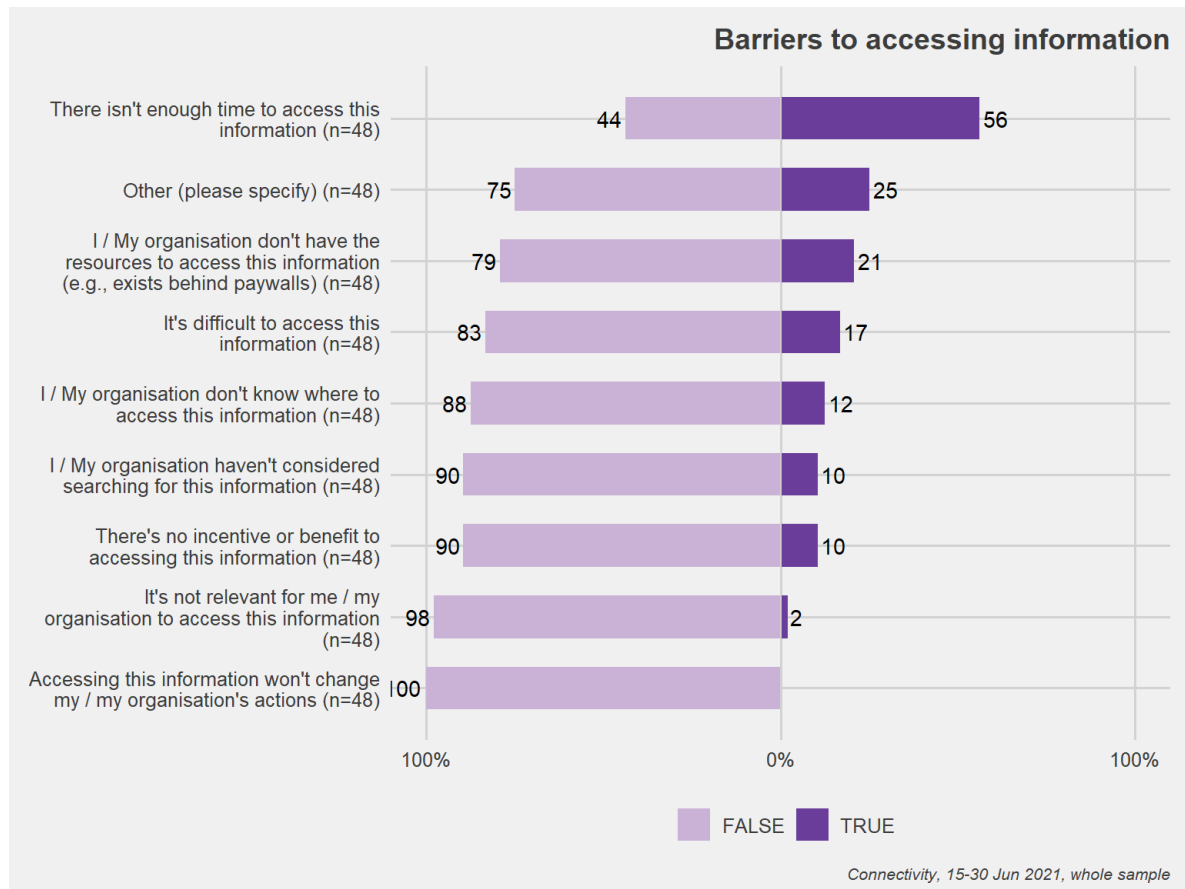


Table 3. Agreement with barriers to accessing information, broken down by organisation

Barrier to accessing information	Recategorised organisations		
	Government (n = 26)	Sports (n = 6)	Allied Healthcare and Rehabilitation Providers (n = 8)
I / My organisation don't know where to access this information	12%	17%	0%
I / My organisation haven't considered searching for this information	8%	33%	12%
There's no incentive or benefit to accessing this information	8%	17%	12%
Accessing this information won't change my / my organisation's actions	0%	0%	0%
There isn't enough time to access this information	69%	17%	75%
It's difficult to access this information	15%	17%	12%
I / My organisation don't have the resources to access this information (e.g., exists behind paywalls)	35%	17%	0%
It's not relevant for me / my organisation to access this information	4%	0%	0%

Note. Data in this table presents an organisational breakdown of the overall findings presented in Figure 3. Higher percentages indicate greater agreement that a given statement was a barrier to accessing information (e.g., 69% of respondents from Government agreed that there isn't enough time to access the information). Participants could tick up to three barriers.

Facilitators of accessing information

The most common facilitator of accessing information was familiarity with where to access it (69%; see Figure 4). Confidence regarding accessing this information (58%), regular use (50%), and the usefulness and practicality of the information (48%) were also endorsed as facilitators by around half of the sample. See Table 4 for a breakdown of facilitators of accessing information by organisation. Note that, given low sample sizes for research and social policy groupings, we do not present summary data on those groups.

Figure 4. Drivers of accessing information for the whole sample

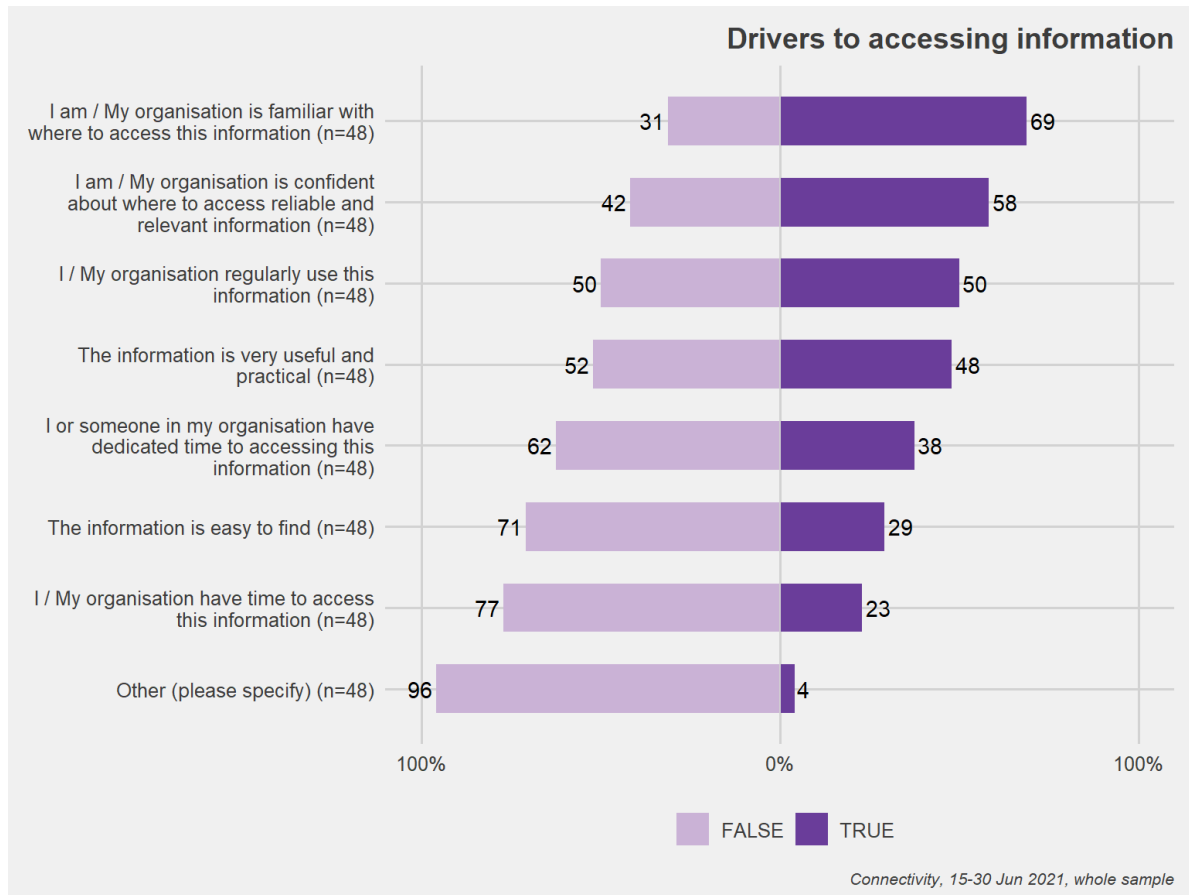


Table 4. Agreement with facilitators of accessing information, broken down by organisation

Facilitator of accessing information	Recategorised organisations		
	Government (n = 26)	Sports (n = 6)	Allied Healthcare and Rehabilitation Providers (n = 8)
I am / My organisation is familiar with where to access this information	81%	50%	62%
I am / My organisation is confident about where to access reliable and relevant information	58%	33%	75%
The information is very useful and practical	54%	33%	50%
The information is easy to find	23%	33%	38%
I / My organisation regularly use this information	50%	17%	50%
I / My organisation have time to access this information	8%	33%	25%
I or someone in my organisation have dedicated time to accessing this information	27%	67%	25%

Note. Data in this table presents an organisational breakdown of the overall findings presented in Figure 3. Higher percentages indicate greater agreement that a given statement was a facilitator of accessing information (e.g., 81% of respondents from Government agreed that familiarity is a driver of accessing information information). Participants could tick up to three facilitators.

Suggestions for improving provision and access of information

Suggestions for improvement covered training, collaboration and sharing of resources, guidelines, national consistency, reducing barriers to information access, providing information updates, encouraging openness to evidence, promoting resources, and other tools.

Improvements to training were mentioned by 9 respondents and included having first aid training that is specific to TBI, making it compulsory for sports events, having regular refreshers, and providing it to sports clubs for free. Other comments regarding training touched upon having more staff development opportunities, providing education to athletes and coaches, having in-house education sessions, and providing information to frontline services or that could be used in training provided to services. Seven respondents suggested that collaboration and sharing of resources could be improved. Specifically, there could be more cross-sector collaboration, opportunities for sharing information, links with stakeholders, information libraries (e.g., on a shared drive), presentations to the whole organisation, meetings with clinicians, and conferences. Creating guidelines was mentioned

by 7 respondents, with comments suggesting that these should be like the current stroke guidelines in Australia⁷, easy to read, and updated in accordance with the latest evidence. National consistency was also called for ($n = 4$), both in terms of having nationally consistent guidelines and state or national peak bodies responding to TBI. Barriers to information access could be improved ($n = 3$) such as by having free access to relevant literature. Three respondents also reported wanting improved information updates (e.g., providing updates to be disseminated to frontline workers, having more frequent updates, having information sessions). Lastly, other suggestions included creating clinical decision-making tools ($n = 1$), having a tick box concussion document for first aider files ($n = 1$), displaying signs with first aid information ($n = 1$), encouraging openness to evidence ($n = 1$), and promoting resources such as online journals ($n = 1$).

What are the gaps in knowledge?

Reported gaps in knowledge included treatment / therapies, behavioural management, high-quality evidence, recovery trajectories, comorbidity, reintegration into the community, sexuality, guidelines, communication, and specific populations.

Eight respondents reported that they had a gap in their knowledge regarding TBI treatment and therapies. Specific examples included therapy strategies, follow-up procedures, the use of technology in the rehabilitation process, art-based therapies, the efficacy of different interventions, and managing bladder issues. Behavioural management was the second-most common gap ($n = 6$), followed by respondents feeling like they lacked evidence ($n = 5$). Those respondents reported that there was a lack of evidence base and randomised controlled trials (RCTs), and limited research in the specific area they are in (e.g., exercise physiology). Four respondents indicated that knowledge of recovery trajectory was a gap for them in terms of knowing about long-term outcomes, what the recovery process looks like (including timing), and how they might be able to predict longer-lasting concussions. Three respondents mentioned comorbidity, particularly in relation to mental health and / or alcohol and other drugs. Three respondents raised the knowledge gap of reintegration into the community, indicating that they needed support to make recommendations about return to school / work and community-based programs. Two respondents reported that sexuality and promoting healthy sexual relationships was a gap in their knowledge. Other gaps, reported by one respondent each, included: knowledge of guidelines specific to each sport, communication, specific populations such as Aboriginal people and Torres Strait Islanders, vestibular impairments, visuospatial impairments, psychosocial support, accessing / using NDIS, information for advocacy (e.g. importance of having right support and what that looks like), detecting mild concussion, medication management, and the effect of fatigue following TBI.

IMPLEMENTATION

Barriers to implementation

Almost two fifths of respondents (38%) agreed that there is not enough time to implement best practice information (see Figure 5). Just under a third (31%) indicated that they or their organisation do not have the resources to implement the information, and 29% reported that implementation is difficult. Other barriers specified by respondents included funding, staffing, availability of best practice information, and the time needed to work out what should be implemented. See Table 5 for a breakdown of barriers to implementing information by

⁷ <https://informme.org.au/Guidelines/Clinical-Guidelines-for-Stroke-Management>

organisation. Note that, given low sample sizes for research and social policy groupings, we do not present summary data on those groups.

Figure 5. Barriers to implementing information for the whole sample.

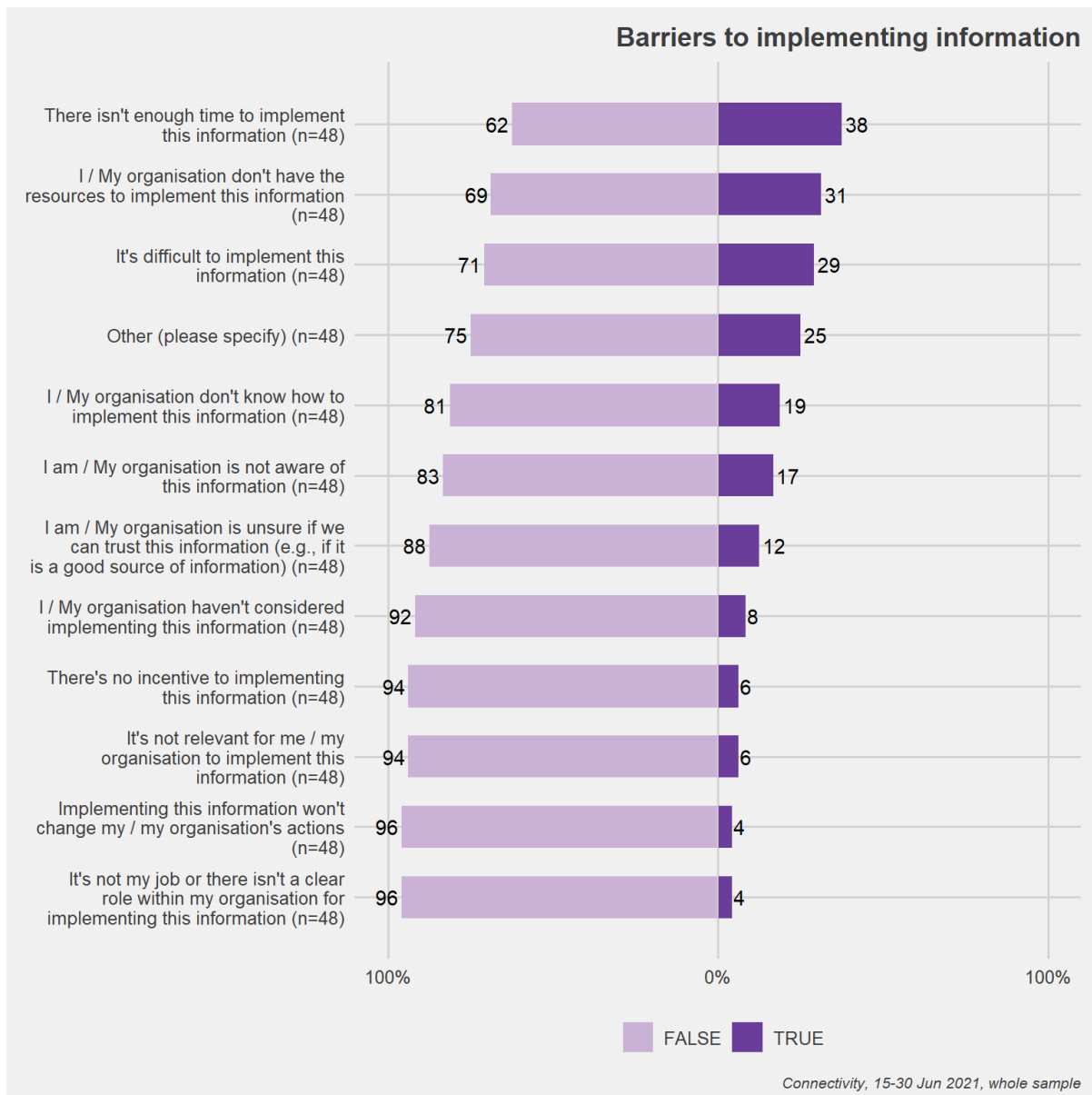


Table 5. Agreement with barriers to implementing information, broken down by organisation

Barrier to implementing information	Recategorised organisations		
	Government (n = 26)	Sports (n = 6)	Allied Healthcare and Rehabilitation Providers (n = 8)
I am / My organisation is not aware of this information	8%	33%	12%
I / My organisation don't have the resources to implement this information	31%	33%	25%
It's not relevant for me / my organisation to implement this information	0%	17%	12%
I / My organisation don't know how to implement this information	15%	50%	12%
I / My organisation haven't considered implementing this information	4%	0%	0%
There's no incentive to implementing this information	4%	17%	0%
Implementing this information won't change my / my organisation's actions	0%	17%	12%
It's not my job or there isn't a clear role within my organisation for implementing this information	0%	0%	0%
I am / My organisation is unsure if we can trust this information (e.g., if it is a good source of information)	12%	0%	12%
There isn't enough time to implement this information	46%	0%	62%
It's difficult to implement this information	31%	17%	50%

Note. Data in this table presents an organisational breakdown of the overall findings presented in Figure 5. Higher percentages indicate greater agreement that a given statement was a barrier to implementing information (e.g., 46% of respondents from Government agreed that there isn't enough time to implement the information). Participants could tick up to three barriers.

Facilitators of implementation

Half of respondents reported that having reliable information makes it easier for them to implement it (see Figure 6). Around two fifths were driven by the information being useful and practical (42%) and familiarity with implementing the information (40%). See Table 6 for a breakdown of facilitators of implementing information by organisation. Note that, given low sample sizes for research and social policy groupings, we do not present summary data on those groups.

Figure 6. Drivers of accessing information.

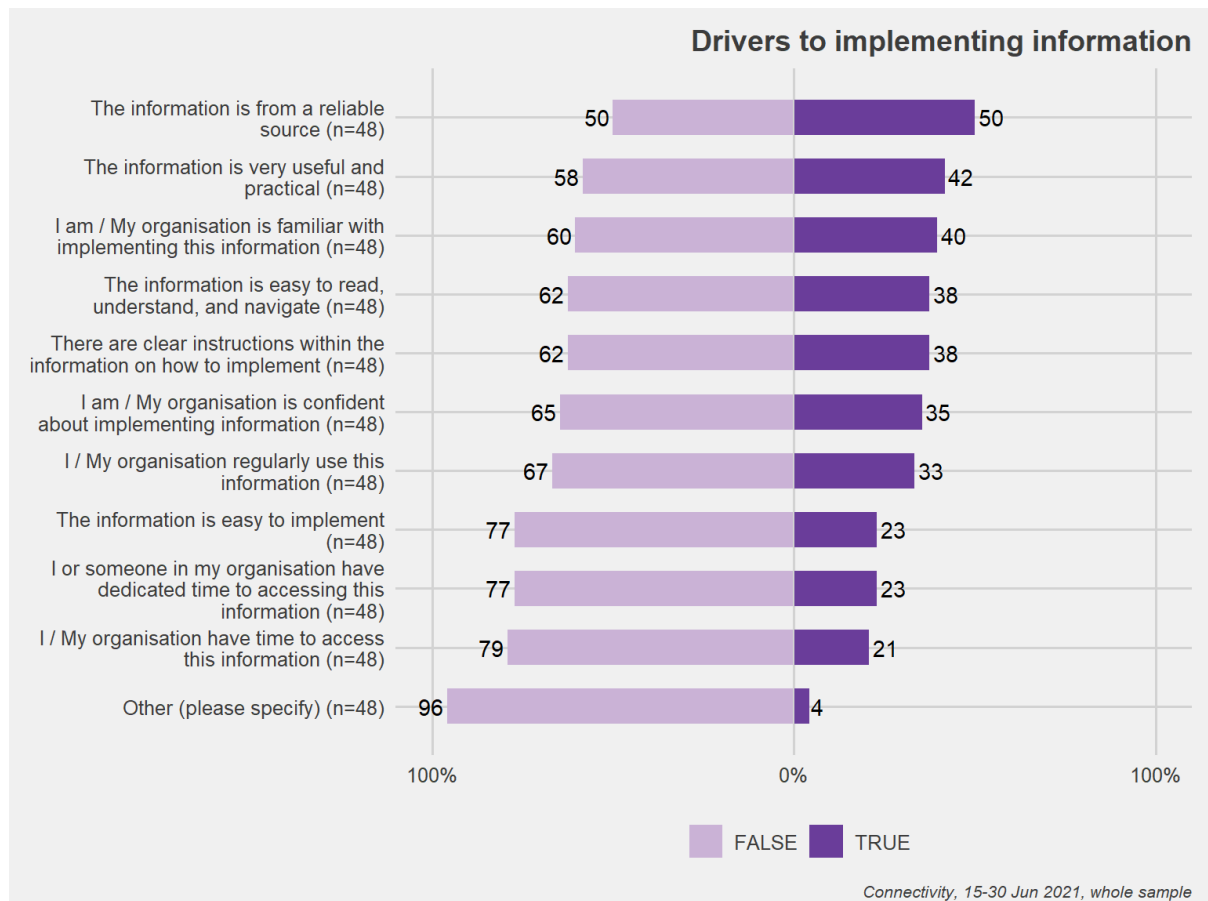


Table 6. Agreement with facilitators of implementing information, broken down by organisation

Facilitator of implementing information	Recategorised organisations		
	Government (n = 26)	Sports (n = 6)	Allied Healthcare and Rehabilitation Providers (n = 8)
I am / My organisation is familiar with implementing this information	38%	33%	38%
I or someone in my organisation have dedicated time to accessing this information	8%	33%	38%
The information is easy to read, understand, and navigate	31%	33%	50%
There are clear instructions within the information on how to implement	31%	33%	38%
The information is easy to implement	8%	33%	38%
I am / My organisation is confident about implementing information	27%	17%	62%
The information is very useful and practical	35%	33%	50%
The information is from a reliable source	50%	33%	38%
I / My organisation regularly use this information	35%	17%	25%
I / My organisation have time to access this information	12%	17%	25%

Note. Data in this table presents an organisational breakdown of the overall findings presented in Figure 5. Higher percentages indicate greater agreement that a given statement was a driver of implementing information (e.g., 50% of respondents from Government agreed that a driver is having information from a reliable source). Participants could tick up to three barriers.

OTHER AREAS OF INTEREST

Involvement in research

Over half of respondents agreed that their organisation wants to engage with research (62%), has the opportunity to participate in research (69%), and has the opportunity to direct research questions (52%).

Use of national recommendations

Most respondents believed that nationally consistent care guidelines would be very useful (see Figure 7). Table 7 shows a breakdown of responses by organisation. Note that, given low sample sizes for research and social policy groupings, we do not present summary data on those groups.

Figure 7. Usefulness of nationally consistent care guidelines

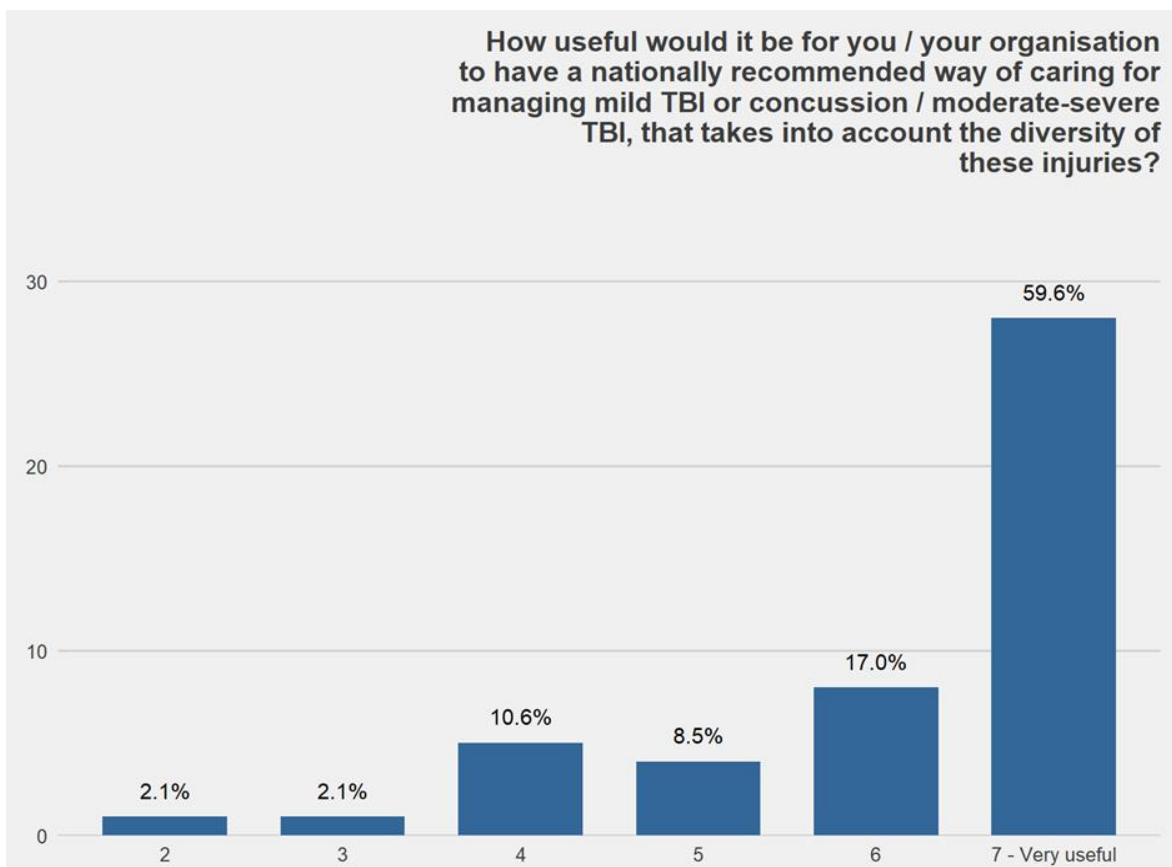


Table 7. Usefulness of nationally consistent care guidelines, broken down by organisation

Facilitator of implementing information	Recategorised organisations		
	Government (n = 26)	Sports (n = 6)	Allied Healthcare and Rehabilitation Providers (n = 8)
Strongly disagree	0%	0%	12%
Disagree	12%	0%	12%
Neither agree nor disagree	15%	67%	25%
Agree	50%	17%	38%
Strongly agree	23%	17%	12%

ROUNDTABLE RESULTS

Participants

We ran three roundtables with participants from sports, social policy, and insurance and work health & safety.

Roundtable	Participant information
Sport	N = 7 Representatives covered a range of sports, with involvement from both the education sector and national associations. The frequency at which they encounter TBI ranges from 3-4 times a week to once or twice a year.
Social policy	N = 11 Representatives were from organisations in Aboriginal and Torres Strait Islander health, correctional services, and homelessness and housing. Participants had experience with a range of TBIs, ranging from mild to severe
Insurance and work health & safety	N = 4 Representatives were from organisations in insurance and work health & safety. Participants had experience with a range of TBIs, ranging from mild to severe.

The findings in the following section provide a summary of the themes that emerged from each of the roundtables. Main themes are highlighted in **orange** with associated sub-themes **bolded**, followed by dot points from the discussion.

These themes were discussed among the research team and informed the three key findings that emerged from analysis of the survey and roundtables (see figure 1 and table 1):

- Accessible, plain language guidelines;
- Building research literacy within education and professional development program;
- Knowing your role in TBI identification and management.

KEY THEMES FROM SPORT ROUNDTABLE DISCUSSION

Accessing information

There is a lot of misinformation around concussion.

- Participants discussed how concussion is an industry and people have vested interests (e.g., with commercialising treatments). This motivates some people to create excessive fear that doesn't align with the evidence. As a result, practitioners are seeing a shift from educating patients and parents about the basics of concussion to having to sift through and correct the information that they come in with.
- One participant reiterated that we should aim to put out balanced information that does not drive kids out of sport because of irrational fears.

A lack of time and one source of truth are major barriers to accessing information.

- It was reported that it is very easy to lose touch with the latest information, especially considering that everyone is busy, and concussion might not be the highest priority for an organisation.
- Participants noted that emails shouldn't be too long or contain lots of links.

Respondents reported getting information from various sources, including:

- Social media, and especially following researchers who do not have an agenda (e.g., following university-trained researchers or journals on Twitter);
- Australian Institute of Sport and Sport Australia resources. Participants noted that these aren't necessarily contextualised for the sport;
- Coach education programs;
- The sport team medico;
- Workshops and conferences;
- Colleagues and other professionals (including via chat groups);
- Others who have experience in this space and;
- Looking at comparable organisations and what they are doing.

Implementing information (knowing your role)

While there appears to be good general recognition of the issue, it can be difficult to recognise concussion when it is not easily visible.

- Respondents noted that a lack of visibility can also make concussion harder to deal with than moderate-severe TBI. With moderate-severe TBI, the next steps can be obvious: get the person to hospital or a specialist. With concussion, however, it can be hard to determine whether it has occurred and what attention it warrants.

People can be motivated to overlook concussion.

- Respondents highlighted that coaches can have a vested interest in success, players want to stay on the field, and parents want their money's worth. This can lead to an attitude of 'she'll be right' when it comes to head injuries, with people not erring on the side of caution. One participant noted that, 'The coach is key: if the coach isn't on board then you're wasting your time'.
- There is also not always a clear punishment for not following the guidelines.
- One respondent countered that some sports see concussion as their biggest threat, and believe that if they don't manage it well, there could be a decrease in registrations.

It should be acknowledged that assessing TBI is hard for everyone, and there aren't good, objective tests to diagnose it.

- Respondents agreed that sometimes there should be less emphasis on diagnosis and more emphasis on trusting their gut feeling. One example that was raised included a coach or volunteer saying, "I'm not saying you've got a concussion; I'm just saying I'm not happy".

In most cases, there won't be a medical professional present when someone gets a concussion.

- This puts pressure on individuals that may have limited knowledge (e.g., a 12-year-old referee) to assess the severity of a situation.
- It is important to educate the people that will likely be present (e.g., teachers, parents, volunteers, coaches) rather than just doctors and physiotherapists.
- Additionally, it should be clear who has the authority to determine whether someone is unfit to continue playing. If it's not clear who can make that call (e.g., if a medico isn't present), it can put people in an uncomfortable position.

Other findings

In response to the question, 'If you could have one thing to improve your experience with TBI, what would it be?', participants said:

- Ready access to a doctor;
- Knowing sound resources to access (especially around knowing next steps for situations that don't go to plan);
- Clear, simple, and accurate infographics to give to coaches. It was pointed out that the AIS have some of these on their site;
- Resource packs to give to teachers or put in newsletters home to parents (e.g., specifying what concussion is, what to do about it);
- People coming in to talk to school children about TBI and;
- Having specialist concussion clinics in all major towns and cities.

KEY THEMES FROM SOCIAL POLICY ROUNDTABLE DISCUSSION

Accessing information

Participants suggested that training could be mandatory rather than voluntary.

- Some participants noted that when training is voluntary you may just get people doing it who are interested in it;
- Training needs to be brief and not comprehensive;
- Currently there is a reliance on people who already have the knowledge, rather than disseminating the knowledge more widely (e.g., through training).

Participants didn't seem to distinguish between traumatic vs non-traumatic cognitive impairment.

- For example, non-traumatic cognitive impairment from acquired brain injuries or alcohol and drug misuse.

Implementing information

There are complex, systemic issues in the TBI and social policy space that are very challenging to address.

- Respondents noted that these system-wide complexities may be difficult for Connectivity to solve. This includes elements such as:
 - Individuals having dual-diagnoses (e.g., of TBI and mental health challenges) or facing multiple challenges (e.g., TBI and homelessness);
 - Discontinuity of care in corrective services. Diagnoses might not follow people into the system and systems don't have capacity to screen people. Barriers to continuity of care include antiquated prison health information systems (e.g., use paper-based records) and legislative barriers to linking health and criminal justice data;
 - TBI can contribute toward the cycle of offending;
 - There isn't a holistic model of care and an understanding of who will work with the complex clients;
 - People know about TBI and that it's a problem / under-recognised but are not sure what to do in the face of these complexities;
 - A couple of participants suggested that it may be better for Connectivity to look at low-hanging fruit, given the complexities of the issue and system.
 - They suggested that sometimes there's a too hard basket, but practical support goes a long way and can be overlooked.

Solutions should be centred around co-design.

- This should involve:
 - Talking to those with lived experience;
 - Engaging with Aboriginal and Torres Strait Islander communities early on and bringing them into the process;
 - To date there has been a lack of appropriate care available to these communities;
 - Aboriginal and Torres Strait Islander people often go through hospital systems that are culturally inappropriate and get lost to rehabilitation facilities.

There is a need for short, non-expert screening tools.

- Most people who come across people with TBI will be non-experts, so brief training or tools are necessary;
- These should be administered when people enter the corrective services system.

Any screening or triage tool must be followed with appropriate care management pathways.

- Respondents discussed how there is no point in knowing a diagnosis if nothing can be done about it (e.g., it is too complex and the right systems or resources aren't in place);
 - In the homelessness sector, clients come with assessments that have been done, challenge is wading through that information;
 - One participant noted that there are "lots of reasons not to find out the truth".

There was broad agreement that navigating the National Disability Insurance Scheme (NDIS) is difficult for individuals with TBI.

- Most people who have TBI that are eligible for NDIS can't navigate it themselves;
- There is a lack of funding to support people to access NDIS, get a good plan, and get engaged.

Other findings

When asked about the first thing that comes to mind when thinking about TBI, participants responded with:

- Uncertainty, undiagnosed, unrecognised, inequity, complexity, discontinuity of care, anecdotal, vulnerability, discrimination, exclusion, invisible disability, complexity, and lack of understanding.

KEY THEMES FROM INSURANCE AND WORK HEALTH & SAFETY ROUNDTABLE DISCUSSION

Accessing information

There is a lack of understanding in the community / workplace about how TBI might affect behaviour, even though the knowledge is there that it is serious and needs to be looked after.

- There is also education missing about helping people return to work after they have a TBI. This may include educating others on how to manage their colleague's return to work and correcting perceptions about recovery.
- Support from colleagues in the business isn't where it needs to be because of a lack of education on, for example, how people with TBI may be more forgetful.
- People, especially those with mild TBI, are still falling through the cracks. Often, it is not until they are cognitively challenged (e.g., at work) that a problem is recognised.

The information is there but not synthesised.

- Participants wanted a central, accessible source of information where they don't have to go digging for information.
- For example, one website for people or professionals to see what evidence and services are available.

- Participants use resources like Brain injury Australia for general advice and Phoenix Australia if the incident has been traumatic.
- Participants tailor their actions to what is available and what is applicable to the person with TBI.

Implementing information

Participants from insurance funds discussed how their focus is often retrospective rather than proactive, and that there should be a greater focus on identifying needs early on.

- For example, there is little work looking at people's needs as they arise and more on after they have been discharged into the community.
- Participants noted that different schemes have different abilities to intervene early, and that some schemes have hospital liaison officers that help identify eligible people. For others, this isn't a cost-effective use of resources.

We need to ensure that people have access to the right services.

- Individuals have different needs, and we need to ensure that people have access to the right clinician. Problems can arise if these connections are not made early on.
- People with TBI usually aren't aware of a central resource where they can find the appropriate care (e.g., clinician).
- Regular reviews would stop people from deteriorating and falling through the cracks and not getting the assistance they need.

Insurance funds lack control and legislation gets in their way.

- Participants noted that what they can see and discuss is very regulated (e.g., they can't look at medical records). This makes it hard to advocate for the best outcome, as they are lacking key information (e.g., they may not know that a client has already been discharged).
- For example, insurance funds lack influence over what treatment centres a person uses due to legal restrictions.
- To address this, some insurance funds are trying to get more information in real time. The focus of these efforts is mainly on the issues that cost more (e.g., orthopaedics). TBI will be at the lower end of the priority scale for a health insurer, given the comparatively small scale of the issue in insurance funds.

Respondents highlighted a need to improve communication to collaborate more.

- For example, there can be difficulties when one party thinks that an individual is more capable than another party.

Other findings

When asked about the first thing that comes to mind when thinking about TBI, participants responded with:

- Rehabilitation, recovery, catastrophic, and spectrum.
- In discussion it was highlighted that while brain injury is a recognised condition, because it is a niche area, it isn't necessarily well managed in insurance claims.

Appendix A

Copy of survey

Understanding Management of Traumatic Brain Injury

Welcome to the **Connectivity Understanding Traumatic Brain Injury Awareness in Australia survey**. Before you continue, please read the important explanatory and consent information below.

You are invited to take part in a 10 – 15 minute survey which is being funded by Connectivity and conducted in partnership with Research Australia, the national peak body for Australian health and medical research. Please read this Explanatory Statement in full before deciding whether or not to participate.

What is Connectivity?

Connectivity Traumatic Brain Injury Australia is an Australian-wide not-for-profit organisation working to raise awareness of concussion and traumatic brain injury (TBI) in the community. Connectivity's mission is to link together patients, carers, researchers, clinicians, and health care providers to build the evidence base and improve outcomes for people with TBI of all severities.

What does the research involve?

The overall aim of the research is to understand current awareness and implementation of best practice in the management of TBI across a broad array of Australian sectors and settings.

Your participation involves completing this survey, which should take approximately 10 – 15 minutes. No pre-reading or other preparation is required to complete the survey. The findings of the survey will be anonymously collated and analysed to produce an understanding of the knowledge needs of sectors, how they currently access best practice knowledge, and barriers to and facilitators of best practice.

The results of this survey will inform a 2-hour facilitated discussion with approximately 20 relevant individuals to further explore key themes that emerge.

Why were you chosen for this research?

You have been invited to participate in this survey based on your experience or work with the management of TBI. There are a lot of people and work environments that have experience with TBI, from concussion to more serious head injuries. You might work for an organisation which employs or represents people working with those who have acquired or are at risk of acquiring a TBI, including concussion. You may represent or advocate for people with TBI. You may be a consumer, a sports coach, a physiotherapist, an insurer, or a manager in aged care. We are interested in all these perspectives.

Thank you for your consideration of this invitation. Please feel free to forward this invitation to colleagues within your organisation or with experience in this area.

Possible benefits and risks to participants

There should be no inconvenience or discomfort experienced by participants in this research, other than the amount of time to participate in the survey. The benefit of participation is that your input will make an important contribution to the understanding of current awareness and implementation of best practice in the management of TBI and identify areas where further improvement is required.

Confidentiality & results

All information collected from you will remain confidential with only the researchers having access to the study information unless otherwise required by law. Upon completion of the research, a report will be provided to Connectivity in summary format so that no individual can be identified. The research findings may also be submitted for publication or used in conference presentations (also in summary format).

Storage of data

Upon completion of the project, data files will be held for a minimum of five years, secured on the Monash University network with restricted access, limited to the research staff only. The data may be retained and used by the research team in collaboration with Connectivity for comparative purposes in the future.

Complaints

If you have any concerns or complaints about the project, you can contact the Executive Officer of the Monash University Human Research Ethics Committee.

Project number: 28983
Executive Officer, Monash University Human Research Ethics Committee (MUHREC)
Room 111, Building 3e, Research Office, Monash University VIC 3800
Tel: +61 3 9905 2052
Email: muhrec@monash.edu

If you would like further information regarding any aspect of this project, you are encouraged to contact the investigator listed below. Thank you for your consideration of this project.

Dr. Breanna Wright
Lead Chief Investigator, Connectivity project

BehaviourWorks Australia, Monash Sustainable Development Institute

Monash University, Melbourne

breanna.wright@monash.edu

Consent and withdrawal

To consent to participating in this research project, please tick the box below and proceed to the survey. You are free to withdraw from participation at any time prior to completing the survey. It will not be possible for you to withdraw participation after completing and submitting the survey, as from this point your contributions cannot be de-aggregated to those of others. There are no consequences for not participating in this research.

- o I DO consent to completing this 10-15 minute survey
- o I DO NOT consent to completing this 10-15 minute survey

These questions help to determine your eligibility to participate in this survey.

The following survey questions are about awareness of information and best practice in the management of TBI and also barriers and enablers to implementing this information.

If your role allows, please answer these questions considering your whole organisation and how people within your organisation access and use this information.

Alternatively, you can answer these questions from an individual perspective as someone who accesses and uses this information.

Please indicate which perspective you will be taking throughout the survey.

- o My organisation as a whole
- o Myself, as an individual

What severity of Traumatic Brain Injury (TBI) [do you / does your organisation] have familiarity with or engage with? *Select all that apply.*

Mild TBI or concussion may involve loss of consciousness lasting less than 30 minutes or memory loss lasting less than 24 hours.

Moderate to severe TBI may involve loss of consciousness lasting more than 30 minutes or memory loss lasting more than 24 hours.

1. Mild TBI or Concussion
2. Moderate-severe TBI
3. I or my organisation don't engage with individuals with TBI

[Show if above = Mild TBI or Concussion AND Moderate-severe TBI]

You said that [you / your organisation] have familiarity with or engage with Mild TBI or Concussion AND Moderate-severe TBI. For this survey you only need to answer questions on ONE of these severities. Which severity would you prefer that questions relate to?

You may prefer to answer regarding the severity that you engage more frequently with, or where you think there is more room for improvement in awareness of information and best practice management.

- o Mild TBI or Concussion

- o Moderate-severe TBI

age How old are you (in years)?

country What country do you currently reside in?

▼ Australia (9) ... Zimbabwe (1357)

Questions about your role

This section asks questions about your role and organisation.

What type of organisation do you primarily work in?

- o Government (e.g. Department of Health)
 - o Aboriginal Health
 - o Colleges of Medicine
 - o Correctional Services
 - o Insurance Funds
 - o Transport Commissions
 - o School Sports
 - o Community sports
 - o Consumer Groups
 - o Allied Healthcare and Rehabilitation Providers
 - o Research
 - o Aged care
 - o Work Health and Safety Regulators
 - o Homelessness and Housing
 - o Other (please specify)
-

[Show if What type of organisation do you primarily work in? = School Sports OR Community sports]

Please specify which sports your organisation involves.

What is your role within your organisation?

- o Head of organisation / unit / department
- o Senior Leader
- o Leader of community group
- o Volunteer
- o Healthcare provider
- o Other (please specify) _____

How frequently [do you / does your organisation] engage with individuals with [mild TBI or concussion / moderate-severe TBI]?

- Never
- Rarely
- Sometimes
- Often
- Always
- It varies within my organisation

Which of the following best describes the **primary geographical focus** of your work?

- Major city (1)
- Regional city or town (2)
- Rural (3)
- Remote (4)
- Other (please specify) (66)

- My work does not have a geographical focus (99)

What level of engagement with Aboriginal or Torres Strait Islander communities does your work involve?

- Minimal or no engagement with Aboriginal or Torres Strait Islander communities (i.e. not a focus and / or less than 5% of encounters)
- Moderate engagement with Aboriginal or Torres Strait Islander communities (i.e. some focus and / or 5 - 25% of encounters)
- Deep engagement with Aboriginal or Torres Strait Islander communities (i.e. focus and / or over 25% of encounters)

Awareness of information to manage individuals with [mild TBI or concussion / moderate-severe TBI]

This section asks questions about how [you / your organisation] access information relating to managing individuals with [mild TBI or concussion / moderate-severe TBI].

How would you rate [your / your organisation's] knowledge of managing individuals with [mild TBI or concussion / moderate-severe TBI]?

What 'managing individuals with [mild TBI or concussion / moderate-severe TBI]' looks like will depend on your work setting. For example, for a sports coach it may mean responding to [mild TBI or concussion / moderate-severe TBI] on the field. For someone in insurance, it could mean assisting someone with [mild TBI or concussion / moderate-severe TBI] with their claim.

- o 1 - Very poor knowledge
- o 2
- o 3
- o 4
- o 5
- o 6
- o 7 - Very good knowledge

Where do [you / people from your organisation] access information about managing individuals with [mild TBI or concussion / moderate-severe TBI]?

What are the sources of information that have most influenced [your / your organisation's] management of individuals with [mild TBI or concussion / moderate-severe TBI]? Pick up to 3 sources.

1. Internal/ departmental protocol
2. External regulations
3. Clinical Practice Guideline (relevant to your profession)
4. Academic publications (e.g., journal articles or reviews)
5. Textbooks
6. Professional Association website or other resources
7. Other websites (please specify)

-
8. Departmental meetings (e.g. journal club, inservice)
 9. Departmental colleagues (outside of a meeting)
 10. Common-sense
 11. Other (please specify)
-

[Show sources of information below if they were selected in the above question]

How confident are [you / your organisation] that these are the **best sources of information** on how to manage individuals with [mild TBI or concussion / moderate-severe TBI] in your organisation?

	1 - Very low confidence	2	3 - A little confidence	4	5 - A lot of confidence	6 (6)	7 - Very high confidence
Internal/ departmental protocol	o	o	o	o	o	o	o

External regulations	0	0	0	0	0	0	0
Clinical Practice Guideline (relevant to your profession)	0	0	0	0	0	0	0
Academic publications (e.g., journal articles or reviews)	0	0	0	0	0	0	0
Textbooks	0	0	0	0	0	0	0
Professional Association website or other resources	0	0	0	0	0	0	0
Other websites (please specify)	0	0	0	0	0	0	0
Departmental meetings (e.g. journal club, inservice)	0	0	0	0	0	0	0
Departmental colleagues (outside of a meeting)	0	0	0	0	0	0	0
Common-sense	0	0	0	0	0	0	0
Other (please specify)	0	0	0	0	0	0	0

What are [your / your organisation's] main knowledge gaps in managing individuals with [mild TBI or concussion / moderate-severe TBI] in your setting?

Select all of the factors that make it **HARDER** for [you / your organisation] to **access best practice information** on managing individuals with [mild TBI or concussion / moderate-severe TBI] in your setting.

1. [I / my organisation] don't know where to access this information

2. [I / my organisation] haven't considered searching for this information
3. There's no incentive or benefit to accessing this information
4. Accessing this information won't change $\{e://Field/e_pers_my\}$ actions
5. There isn't enough time to access this information
6. It's difficult to access this information
7. [I / my organisation] don't have the resources to access this information (e.g., exists behind paywalls)
8. It's not relevant for [me / my organisation] to access this information
9. Other (please specify) _____

Select all of the factors that make it **EASIER** for [you / your organisation] to **access best practice information** on managing individuals with [mild TBI or concussion / moderate-severe TBI] in your setting.

1. [I am / my organisation is] familiar with where to access this information
2. [I am / my organisation is] confident about where to access reliable and relevant information
3. The information is very useful and practical
4. The information is easy to find
5. [I / my organisation] regularly use this information
6. [I / my organisation] have time to access this information
7. I or someone in my organisation have dedicated time to accessing this information
8. Other (please specify) _____

How is information about managing [mild TBI or concussion / moderate-severe TBI] in your organisation disseminated to [you / people from your organisation]?

Do you have any suggestions for how to improve the provision and access of information about management of individuals with [mild TBI or concussion / moderate-severe TBI] in your organisation?

How much do you agree with the following statements...

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
My organisation and its people have the opportunity	0	0	0	0	0

to direct research questions					
My organisation and its people have the opportunity to participate in research	0	0	0	0	0
My organisation and its people want to engage with research	0	0	0	0	0

Implementation of information to manage individuals with [mild TBI or concussion / moderate-severe TBI]

This section asks questions about barriers and drivers of implementing best practice information on managing individuals with [mild TBI or concussion / moderate-severe TBI] in your setting.

Select all of the factors that make it **HARDER** for [you / your organisation] to **implement best practice information** on managing individuals with [mild TBI or concussion / moderate-severe TBI] in your setting.

1. [I am / my organisation is] not aware of this information
2. [I / my organisation] don't know how to implement this information
3. [I / my organisation] haven't considered implementing this information
4. There's no incentive to implementing this information
5. Implementing this information won't change $\{e://Field/e_pers_my\}$ actions
6. It's not my job or there isn't a clear role within my organisation for implementing this information
7. [I am / my organisation is] unsure if we can trust this information (e.g., if it is a good source of information)
8. There isn't enough time to implement this information
9. It's difficult to implement this information
10. [I / my organisation] don't have the resources to implement this information
11. It's not relevant for [me / my organisation] to implement this information
12. Other (please specify)

Select all of the factors that make it **EASIER** for [you / your organisation] to **implement best practice information** on managing individuals with [mild TBI or concussion / moderate-severe TBI] in your setting.

1. [I am / my organisation is] familiar with implementing this information
 2. The information is easy to read, understand, and navigate
 3. There are clear instructions within the information on how to implement
 4. The information is easy to implement
 5. [I am / my organisation is] confident about implementing information
 6. The information is very useful and practical
 7. The information is from a reliable source
 8. [I / my organisation] regularly use this information
 9. [I / my organisation] have time to implement this information
 10. I or someone in my organisation have dedicated time to implementing this information
 11. Other (please specify)
-

How useful would it be for [you / your organisation] to have a nationally recommended way of caring for managing [mild TBI or concussion / moderate-severe TBI], that takes into account the diversity of these injuries?

- 1 - Not at all useful
- 2
- 3
- 4
- 5
- 6
- 7 - Very useful

Questions about you

This section asks a couple more questions about you.

What is your gender?

- Male
 - Female
 - Other (please specify)
-

Which Australian state or territory do you currently reside in?

- Australian Capital Territory
- New South Wales
- Northern Territory
- Queensland
- South Australia
- Tasmania
- Victoria
- Western Australia

Which of the following best describes where you live?

- Major city
 - Regional city or town
 - Rural area
 - Remote area
 - Other (please specify)
-

Please give details of your education

- Some high school
- Completed high school
- Associate's degree or technical education
- Undergraduate degree
- Master's degree
- Doctorate

Are you of Aboriginal or Torres Strait Islander origin?

(For persons of both Aboriginal and Torres Strait Islander origin, mark both 'Yes' boxes)

- No
- Yes, Aboriginal
- Yes, Torres Strait Islander
- Prefer not to say

Do you speak a language other than English at home?

- No, English only
 - Yes, other language (please specify)
-
- Prefer not to say

In which country were you born?

- Australia
- Other (please specify) _____
- Prefer not to say