



**Dementia  
Australia®**

# **Dementia Australia's submission to the Senate Inquiry into Concussions and repeated head trauma in contact sports**

February 17, 2023

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## **About Dementia Australia**

In 2023, there are over 400,000 Australians living with dementia. Without a medical breakthrough, the number of people with dementia is expected to increase to over 800,000 by 2058.<sup>i</sup> Dementia is the second leading cause of death in Australia, but remains one of the most challenging and misunderstood conditions.<sup>ii</sup> Dementia Australia is the peak advocacy organisation for people living with dementia, their family members and carers. We support and empower Australians living with dementia and the more than 1.5 million people involved in their care.<sup>iii</sup> We are a trusted source of information, education and support services. We involve people impacted by dementia and their experiences in our activities and decision-making, to ensure we are representative of the diverse range of dementia experiences across Australia.

## **Brain injury and Chronic Traumatic Encephalopathy**

Traumatic brain injury (TBI) results from a blow to the head and its severity can range along a continuum from mild (a brief change in mental status or consciousness) to severe (extended loss of consciousness, coma, or prolonged amnesia) to loss of life. Dementia describes a collection of symptoms caused by disorders affecting the brain and brain injury is a risk factor for a range of different dementia types. Repeated head injuries can take the form of smaller head knocks without symptoms (sub concussion) or concussion. The emerging and increasingly convincing international research findings suggest strong circumstantial evidence for a causal link between repetitive TBI and Chronic Traumatic Encephalopathy (CTE).<sup>iv</sup> CTE affects brain function over time and can result in changes in mood, personality, behaviour and cognitive function that interfere with all aspects of person's life and can develop into dementia. Participants in contact sports are the most recognised at-risk cohort, but recent research shows that family violence survivors and war veterans are at an even higher risk of developing CTE.

## Introduction

Dementia Australia welcomed the opportunity for our CEO, Maree McCabe AM, to appear before the recent Senate Inquiry into Concussions and repeated head trauma in contact sports. We are grateful for this further opportunity to make a submission to the Inquiry. It is outside the scope of our organisation to offer a position on the specific responsibilities and liabilities of sporting bodies or on associated issues in relation to the management of head injuries and concussion. We do, however, have a strong interest in the broader issues around the association between TBI in contact sports and neurodegenerative conditions, including CTE. Our submission will address the specific Terms of Reference that deal with improving community knowledge and awareness of TBI prevention and risk reduction, and related issues.

**a. the guidelines and practices contact sports associations and clubs follow in cases of player concussions and repeated head trauma, including practices undermining recovery periods and potential risk disclosure**

As noted above, we do not intend to comment in any detail on the roles and responsibilities of sporting organisations in preventing and managing head injuries including concussion. We would support the general approach that, in the context of contact sports, any measures, guidelines and protocols must be underpinned by the most recent evidence-based findings on these issues. The current research indicates a causal link between repeated head injuries along a spectrum of severity and an increased risk of developing a range of neurodegenerative conditions, including CTE. As noted by leading Australian researchers in the field, including Dr Rowena Mobbs, the current protocols and practices for managing head injuries in a range of Australian sporting codes at junior and senior level, are not always consistent with or guided by current evidence-based findings. <sup>v</sup>

### **g. the prevalence, monitoring and reporting of concussion and long-term impacts of concussion and repeated head trauma, including in First Nations communities**

Given limited community awareness about brain injury and its consequences in contact sports, and the current lack of consensus in Australian sporting codes around brain injury protocols, there is likely to be significant under reporting of brain injuries, particularly sub-concussive events. Dementia Australia would support the following measures to improve data collection on brain injuries in contact sports:

- Encourage self-monitoring; educate players and family members to keep accurate records of any brain injury events, however modest and regardless of symptomatology, to establish a complete brain health history over their playing career
- If standardised guidelines for the management of head injury are developed for all Australian contact sports, establishing a centralised database that requires rigorous and detailed reporting of brain injuries will be key to improving data collection
- Funding of longitudinal research on people with existing symptoms of CTE would make a significant contribution to better understanding of the long term impacts of brain injury

Dementia Australia would also make the following general observations in relation to the prevalence of dementia in Indigenous communities. Studies have consistently found that dementia prevalence rates in Indigenous Australian communities are about 3–5 times as high as rates for the general Australia population. Rates of dementia for Indigenous Australians in remote and rural communities are among the highest in the world and Indigenous Australians also have a younger age of onset of dementia, with a median age of 72 years compared with a median age of 79 years for their non-Indigenous counterparts.<sup>vi</sup> There are no accurate statistics on the incidence of CTE in Indigenous communities but in the context of traumatic head injury and dementia, it is notable that head injury as a risk factor for dementia is present at higher levels for Indigenous compared with non-Indigenous Australians. Dementia Australia supports the need for Indigenous-led, culturally sensitive initiatives as critical to efforts to monitor and report the prevalence and impacts of head injury and concussion in Indigenous communities.<sup>vii</sup>

## i. alternative approaches to concussions and repeated head trauma in contact sport,

Dementia Australia is not in a position to comment specifically on alternative approaches in contact sport other than to reinforce the point that CTE is a *preventable* condition. It can be avoided or minimised by preventing head injuries and/or managing a head injury or concussion effectively by following evidence-based, best practice guidelines. We would support the continued development and promotion of strategies that would assist in reducing exposure to head injuries across all contact sports accordingly.

In relation to this term of reference, Dementia Australia's primary focus is on the need for broader public health messages about the importance of knowing about risks associated with brain injury and how to reduce and manage them in the context contact sports. We would support a well-informed, nation-wide campaign that spans the life cycle to improve awareness and knowledge about the risk factors and risk reduction measures associated with sustaining head injuries, including the risk of developing CTE.

Measures that could play an important role in educating the community about brain health and the risks associated with brain injury could include:

- Public health campaigns and other forms of messaging addressing the importance of good brain health *over the life course*.
- Information and awareness campaigns and messaging must emphasise that it is not only major concussive episodes but repeated, 'micro traumas' or 'sub-concussive' events that are cumulative and can cause long term damage
- Education programs and initiatives around brain health could start as early as pre- and primary school level
- At older ages, self-monitoring of brain health and brain injury could be encouraged by the use of apps (Dementia Australia's [BrainTrack app](#) for example) and other tools and resources that assess and track brain health

- Targeted campaigns could focus on contact sports players and their family members encouraging them to keep accurate records of any brain injury events, however modest and regardless of symptomatology, to establish a complete brain health history over their playing career

We note that Dr Rowena Mobbs has called for a similar approach to educating the general public as one of the key recommendations in her submission to the Inquiry.

‘The federal government could undertake public awareness campaigns informing young children about their brains, older children about brain health for life, and adults about detecting concussion and CTE.’<sup>viii</sup>

#### **j. international experiences in modifying sports for children; and**

Dementia Australia’s position on head injury protocols for children participating in contact sports is guided by expert opinion. We note that Dr Rowena Mobbs, and many other researchers and clinicians in the field, have called for national guidelines to be developed in Australia, including the age at which tackling could safely commence and mandated time away from the game post head injury. These guidelines would ideally be applied consistently across all tackling sports.<sup>ix</sup> Dementia Australia would support detailed and meaningful engagement and consultation with sporting clubs at all levels, from amateur to professional codes, in the development and implementation of these guidelines. Furthermore, we would support regular reviews to ensure the modifications to guidelines are realistic and effective in mitigating and managing head injuries in children participating in Australian contact sports.

#### **k. any other related matters**

As noted in the introduction, participants in contact sports are the most recognised at risk cohort for sustaining head injuries and developing neurodegenerative conditions, but survivors of family violence and war veterans amongst other cohorts, are equally if not more

vulnerable to the short and long term consequences of head injury, including CTE. Given the nature of how individuals in these groups sustain head injuries, symptoms and consequences are likely to be significantly under-reported. It has been estimated that the number of women who have experienced head injury secondary to domestic violence is 11–12 times greater than the number of injuries experienced by military personnel and athletes combined. <sup>x</sup>

Dementia Australia acknowledges the focus on contact sports in this Inquiry but would like to take this opportunity to raise awareness of other vulnerable groups, and given the increased numbers, particularly survivors of family violence. We support the urgent need for an equal focus on research to investigate risk reduction and how best to provide services and supports for each of these at risk populations.

## **Conclusion**

Dementia Australia welcomes this Inquiry and supports the urgent need for a better understanding of the short and long term impacts of head injuries associated with contact sports in Australia. We strongly support measures that would contribute to educating both the broader public and the sporting community about risk reduction measures and best practice protocols in managing head injuries and their consequences. Given the complex, long term physical and psychosocial impacts associated with neurodegenerative conditions including CTE, we would be equally supportive of policy and planning to provide a range of supports and services to enable people with the condition to live as well as possible. Dementia Australia would be happy to meet with the Inquiry committee to discuss this submission. Executive Director of Policy and Advocacy, Dr Kaele Stokes or the Dementia Australia Policy team can be contacted on the details below.



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<sup>i</sup> Australian Institute of Health and Welfare (2022) Dementia in Australia, AIHW, Australian Government.

<sup>ii</sup> Australian Institute of Health and Welfare (2022) Dementia in Australia, AIHW, Australian Government.

<sup>iii</sup> Australian Institute of Health and Welfare (2022) Dementia in Australia, AIHW, Australian Government.

<sup>iv</sup> A. Pearce et al. 'Chronic traumatic encephalopathy in a former Australian rules football player diagnosed with Alzheimer's disease', *Acta Neuropathologica Communications* (2020) 8:23

<sup>v</sup> R. Mobbs, Testimony at the Senate Inquiry into head injury and concussion in sport, Hansard, p. 11, 18, 2023

<sup>vi</sup> Australian Institute of Health and Welfare, Population health impacts of dementia amongst Indigenous Australians, <https://www.aihw.gov.au/reports/dementia/dementia-in-aus/contents/dementia-in-vulnerable-groups/population-health-impacts-of-dementia-among-indigenous-australians>, 2022

<sup>vii</sup> Australian Institute of Health and Welfare, Population health impacts of dementia amongst Indigenous Australians, <https://www.aihw.gov.au/reports/dementia/dementia-in-aus/contents/dementia-in-vulnerable-groups/population-health-impacts-of-dementia-among-indigenous-australians>, 2022

<sup>viii</sup> R. Mobbs, Submission to the Senate Inquiry on Concussions and repeated head trauma in contact sports, [https://www.aph.gov.au/Parliamentary\\_Business/Committees/Senate/Community\\_Affairs/Headtraumainsport/Submissions](https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Community_Affairs/Headtraumainsport/Submissions), 2023

<sup>ix</sup> R. Mobbs, Submission to the Senate Inquiry on Concussions and repeated head trauma in contact sports, [https://www.aph.gov.au/Parliamentary\\_Business/Committees/Senate/Community\\_Affairs/Headtraumainsport/Submissions](https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Community_Affairs/Headtraumainsport/Submissions), 2023. Dr Mobbs recommends 6 weeks away from the game post head injury for children.

<sup>x</sup> K. Costello and B.D. Greenwald, Review Update on Domestic Violence and Traumatic Brain Injury: A Narrative Review, *Brain Sci.* 2022, 12, 122. <https://doi.org/10.3390/brainsci12010122>