



## SYNOPSIS

### IT'S A MARATHON, NOT A SPRINT: MODELLING LIFETIME CARE AND SUPPORT FOR SEVERELY INJURED PARTICIPANTS

*John Walsh, Peter Hardy and Stephanie Duong*

**Keywords:** Lifetime care and support, National Injury Insurance Scheme, actuarial valuation method, severe injuries

**Purpose of your paper:** This paper discusses the considerations in performing an actuarial valuation of future lifetime care and support costs for severely injured participants, specifically for spinal cord and traumatic brain injuries.

**Synopsis:** The introduction of a National Injury Insurance Scheme (NIIS) in Australia means that many actuaries will be asked to perform valuations of future lifetime care and support costs associated with severely injured participants within nationally agreed minimum benchmarks of eligibility and entitlement. The care and support needs of participants within these schemes are generally lifelong and varied. The financial cost can be specific to the injury type, injury severity, time since injury and the level of unpaid participant care and support.

This paper discusses a framework for performing an actuarial valuation of lifelong future care and support need costs for severely injured scheme participants. We consider:

- a) types of injury covered by a NIIS and a method of injury severity categorisation
- b) key principles underpinning the actuarial valuation of severely injured participants
- c) characteristics of the types of participant support needs and service provision, specifically considering the dimensions of injury type, injury severity, age, sex and duration since injury
- d) determination of a suitable mortality basis and level of future mortality improvement
- e) determination of a suitable basis for continuation as participants, both in the short term and longer term
- f) measurement of injury severity improvement over time, particularly for traumatic brain injuries
- g) use of appropriate economic assumptions.

We draw on our knowledge and experience in the development of the NSW Lifetime Care and Support Scheme (LCSS) valuation models. In particular, we focus on spinal cord injuries and traumatic brain injuries which account for the majority of the participants within the LCSS.

The valuation framework discussed in this paper can be used to provide a holistic actuarial monitoring capability for these schemes to allow the early identification of emerging trends within the portfolio and to establish a basis for discussion of these trends with the schemes. The valuation framework could be further extended as a potential link to a participant outcomes framework.

The framework is easily transferrable to assist in the modelling of support needs and service provision for other common injuries and disabilities. We understand that similar approaches are being used to determine and monitor the support needs and service provision costs for participants within the National Disability Insurance Scheme.