

**Central Adelaide Local Health Network Incorporated (CAHLN) - Early Management mild traumatic brain injury: efficacy and economic analysis**

**Dr Maggie Killington, Associate Professor Maayken van den Berg, Dr Miranda Jelbart, Ms Beverley Dodd**

This study investigated early management of people who had sustained a concussion or mild/moderate traumatic brain injury as a result of a vehicular accident. The study also investigated the benefits of an interdisciplinary specialist service.

357 people who sustained a mild, complex mild or moderate TBI in South Australia from December 2018 until May 2021 following a transport accident, on or off road, utilised the EMMBIRS service.

The interdisciplinary rehabilitation service resulted in positive outcomes when standardised outcome measures were analysed at 16 weeks (when most clients had been discharged) and these improvements were sustained at 12 months.

The findings from the Health Economic Analysis are suggestive that providing early intervention to clients who have sustained a mild or moderate TBI, was associated with higher Health Related Quality of Life both in the short and long run. Importantly, this analysis indicated that the effectiveness of the intervention did not diminish after the initial impact but was sustained for up to 18 months post-intervention.

A qualitative sub-study that involved interviewing 41 clients demonstrated that people who suffer mild TBI experience a confusing and anxious journey prior to referral to clinicians who understand and can validate their symptoms and support their recovery. Reports from clients indicated that acute mild traumatic brain injury is under-recognised and often its impact on an individual is misunderstood leaving clients who develop persistent symptoms feeling confused, anxious and unable to return to their usual roles. Clients suggested that community clinicians need to be better informed about the complexities or interplay of symptoms related to mild traumatic brain injury to prevent the effects of persistent ongoing symptoms due to lack of, or delay in diagnosis, appropriate management and timely referral to specialist services when required. This current study demonstrated that symptoms experienced after mild TBI are not prescriptive or easy to define, and that the

complex presentation requires a specialised Model of Care to engage, assess, treat and support clients. In addition to the immediate presentation, clinicians in this study needed to work as a team to understand the nuances related to the symptoms, including pre-accident history and client characteristics. Many interviewees suggested that resources be developed to promote education of community practitioners to support them recognising and providing timely advice and treatment and referral to specialist services when appropriate (in response to these recommendations, the 2 educational videos were developed).

Clients who engaged in the EMMBIRS study reported that early rehabilitation supported them to return to their roles of work, study and family life. Early improvements were shown to be sustained in the longer term as clients' symptoms resolved or they learnt to use strategies to support them achieve their goals.