

## Evidence to change policy and improve outcomes in severely injured children

### Study investigators listed below

**Funding source:** NHMRC, NSW Agency for Clinical Innovation, Thyne Reid Foundation.

**Partners in the research:** NSW Ambulance, NSW Institute of Trauma and Injury Management (NSW ITIM), NSW Agency for Clinical Innovation (NSW ACI), Paediatric Healthcare (formerly NSW Kids & Families), Australian Trauma Quality Improvement Program (AusTQIP)

**Study progress:** Data collection is complete. Final linkage with Activity Based Funding data to determine cost of care is to be conducted.

The first round of the modified Delphi to determine priorities for change in the pediatric trauma system is complete, the second round will be distributed by early 2019.

The results of the Peer Review process have been submitted for publication.



### Synopsis

It has previously been demonstrated that children have better outcomes when they receive care at a hospital that provides care exclusively to children, compared to those who receive definitive care at one that cares primarily for adults, the cause for this is unknown. While research investigating care of children has largely focused on mortality as an outcome measure, it has not investigated the impact of the way that treatment is provided on long-term functional, psychological and quality of life outcomes.

Despite the evidence, there has been no published comprehensive analysis of the processes of care, nor the systems for treating severe paediatric injury in Australia. Further, strategies do not appear to have been developed to improve health care services and health outcomes, nor to change policy. This study will address these gaps, and is the first of its kind in Australia.

The study is being conducted in Australia, in the state of New South Wales, and will examine the treatment pathways and processes from time of injury to discharge, determine health service delivery costs and health-related quality of life outcome for children seriously injured from 1<sup>st</sup> July 2015 – 30<sup>th</sup> September 2016.

### Process

Every child that is included in the study will have their medical record reviewed to explore care processes, document injuries and outcomes for each child. The process of medical record review will enable evaluation of care, records will be highlighted throughout this process for review by a panel of experts in the field.

If the expert panel feel that more information is required regarding factors that would potentially impact care delivery, staff involved in the care of seriously injured children may be invited to participate in the study.. These interviews will help to gain a greater understanding of clinical, system and human factors that have the potential to impact upon the delivery of care to injured children. It will provide a greater understanding of the situational factors that can influence care delivery.

Parents of children, included in the study, treated at one of three NSW hospitals that care exclusively for children, will be invited to participate. A short questionnaire will be completed at initial contact to establish quality of life prior to injury. Members of the research team will follow up with parents, at 6 and 12 months post injury. The information collected will assist to evaluate of quality of life outcomes post injury for these children.

Health care costs for all seriously injured children included in the study will be calculated by linking health care records with NSW Activity Based Funding database, costs associated with retrieval and transfer costs will also be calculated. This will provide detail related to the actual costs associated with care delivery for this group of children.

## **Publications**

Curtis K., Mitchell R., McCarthy A. *et al.* Development of the major trauma case review tool. *Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine* 2017; 25:20. Available [open access](#).

Curtis K., McCarthy A., Mitchell R., *et al.* Paediatric trauma systems and their impact on health outcomes of severely injured children: protocol for a mixed methods cohort study. *Scandinavian Journal of Trauma, Resuscitation and Emergency Medicine* 2016; 24:69. Available [open access](#).

McCarthy A., Curtis C. and Holland A. J. A. Paediatric trauma systems and their impact on the health outcomes of severely injured children: An integrative review. *Injury* 2016; 47(3): 574-585. Available [open access](#).

## **Conference presentations**

### **Invited**

5-7<sup>th</sup> October 2018

'Lessons learned from 500 major paediatric trauma in NSW', Trauma 2018, Perth.

Presented by A. Holland & B Kennedy

### **Accepted Peer Review abstract**

Curtis K, Mitchell R, Kennedy B, Tall G, Holland A, Soundappan SV, Burns B, Dickinson S, Loudfoot A, Wilson K, Gillen T, Smith H, Dinh M, Lyons T. Identifying areas for improvement in paediatric trauma care using peer-review. Trauma 2018, 5-7 October 2018, Perth.

Curtis K et al. Development of the Major Trauma Case review tool. 15th International Conference for Emergency Nursing, October 2017. Sydney

Curtis K, Mitchell R, McCarthy A, Wilson K, Van C, Kennedy B, Tall G, Holland A, Foster K, Dickinson S & Stelfox HT. Development of the major trauma case review tool. Trauma 2017, 21- 23 April 2017, Melbourne

## **Chief Investigators**

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