AUSTRALIA – INDIA TRAUMA SYSTEMS COLLABORATION

Reducing the burden of injury in India and Australia through the development and piloting of improved system of care

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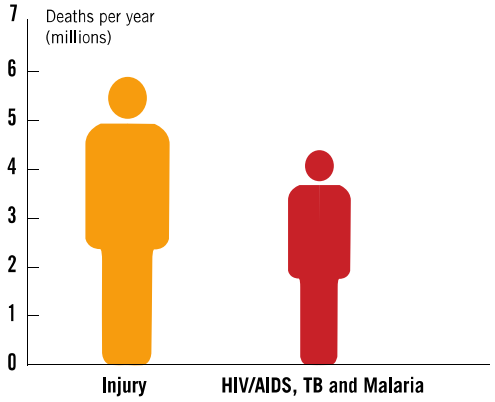

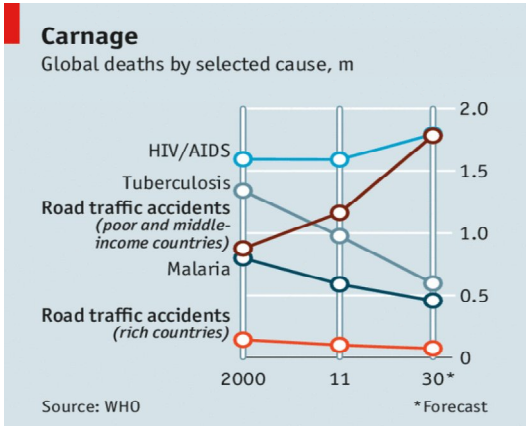

Why is serious injury such an important issue?

- 5.8 million people die annually
- 90% deaths in low-middle income countries
- Most are 5-44 years old
- Deaths have surpassed TB, HIV/AIDs and malaria
- ¼ deaths due to road traffic crashes
- By 2030 road traffic related deaths will match HIV/AIDS

**The AITSC is funded by the Indian (Department of Science and Technology) and Australian (Department of Industry, Innovation and Science) government through the Australia India Strategic Research Fund Grand Challenge scheme.*

The Grand Challenge Fund

To support collaborative projects of significant scale and ambition that will deliver practical solutions to some of the key challenges shared by both countries

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Project Lead Investigators

JPN Apex Trauma Center
All India Institute of Medical Sciences

ntri national trauma research institute

INDIA

Prof. Mahesh C. Misra
Immediate Past Director AIIMS &
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Prof. Amit Gupta
JPNATC, AIIMS
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Principal Investigator - Clinical Lead (IND)

AUSTRALIA

Prof. Mark Fitzgerald
Director, NTRI, Australia
Director, Alfred Trauma Service

Dr Joseph Mathew
Consultant,, Alfred Trauma & Emergency Department
Co-Principal Investigator - Clinical Lead (AUS)

JPN Apex Trauma Center
All India Institute of Medical Sciences

nti improving care of the injured
national trauma research institute

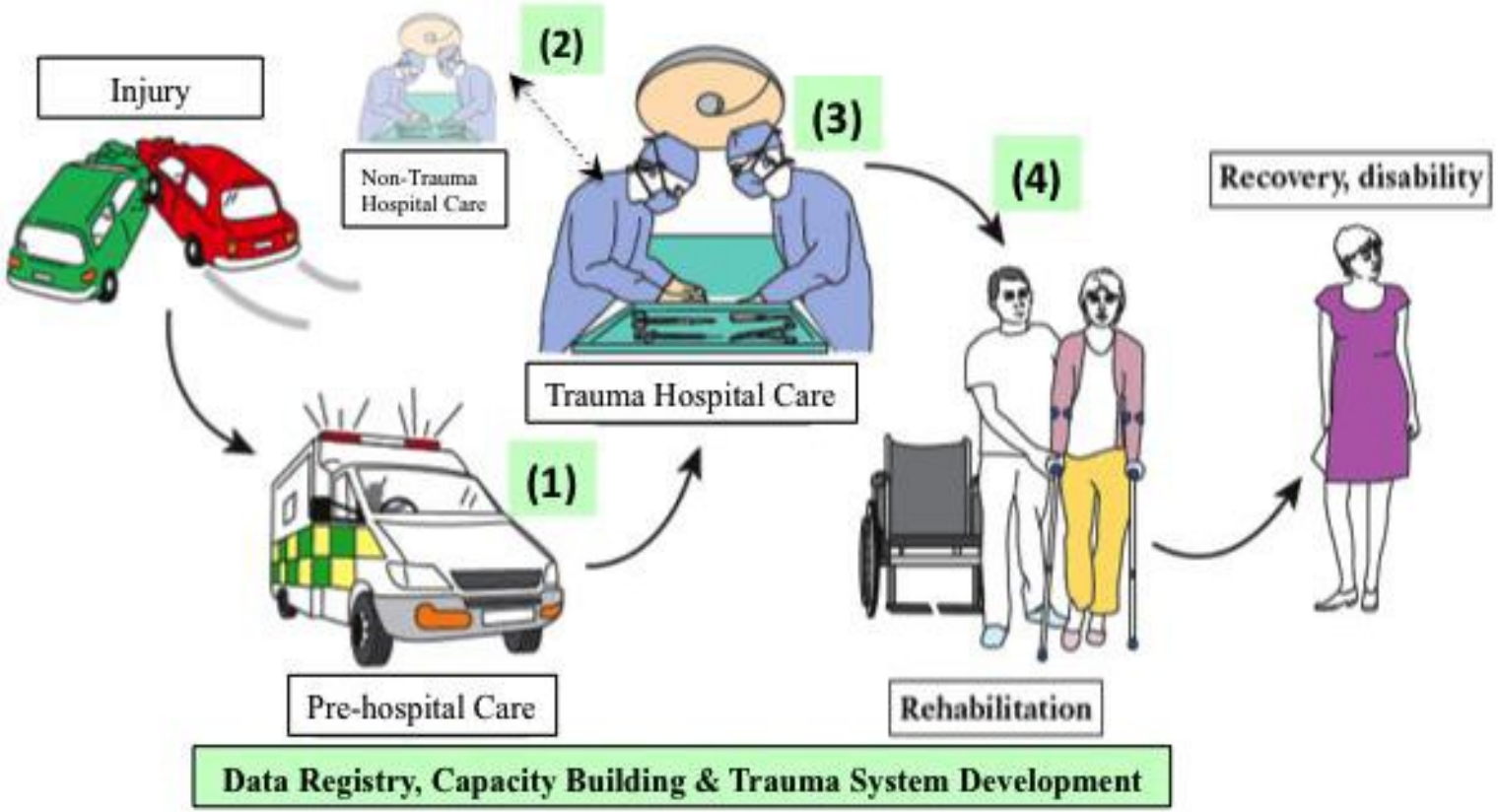
AITSC Background

Globally, over 5 million people die each year following injury. More than one death in every ten occurs in India, where tragedy on the roads, and in workplaces, is increasing.

Commencing in 2013, the Australia-India Trauma Systems Collaboration (AITSC) is laying the foundations for trauma systems in India, and improved trauma care in Australia. It will provide evidence about low-cost trauma system interventions that can be implemented without the need for major health system redesign.

This is the only project in the field of trauma care which is purely looking at Trauma Systems, sanctioned by the Department of Science & Technology, G.O.I. under the Grand Challenge: Australia India Strategic Research Funds (AISRF).

The Proposed Solution



Data Registry, Capacity Building & Trauma Systems Development

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Participating and Pilot Sites

Professor Mahesh Misra and Professor Mark Fitzgerald lead a team of over 80 clinical and public health researchers

India - Sites	Australian Sites
JPN Apex Trauma Center, All India Institute of Medical Sciences, New Delhi	National Trauma Research Institute, Melb
UCMS & Guru Teg Bahadur Hospital, Delhi	The Alfred, Melbourne
LTMMCH (Sion Hospital), Mumbai	Monash University
VS Medical College Hospital, Ahmedabad	Australian Trauma Quality Improvement Program
Pre-hospital	The George Institute for Global Health
Delhi CATS Ambulance	Victorian State Trauma System
GVK-EMRI - Ahmedabad	Other
BVG-MEMS - Mumbai	Academy of Traumatology
Ambulance Victoria, Australia	World Health Organisation, Global Alliance for care of the injured (WHO-GACI)

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Decade of Action for Road Safety 2011-2020

Goal - to stabilize and reduce the forecast level of road traffic deaths around the world.

- Pre-hospital care systems development
- Hospital trauma care systems development
- Early rehabilitation and support to injured patients
- Establishment of appropriate road user insurance schemes
- Encourage research and development

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Evaluation of low-cost ‘best-buy’ trauma system interventions, that could be separately implemented without extensive health system change:

1. High quality trauma registry
2. Pre-hospital Notification
3. Real-time telemedicine remote resuscitation advice
4. Institutional trauma quality improvement programs
5. Rehabilitation prescription following discharge

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- **Trauma Registry**
  To establish a data platform for the collection of AITSC intervention data and to lay foundations for an Indian national trauma registry.

- **Prehospital Notification**
  To introduce pre-hospital notification in four major trauma hospitals and three major ambulance service providers, and evaluate the effect on trauma patients arriving at a trauma center by ambulance.

- **Real-time expert resuscitation advice**
  A prospective pseudo-randomised controlled trial to determine the effectiveness of the computerized decision support software, to improve patient care.

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- **Trauma Quality Improvement**
  A prospective observational study to evaluate the impact of introducing a structured TQI meeting (TQIM) on the processes and outcomes in four Indian trauma centers

- **Rehabilitation prescription on patient discharge**
  To evaluate the effect of a rehabilitation prescription for trauma patients with lower limb fractures on functional outcomes, post-discharge complications and quality of life, in three Indian trauma centres.

Intervention 1- Pre Hospital Notification

- The communication by ambulance personnel to a receiving hospital of the impending arrival of a patient requiring emergency care.
- Provides the opportunity for the receiving hospital to improve preparedness for reception and resuscitation of a critically injured or unwell patient.

AITSC Aim

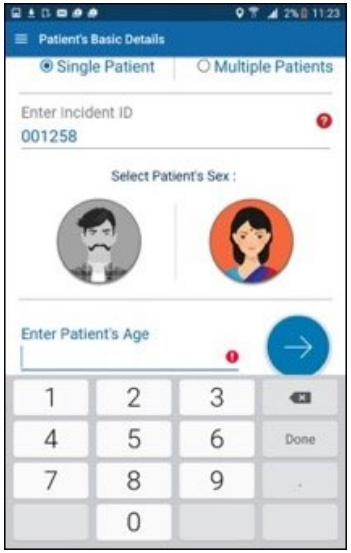
To introduce pre-hospital notification, and evaluate the effect on trauma patients arriving at a trauma centre by ambulance.

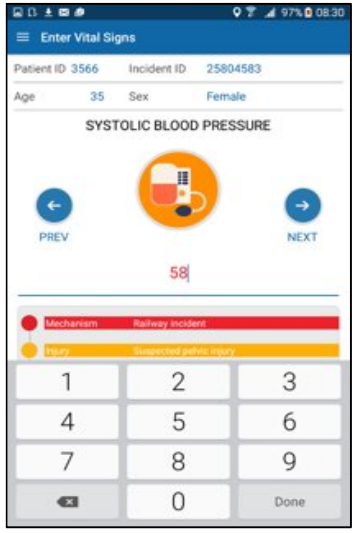
Solution

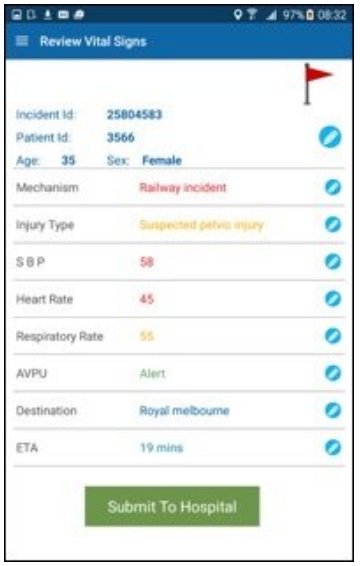
- Developed a tech-based pre-hospital notification system
- Suchana® is an android application for pre-hospital notification

SUCHANA

- Series of 10 pages with dropdowns or simple data entry
- EMT enters simple patient data and clinical signs
- Algorithms generate a trauma flag (Red, Yellow or Green)
- Red trauma cases forwarded to a dedicated mobile in ED which generates a simple SMS that is forwarded to appropriate staff
- Uses Google Maps to generate an ETA
- A hospital screen interface has also been developed





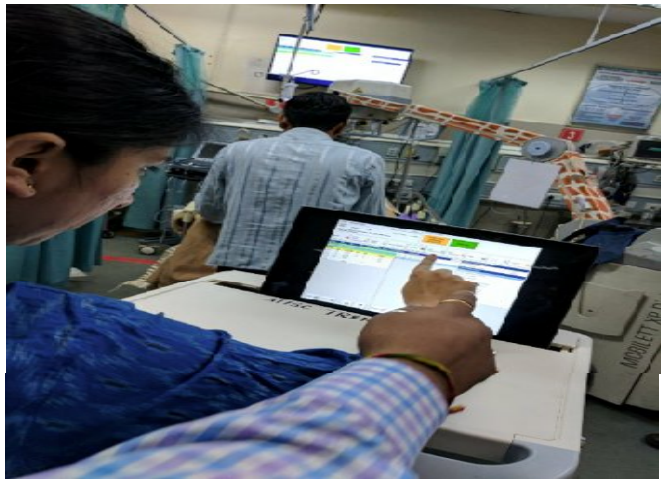


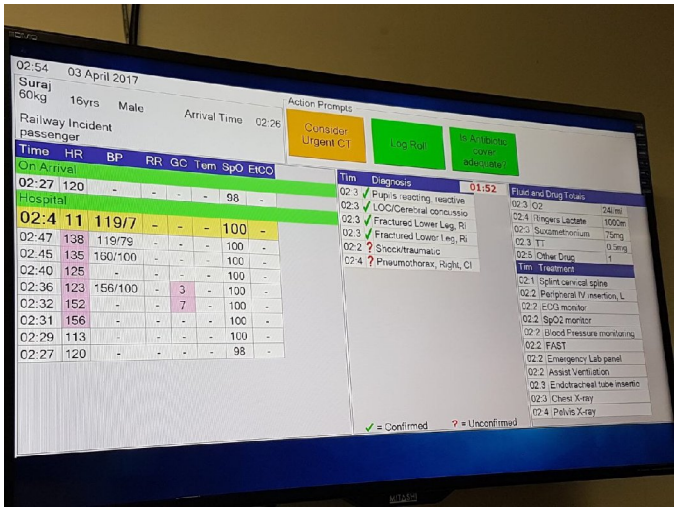
Intervention 2- Real-time expert resuscitation advice

AIM

A prospective pseudo-randomised controlled trial to determine the effectiveness of the computerized decision support software, to improve patient care.

- The Trauma Reception and Resuscitation (TRR©) System developed at The Alfred Hospital, Melbourne
- Adapted to the Indian setting.
- Implemented in JPNATC, AIIMS





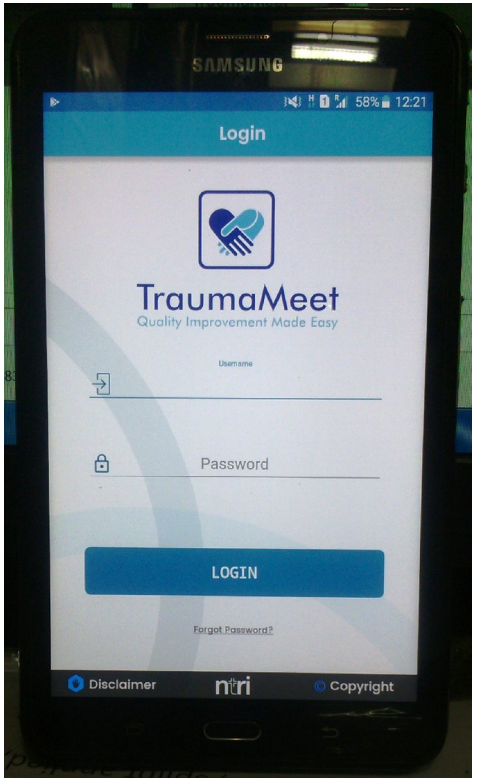
Intervention 3- Trauma Quality Improvement

- **Trauma quality improvement programs (TQIP),** are an affordable and sustainable means for hospitals to monitor their trauma care services, detect problems in care, and effectively execute and evaluate corrective measures targeted at these problems.
- A **CORE** component of all **TQIPs** is the **TQI meeting (TQIM)**.
- **TQIM**s are a means to strengthen trauma QI and have the goal of identifying and correcting problems.
- In Thailand regular TQIMs were associated with a one-third reduction in preventable death rate within two years.

AITSC Aim

A prospective observational study to evaluate the impact of introducing a structured TQI meeting (TQIM) on the processes and outcomes in four Indian trauma centers.

- An App was developed for collection of data from M&M meeting on the basis of trauma quality improvement checklist.

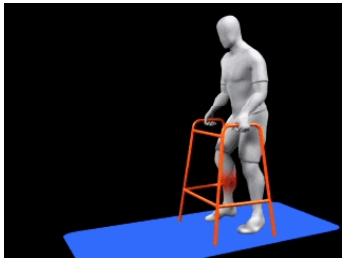


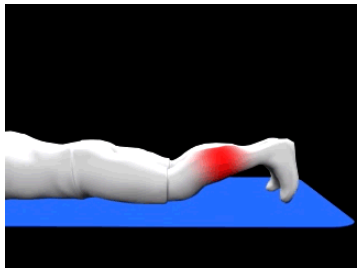
Intervention 4- Rehabilitation prescription on patient discharge

AITSC Aim

To evaluate the effect of a **rehabilitation prescription** for trauma patients with lower limb fractures on functional outcomes, post-discharge complications and quality of life, in three Indian trauma centres.

- RePAIR Trial - multi-centred RCT with blinded outcome assessment to evaluate the effect of a rehabilitation program
- Intervention - paper-based handouts and training, with voice message prompts
- Outcomes – functional outcomes and QoL at 24 weeks





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Further Information

www.aitsc.org

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Thank you for listening

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