

# Evaluation of a newly established Trauma Service in a tertiary hospital in South East Queensland

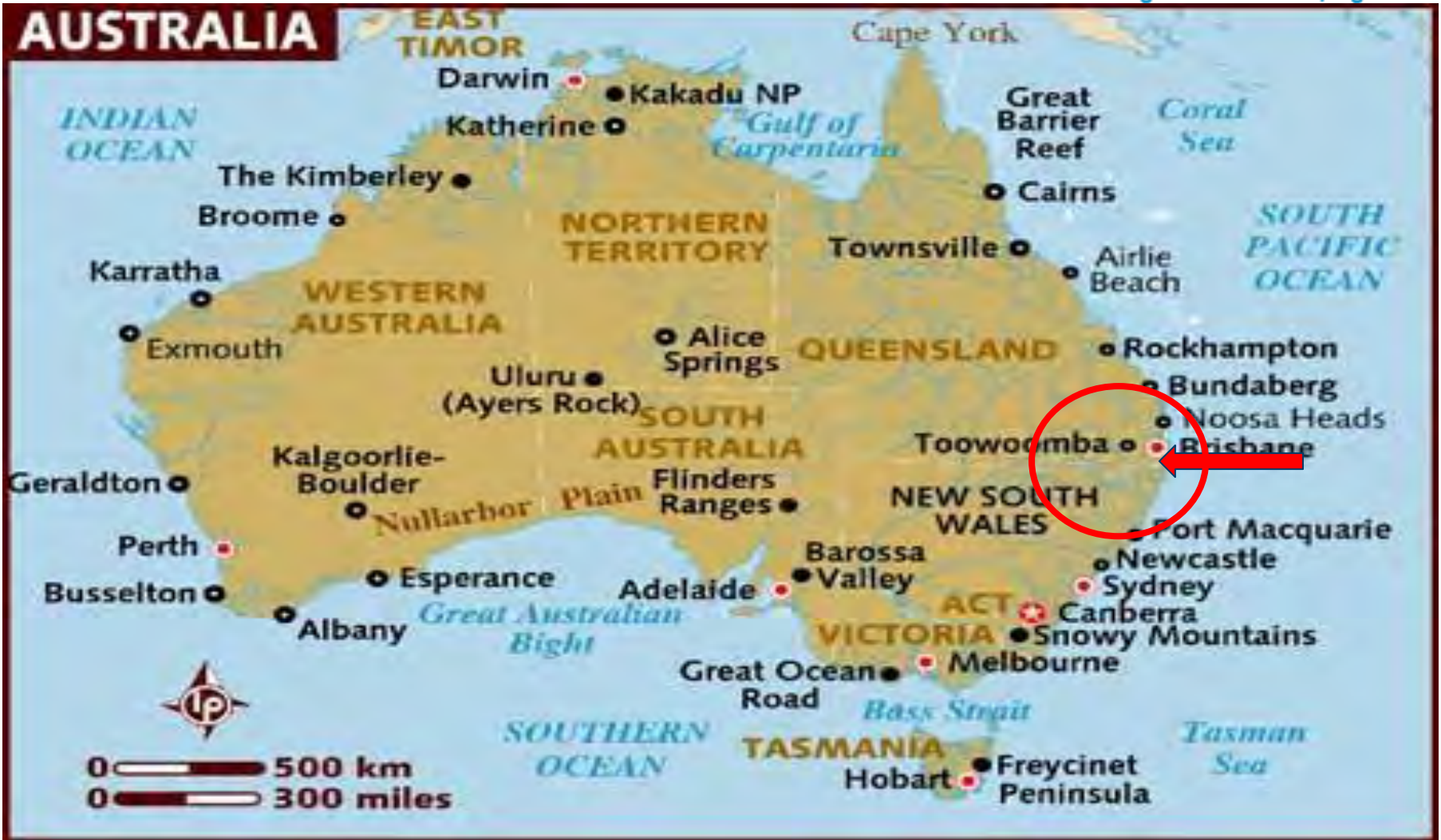
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# Acknowledgements

- Tania Battistella (TS Case Manager)
- Emma Baxendale (CNC/TS Case Manager)
- Matthew Scott (Nurse Educator/TS Case Manager)
- Kate Dale (TS Nurse Practitioner – Trauma Program Lead)
- Renee Nelson (TS Administration Officer)
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- Nerolie Bost (ED Research Nurse)
- Professor Andrea Marshall (Professor of Acute and Complex Care, GCHHS, Griffith University)
- Gold Coast Hospital Health Service Private Practice Trust Fund
  - Grant \$15,500 (£9500 approx)



















- 2008
  - 5222 Trauma Cases
  - 270 ISS  $\geq$  12
  - 67% Intracranial Injuries
  - 22% Internal Organs
  - 7% Fractures
  
- 2011
  - 5729 Trauma Cases
  - Estimated 300 ISS  $\geq$  12







## Trauma Cases 2014

Total: 20824  
Case Managed: 790  
ISS > 12: 218

## Trauma Cases 2015

Total: 21352  
Case Managed: 1273  
ISS > 12: 300  
Mortality rate 10%

## Trauma Cases 2016

Total: \*\*\*\*\*  
Case Managed: 2108  
ISS > 12: 325  
Mortality rate 5%





# The Trauma Service Team





# Trauma Service

- TS established December 2013
- Case Managing patients in February 2014
- Patient/Relative Satisfaction Survey developed to:
  - Evaluate the service provided to patients case managed by the TS
  - Evaluate the impact of the TS on patients families and/or significant others
- Mixed methods design
- Ethical Approval: HREC/14/QGC/147
  - Deemed a QI initiative
- \$15,500 grant from GCHHS Private Practice Fund







# Inclusion/Exclusion Criteria

## Inclusion Criteria

- $18 \geq$  years old (▼  $16 \geq$  years old for main study)
- $ISS \geq 12$  + randomly selected 10% of patients with  $ISS < 12$

## Exclusion Criteria

- Patients undergoing PTA
- Patients/relatives who cannot talk or write in English





# Pilot Study

- October 2014 – December 2014
- 5 Likert question – score 1 – 10
- 3 open ended questions
  
- Domain 1: Time and Attention paid to care
- Domain 2: Information and Communication
- Domain 3: Meeting personal needs as well as clinical needs
- Domain 4: the right to be involved in care and treatment
- Domain 5: The coordination and consistency of care





# Pilot Study

- 96 patients screened
- 43 patients and 26 relatives recruited

## Patients

- 37 (86%) male
- Median Age: 39
- Median ISS: 17
- MOI – 41 (32.6%) blunt, 14 (32.6%) fall
- 22 (51.2%) ICU admission
- 5 (11.4%) rehab admission
- Median LOS 7 days

## Relatives

- 19 (73.1%) female
- 11 (42.3%) wife







# Pilot Study

	<b>Patients</b>	<b>Relatives</b>		<b>Patients</b>	<b>Relatives</b>		<b>Patients</b>	<b>Relatives</b>
	n (%)	n (%)		n (%)	n (%)		n (%)	n (%)
<b>Explanations</b>			<b>Links</b>			<b>Encourage</b>		
Very Satisfied	16 (57.1%)	12 (60%)	Very Satisfied	9 (33.3%)	11 (61.1%)	Very Satisfied	23 (82.1%)	20 (100%)
Satisfied	4 (14.3%)	1 (5%)	Satisfied	6 (22.2%)	1 (5.6%)	Satisfied		
Good	6 (21.4%)	6 (30%)	Good	6 (22.2%)	5 (27.8%)	Good	1 (3.6%)	
Fair	2 (7.1%)		Fair	2 (7.4%)		Fair		
Average			Average			Average		
Ok		1 (5%)	Ok	1 (3.7%)	1 (5.6%)	Ok	1 (3.6%)	
Poor			Poor			Poor		
Very Poor			Very Poor	1 (3.7%)		Very Poor		
Dissatisfied			Dissatisfied			Dissatisfied		
Very Dissatisfied			Very Dissatisfied	1 (3.7%)		Very Dissatisfied		
<b>Questions Answered</b>			<b>Courtesy and Respect</b>					
Very Satisfied	14 (51.9%)	12 (60%)	Very Satisfied	18 (64.3%)				
Satisfied	5 (18.5%)	1 (5%)	Satisfied	5 (17.9%)	16 (80%)			
Good	4 (14.8%)	6 (30%)	Good	2 (7.1%)	1 (3.6%)			
Fair	1 (3.7%)		Fair	3 (10.7%)				
Average			Average					
Ok		1 (5%)	Ok		1 (3.6%)			
Poor			Poor					
Very Poor			Very Poor					
Dissatisfied			Dissatisfied					
Very Dissatisfied			Very Dissatisfied					





# Main Study

- January 2015 to December 2015
- 6 Likert question 1 – 5
- 3 open ended questions
  
- Family Satisfaction FS-ICU Survey (Heyland 2001)
  - Quality of Care
  - Satisfaction with decision making
  - Modified for TS patients and families





# Main Study

- 341 patients screened
- 145 Patients recruited and 52 relatives recruited

## Patients

- 105 (72.4%) male
- Median Age 42
- Median ISS 14
- MOI – 138 (95.2%) blunt, 42 (29%) MVA
- 49 (34%) ICU admission
- 21 (14.5%) rehab admission
- Median LOS 7 days

## Relatives

- 41 (80.4%) female
- 13 (40.6%) wife
- 27 (87.1%) live with patient
- 24 (75%) Gold Coast







# Main Study

	<b>Patients</b>	<b>Relatives</b>		<b>Patients</b>	<b>Relatives</b>		<b>Patients</b>	<b>Relatives</b>
	n (%)	n (%)		n (%)	n (%)		n (%)	n (%)
<b>Explanations</b>			<b>Links</b>			<b>Consistent</b>		
1 Excellent	74 (79.6%)	25 (71.4%)	1 Excellent	55 (61.1%)	16 (47.1%)	1 Excellent	68 (75.6%)	20 (50.8%)
2 Very Good	13 (14%)	8 (22.9%)	2 Very Good	17 (18.9%)	6 (17.6%)	2 Very Good	15 (16.7%)	8 (23.5%)
3 Good	1 (1.1%)		3 Good	5 (5.6%)	3 (8.8%)	3 Good	5 (5.6%)	2 (5.9%)
4 Fair	4 (4.3%)		4 Fair	4 (4.4%)	1 (2.9%)	4 Fair		
5 Poor	1 (1.1%)	1 (2.9%)	5 Poor	1 (1.1%)		5 Poor	1 (1.1%)	
6 Not Applicable		1 (2.9%)	6 Not Applicable	8 (8.9%)	8 (23.5%)	6 Not Applicable	1 (1.1%)	4 (11.8%)
<b>Questions Answered</b>			<b>Courtesy and Respect</b>			<b>Frequency</b>		
1 Excellent	69 (75.8%)	25 (71.4%)	1 Excellent	84 (93.3%)	32 (91.4%)	1 Excellent	68 (73.1%)	24 (64.7%)
2 Very Good	15 (16.5%)	7 (20%)	2 Very Good	4 (4.4%)	3 (8.6%)	2 Very Good	20 (21.5%)	8 (22.2%)
3 Good	4 (4.4%)		3 Good			3 Good	2 (2.2%)	3 (8.3%)
4 Fair	2 (2.2%)		4 Fair	1 (1.1%)		4 Fair	3 (3.2%)	
5 Poor		1 (2.9%)	5 Poor	1 (1.1%)		5 Poor		
6 Not Applicable	1 (1.1%)	2 (5.7%)	6 Not Applicable			6 Not Applicable	1 (0.7%)	

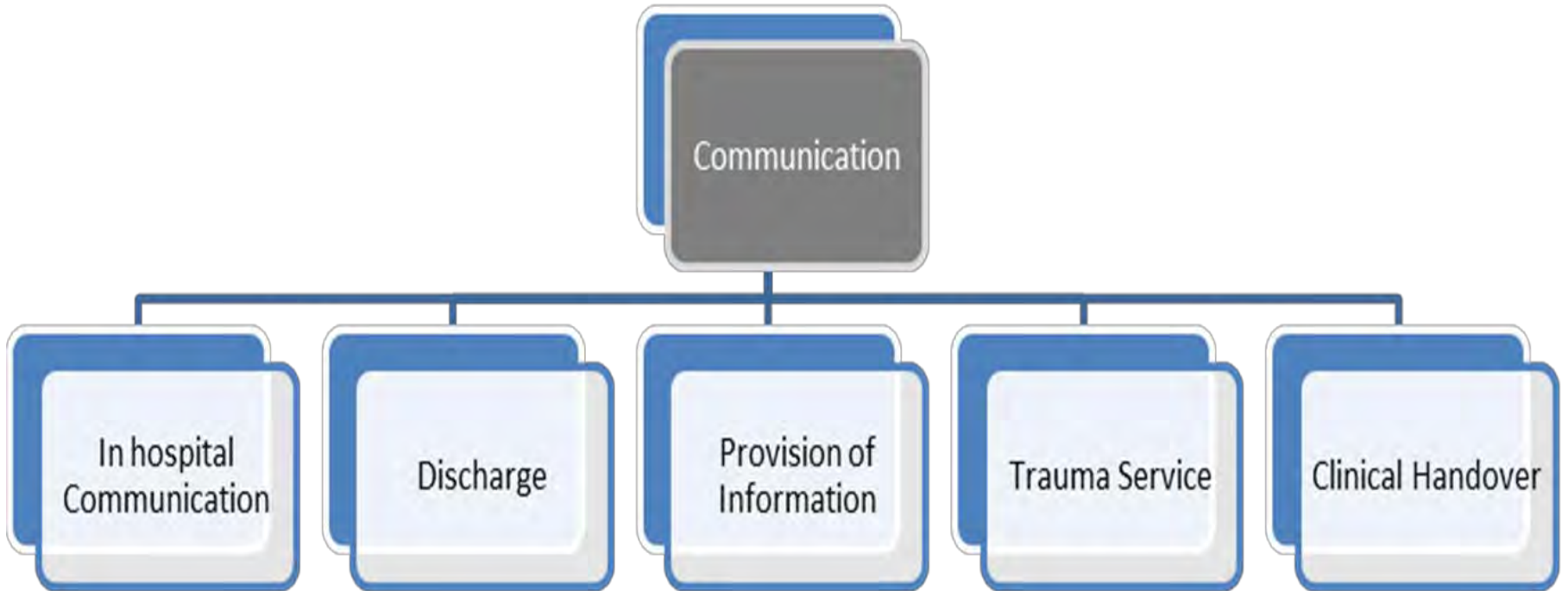




## Thematic Analysis

- Please can you tell us the reason for contact the TS either during admission or post discharge?
- Please can you add any comments or suggestions that you feel may be helpful to the staff of this hospital.







# In hospital

“so many people from different sections to speak to me about different things”

“I had so many people I was dealing with I didn’t know whether I was coming or going or who was who”

“some miscommunication but that may have been because I was being treated by 2 different areas for 3 different injuries”

“I was getting seen by 5 or 6 groups of doctors every day – I didn’t know who was taking care of me”

“I wouldn’t be able to give you any information about that – I can’t remember nothing”

“I can’t remember them referring us to anything”

“I didn’t know who was taking care, like who had the end say...”

‘I’d been thinking about (contacting someone)..., I don’t know who to contact really”.





# Provision of Information

“people would come and see you saying they would get in touch and then you wouldn’t hear anything”

“sat in limbo for 24hrs wondering if they were actually coming or not”

“it was like a battle to get a doctor back”

“we weren’t able to talk to the actual surgeon”

“my wife had to nearly demand some information from someone”.







# Discharge

“I was worried when we left hospital as no one gave us any instructions or appointments”

“wasn't given any advice on how we needed to set the home up and that type of thing”

“ I just need clarification on d/c as to exactly what is required for the patient”

“d/c me on a w'end and only gave me enough medication for 2 days so I had to ring around on a Sunday trying to get a dr to get a prescription; my wife was running around because I couldn't travel”

“..I had to physically take him from the other hospital he was in for the out patients appointment (at GCUH)”.

“they wanted me to come back 1 week post d/c, I live on the \*\*\* it would be a 3 hour turn around”

“ the OPD, we drove 2 hrs, the Dr came in and assessed the patient and it was over in 30 seconds”

“when they d/c me they were going to give me appointments but there was confusion when I went”

“because he was sent home on Saturday he wasn't seen by the OT”





# Clinical Handover

“communication between say the trauma team and the other teams - I think that could be worked on”

“a big communication problem from the transfer of the discharge hospital to the transfer hospital”

“I think that they should transfer notes to each other (?handover process) to make the patient feel well”

“the communication between all of the departments was really bad”

“...said I might have some kidney problems, when I got upstairs to the ward, they didn't know anything..”





# Trauma Service

“every time I had a question or wondering about something they chased it up for me”

“The TS was the linchpin – I ran to them and they fixed it – they got me the answers”

“if we needed to know anything they would go out of their way to find things”

“ I highly recommend them, they were excellent; every situation they helped”

“they (TS) made things very clear and if I didn’t understand they found another way to put it and that was great”

“if it wasn’t for them I would have got quite annoyed (regarding communication)”

“they were brilliant, the best team in the hospital, they explained everything to me, what was happening and sorted everything out for me upon leaving hospital”

“ they were actually coordinating and getting things done”

“ without them I don’t know what I would have done – it would have been quite stressful on my family”

“I saw someone every day, so that was amazing”; “They came round every day” “in the morning and afternoon”

“I wasn’t aware there was an after sales service if you wish”

“ They spoke to my family in a different state”

“they were the consistent team across my care”



# Trauma Case Management Model

- Admission Criteria
  - High risk mechanism of injury
  - Chest or abdominal trauma
  - Injuries to 2 or more body regions
- Admission to the Trauma Service means that the service consults on the care provided to the multi trauma patient
- Trauma Bed Card – 8 beds on a surgical ward
- Discharge – once a tertiary survey has been performed and the patient is classed as having only minor injuries or ‘mono’ trauma. Ongoing care is then provided by the most appropriate unit in relation to the patients injuries
- ED → ICU → Trauma Ward → Orthopaedics/Plastics/Neurosurgery





# Trauma Service

- Education – wards, study days, in-services
- Quality Improvement
  - Trauma Advisory Committee – review mortality, protocol and guideline development, review KPI
- Trauma Case Review
  - Monthly MDT meeting
  - Review 3 - 4 cases per month
- Trauma Grand Rounds
  - Showcase services i.e. blood management, patient journey
- Research
  - Local, national and international studies







# Trauma Case Management Model

2002

The impact of trauma nursing case management on selected patient outcomes :

Kate Curtis  
University of Wollongong

Injury, Int. J. Care Injured (2006) 37, 626–632



www.elsevier.com/locate/injury



## ADVANCED PRACTICE

Janice DelGiorno, MSN, ACNP-BC  
Section Editor

### Trauma Case Management: A Role for the Advanced Practice Nurse

### Trauma case management: Improving patient outcomes

Kate Curtis<sup>a,\*</sup>, Yi Zou<sup>a</sup>, Richard Morris<sup>a</sup>, Deborah Black<sup>b</sup>

## Application of the Case Management Model to a Trauma Patient

Nancy P. Von Rotz, B.S.N., R.N., C.C.R.N., Janine Rudolph Yates, M.S.N., R.N.,  
Barbara L. Schare, Ed.D., M.S.N., R.N.



Queensland  
Government



## 1.6 Organisation of hospital major trauma services

### Recommendations for hospital trust boards, senior managers and commissioners

- 1.6.1 Hospital major trauma services should have responsibility and authority for the governance of all major trauma care in hospital.
- 1.6.2 Provide a dedicated major trauma service for patients with major trauma that consists of:
- a dedicated trauma ward for patients with multisystem injuries
  - a designated consultant available to contact 24 hours a day, 7 days a week who has responsibility and authority for the hospital trauma service and leads the multidisciplinary team care
  - acute specialist trauma rehabilitation services
  - acute specialist services for the paediatric and elderly populations
  - a named member of clinical staff (a key worker, often a senior nurse) assigned at each stage of the care pathway who coordinates the patient's care.

## Major trauma: service delivery

NICE guideline

Published: 17 February 2016

[nice.org.uk/guidance/ng40](http://nice.org.uk/guidance/ng40)





# Limitations

- No formal interview training
- Small sample size
- No statistical analysis
- Difficult to maintain the enthusiasm throughout the study
- Lost to follow up



