

Prehospital critical care team attendance and association with patient outcome in Scotland

Acknowledgements

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Interests to declare: none



What effect does the presence of prehospital critical care teams have on patient outcome, when compared to standard ambulance care?

Original article

The Head Injury Retrieval Trial (HIRT): a single-centre randomised controlled trial of physician prehospital management of severe blunt head injury compared with management by paramedics only



OPEN ACCESS

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“This trial suggests a potential mortality reduction in patients with blunt trauma with GCS<9 receiving additional physician care (original definition only). Confirmatory studies which also address non-compliance issues are needed”

Garner AA et al. HIRT. *EMJ* 2015; 32; 869-75

Study Design

- ◆ Retrospective cohort covering 4 years 2011-2014
- ◆ Approximately 14,000 pts incl 3,000 major trauma pts
 - ◆ Including injury patterns & probability of survival
- ◆ Field recording no doctor, “retrieval doctor,” other doctor

Outcome measures

Primary

Observed v expected outcome *

Secondary

On-scene time **

- Modelled using TRISS methodology and with Ps12 coefficient from TARN

** TOTAL on-scene time from arrival of 1st SAS resource (not medical team arrival) until conveying resource departure time

Results

- ◆ 16,058 patients in study period
- ◆ 2,565 patients self presented
- ◆ 358 secondary transfer
- ◆ 13,135 total eligible patients

Results

- ◆ 13,135 eligible patients
- ◆ 2888 non critical care medical input or unknown
- ◆ 9,749 no medical team input (ambulance care)
- ◆ 503 critical care team input

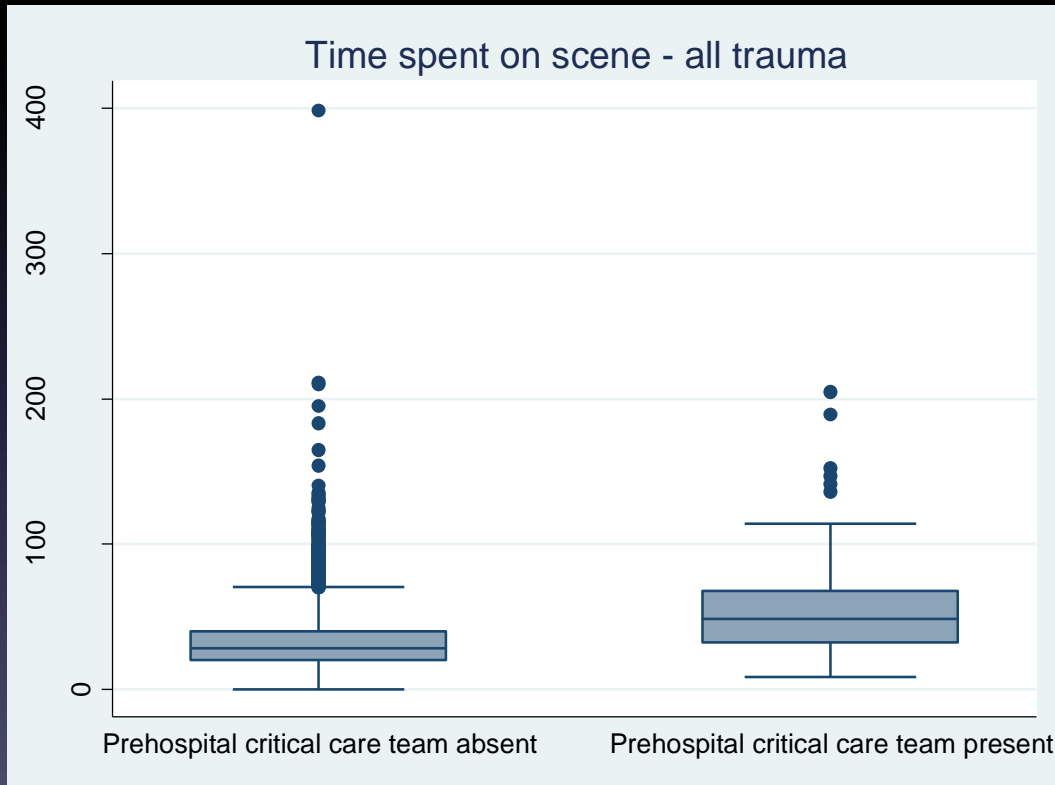
Primary Outcome – All Trauma

	n	Excess survivors /100 (95% CI)	p
Ambulance care	9749	1.2 (0.8 to 1.5)	
Prehospital critical care team	503	3.2 (0.9 to 5.5)	0.09

Primary Outcome – Major Trauma only

	n	Excess survivors /100 (95% CI)	p
Ambulance care	2260	0.9 (-0.3 to 2.2)	
Prehospital critical care team	285	5.4 (1.6 to 9.2)	0.02

All trauma – time on scene



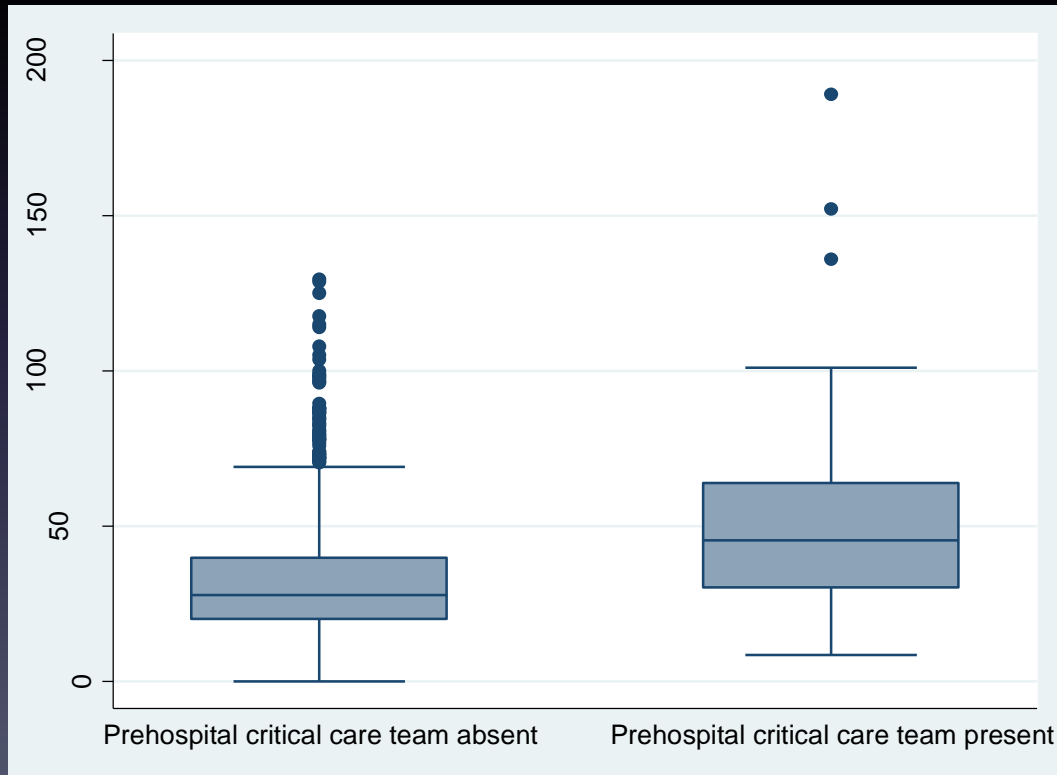
No team avg time on scene = 32 mins
(95%CI 31 to 33mins)

Team avg time on scene = 53 mins (95% CI 50 to 57 mins)

Difference – 21 mins
(95%CI 19 to 23 mins)

$P < 0.001$

Major Trauma only – time on scene



No team avg time on scene = 32 mins
(95%CI 31 to 33mins)

Team avg time on scene = 50 mins (95% CI 46 to 55 mins)

Difference – 19 mins
(95%CI 15 to 22 mins)

$P < 0.001$

Summary

- ◆ Attendance of a prehospital critical care team is associated with longer on-scene time (21 mins)
- ◆ In Scotland, in major trauma, the attendance of a prehospital critical care team is associated with a statistically significant increase in survival
- ◆ This is equivalent to 4.3/100 excess survivors
 - ◆ or 48 lives saved, per year, in Scotland



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