Physician at triage results in an increase in Radiology Requests

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Background

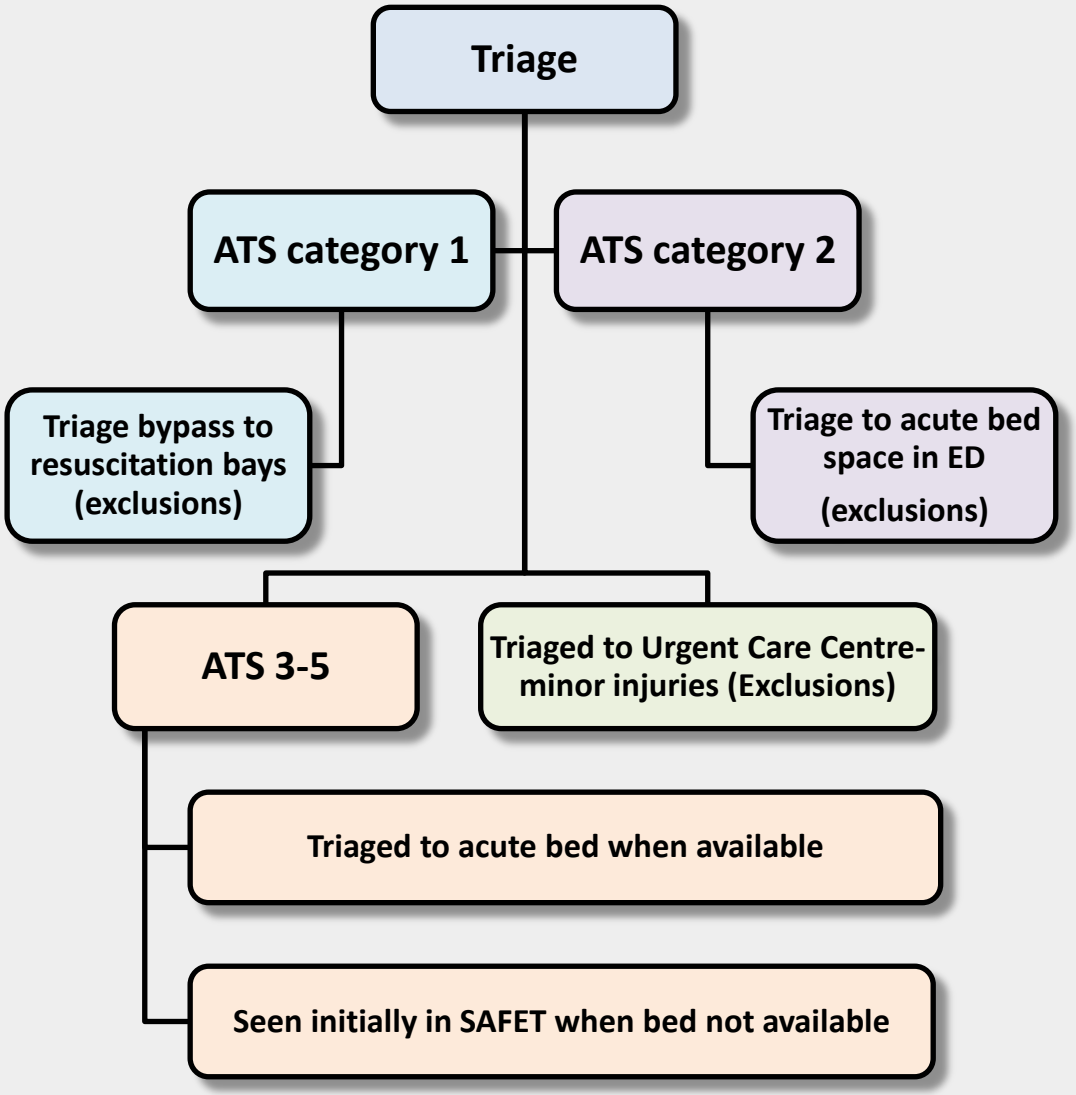
- Westmead Hospital is a major tertiary referral and trauma centre with one of the busiest Emergency Departments in the southern hemisphere
- National Emergency Access Target (NEAT) introduced in 2012 to reduce patients waiting times, requiring 90% of patients to be discharged from ED within 4 hours by 2015
- **NEAT was associated with 23%-60% increase in imaging requests between 2012-2014[2]**

SAFE-T Zone Initiative for patients with Australian Triage Scale (ATS) 3-5

- Initiatives, including modified physician at triage model (known as "Senior streaming Assessment Further Evaluation after Triage" = SAFE-T[3]), were introduced to meet NEAT, improve patient flow and overcome access block[1-3]

- SAFE-T Zone, introduced in February 2011, comprises of 2 assessment beds and 5 early treatment chairs

- Proven to reduce patient length of stay in the Emergency Department



Aim

To evaluate whether SAFE-T zone (modified physician at triage) and other initiatives contributed to increase in radiology services observed after introduction of NEAT at a major trauma teaching hospital in Sydney, Australia.

Materials and Methods

- Ethics approval from WSLHD HREC file number 4767
- Retrospective analysis of imaging requests from ED during Aug-Oct 2011 (prior to NEAT) and Aug-Oct 2012-15 (after NEAT introduction)
- Data collected from ED Information System and Radiology Information System, analysis performed using SPSS v.17

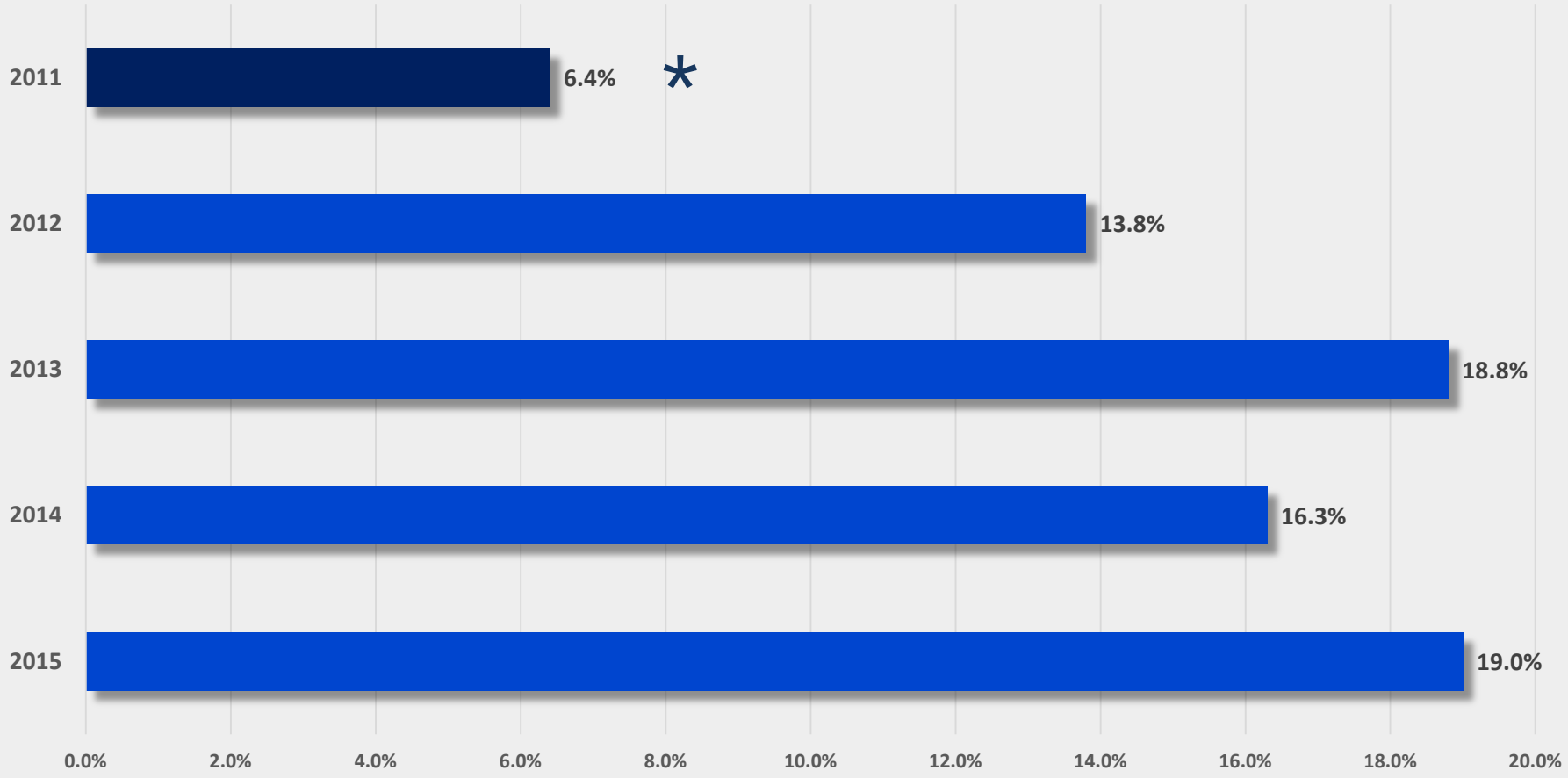
Materials and Methods

- Multivariate logistic regression model was constructed to evaluate if being treated in SAFE-T zone was independently associated with increase in radiology requests after introduction of NEAT. Model was adjusted for the following factors:
  - triage category (ATS)
  - Presenting problem
  - NEAT status (whether patient met NEAT)
  - Working hours (whether request was placed in or out of hours)

Results

- 81 322 patient presentation
- 98 925 imaging requests
- There was a significant increase in the imaging requests received for patients treated in the SAFE-T zone after NEAT introduction

Imaging requests received from SAFE-T zone (% of total requests from ED) before and after NEAT introduction



* *2011- requests from SAFE-T zone prior to NEAT introduction*

Treatment in a SAFE-T zone is an independent predictor of increase in imaging requests after NEAT introduction

Year	No of requests from SAFE-T zone	Unadjusted OR	95% CI	Adjusted OR**	95% CI
2011	894	1		1	
2012	2,672	2.32*	2.14-2.51	2.61*	2.41-2.83
2013	4,185	3.37*	3.12-3.64	4.34*	4.00-4.70
2014	3,689	2.82*	2.62-3.05	3.48*	3.21-3.77
2015	3,937	3.41*	3.16-3.68	4.14*	3.82-4.49

*Change is statistically significant ($p<0.05$) compared to 2011 (pre-NEAT)
**Adjusted for triage category (ATS), presenting problem, NEAT status, working hours

Discussion

- This is the first investigation to identify impact of SAFE-T zone[3] on imaging requests after introduction of NEAT
- Initiatives in ED impact other services, this needs to be considered when interventions are implemented

Conclusion

- ED initiatives impact radiology
- Patients seen by a physician at triage have a higher volume of radiology requests compared to patient not seen by a physician at triage
- The SAFE-T zone initiative has contributed to an increase in radiology requests after NEAT introduction

References

1. Thompson, N et al. Do delays in radiology lead to breaches in the 4-hour rule?, In ASMMIRT 2016 Rise and Shine, Brisbane, Australia, March 2016

2. Tse R, et al., Do delays in radiology lead to breaches in the 4-hour rule?, Clinical Radiology (2016), http://dx.doi.org/10.1016/j.crad.2016.02.008

3. Shetty, A et al. Senior Streaming Assessment Further Evaluation after Triage zone: A novel model of care encompassing various emergency department throughput measures, Emergency Medicine Australasia 2012: vol 24, pp. 374–382