

# What Delays Trauma Patients in the Emergency Department?

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## Introduction

Trauma represents a significant proportion of patients presenting to the Emergency Department (ED) in the Bay of Plenty (BOP) with 1890 patients in 2019 (1). Time spent in ED by this cohort is a measured key performance indicator internationally (1). Conflicting evidence exists as to how time spent in ED influences overall survival and hospital length of stay (2,3).

The aim of this study was to analyse the time spent in ED by trauma patients, thereby identifying the processes, trends and influencing factors which delay their transfer to appropriate destinations. This will guide future quality improvement projects.

## Methods

A three-month retrospective review of trauma patients admitted from Tauranga ED to hospital in 2020 was performed.

A total of 254 patients, including 48 major patients, were included and each patient's journey was individually evaluated.

Demographic and other influencing factors on ED length of stay (LOS) were also analysed.

## Results

- The mean length of stay was 339 minutes.
- Delays to discharge from ED, in order of influence were: See *fig 1*.
  - delay in admission to the ward (132 minutes, 34% of total time)
  - interval between ED review and referral to specialty (119 minutes, 31%).
  - interval between ED referral and review by specialty team (85 minutes, 22%)
  - time from presentation until initial ED review (53 minutes, 14%)
- Statistical difference in ED LOS was seen for ethnicity, age, need for computed tomography (CT) and time of presentation ( $p < 0.05$ ). See *fig 2*.
- No statistical difference was found between major and minor trauma (343 vs 323 minutes,  $p > 0.05$ ) or for a procedure performed in ED (320 vs 351 minutes,  $p > 0.05$ ).

## Conclusion

- Major contributing factors causing delays for trauma patients include waiting for admission beds and delays in the referral process.
- Patient ethnicity, age, time of presentation and the need for CT imaging in ED all significantly influence LOS.
- These findings will be presented to DHB executive and prompt future quality improvement projects.

## Contact information

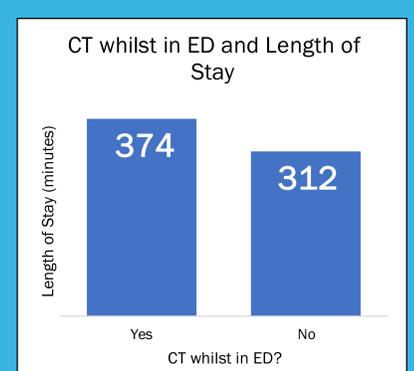
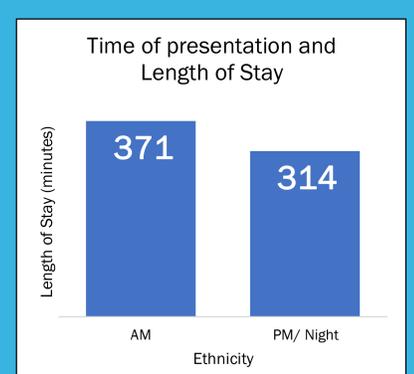
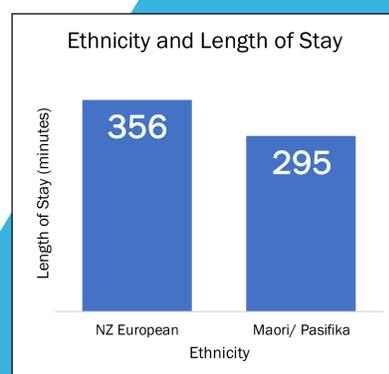
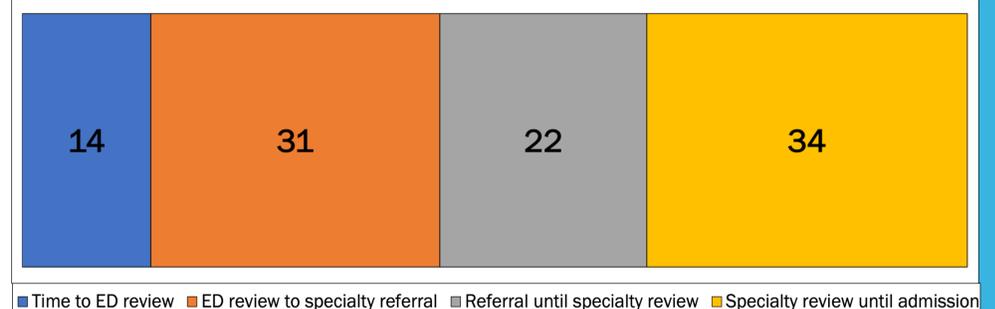
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## % of Overall Time Spent in ED



## References

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