

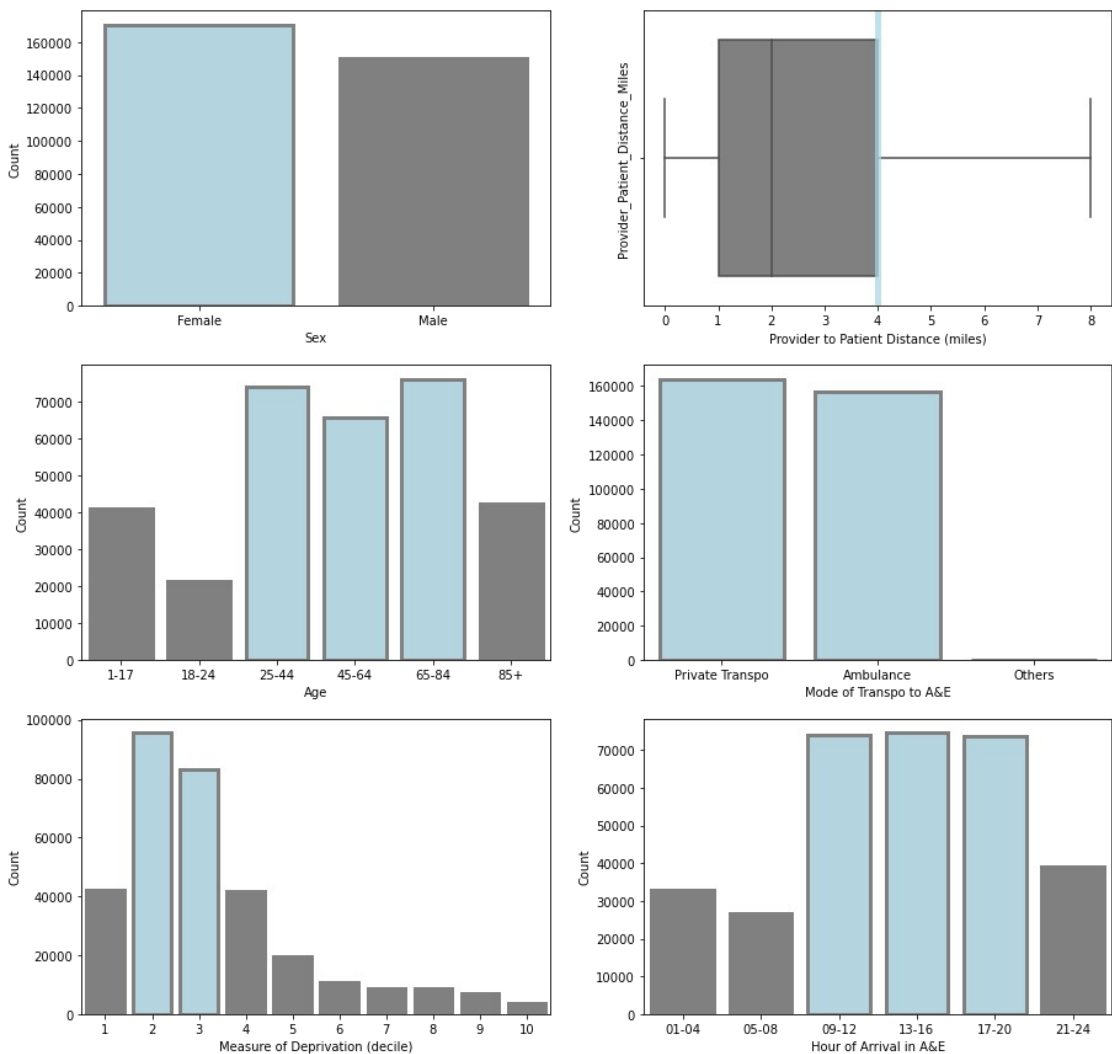
Factors Affecting A&E Time

Introduction

A&E Time is one of the important NHS indicator that is a barometer of the performance of the health service. The target is to have 95% of all patients in the A&E be admitted, discharged or transferred on or before the 240min (4 hour) mark. With this it is important to know the factors that affect this variable.

Data Set

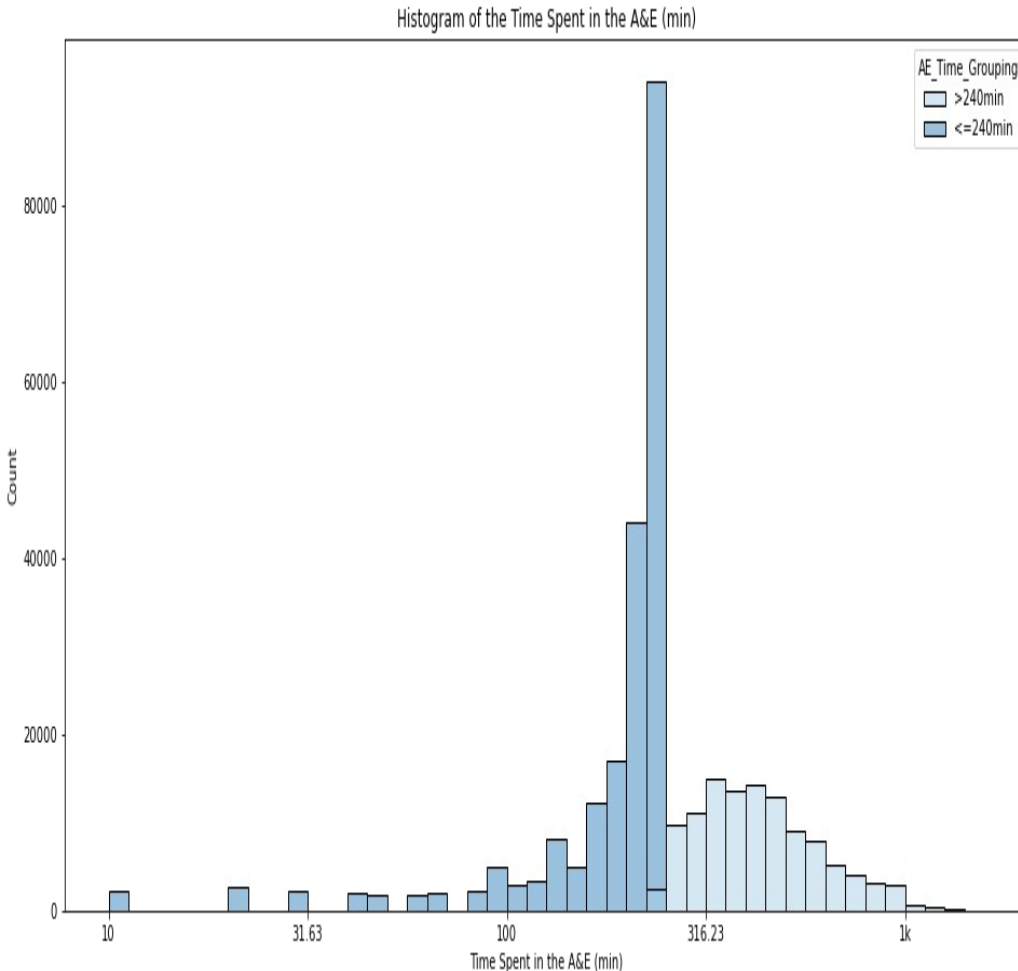
- The data set is from the Synthetic A&E data created by the NHS for March 2014 to March 2018.
- The analysis will focus on the admitted patients of one A&E provider



The patients were:

- Majority female
- Mostly aged 25-84
- Lives in 2nd and 3rd lowest decile (deprivation)
- Lives less than 4miles away
- Uses both ambulances and private transpo
- Mostly comes to the A&E between 0900-2000

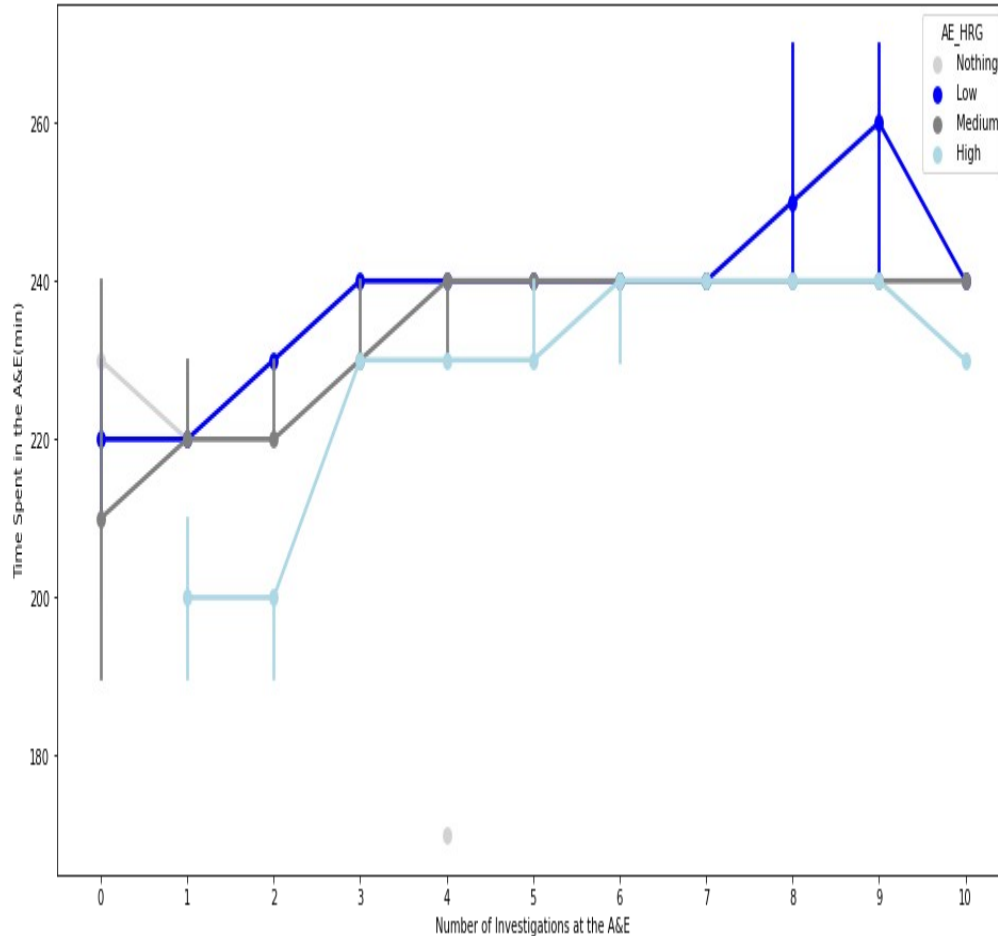
Time Spent in the A&E



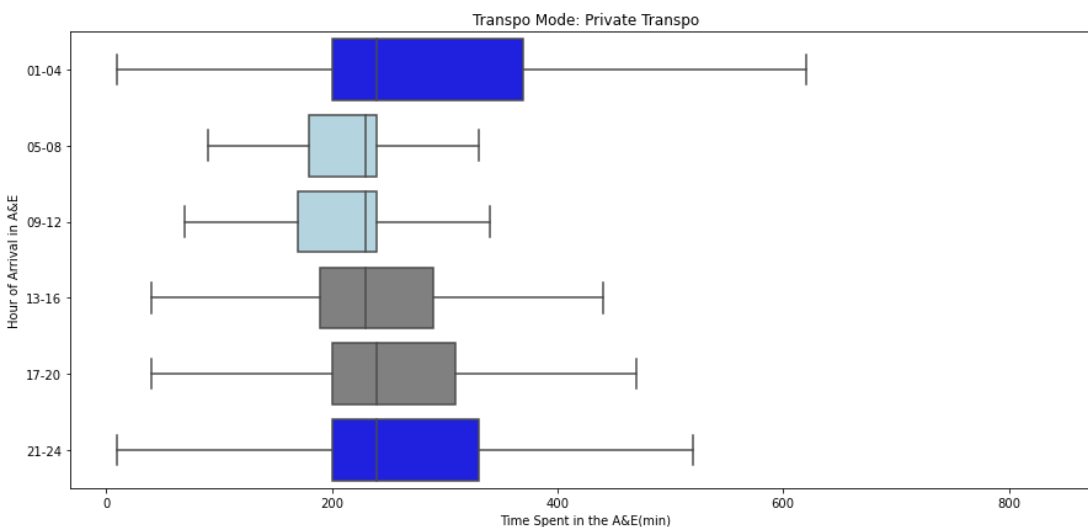
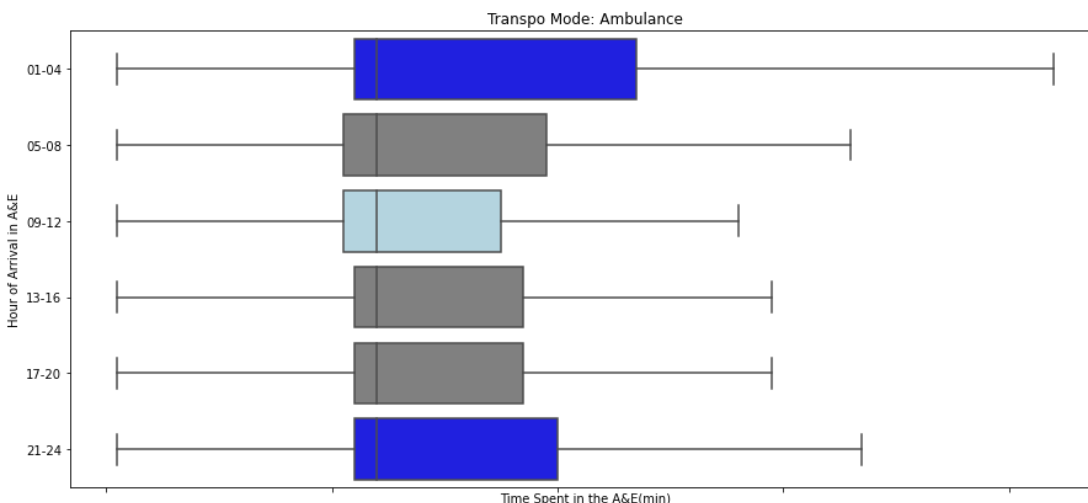
The majority of the patients are admitted on or before 240 min but a sizable number exceeds that threshold peaking at 316-398 min and extending to more than 1,000.

Factors Affecting A&E Time

Number of Investigations at the A&E x Median Time Spent in the A&E(min) grouped by Healthcare Resource Grouping)

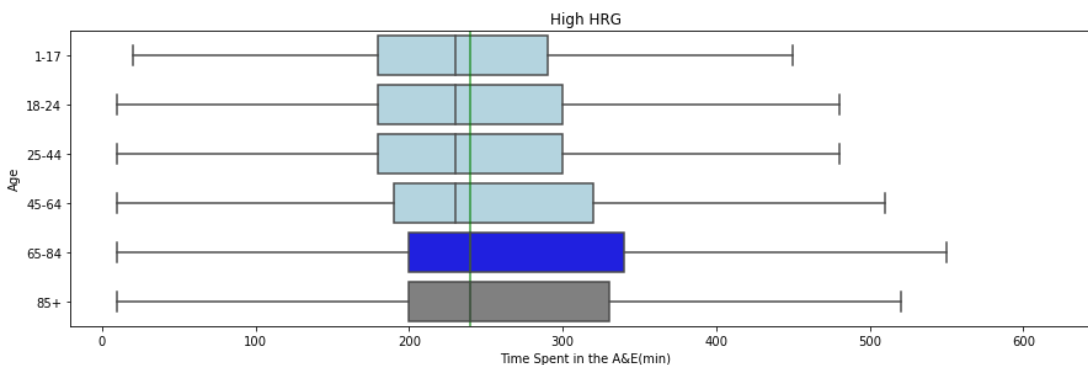
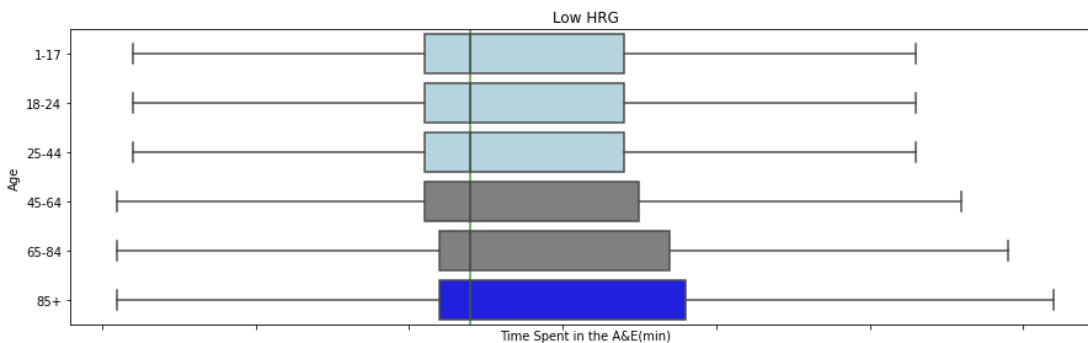
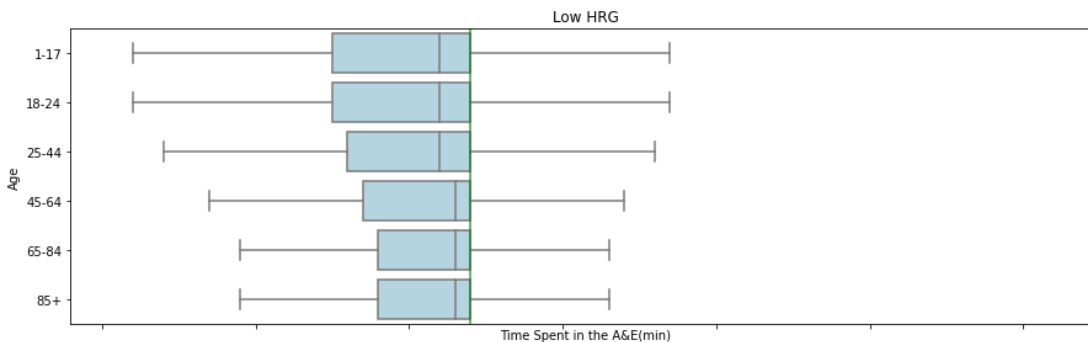


- Up till six investigations, an increase in number of investigations also increases the time spent in A&E. Patient that require high healthcare resources spent the least amount in the A&E while the low resource group have the highest and at 8-9 investigation, its median time exceeded 240min.



The minimum A&E time for all hours of the day is lowest for patients that came in via ambulances but they also have the highest upper limit. For all transpo method, the hour of the day that see the highest proportion of patients staying more than 240min is at 0100-0400 followed by 2100-2400. Patient brought in via ambulance stayed the least in the AE if they come in at 0900-1200, while the median time is lower than 240min during 0500-1600 for those that use private transportation.

Time Spent in the A&E by Age Band by Health Care Resource Grouping



75% of patients of all age group that don't need healthcare resource are admitted by the 240min. The next group that have the lowest time in A&E are those that needs high healthcare resource with the median time being less than the population median for patients aged 1-64. For this group, those that are aged 65-84 have the longest time. The low health resource group have the highest limit in terms of time spent in the A&E with age bands from 1-44 having the lowest and the limit increasing as the age increase.

Conclusion and Recommendation

In conclusion, low healthcare resource group, higher number of investigations, older patients, using the ambulance and arriving at night is associated with longer time spent in the A&E

This analysis is limited only to admitted patients. It is recommended to look into all patients that consulted the A&E since patients that are not admitted still require the healthcare and might affect the time spent in the A&E of others.