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Insight for better healthcare



# Insight report

## A&E treatment time analysis

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## Introduction

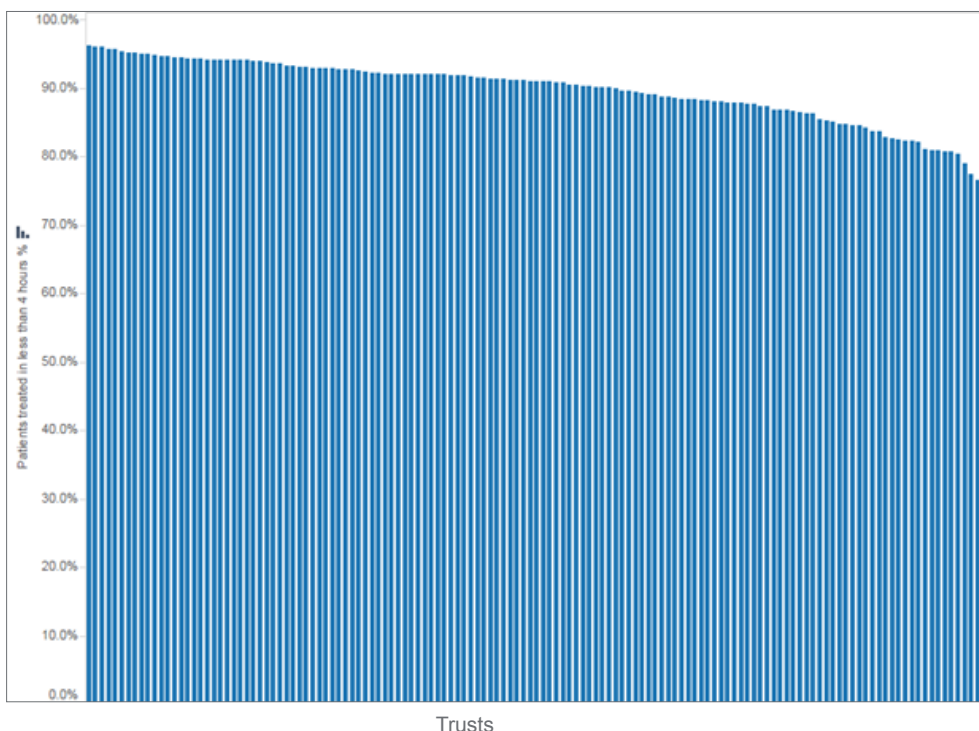
The NHS is facing an unprecedented saving drive. Figures suggest the pressures on acute trust Emergency Departments is not abating. Acute services in the NHS are under strain on several measures. The four-hour A&E target has not been met nationally for over two years and there has been a significant increase in the number of trolley waits - defined as patients having to wait between four and 12 hours after a decision has been made by an A&E doctor to admit them to the main hospital.

Emergency Department attendances each year have been increasing by around 7 per cent over the last five years. The number of beds available in hospitals has fallen by a similar percentage over the same period and bed occupancy is rising each winter. According to the latest Quality Watch analysis, poorer levels of performance in winter are becoming the norm in summer<sup>1</sup>.

CHKS has been working with the Royal College of Emergency Medicine (RCEM) to analyse treatment times within Emergency Departments in English hospitals. This analysis has focused on variation in treatment times within the four hour target and beyond. It was carried out using HES data from all English acute hospital trusts for 12 months to July 2015.

## 1. Consistency within the four hour target

Our researchers started by looking at the percentage of patients treated within four hours at all English hospitals. The results show a relatively consistent picture (please see chart below).



**Chart 1 – Percentage of patients treated within four hours**

## 2. Significant variation

When our researchers looked at the number of patients treated within two hours, they found a much greater variation. The best trust treated 71 per cent of its patients within two hours, whereas at the worst only 12 per cent of patients were treated within this time (see chart below).

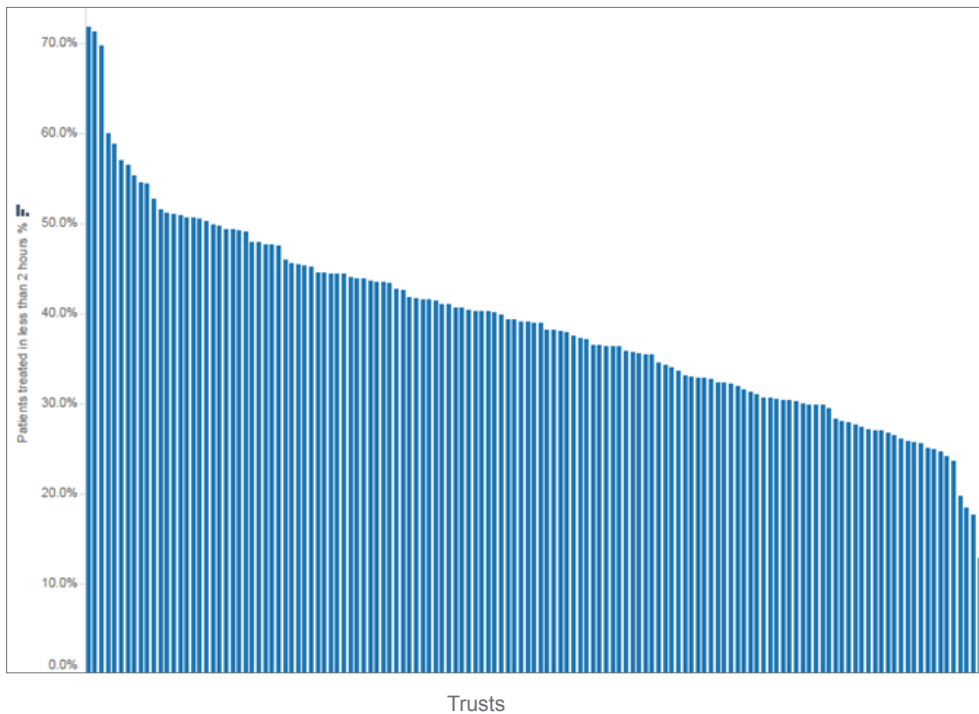


Chart 2 – Percentage of patients treated within two hours

## 3. The four hour target in action

We then looked at when patients across all acute trusts were treated according to the number of minutes they actually spent in the Emergency Department. Chart 3 shows a significant spike at 240 minutes which coincides with the four hour target. The chart suggests the four hour target (rather than need) may be determining many treatment times. The smooth orange line represents a theoretical statistical distribution which we estimate would occur without the effect of the four hour target 'spike'.

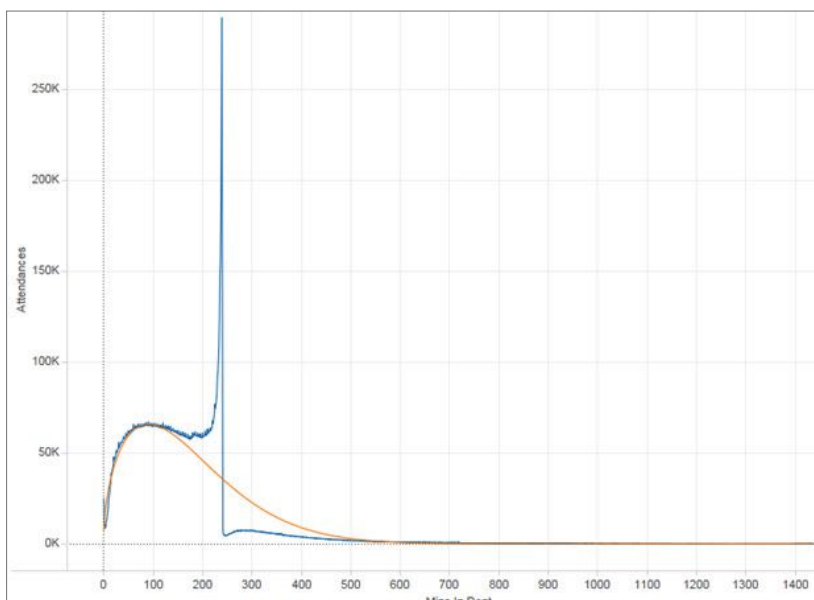
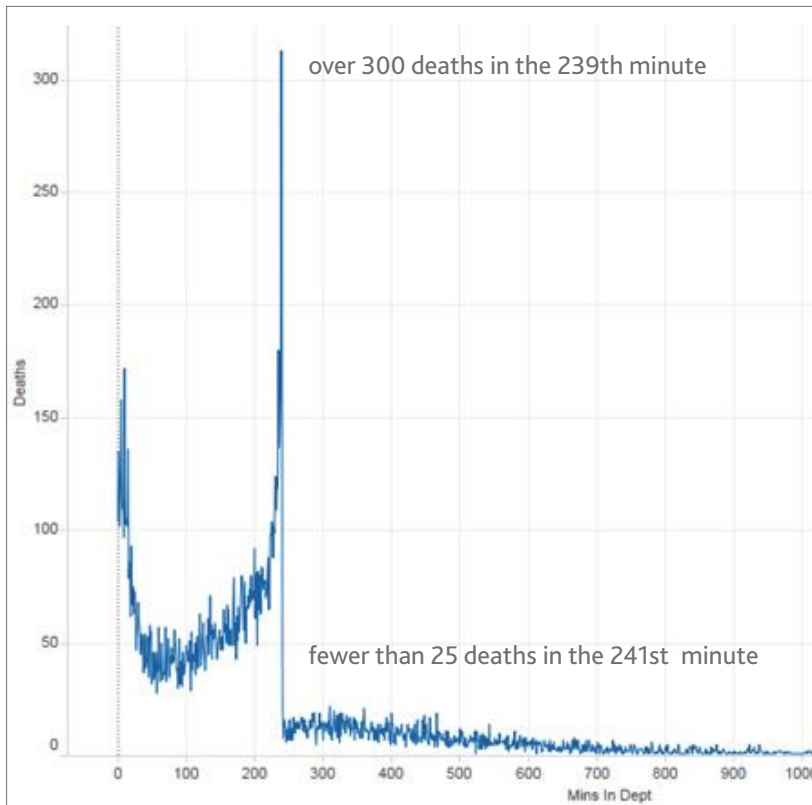


Chart 3 – When patients are treated

There is also a corresponding spike for the small percentage of patients who are recorded as having died (Chart 4). Patient deaths should not be affected by the target, so this chart suggests there are other factors at play in the recording of the data.



**Chart 4 – Deaths recorded within the Emergency Department**



### 3. Analysis of individual trust distribution

We also found significant variation between trusts indicating very different approaches to managing patient flow within Emergency Departments. Chart 5 shows Trust A where patients are treated most frequently in just 25 minutes. Chart 6 shows Trust B where the most likely treatment time is almost 240 minutes.

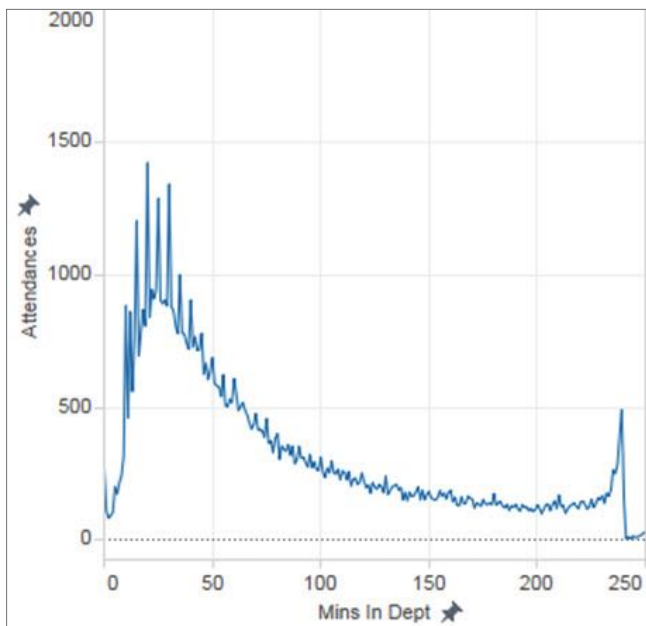


Chart 5 – Trust A

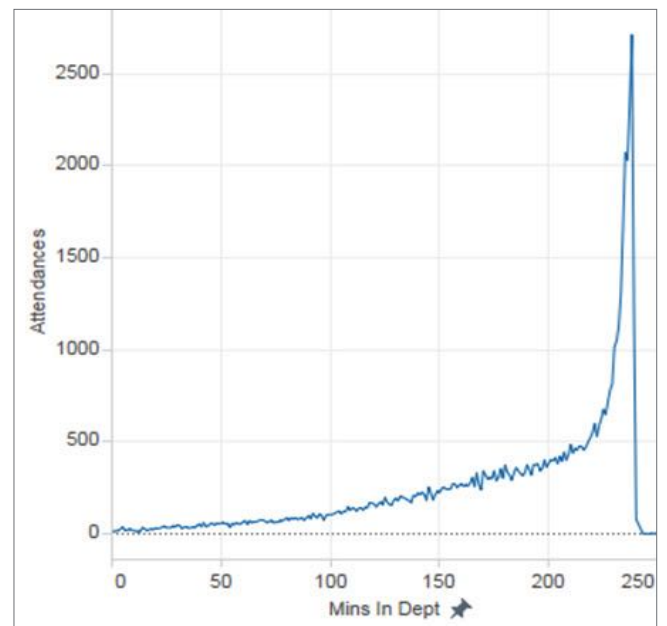


Chart 6 – Trust B

Charts 7 and 8 show the performance of two different trusts beyond the four hour target. A logarithmic scale is used for clarity. Only 36 patients remained in Trust C's emergency department beyond 10 hours (0.04%) but the equivalent figure for Trust D was over 23,000 (27%).

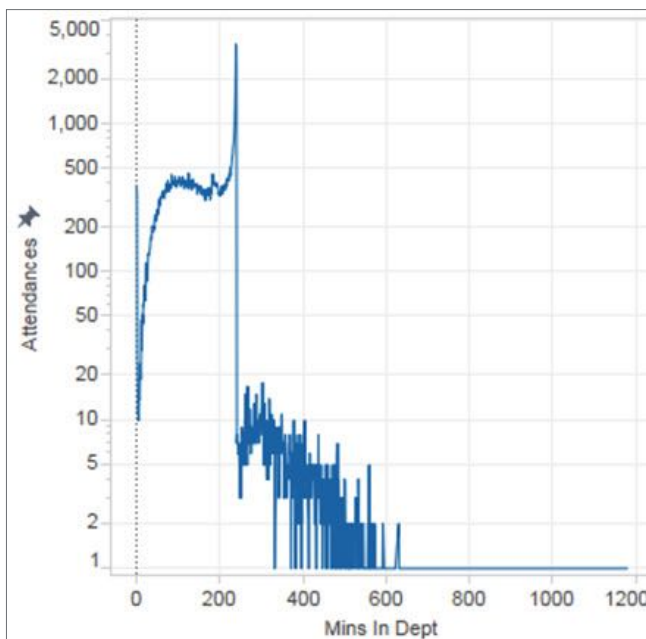


Chart 7 – Trust C

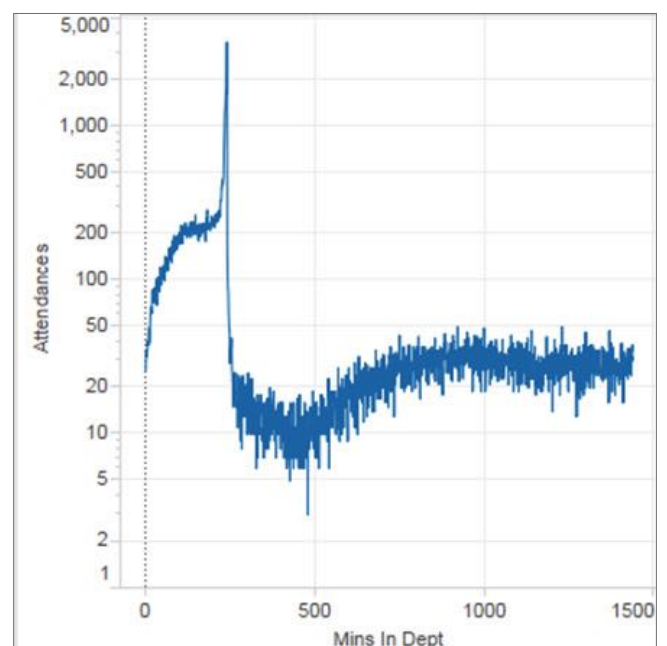


Chart 8 – Trust D

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Our analysis supports the RCEM's call for the the introduction of a further indicator looking at treatment time beyond four hours, which can be considered 'avoidable patient time lost'.

Further analysis found no correlation between the four hour target performance and performance either within or beyond four hours. In other words, it is possible for a trust to perform well on the official target yet perform less well on the more detailed measures.

## Conclusion

When it comes to measuring performance the A&E four hour target is limited. Given the extent of the variation between trusts both within four hours and post four hours, two further indicators might also be considered as useful additional measures. Both can be calculated easily, are independent of the existing target measure, and would provide management and commissioners with additional insight into A&E performance.



### The Royal College of Emergency medicine says:

"We support the continued measure of four hours between arrival at an A&E department and either discharge or hospital admission. This standard has done more to focus resources and endeavours on patients in A&E departments than any other and has been the only foil to the tariff structure which penalises hospital care of the acutely ill and injured.

The data presented in this report highlight the current 'push' rather than 'pull' ethos within acute trusts - why else would there be such a spike in admissions immediately prior to the four hour threshold. There are also problems with data accuracy as exemplified by the apparent mortality figures reported at 239 and 241 minutes.

The proposed use of 'Avoidable Patient Time Lost' using the same data better reflects both patient experience and hospital endeavour in ensuring smooth flow of patients through the emergency department. Counter-intuitively, but thereby enhancing the power of such an indicator, there is no correlation with four hour performance despite it reflecting the care pathways of some of the sickest and most vulnerable patients."

**Dr Clifford Mann**, *president*, Royal College of Emergency Medicine

## References

1. Winter pressures: what's going on behind the scenes? Quality watch (Nuffield Trust and the Health Foundation), 2016

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# Find out more

To find out more about how we can support you address these challenges, please contact us:

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