

# SEPSIS: Does a 'one-stop box' reduce delays in antibiotic delivery?

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## What is / was the problem?

Local Trust evidence demonstrates a delay between prescribing of antibiotics and administration of antibiotics among patients recognised as having sepsis.

This issue also been recognised at National levels and believed to be a contributing factor in sepsis associated morbidity and mortality.



## Why do we want to reduce delays to antibiotic delivery?

Evidence suggests that delays in antibiotic provision, for septic patients, is associated with increased mortality (by up to 7% for every hour of delay), increased LOS (length of stay) on ITU and in hospital and increased morbidity.

Reducing time to delivery of antibiotic provision can, therefore, be a useful tool in improving sepsis mediated mortality and morbidity and may reduce admission associated costs through lower LOS.

Drivers to improve National performance have resulted in implementation of Sepsis CQUIN. Adherence to CQUIN requirements can generate additional income for Trusts through associated financial incentives.



## Our Aims

To improve recognition of sepsis in the Emergency Department (ED); to implement a tool to support immediate treatment of sepsis in the ED; to reduce delays between antibiotic prescription and antibiotic delivery for patients with sepsis.

## Diagnostics

Two investigation arms:

- 1) Retrospective review and audit of data relating to sepsis recognition and timings of antibiotic prescription and subsequent delivery;
- 2) Interview of ED nursing staff to identify operational reasons for delays between antibiotic prescription and delivery

## PDSA Summary

**Plan** - Set objectives with realistic timeframe. Predictions- delay in delivery of ABX owing to location of drugs/corporate knowledge of administration requirements

**Do** - Collect baseline retrospective data of confirmed admission of Septic pts to ABX delivery (Jul/Aug 15). Interview staff to assess possibilities of ABX delay.

**Study** - Analyze data.

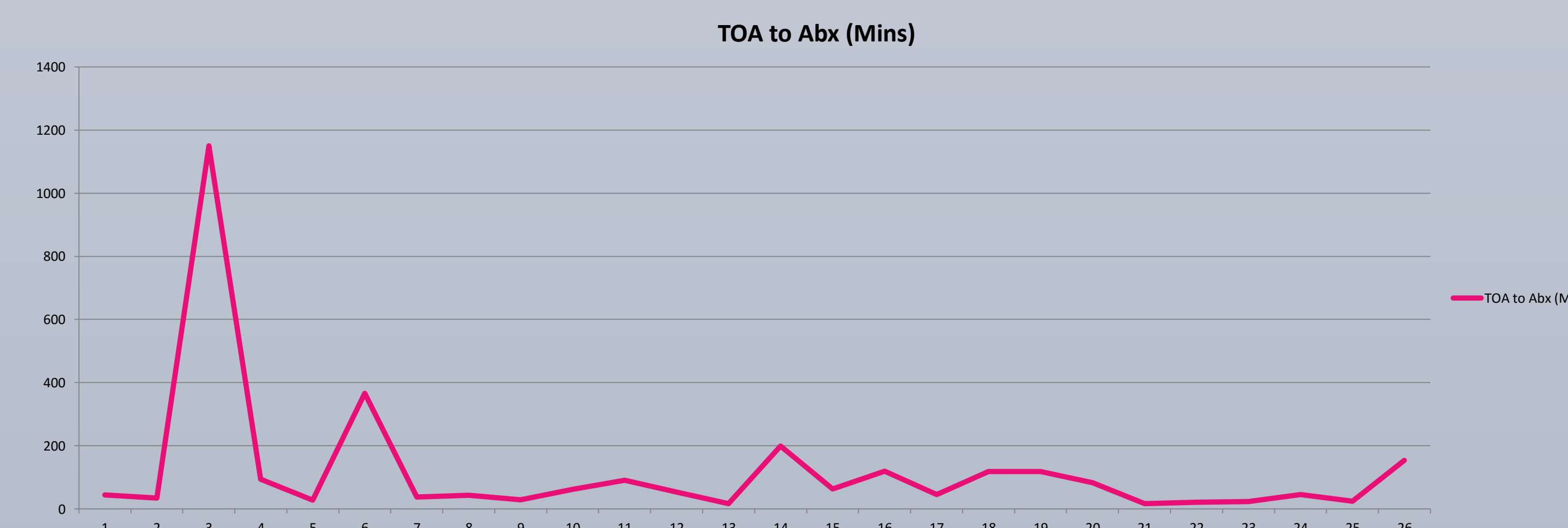
**Act** - Implement Sepsis "One-Stop-Box" (including ABX and administration instructions)



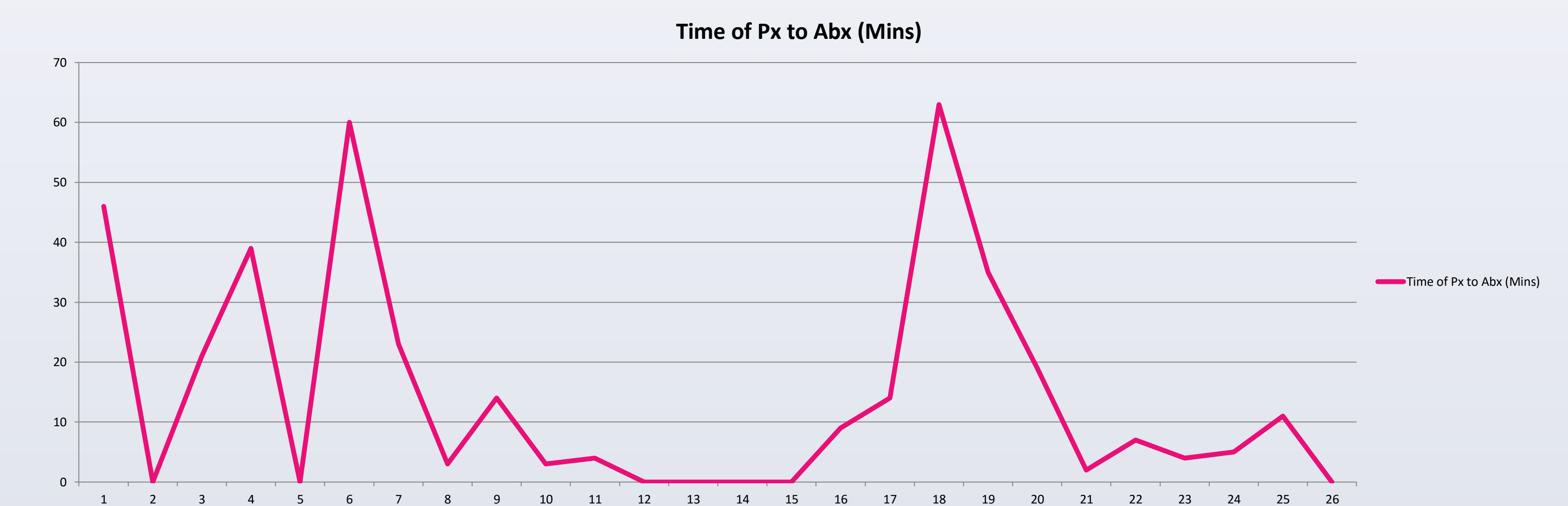
## Results 1 – Audit of data

29 sets of case notes reviewed; only 26 (89.7%) had full data available.

Mean length of time between patient arrival in ED and delivery of antibiotics = 118.6 minutes (17 - 1150)



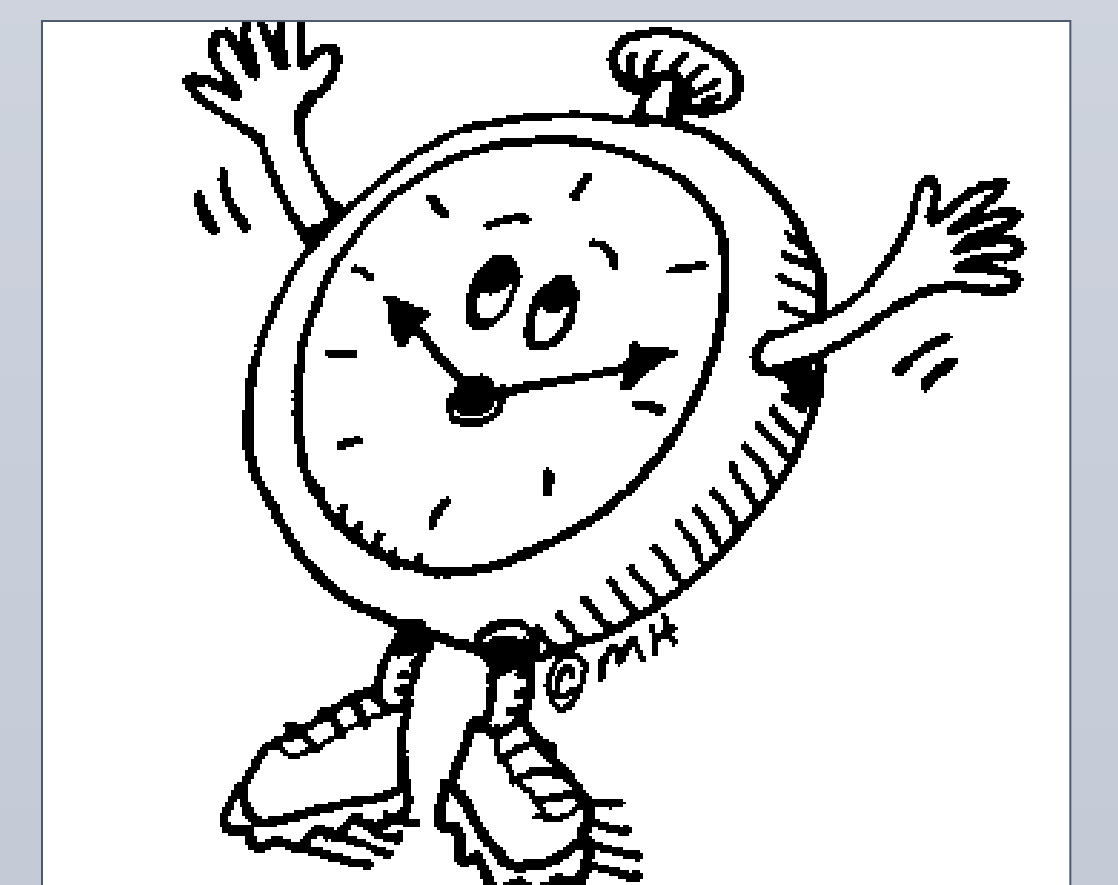
Mean length of time between prescription and delivery of antibiotics = 14.8 minutes (0 - 63)



## Results 2 – Reasons for delay

Interviews with staff identified the following main reasons that they felt contributed to delays in antibiotic delivery:

- Low levels of ED staffing (including IVAB competent staff)
- 'Chasing' drug cupboard keys
- Time taken to check administration protocols (instructions from Hospital Pharmacy Webpage), drawing and mixing drugs
- Interruptions to undertake other tasks during drug preparation



## Discussion

We identified significant delays in delivering antibiotics to patients in the ED with sepsis. There are many factors contributing to this.

This project is on-going, with a further PDSA cycle required once the "One-Stop-Box" has been implemented; proving/disproving the prediction that this will reduce delivery times for vital ABX.