

# Pharmacy Services in the Emergency Department

## Targeting the Highest Risk Patients

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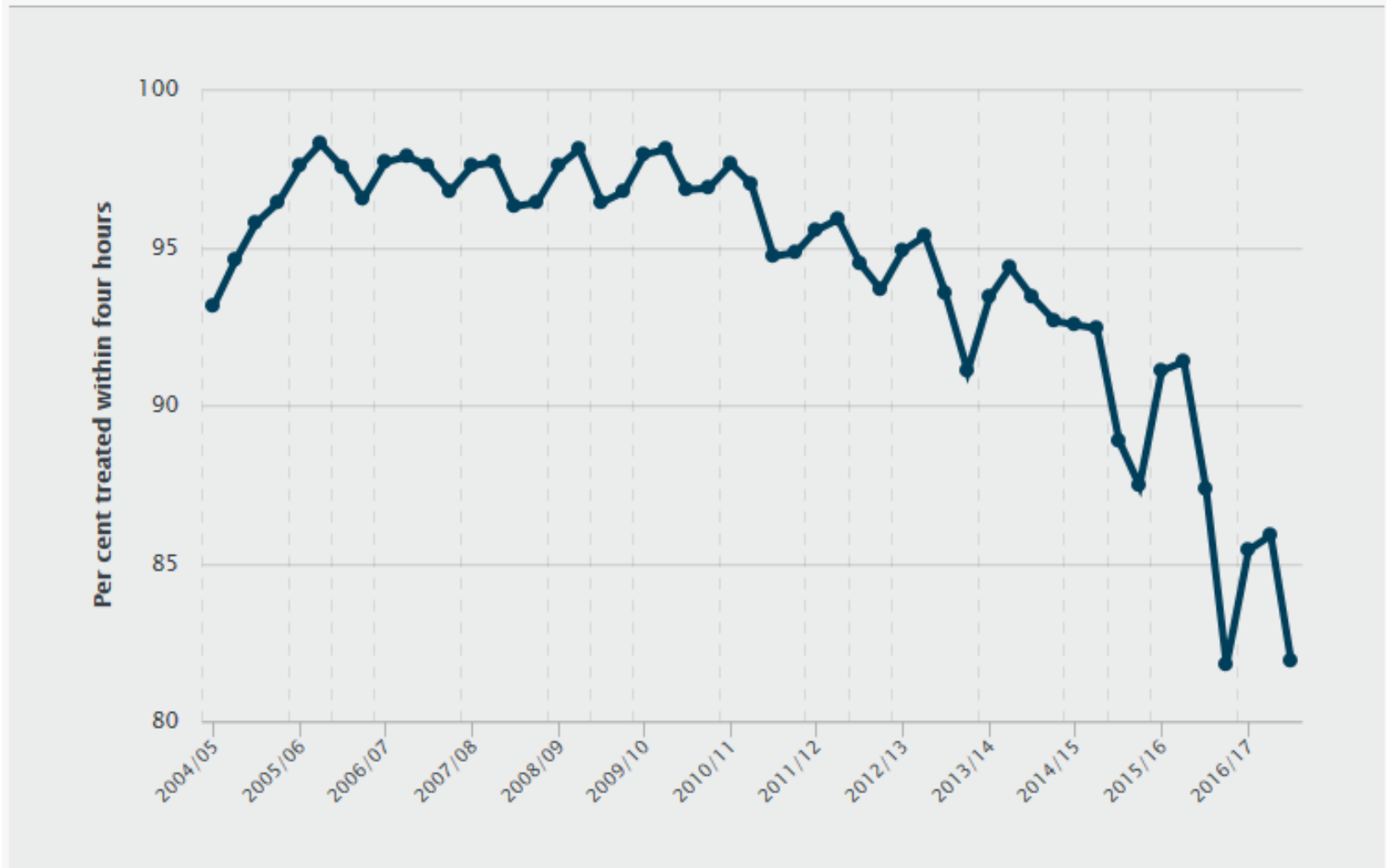
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***'When all else fails, there's always  
A&E'***

*We are here for you*



NHS England, 2016<sup>1</sup>

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# Inpatient mortality increased by emergency department overcrowding

‘Presenting to an emergency department during shifts with longer waiting times, reflected in longer mean length of stay, is associated with a greater risk in the short term of death and admission to hospital in patients who are well enough to leave the department. Patients who leave without being seen are not at higher risk of short term adverse events.’<sup>2</sup>



# High Risk Area

Forced to Prioritise the Sickest Incoming Patients

"I don't know why I was suspended from doing surgery! I'm not the one who loaded the Appendix app rather than the GallBladder app!"

information

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# Triage Priority in ED

**Severity of Presenting Complaint**

*(How sick is this person right now)*

OR

**Potential Severity Related to Body System**

*(Red Flags for high risk conditions)*

# 2 Cases

Greater Chance of  
early deterioration

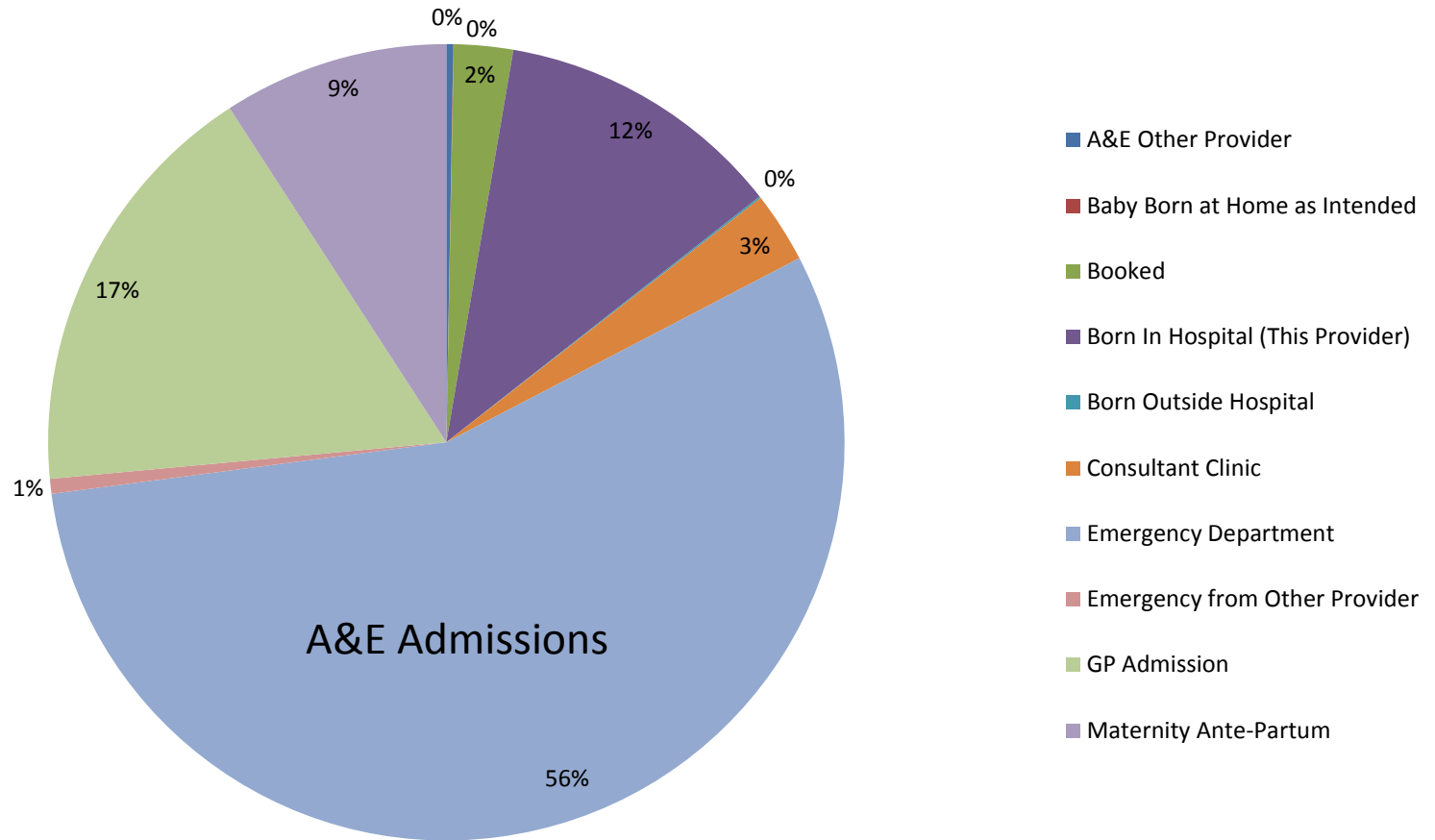
More Worrying  
Presenting Complaint

# Local Incident Data

- 174 individual Medication related Datix's submitted (April 2015-16).
- 56 related to Omissions.
- 6 caused actual harm.
- **Likely significant under-reporting.**
- Reviewing cases, argument that routine clinical pharmacy presence would mitigate/prevent considerable amount of these incidents.



# ED : Inpatient Admissions



***‘We are failing at providing high quality care of patients pre-existing medical conditions in ED’***

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# Pilot Pharmacy Service

***‘Identification, Prioritisation, Reconciliation and Supply of Medications for High Risk Patients’***

AND

**‘Proactive and Rapid Access to Specialist Pharmaceutical Advice for all MDT members’**

# Time Critical Medications

- Comprised around 50% of all interventions made in pilot.
- NPSA<sup>3</sup> and Internal Priority<sup>4</sup> from previous incidents.
- Improved transfer of care between intra-hospital departments.
- Feedback from nursing staff.

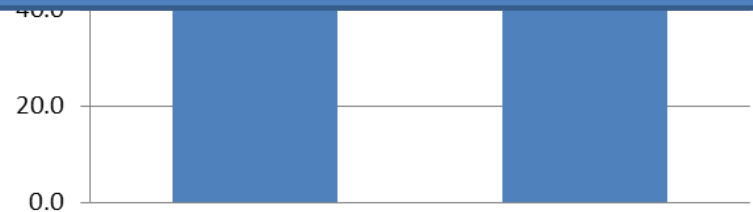
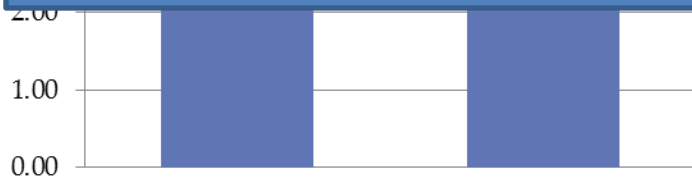
# Chronic Kidney Disease/AKI

- Feedback from all clinician subtypes.
- Considerable literature around pharmacist advice leads to improved outcomes<sup>5</sup>
- Least amount of information in formal guidance.

# Falls & Polypharmacy

- Interventions able to be made in patients requiring ED discharge.
- Early Identification of potential ADRs.
- Review & Rectification of medication regimes prior to DC.

Higher Risk Patients – 75% more likely to experience a medication related error/incident as an inpatient.



# Further Areas

- IV Insulin requirement.
  - High Risk Red Sepsis.
  - Status Epilepticus.
  - Pregnancy.
- 
- Priority Groups established from MDT consultation, severity of audited interventions and local/national priority guidance.



## Medication Criteria for Early Intervention

## New Diagnosis Criteria for Early Intervention

### TRIAGE CAT A

High Risk of Deterioration in ED (15% of patients)

High Risk Anticoagulant  
Parkinsons/Myasthenia  
Steroids for Addisons  
Insulin T1DM  
Transplant Immunomodulators

DKA/IV Insulin requirement  
Symptomatic Hyperkalemia  
Status Epilepticus  
AKI Stage 2 or 3

### TRIAGE CAT B

Potential risk of Deterioration in ED (25% of patients)

Antiepileptics  
Insulin T2DM  
Lower Risk Anticoagulants  
Strong Opiates  
Other Immunosuppressants

High Risk Red Sepsis  
First Seizure  
Symptomatic Electrolyte Imbalance  
Stage 1 AKI  
Pregnancy/Breastfeeding

### TRIAGE CAT C

Low risk of Deterioration in ED (35% of patients)

Situationally relevant cardiovascular regimes.  
Discretionary Cases

Falls/Collapse (Polypharmacy)  
Chronic Kidney Disease

### TRIAGE CAT T

Exclusively flow related (25 % of patients)

All other Lower Risk Presentations

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# Two Complimentary Triage Systems

## ED Clinician Triage

**Severity of Presenting  
Complaint**

OR

**Potential Severity Related  
to Body System**

## Pharmacy Triage

**Potential for  
deterioration of  
comorbidity**

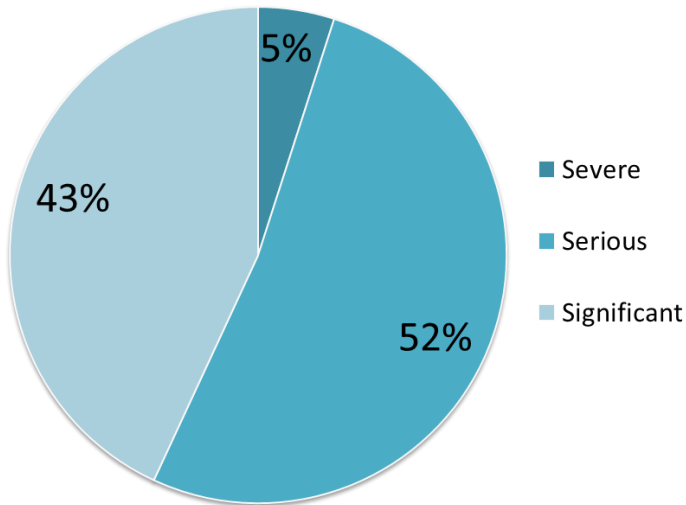
OR

**Potential for Medication  
related error**

# Interventions – Patient Safety

1434 total interventions, **816 (57%)** categorised as having potential to cause **serious or severe harm**.

**~4x greater** than trust average.



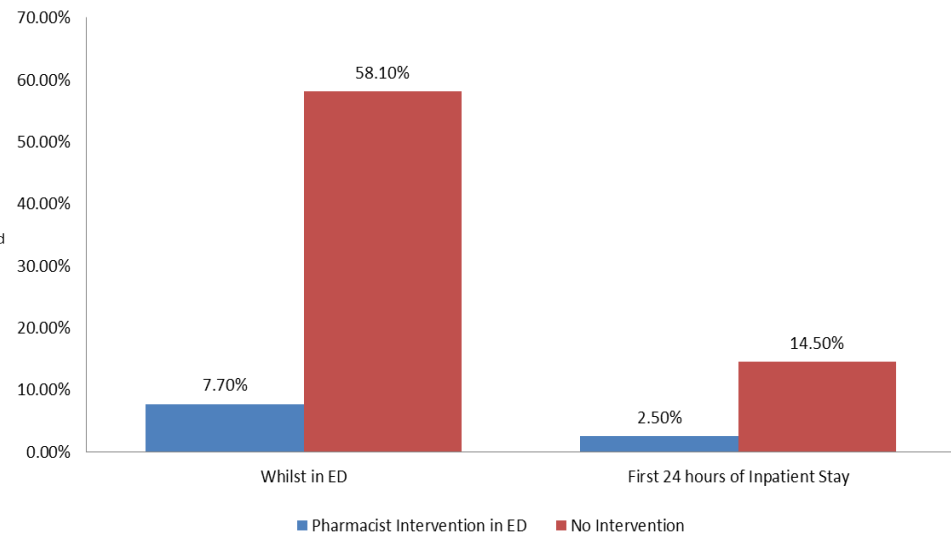
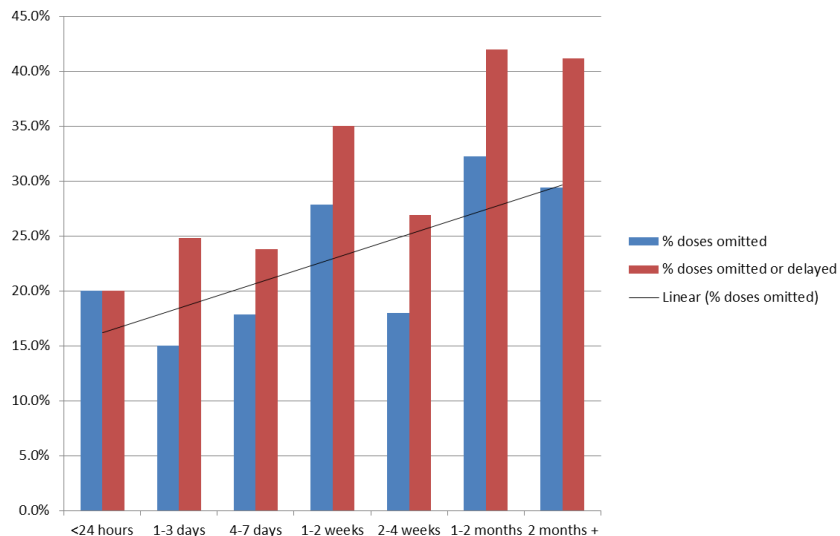
Potential cost saving<sup>6</sup>  
**£617,970 –£1,348,800**

Potential prevented IP stays<sup>7</sup>:  
**345 bed days.**

# Flow – Impact on Acute Care Pathway

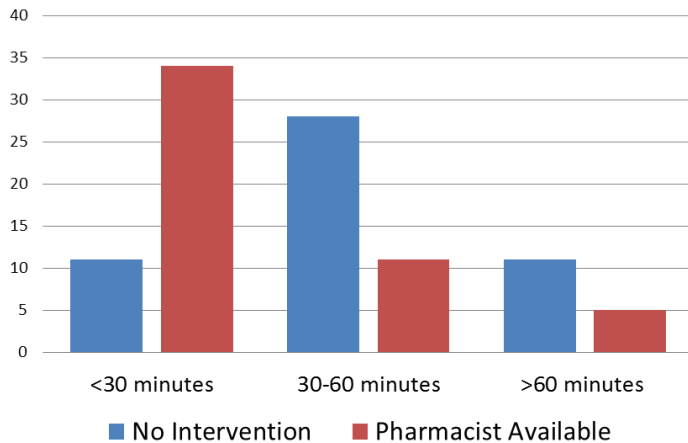
Parkinsons Related dose Omissions, early prevention within ED associated with **reduced total IP stays.**

Pharmacist intervention in Parkinsons patients in ED **improved quality of care both within ED and base ward level**



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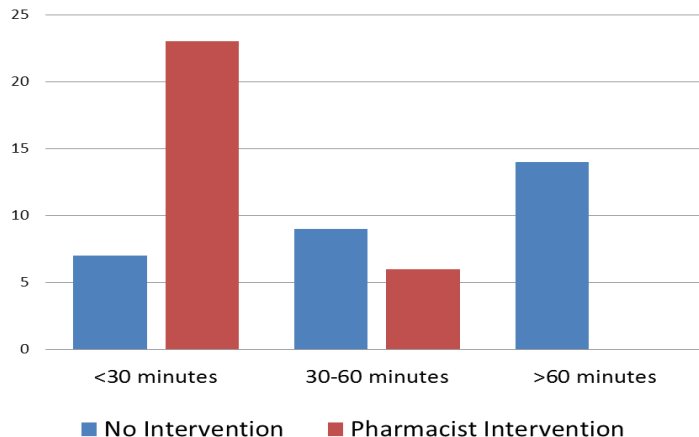
# Efficiency – ED Staff



## Nursing

232 immediate critical medication supplies to nurses previously needing to source independently.

**Nursing Time Saved\*  
161.7 hours.**



## Clinicians

231 medicines information enquiries resolved requiring pharmacist input to resolve.

**Clinician Time Saved\*  
192.5 hours**

\*Estimated from staff survey results, 50 ED nurses

\*\* Estimated from staff survey results, 31 decision makers.

# Technician Impact

- Prioritises **lower priority** patient profiles awaiting admission.
- Pharmacy standard drug history provided at 'time zero'.
- 5-10 patients consistently seen in addition to pharmacist.

**Pressure off admissions areas pharmacy staff, quicker discharges.**

**Earlier Accurate Drug Histories for clinicians.**

# Integration of Pharmacy Service into ED MDT

- *'I think it greatly improves the safety and efficiency of the overcrowded Emergency Department' (Jr Dr)*
- *'would be good to have a physical presence in ED. Often when drugs are needed it is time critical and having someone on hand for advice would be beneficial' (Sister)*
- *'Very very useful in blue team, especially for those pts awaiting admission to inpt medical wards - can save clerking time for the admitting team' (Cons)*
- *'Has prevented drug errors through continued education and vigilance in the department - improves patient care' (Cons)*

# Next Steps...

- Expand Pharmacy Staff Presence.
- Expand Pharmacy Skill Set (IP).
- Automated Triage.
- Large scale study on impact on flow.



# Final Thought

**How much damage is done in ED, prior to a patient getting a full MDT review on an admissions area?**

# References

- 1 – NHS England (2016) - <https://www.kingsfund.org.uk/projects/urgent-emergency-care/urgent-and-emergency-care-mythbusters>.
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