

# **Antibiotic Guardian: Innovation through Quality Improvement**

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Principal Pharmacist Medicine & Anti-Infectives

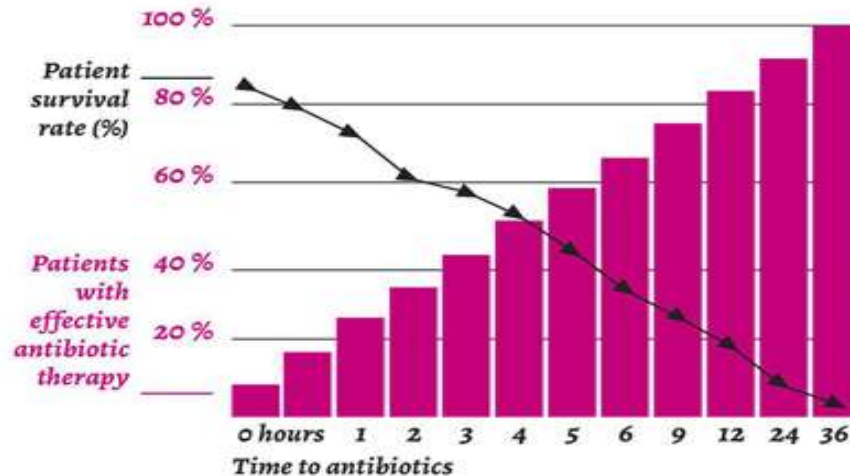
# QUALITY IMPROVEMENT PROJECT AIM

Increasing  
Antibiotic  
Safety

- Administration of Antibiotic Stat Doses** within 1 hour – target 80%
- ~ 75 pts/day are ordered STAT antibiotic doses at HEFT
  - on EP (mainly for acute sepsis)

# Why focus on antibiotic start doses administration within 1 hour?

Sepsis is a medical emergency <sup>8</sup>



# Antibiotic Safety Improvement Team



Corporate  
Nurse

Microbiologist

ICT  
Developer

Patient Safety  
Advisor

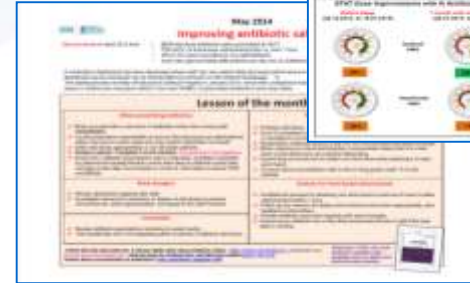
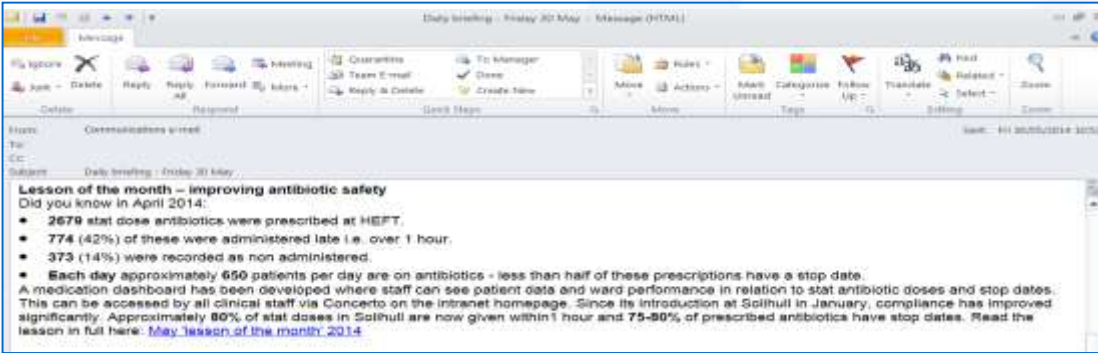
Antibiotic  
pharmacists

Patient Safety  
Administrator

# Staff engagement

## Comms Bulletin

## Lesson of the Month



## Solely Solihull Article

## EP Codes Consultation



## Dashboard Launch Follow-up Letter

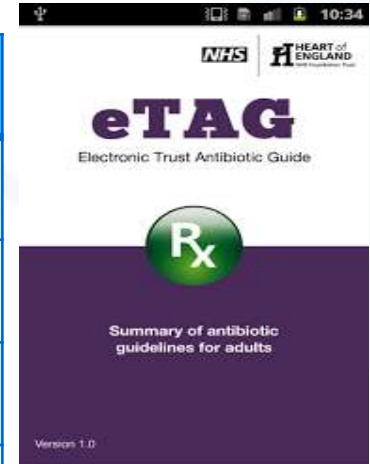


## Pilot Wards Feedback



# Barriers & Breakthroughs

BARRIERS	BREAKTHROUGHS
Delays due to IV competence/ cannulation skills	Junior Doctor IV refresher training; Review of IV therapy / V&C provision
Junior Dr prescription queries	Junior Drs signposted to Trust Smartphone Antibiotic App
Wi-Fi connectivity issues anomalies Solihull AMU	Upgrades to wireless routers and tough books
Omissions due to prescription queries - anxiety re double dosing	Clarity for prescription queries - Antibiotic SOP
Delays due to non communication of STAT doses by prescribers	'LIVE' dashboard development Change of focus to preventing delays in acute admission areas - Automated antibiotic bleep development



# Key Innovation



IV STAT bleep



# IV Antibiotic STAT Bleep

Antibiotic  
STAT dose  
prescribed  
on EP

*If dose not administered within  
15 minutes*



Real-time live dashboard

Building healthier lives

Home Help (RazaqSh) Logout

### Antibiotic stat dose

Select a favorite search

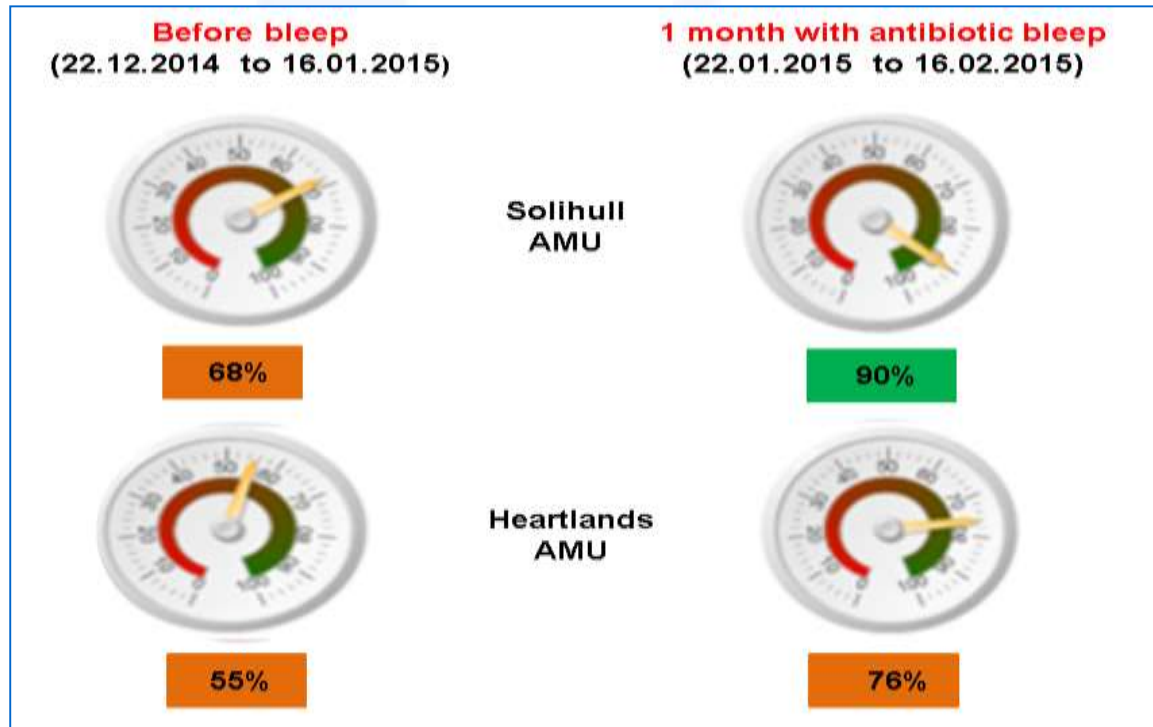
Site: Good Hope Ward: [dropdown]  
Show: Non-Administered

Search [button] Result: [dropdown] [input] Enter a new favorite search [plus]

Ward	Name	Antibiotic	Scheduled	Period	Updated	Outcome Reason	WCC

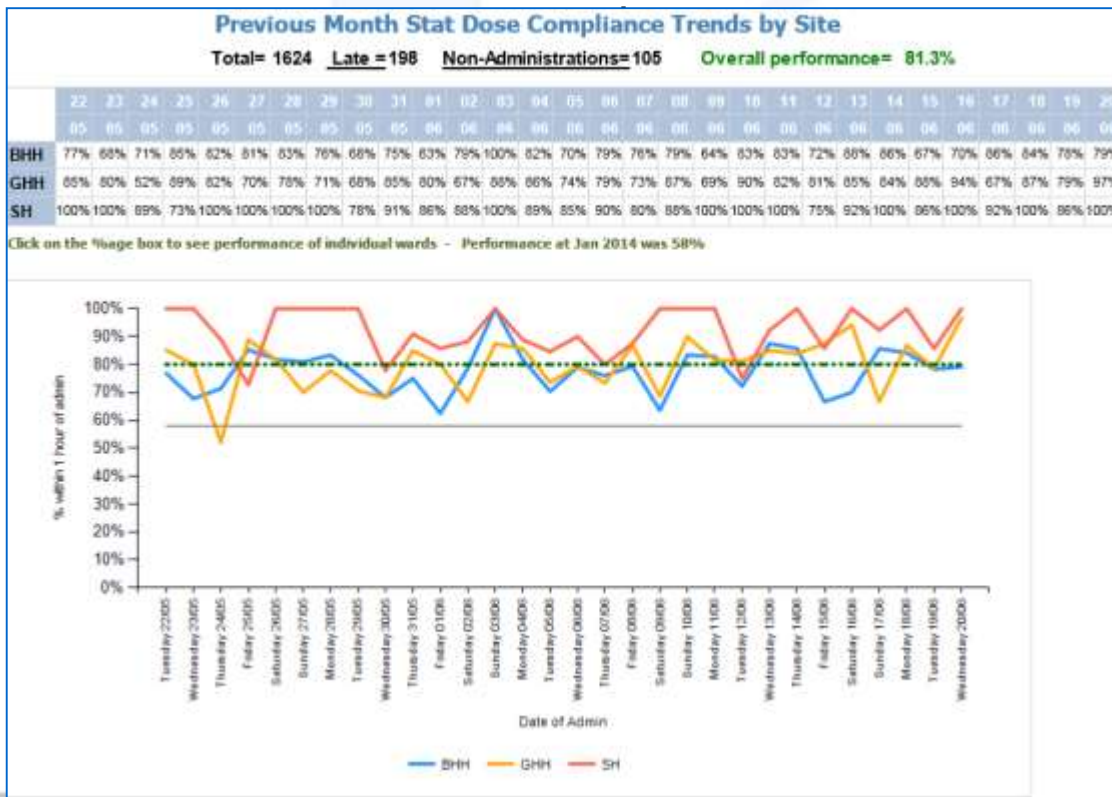


# Bleep introduced to drive improvement in acute admission areas



# Trust – Daily Antibiotic Stat Dose Administered within one hour

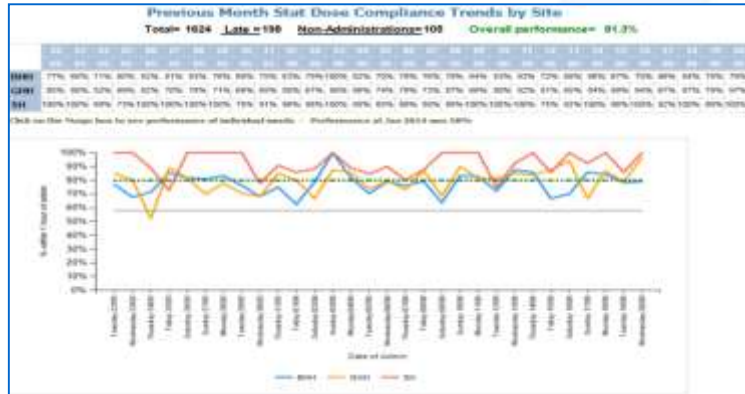
Dashboard shows overall Trust and site compliance with antibiotic stat



By double clicking on the percentage for each day a further screen will open

# Educational resources

## Medication Dashboard



## Standardised Pharmacy Ordering Process



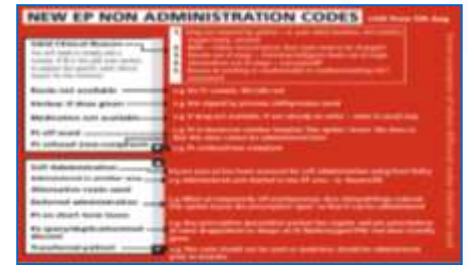
## Bleep Holders Guide



## Anti-infective SOP



## Videos

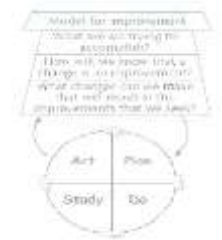


## EP Non-administration Codes



**Focus on safety culture, appealing to hearts and minds**

**Trust wide involvement – ward to board (nurses, doctors, pharmacists, communication team, medical illustration, executives)**



**Use of improvement methodology**

# Key to Success



**Creative and personalised communication strategy. Planned program of Ward visits**



**Empowering & Engaging**  
Encouraged teams to integrate antibiotic safety reviews into existing wards systems (handovers, safety huddles)

**Enlisting support from key teams: Pharmacy, Faculty, ICT, Microbiology**

**Actively listening to barriers/ suggestions from front line clinicians**

**Continuous consultations during project development**

**Promotion of Educational Resources**



**Unblocking organisational barriers to antibiotic safety**

# Medication Safety – the work so far

- Sustained improvement administration of IV STAT antibiotics within 1 hour

YEAR*	Late	Non-Administration	Total no. of doses	% administered within 1 hour
2014	12% (206)	30% (502)	1671	58%
2015	10% (210)	25% (500)	1966	64%
2016	6% (130)	19% (353)	1867	74%
2017	12% (255)	5% (117)	2022	81%
2018	14% (304)	7% (145)	2050	78%

\*Data taken as snapshot over 1 month in January of each year

# The Innovation & Quality Improvement Outcomes

- Real and sustained improvement in antibiotic STAT doses (process measures)
- Co-lateral effects on antibiotics stewardship
- Roll out to other time critical medications (Parkinson's)

# Dr Das Pillay (1966 – 2017)



# #Doit4Das

