

A Sepsis Quality Improvement project

Meeting the one-hour target

Oxford

**Patient
Safety
Collaborative**

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Emergency Department
Wexham Park Hospital

Sepsis:

Definition, cases, deaths and cost in UK

Lay definition of sepsis: the Merinoff definition:
 'Sepsis is a life-threatening condition that arises when the body's response to an infection injures its own tissues and organs.'

Professional narrative definition of Sepsis: Singer M et al ('Sepsis-3'):
 'Sepsis is characterised by a life-threatening organ dysfunction due to a dysregulated host response to infection.'

Definition of septic shock: Singer M et al ('Sepsis-3'):
 'Septic shock is a subset of sepsis where particularly profound circulatory, cellular and metabolic abnormalities substantially increase mortality.'

Table 1: Sepsis incidence in England
 (no. of episodes per year as reported by the Health and Social Care Information Centre (now NHS Digital))

Year	2010-11	2011-12	2012-13	2013-14	2014-15
Number	91,881	101,015	114,285	122,822	141,772

250,000
year UK



SEPSIS CLAIMS MORE LIVES
 THAN LUNG CANCER, AND MORE
 THAN BOWEL, BREAST AND
 PROSTATE CANCER COMBINED
(46,000-67,000)

The Cost of Sepsis

YHEC estimated, given that there are at least 250,000 cases of sepsis every year, that sepsis costs the NHS between £1.5 and £2 billion each year, and our wider economy at least £11 billion and possibly as high as £15.6 billion.



The 2006 landmark study by Anand Kumar showed an increase in mortality of 7.6% for every hour's delay in administration of appropriate antibiotic therapy.

As overall mortality has reduced with time, the magnitude of this effect might have reduced, but studies still largely concur that each hour's delay increases the risk of death by 2-5%.

Screening in ED

WPH ED Suspected Neutropenic Sepsis Tool

Committed To Excellence

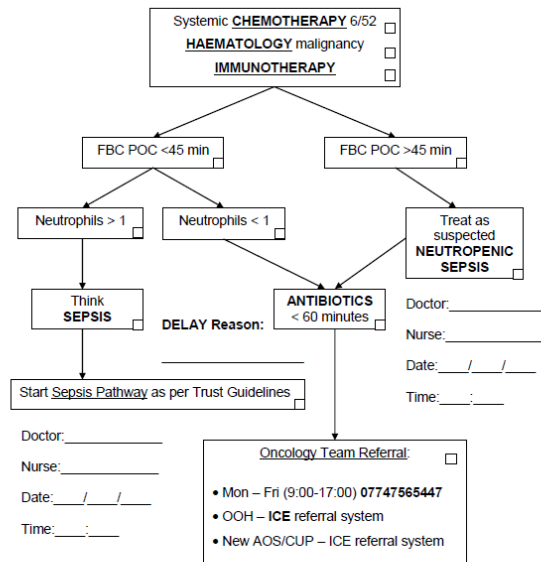
Working Together

Facing The Future

 Frimley Health 
 NHS Foundation Trust

Suspected NEUTROPENIC SEPSIS Pathway

Name: _____ DOB: ____/____/____ Hosp No: _____



If advice needed:

- On call Oncology SpR at Reading - via switchboard
- On call Oncology Consultant - via switchboard
- On call Haematology Consultant – via switchboard

 WEXHAM PARK HOSPITAL – EMERGENCY DEPARTMENT
 Created by: Dr S. Wilson, ACP F. Lee, SpecN E. Taylor, JS M. Minter and JS D. Marujo
 APPROVED BY CLINICAL GOVERNANCE – Review date April 2020

WPH ED Sepsis Screening Tool

 Frimley Health 
 NHS Foundation Trust

Adult SEPSIS SCREENING TOOL & BUNDLE

Patient details: (Affix label) Name: _____ Hospital Number: _____ Date of birth: _____ NHS Number: _____	Date and Time of acute deterioration: DD/MM/YYYY ____ : ____ Time of assessment by Doctor ____ : ____ Name of doctor: _____ Bleep No.: _____
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SEPSIS SCREENING TOOL

1	DOES PATIENT LOOK SICK? AND / OR NEWS 3 (in one Box) <input type="checkbox"/> or NEWS ≥ 5 <input type="checkbox"/>
2	Indication or suspicion of infection E.g. pneumonia, intra-abdominal, cellulitis/infected wound, UTI, On chemotherapy, Neutropenic, Post-partum, Device related infection, recent surgery/trauma/invasive procedure (within 6 weeks) YES- Commence Bundle <input type="checkbox"/> No – Consider other reasons for deterioration and document on NEWS Chart <input type="checkbox"/>
Seek Immediate Senior Review (≥ST3) if Sepsis is suspected due to: Meningitis <input type="checkbox"/> Necrotising Fasciitis <input type="checkbox"/> Sepsis of unknown origin <input type="checkbox"/>	

SEPSIS CARE BUNDLE

1	Give OXYGEN to maintain SpO ₂ > 94% (88-92% in patients with COPD at risk of CO ₂ retention)	Time started..... <input type="checkbox"/>
2	Take BLOOD CULTURES (consider additional cultures: urine, sputum, wound)	Time taken..... <input type="checkbox"/>
3	Administer IV ANTIBIOTICS as per Micro-guide (Use specific antibiotics if known source of infection)	Time given..... <input type="checkbox"/>
4	Measure LACTATE	Time taken..... <input type="checkbox"/>
5	Administer FLUIDS 500 mLs Crystalloid stat (if SBP <90 mmHg) given at.....	<input type="checkbox"/>
6	Measure URINE OUTPUT and record on fluid balance chart	started..... <input type="checkbox"/>
Observations every 30 mins, follow NEWS protocol and Senior Review <input type="checkbox"/>		

DATE & TIME BUNDLE COMPLETED: DD/MM/YYYY HH:MM

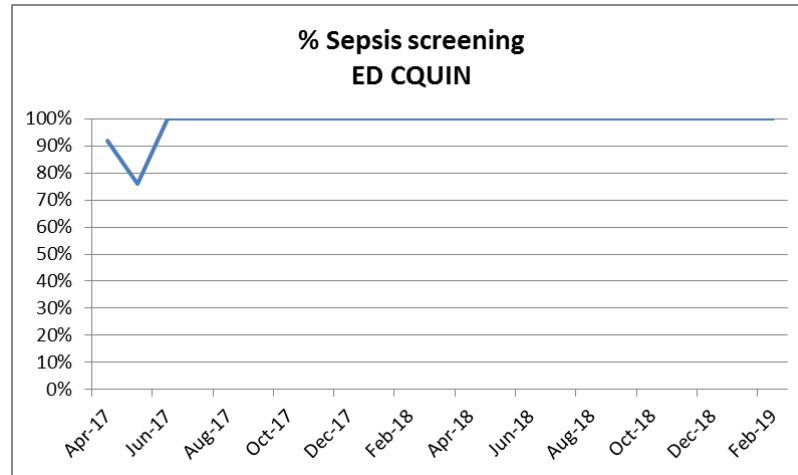
Signature: _____ Name: _____ Designation: _____

ALL ANTIBIOTICS MUST BE REVIEWED WITHIN 48 HOURS

Frimley Health Sepsis group October 2017 Version 15

WITHIN AN HOUR

Before - Sepsis

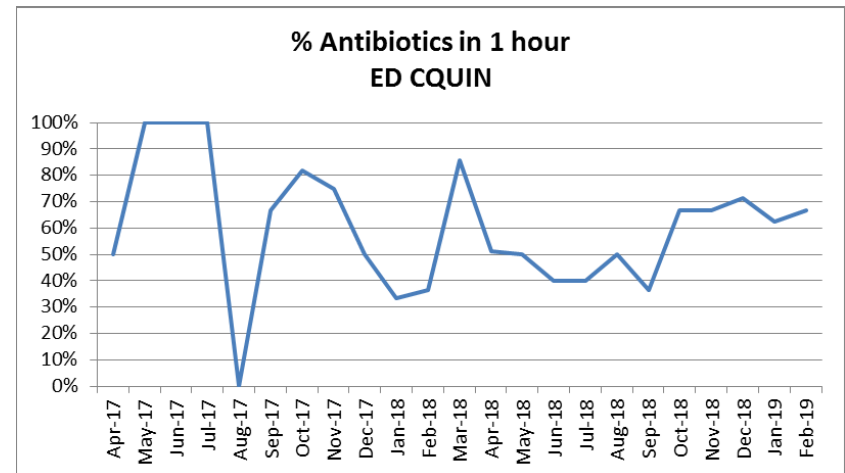


What needed to be improved?

- Screening was poor (before PF)
- Documentation using Sepsis Screening Tool
- Sepsis not identified
- Sepsis identified but not escalated
- Sepsis escalated but not treated within 60 minutes

What was working?

- Screening (after Patient First)



Improvement Plan for Early Recognition and Management of Sepsis 2019/2020

Sepsis Lead

Handovers / Board rounds

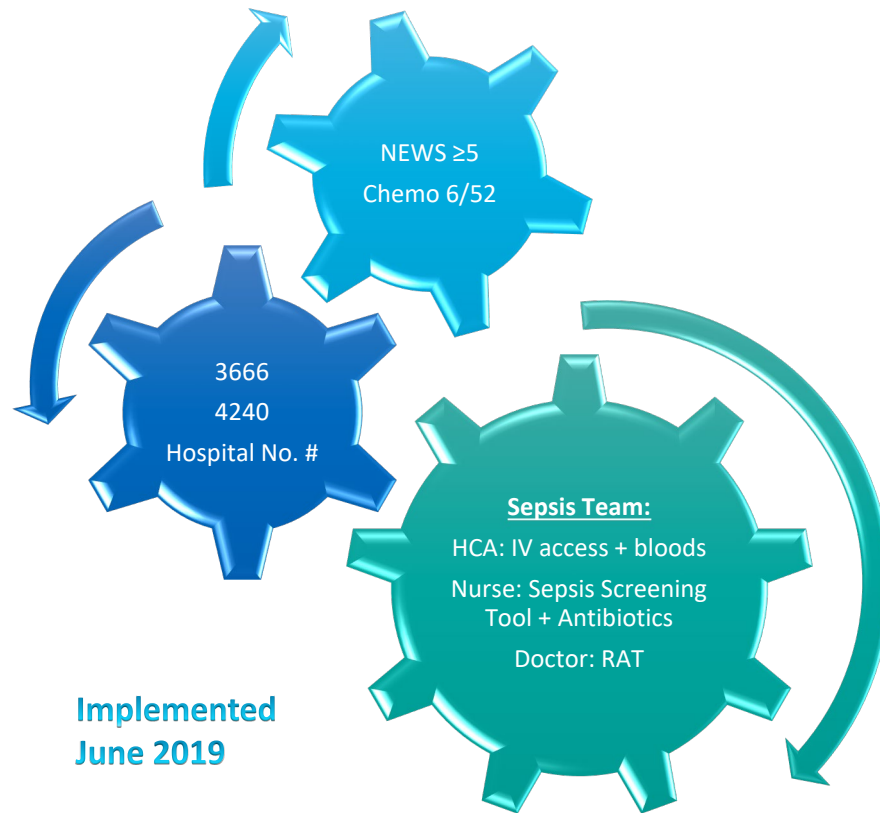
ED Sepsis Newsletter

Sepsis Champions

ED Sepsis Study Day

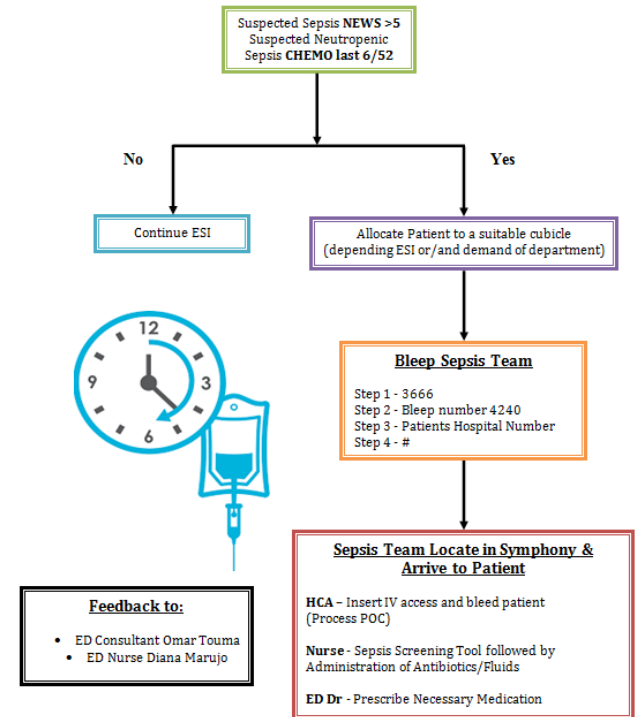
Sepsis Bleep Team

Sepsis Bleep Team



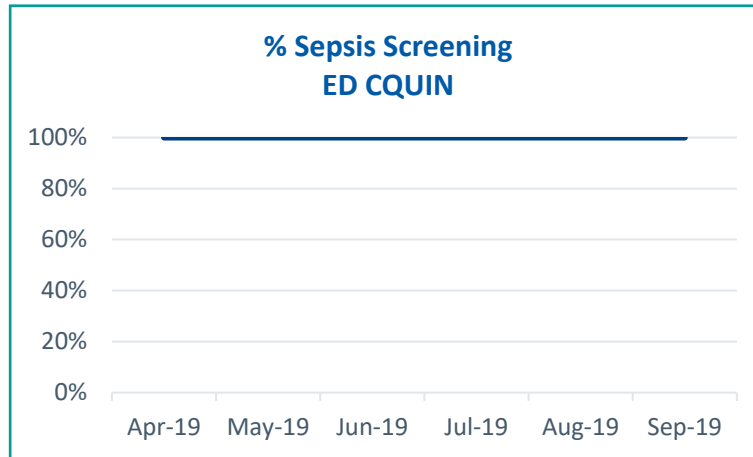
Implemented
June 2019

New Sepsis Pathway



Emergency Department
Wexham Park Hospital
Sepsis Bleep Team Pathway 2019

After - Sepsis

**June 2019:**

- From 57% in May to 82%

July 2019:

- From 82% in June to 85%

August 2019:

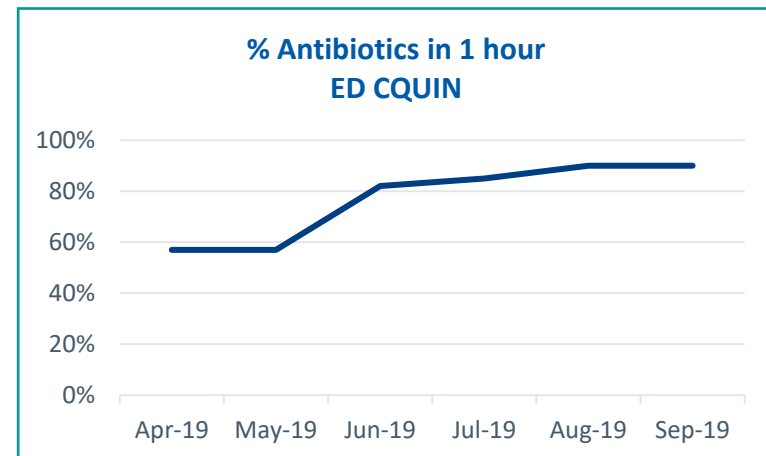
- From 85% in July to 90%

September 2019:

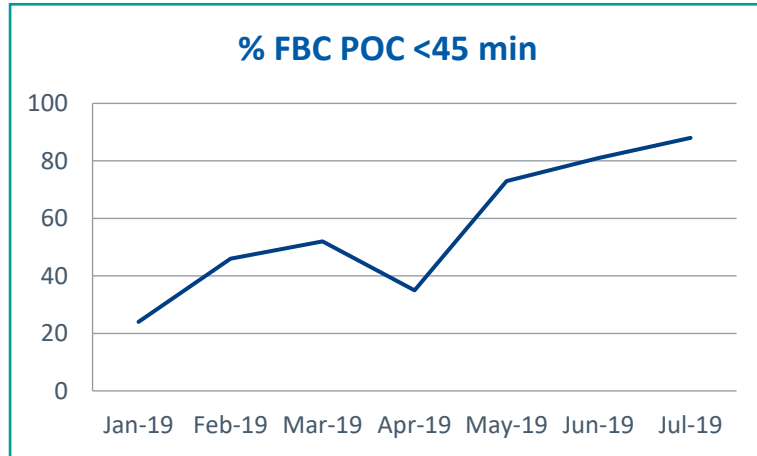
- Maintaining 90%

Screening in the future:

- Introduce pop-up window in Symphony for chemo patients and NEWS \geq 5
- Create electronic Sepsis Screening Tool



Neutropenic Sepsis

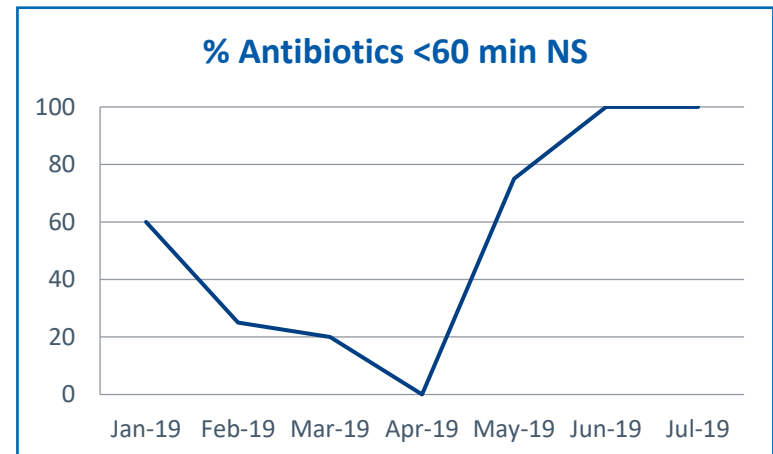


From February to April 2019:

- News programme – Symphony
- New Department – EAC

What needed to be improved?

- Walk-in patients
- Between 30-40 patients a month
- Only 13%-19% are neutropenic



Challenges/Hurdles:



Conclusion:

The Sepsis Bleep Team is showing positive results.

More than 80% of the identified septic patients are now receiving antibiotics within 60 minutes.

Also more than 80% of the suspected neutropenic patients are NOT receiving unnecessary antibiotics.

Overall, by introducing the Sepsis Bleep Team deteriorating patients are being prioritised, rapid assessment and treatment is being provided along with good antibiotic stewardship.

Future:

- Continue awareness and training
- Improve documentation
- Improve Screening and Action Tool
- Antibiotic stewardship
- Work together with multidisciplinary teams



TEAMWORK

Together Each Achieves More

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Questions?

