

IMPROVING SEPSIS CARE

Laura Potts

INTRODUCTION

- Sepsis is life threatening organ dysfunction caused by dysregulated response to infection
- It affects approximately 260,000 people and causes 44,000 deaths every year
- 25% of survivors experience long term problems
- The most effective way to manage sepsis is to recognise it early and treat promptly
- Number of organisations focused on improving recognition and initial care

IN WALES...

- National early warning score (NEWS)
- Sepsis screening tool
- Care bundle - Sepsis six
 - Oxygen
 - Blood cultures
 - IV antibiotics
 - IV fluids
 - Lactate
 - Urine output monitoring

Inpatient Sepsis Screening & Action Tool

To be applied to all adults 16 and over with fever (or recent fever) symptoms, or who are clearly unwell with any abnormal observations. Patients in specialist areas will require appropriate clinical judgement.

Important: Is an end of life pathway in place? Yes ☐ No ☐ Is escalation clinically inappropriate? Yes ☐ No ☐ Initials Discontinue pathway ☐

1. Is NEWS 3 or above? ☐ YES ☐ NO ☐
 AND/OR does patient look sick? ☐ YES ☐ NO ☐
 ESCALATE ☐
 OR if chemotherapy in the last 6 weeks and NOT scoring - refer to neutropenic pathway. ☐

2. Could this be due to an infection? ☐ YES ☐ NO ☐
 Yes, but source unclear at present
 Pneumonia ☐
 Urinary Tract Infection ☐
 Abdominal pain or distension ☐
 Cellulitis/ septic arthritis/ infected wound ☐
 Device-related infection ☐
 Meningitis ☐
 Other (specify):

3. Is ONE Red Flag present? ☐ YES ☐ NO ☐
 Responds only to voice or pain/ unresponsive ☐
 Systolic B.P. ≤ 90 mmHg (or drop >40 from normal) ☐
 Heart rate > 130 per minute ☐
 Respiratory rate ≥ 25 per minute ☐
 Needs oxygen to keep SpO₂ $\geq 92\%$ ☐
 Non-blanching rash, mottled/ ashen/ cyanotic ☐
 Not passed urine in last 18 hours ☐
 Urine output less than 0.5 ml/kg/hr ☐
 Lactate ≥ 2 mmol/l ☐
 Recent chemotherapy ☐

4. Any Amber Flag criteria? ☐ YES ☐ NO ☐
 Relatives concerned about mental status ☐
 Acute deterioration in functional ability ☐
 Immunosuppressed ☐
 Trauma/ surgery/ procedure in last 6 weeks ☐
 Respiratory Rate 21-24 or breathing hard ☐
 Heart Rate 111-130 or new arrhythmia ☐
 Systolic BP 91-100 mmHg ☐
 Not passed urine in last 12-18 hours ☐
 Temperature $< 36^{\circ}\text{C}$ ☐
 Clinical signs of wound, device or skin infection ☐

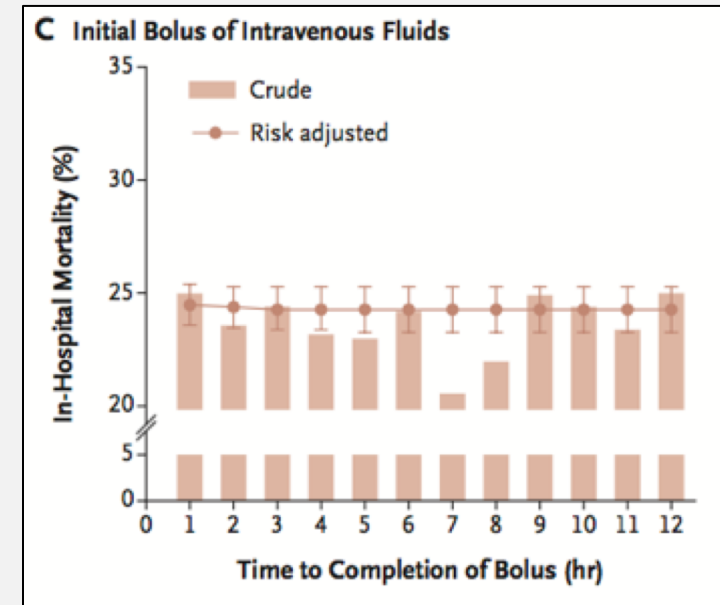
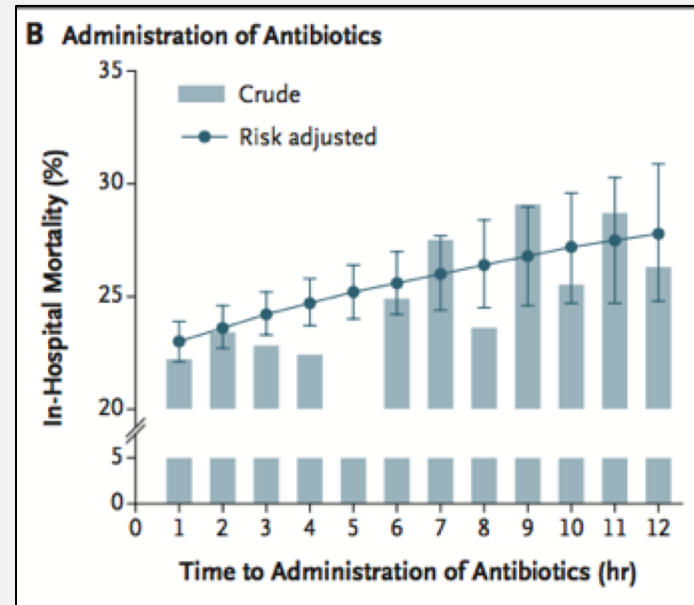
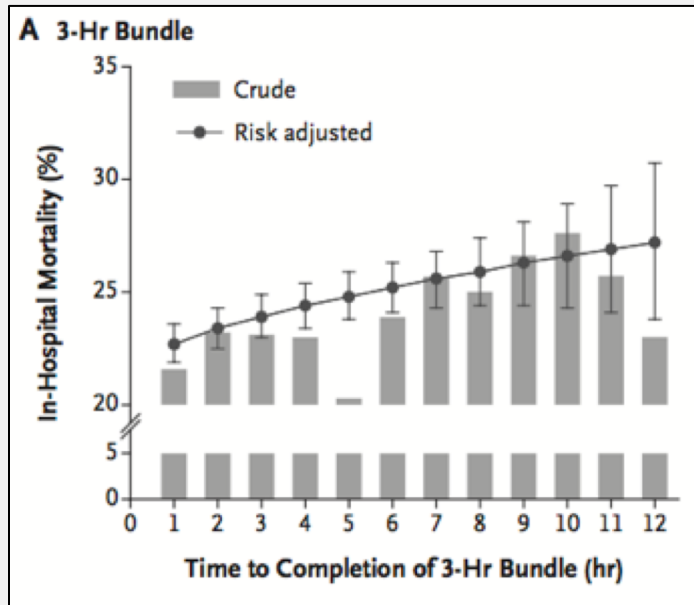
Send bloods if 2 criteria present, consider if 1 ☐
 To include FBC, U&Es, CRP, LFTs, clotting ☐
 ESCALATE APPROPRIATELY ☐
 U&S (if reqd) Must review results within 1 hour ☐
 Time clinician attended

Is AKI present? ☐ YES ☐ NO ☐
 Clinician to make antimicrobial Prescribing decision within 3h ☐

Red Flag Sepsis! Start Sepsis 6 pathway NOW (see overleaf)
 This is time critical, immediate action is required.

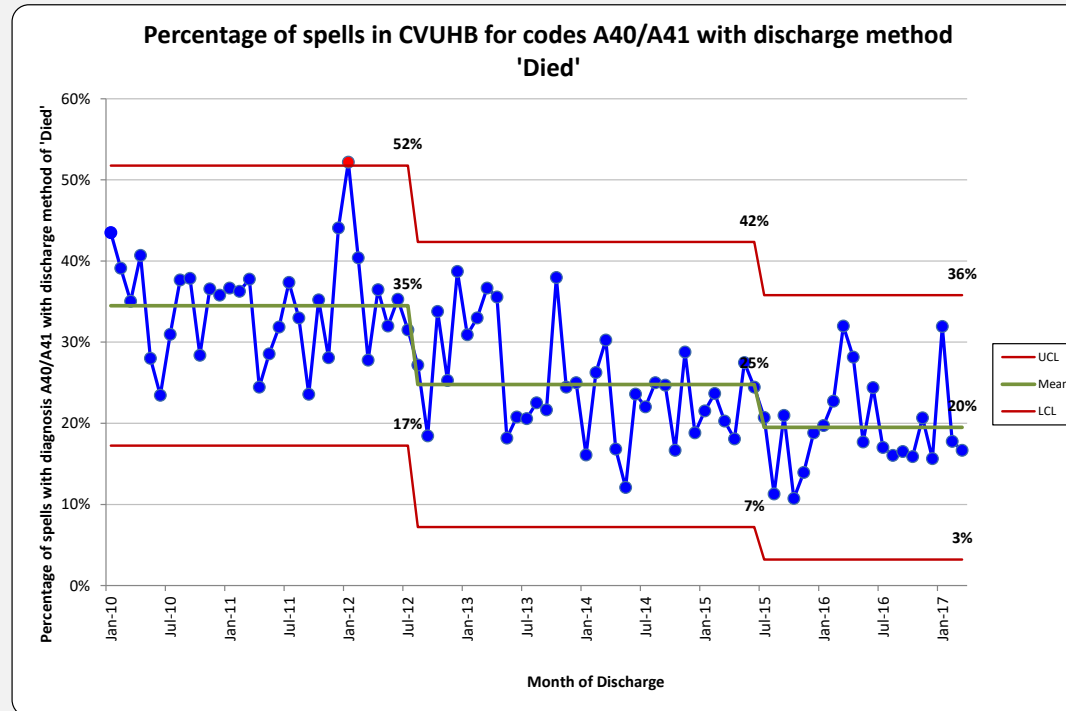
Sepsis Six and Red Flag Sepsis are copyright to and intellectual property of The UK Sepsis Trust, registered charity no. 1108453. sepsistrust.org

ANTIBIOTICS AND MORTALITY

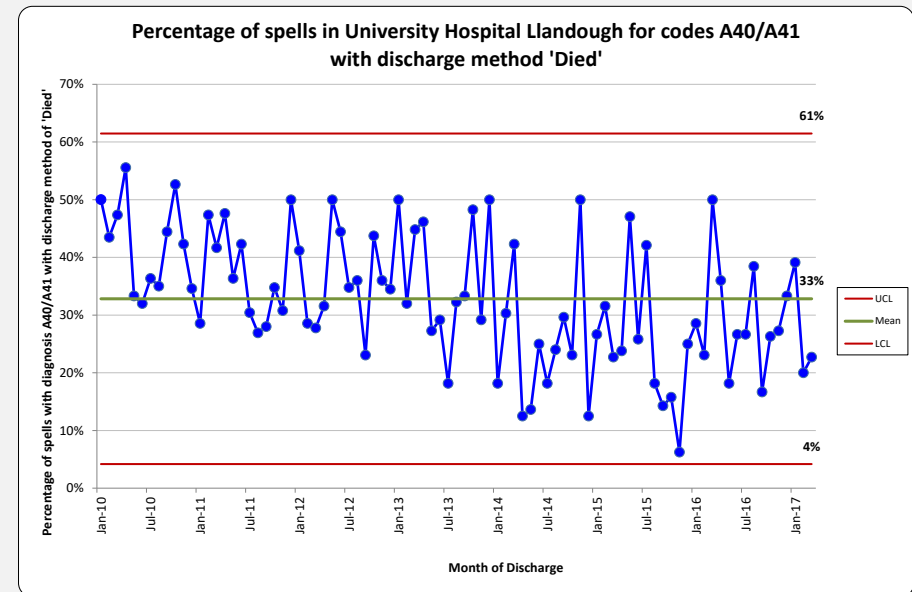
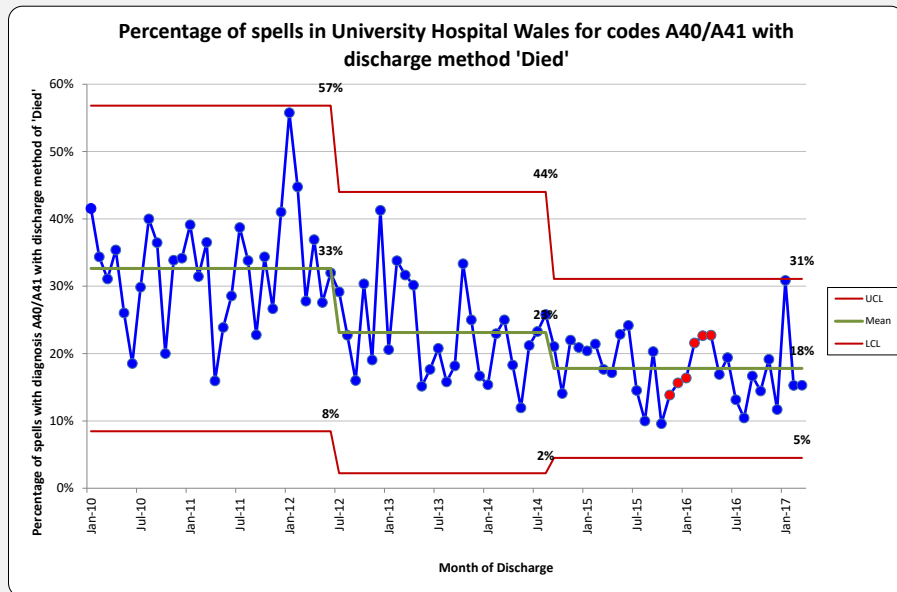


Seymour C, Foster G, Prescott H, Friedrich M, Iwashyna T, et al. Time to Treatment and Mortality during Mandated Emergency Care for Sepsis. *NEJM*. 2017. 376;23: 2235-2244

IN CARDIFF AND VALE...



IN CARDIFF AND VALE...



AIMS

- Improve sepsis care across the UHB with a particular focus on University Hospital Llandough (UHL)
- Develop a sustainable system to collect accurate, meaningful and accessible information about sepsis and sepsis care.

METHODS

- Understand sepsis and sepsis care at UHL
 - Baseline data
 - Process mapping
 - Identify targets for improvement
- Implement change

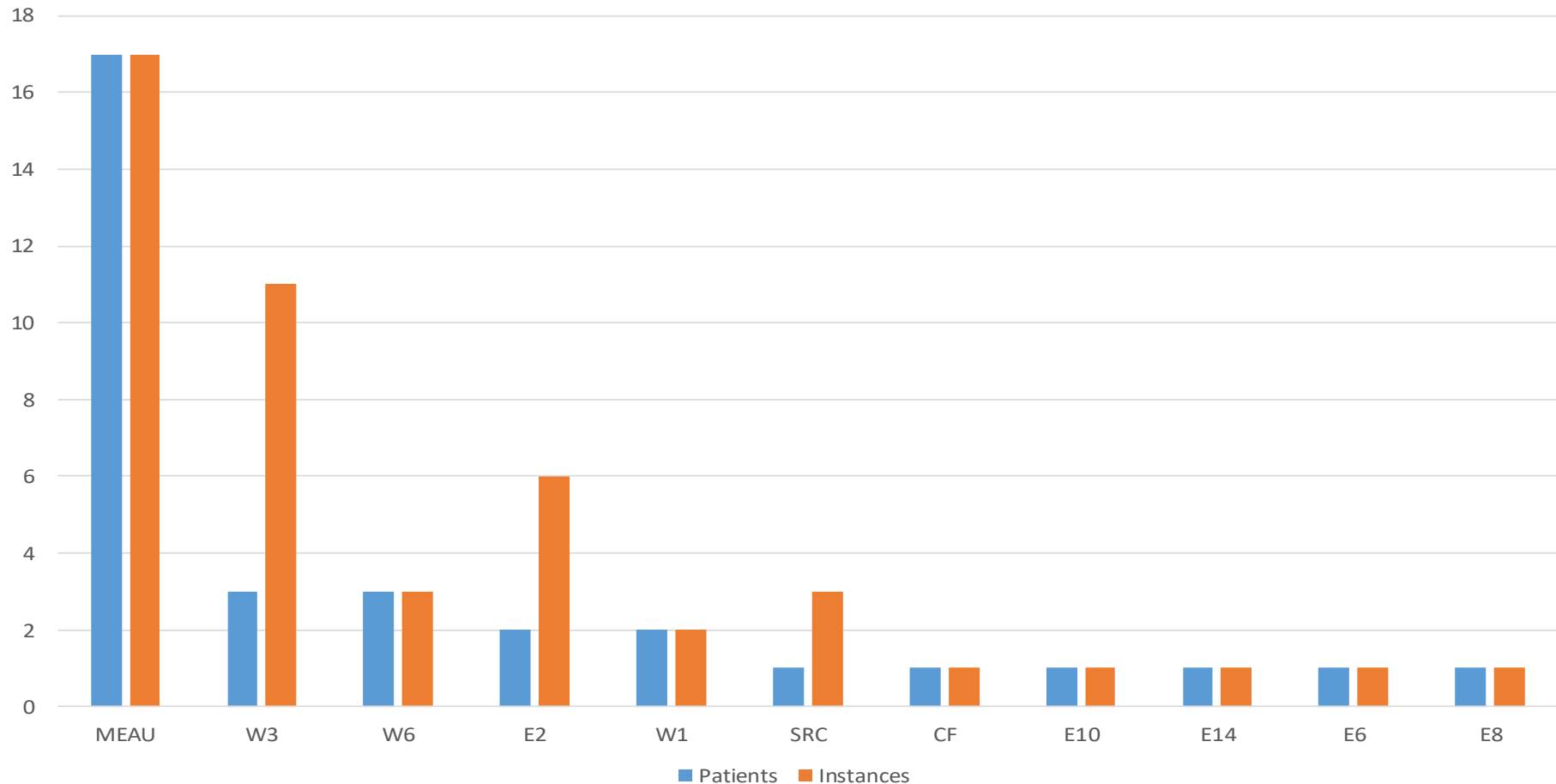


Raising awareness
Building engagement

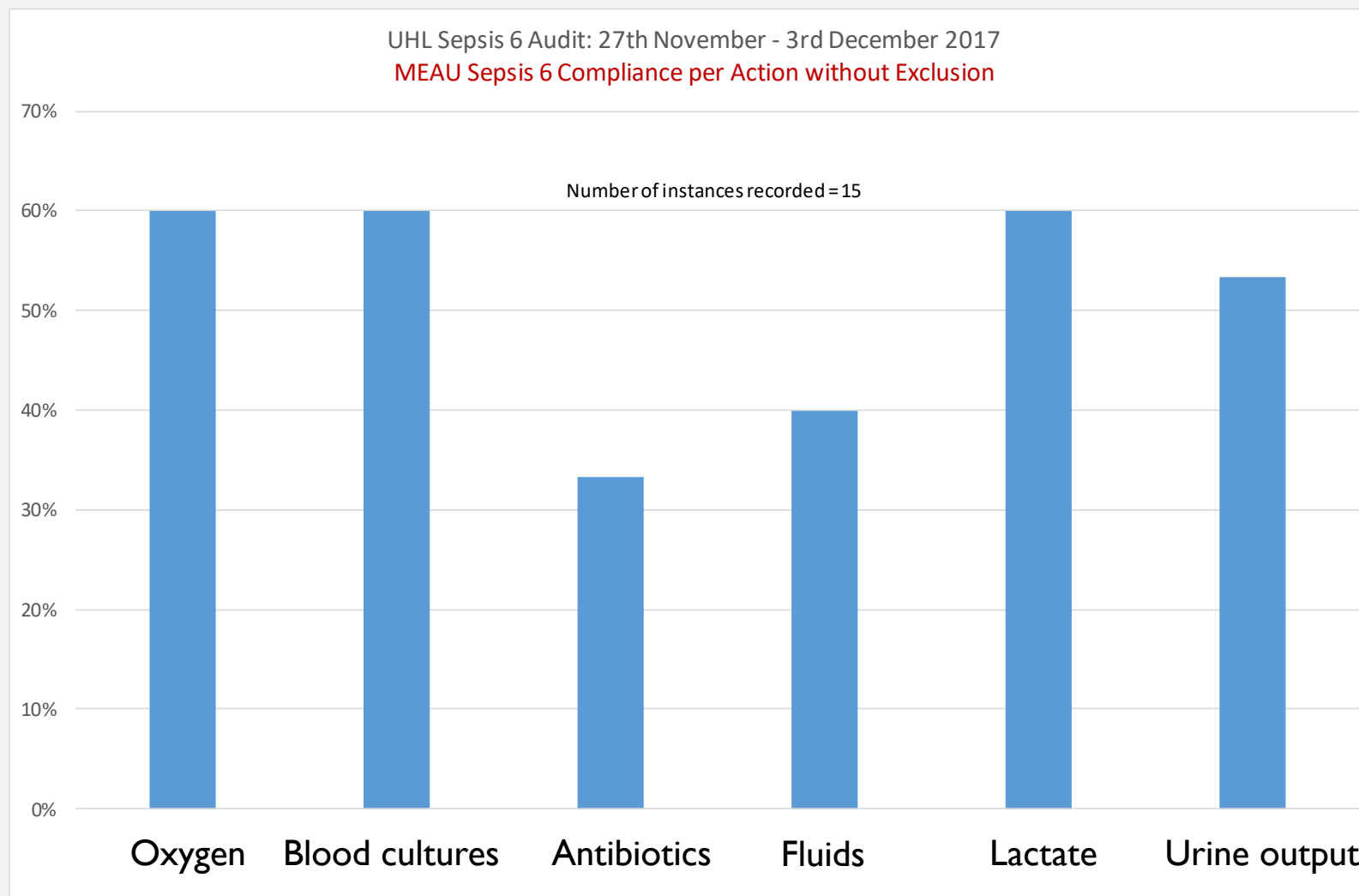
BASELINE DATA UHL

UHL Sepsis 6 Audit: 27th November - 3rd December 2017

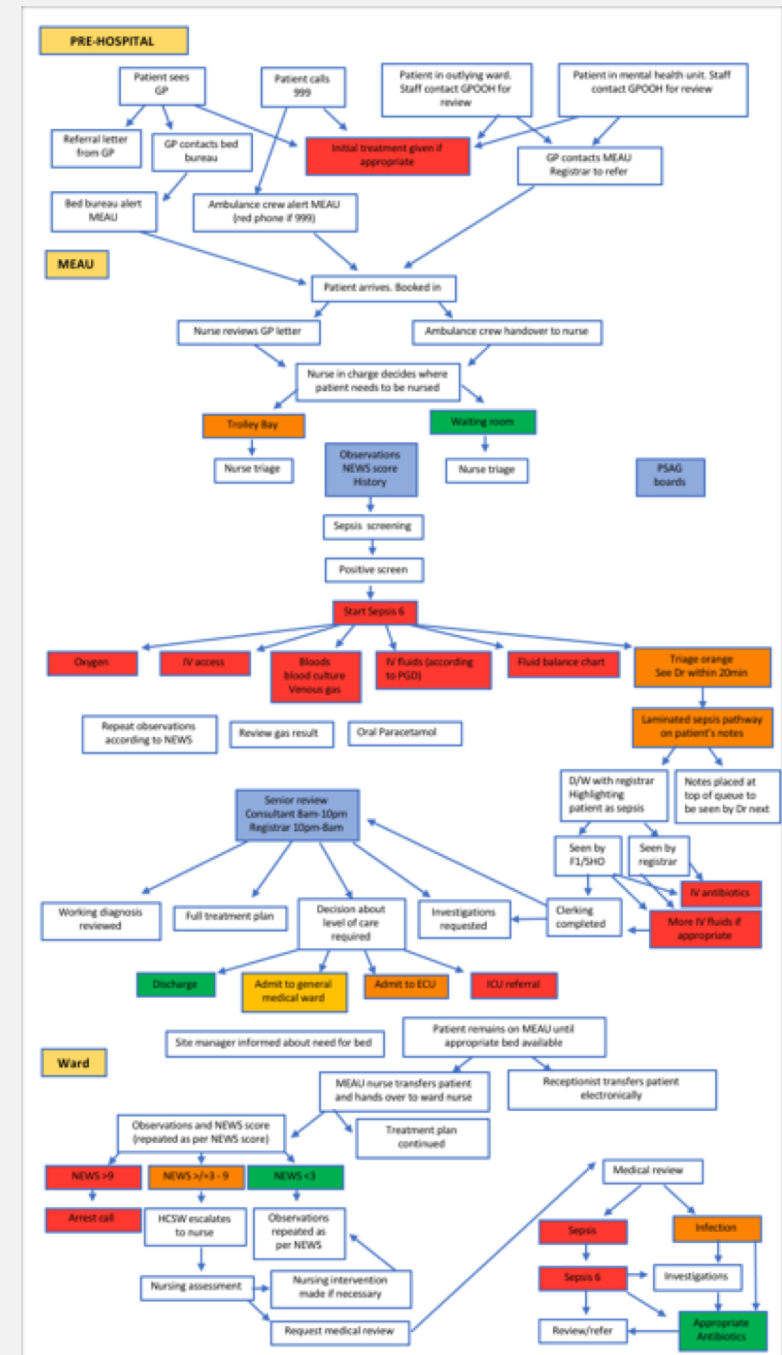
Number of Patients and Instances Recorded per Ward Triggering Sepsis 6 Pathway



BASELINE DATA UHL



PROCESS MAPPING



MAIN TARGETS FOR IMPROVEMENT

- Could this be sepsis?
- Prescription and administration of antibiotics
 - Education and empowerment of junior staff

A380685
MISS JONES, CARALYN
09-JUN-1971
8 MELROSE ST
BARRY

CF63 2HF

Zero Date

(DD/MM/YYYY)

16/07/2018

Zero Time

(HH:MM)

12:02

Locked from editing once saved.

☐ Consultant Informed ?

Sepsis 6 Delivery

All to be completed within 1 hour of red flag recognition

Date

(DD/MM/YYYY)

Time

(HH:MM)

1. Administer oxygen - Aim to keep saturation >94% (88-92% if at risk of CO2 retention)

16/07/2018

12:02

2. Take blood cultures - Think source control! Call surgeon/radiologist if needed. CXR and urinalysis for all adults

16/07/2018

12:02

3. Give IV antibiotics - According to UHB protocol. Consider allergies prior to administration

__/__/__

__:__

4. Give IV fluids - If Hypotensive and/or lactate >2mmol/l, 500ml stat. Repeat if clinically indicated up to a maximum of 30ml/kg

__/__/__

__:__

5. Check serial lactates - If venous lactate is >4 call critical care. Repeat after fluid resuscitation (minimum re-test interval 30 mins)

16/07/2018

12:02

6. Measure urine output - Consider urinary catheter and complete fluid balance chart hourly

16/07/2018

12:02

 Save

 Cancel

NEXT STEPS

- DRIPS meetings
 - **D**ata
 - **R**eview cases
 - **I**mprovements
 - **P**lot the dots
 - **S**hare and celebrate
 - Patient Group Directives
- 
- Education
 - Ownership
 - Engagement
 - Timely feedback
 - Rapid cycles of improvement

LEADERSHIP



FUTURE DIRECTIONS

- Sepsis star rollout across the UHB
- Sepsis dashboard
 - Currently being developed with Business Intelligence team
 - Pre-hospital to post discharge
- Acute deterioration dashboard and sepsis registry for Wales
 - Currently being developed with RRAILS (1000 Lives)
 - Sepsis and sepsis care across Wales
 - Dataset currently for Critical Care admissions

THANKS

- Paul Morgan
- Gemma Ellis
- Mike Ware
- Julia Evans
- Ceri Richards-Taylor
- Nolan Arulaj
- Jeff Turner
- Lyndsey Coles
- Paul Bowen
- Peter Noneley
- Tracy Shanahan
- Sue Allen
- Kerry Ashmore
- Chris Hancock
- Richard Jones
- Sian Jeffries
- Lisa Fabb
- Joy Whitlock

THANK YOU

