Introduction of bespoke NEWS scoring into an acute response service in Swansea

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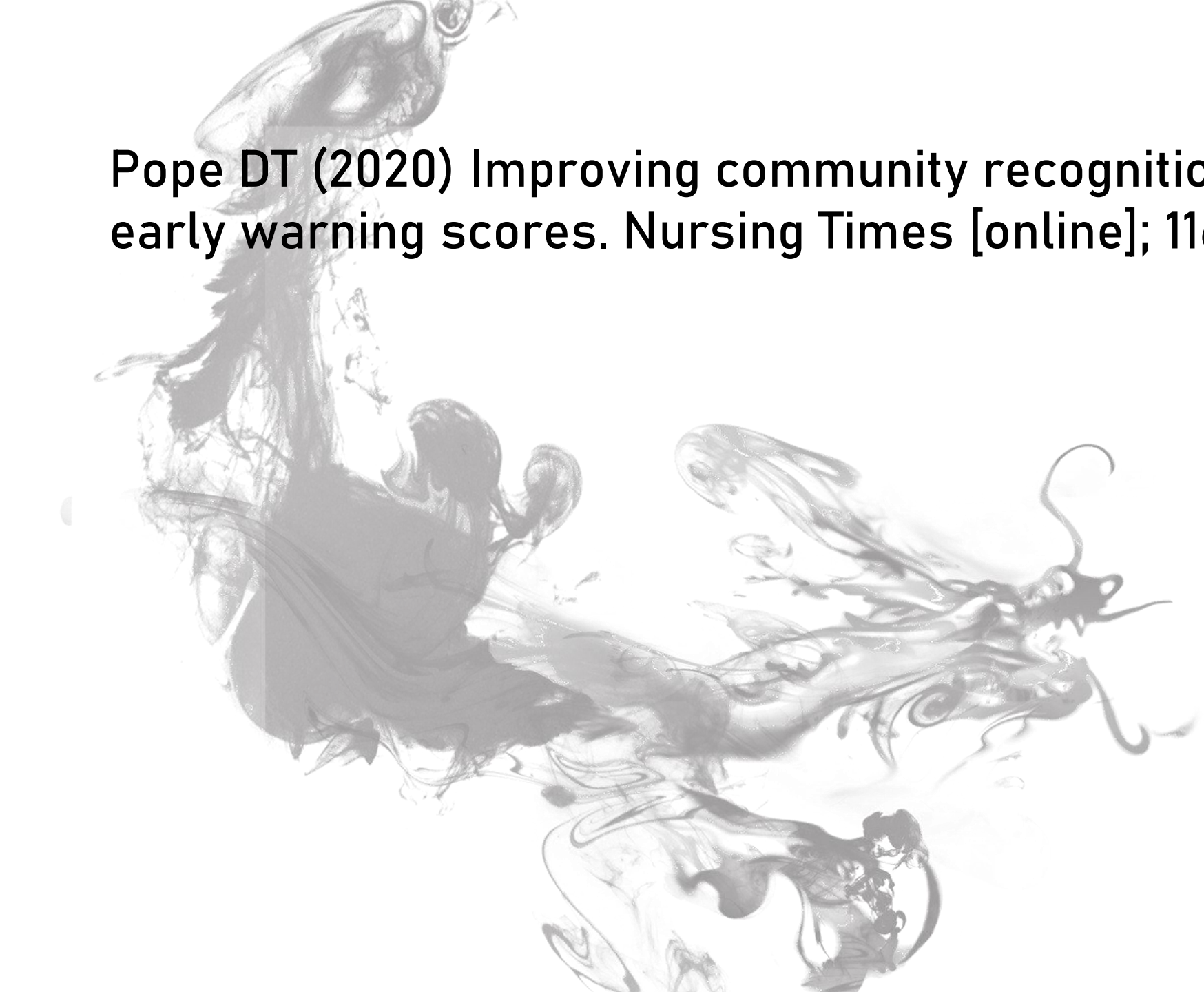
Pope DT (2020) Improving community recognition of sepsis using early warning scores. Nursing Times [online]; 116: 1, 20-22.



Estimated to be 200,000 cases of sepsis in the UK each year leading to approximately 37,000 deaths.

NCEPOD (2015).

NEWS scoring has been used within secondary care in NHS Wales since 2012, providing a universal tool to calculate, articulate and communicate patient deterioration and aid early identification of Sepsis.

Hancock, C. (2013).

The use of NEWS scoring within primary and community healthcare was not included in this Welsh government initiative.

This has contributed to presentations of acute deterioration being poorly identified, inconsistently recorded, stratified and managed by community professionals.

NCEPOD (2015).

Difficult to identify trends

No Parameters

No requirement for complete observations

No conscious level assessment GCS/AVPU

No time of recordings

No correlation with hospital policy

Observations treated as incidental

Observations Record Sheet

Patient Name: [illegible] DoB: [illegible]

Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date
15/12/15	16/12/15	17/12/15	18/12/15	19/12/15	22/12/15	24/12/15	27/12/15	28/12/15		
BP	BP	BP	BP	BP	BP	BP	BP	BP	BP	BP
100/60	98/56	105/70	100/55	110/60		100/60		108/70		
Pulse	Pulse	Pulse	Pulse	Pulse	Pulse	Pulse	Pulse	Pulse	Pulse	Pulse
84		76	92		87		96			
Resp Rate	Resp Rate	Resp Rate	Resp Rate	Resp Rate	Resp Rate	Resp Rate	Resp Rate	Resp Rate	Resp Rate	Resp Rate
18		22	20							
Temp	Temp	Temp	Temp	Temp	Temp	Temp	Temp	Temp	Temp	Temp
36·8		36·4	36·6			36·8		37·0		
O2 Sats	O2 Sats	O2 Sats	O2 Sats	O2 Sats	O2 Sats	O2 Sats	O2 Sats	O2 Sats	O2 Sats	O2 Sats
94%		96%	94%		94%		96%			
Random BM	Random BM	Random BM	Random BM	Random BM	Random BM	Random BM	Random BM	Random BM	Random BM	Random BM
6·4										
Peak Flow	Peak Flow	Peak Flow	Peak Flow	Peak Flow	Peak Flow	Peak Flow	Peak Flow	Peak Flow	Peak Flow	Peak Flow
—										
Other	Other	Other	Other	Other	Other	Other	Other	Other	Other	Other

Chronic conditions team/ACT (2015)

Community nurse attitudes

- De-skills nurses
- Takes too long
- Unnecessary
- Nursing by numbers

General practitioner attitudes

- Don't provide detail
- Don't understand the scores
- Not relevant in community

National Early Warning Score (NEWS)*

PHYSIOLOGICAL PARAMETERS	3	2	1	0	1	2	3
Respiration Rate	≤8		9 - 11	12 - 20		21 - 24	≥25
Oxygen Saturations	≤91	92 - 93	94 - 95	≥96			
Any Supplemental Oxygen		Yes		No			
Temperature	≤35.0		35.1 - 36.0	36.1 - 38.0	38.1 - 39.0	≥39.1	
Systolic BP	≤90	91 - 100	101 - 110	111 - 219			≥220
Heart Rate	≤40		41 - 50	51 - 90	91 - 110	111 - 130	≥131
Level of Consciousness				A			V, P, or U

THINK GLUCOSE

- ALL new patients
- ALL Diabetic patients; every assessment
- Acutely confused patients
- Deteriorating condition
- NEWS score ≥6

TRAINING

Basic training on NEWS
inc. Who, what, where, why

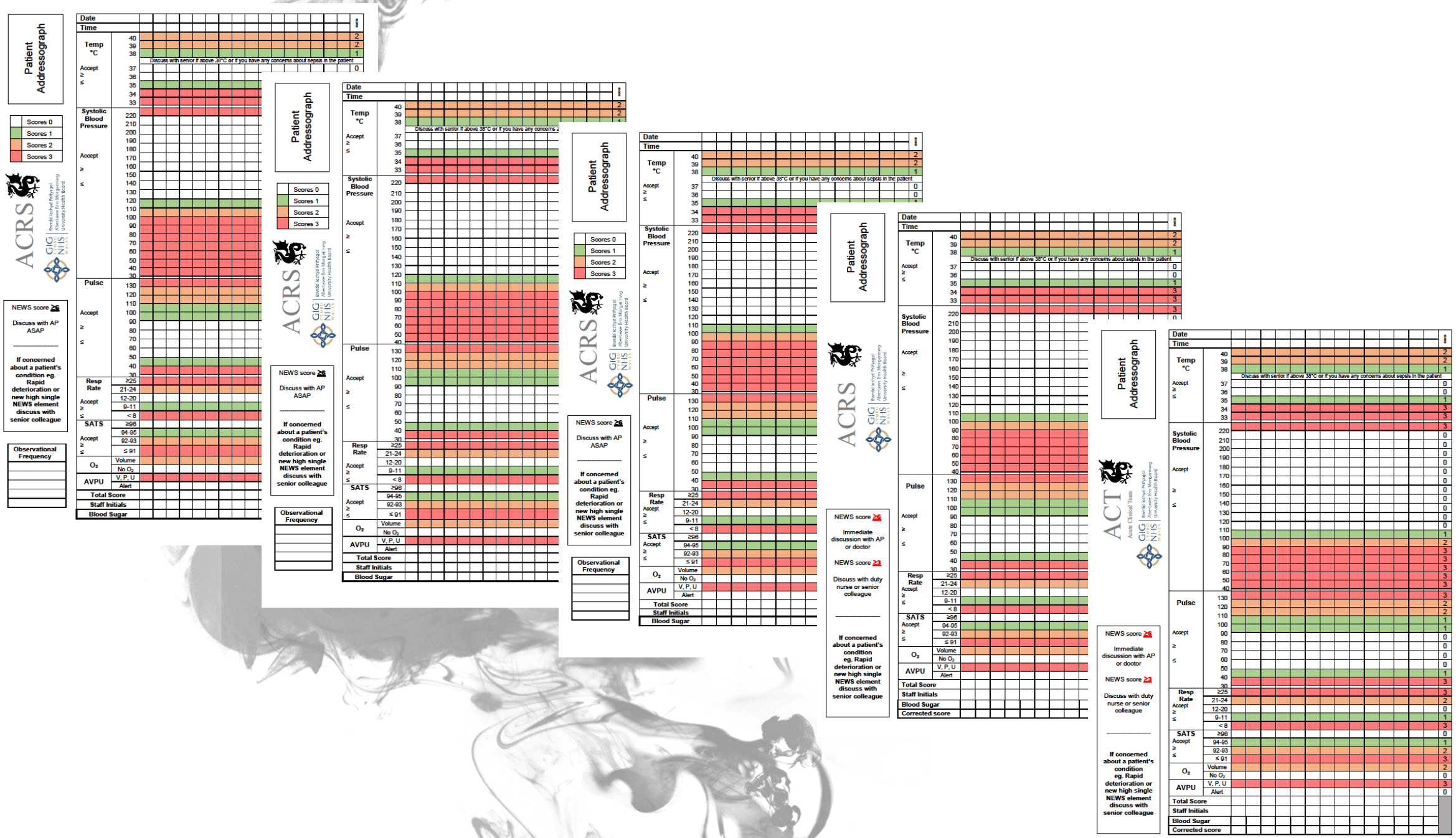
Scenario testing
inc. Borderline decisions

Identification of a deteriorating patient
inc. non scoring deteriorations

Handover to colleagues & doctors
inc. SBAR

Introduction of SEPSIS screening
inc. community specific screen vs. Secondary care.

Presentations with GP partners and hospital departments to outline ACT potential and generate new referrals.


Patient Addressograph
Scores 0
Scores 1
Scores 2
Scores 3
ACRS
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NEWS score
Discuss with AP ASAP
If concerned about a patient's condition eg. Rapid deterioration or new high single NEWS element discuss with senior colleague
Observational Frequency
Date
Time
Temp °C
Discuss with senior if above 38°C or if you have any concerns about sepsis in the patient
Accept
Systolic Blood Pressure
Pulse
Resp Rate
SATS
O2
Volume
No O2
AVPU
V, P, U
Alert
Total Score
Staff Initials
Blood Sugar
Corrected score
NEWS score
Immediate discussion with AP or doctor
Discuss with duty nurse or senior colleague
If concerned about a patient's condition eg. Rapid deterioration or new high single NEWS element discuss with senior colleague
ACT
Acute Clinical Team

Patient Addressograph

		Date														SCORE
		Time														
Respiratory Rate	rpm	≥25														3
	Acceptable	21-24														2
	≥	12-20														0
	≤	9-11														1
	Signature:	≤8														3
SpO_2	%	≥96														0
	Acceptable	94-95														1
	≥	92-93														2
	≤	≤91														3
	Signature:															
O_2		O_2 Rate														2
		No O_2														0
Systolic Blood Pressure	mmHg	≥220														3
		211-219														0
		201-210														0
		191-200														0
		181-190														0
		171-180														0
		161-170														0
		151-160														0
		141-150														0
		131-140														0
		121-130														0
		111-120														0
		101-110														1
		91-100														2
		81-90														3
	Acceptable	71-80														3
	≥	61-70														3
	≤	51-60														3
	Signature:	41-50														3
Pulse	bpm	≥131														3
		121-130														2
		111-120														2
		101-110														1
		91-100														1
		81-90														0
		71-80														0
	Acceptable	61-70														0
	≥	51-60														0
	≤	41-50														1
	Signature:	31-40														3
CAVPU	Select one	Alert														0
		V, P, U														3
		Acute confusion														3
Temperature	°C	≥39.1														2
		38.1-39.0														1
		37.1-38.0														0
	Acceptable	36.1-37.0														0
	≥	35.1-36.0														1
	≤	≤35.0														3
Total NEWS Score																
Blood Sugar																
Pain score (0-10)																
Escalation required (Y/N)																
Staff initials																

ESCALATION

NEWS ≥3

Discuss with duty nurse or senior colleague

NEWS ≥6

Immediate discussion with ACT Advanced Practitioner or ACT doctor

Complete a **SEPSIS SCREEN** on all patients NEWS ≥3 with signs of infection

Think Glucose

	3	2	1	0	1	2	3
Respiratory rate	≤8		9-11	12-20		21-24	≥25
SpO_2	≤91	92-93	94-95	≥96			
Oxygen		Yes		No			
Systolic BP	≤90	91-100	101-110	111-219			>220
Pulse	≤40		41-50	51-90	91-110	111-130	≥131
CAVPU				A			C,V,P,U
Temperature	≤35.0		35.1-36.0	36.1-38.0	38.1-39.0	≥39.1	

Patient Addressograph

ACT Swansea | COMMUNITY SEPSIS SCREENING TOOL

Concern about patient or difficulty obtaining any single parameter should lead to escalation regardless of score

TWO or more of the following Signs & Symptoms of inflammation:

Temperature >38.3°C or <36°C ☐
Heart rate >90bpm ☐
Respiratory rate >20 (counted over 60 seconds) ☐
Acutely altered mental state or confusion ☐
WBC <4 or >12 ☐
Glucose >7.7 mmol/L (unless DM) ☐

YES

Criteria is suggestive of SEPSIS
Is there a history or signs suggestive of a new infection?
Pneumonia, UTI, Gastroenteritis, Meningitis, Cellulitis, Septic Arthritis etc?

YES

Time SEPSIS identified	
Time AP or Doctor informed	

YES

999 emergency ambulance SEPSIS screen positive	
Treatment in the community Capacity & DNACPR in place	

Initial Investigations / Actions:
(Do not delay treatment or transfer)

- FBC, U&E, LFT, glucose, coagulation screen, lactate
- Urine dipstick
- Increase monitoring

NO

Is the patient at risk of Neutropenic SEPSIS?
Receiving Chemo/Radiotherapy?
Immunocompromised?

YES

Neutrophils ≤0.5
and
Temperature >38°C or <36°C
or other clinical signs of infection?

YES

Additional investigations / Actions:

- Calcium, Magnesium, Phosphate, Urate
- Contact Oncology

NO

NO

NO

Patient unlikely to be septic, use clinical judgement, review plan for monitoring patient. Provide patient and carers with escalation plan in the event of clinical deterioration.

Date	*Time*	*NEWS*	*≥2 S&S inflammation*	*New Infection?*	*Doctor/AP informed*	*Treatment decision*	*Initials*

Case Study

- 91 year old female
- Referred by GP for urgent bloods post house call for ?UTI
- Seen by District nurse in the morning – escalated to GP
- Seen by GP at lunchtime – escalated to ACT for urgent bloods
- ACT attended within 2 hours

On assessment

- HCSW made initial contact – bloods & observations
- NEWS = 12 – escalated immediately to advanced practitioners
- Modified Sepsis6 protocol initiated inc. full blood screens, blood cultures, IV antimicrobials, sub-cutaneous fluids and fluid balance

Confidential Staff Feedback/Questionnaires

Statement	Strongly agree	Agree	Disagree	Strongly disagree
1. NEWS has been helpful to me in treating my patients	7	6	1	1
2. NEWS has been beneficial to care	8	6	1	0
3. NEWS has helped me identify when a patient may be unwell	8	4	2	1
4. NEWS has helped me to communicate my patient's condition to colleagues	10	4	0	1
5. NEWS has not helped me to recognise when my patients are sick/deteriorating	0	2	4	9

Pope, 2020

- NEWS has become entirely integrated within ACT assessment.
- NEWS is used as part of patient hand over, board rounds and referral processes.
- Aiding case discussion with WAST and hospital admission teams.
- Provides our HCSW, staff nurses and charge nurses with support and justification to escalate concerns to senior colleagues, GPs, secondary care & WAST.

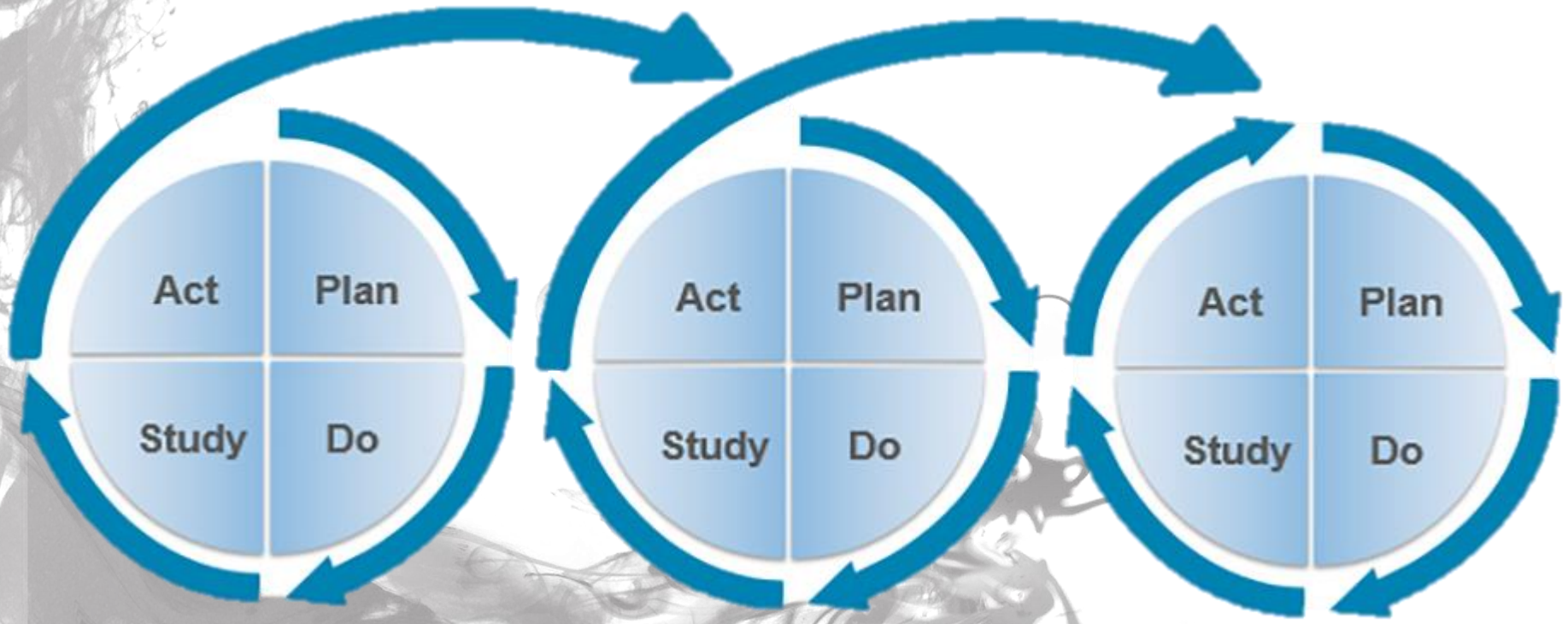
Current & Future plans

Introduction of NEWS within all community services

Teaching and implementation of NEWS within nursing homes & residential homes

Greater integration with all primary care & pre-hospital care

Errors will always be made!



Embrace the errors, redesign the tools and continue to support and educate all staff

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