



Gloucestershire Safety & Quality Improvement Academy

Natasha Davy

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The Safety Concern

When reviewing patient notes for NCAA (National Cardiac Arrest Audit), the documentation of the care/actions/plan after the cardiac arrest is not always completed.

Improvement Aim

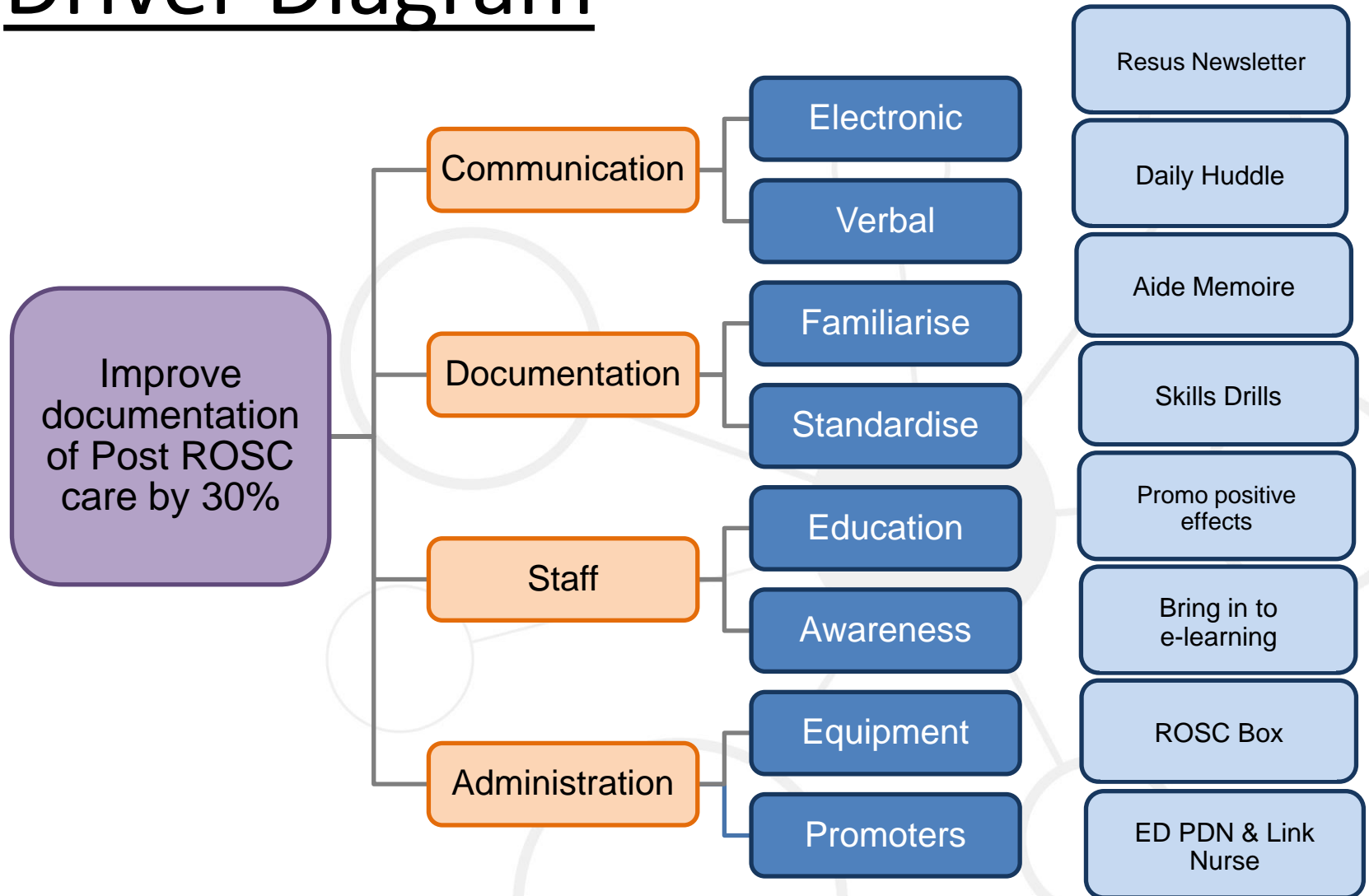
To improve documentation of patients with Return of Spontaneous Circulation (ROSC) by following a care bundle formulated from using the RCUK (2021) guidelines for post-resuscitation care.

*To Improve documentation of Post ROSC
Care by 30%*

Improvement Team & Stakeholders

- Resuscitation Team - Resuscitation officers
- DCC – Dr Any Foo (Consultant) & Reg
- ACRT – Dave Waller
- ED – Dr Emma Tilley (Consultant) & PD Nurse
- Deteriorating Patient & Resuscitation Committee (DPRC)

Driver Diagram



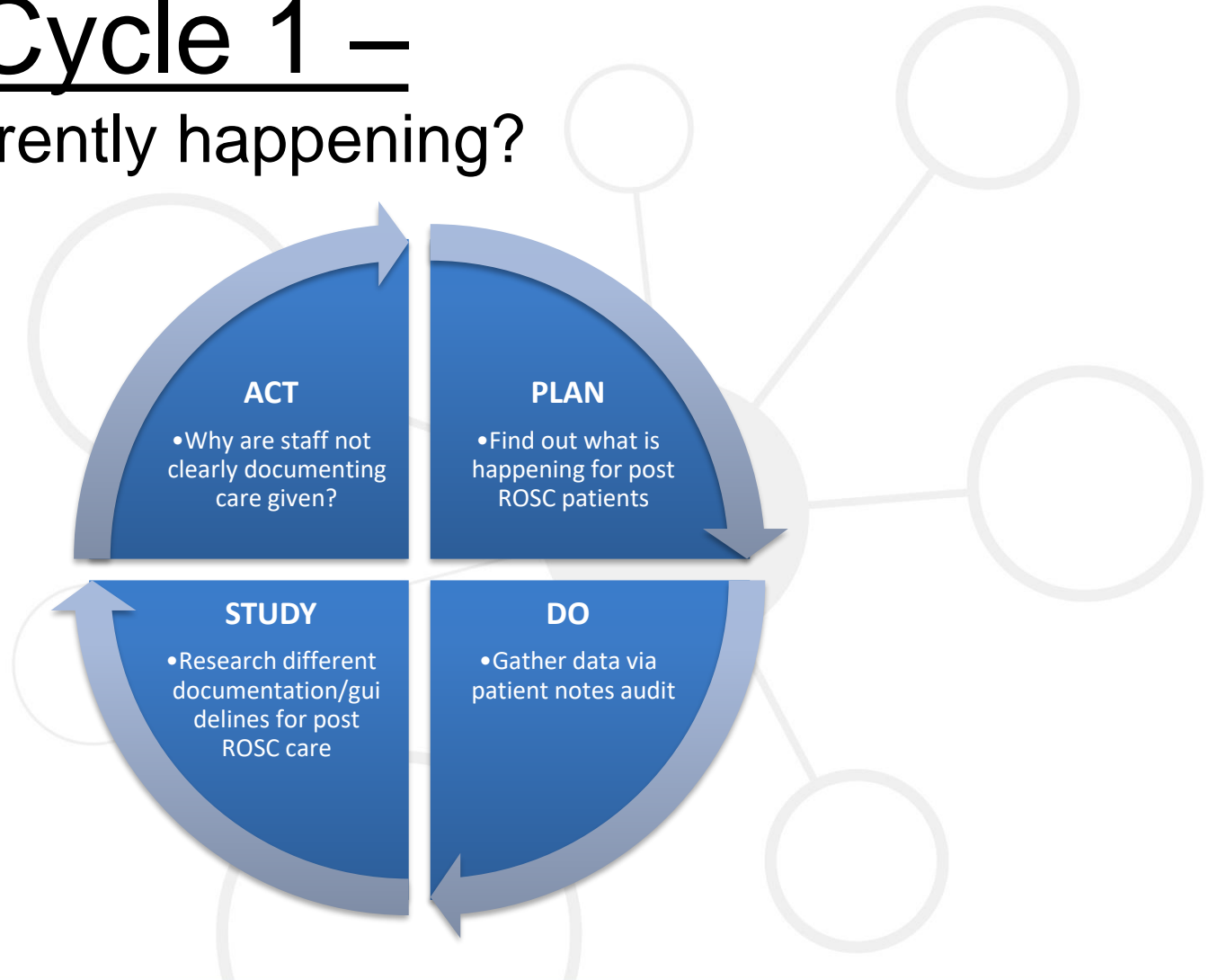
Measures

OUTCOME – How many patients have ROSC?
How many have ROSC care documented?

PROCESS – Number of patients who have their ROSC care documented & what do other Trusts do?

BALANCING – Time taken to do actions, pressure on DCC beds, staff awareness of bundle, is more equipment needed?

PDSA Cycle 1 – What is currently happening?



Staff Questionnaire

Staff Questionnaire Results

20 questionnaires were handed out to a range of staff groups in ED (Staff Nurses, Nursing Sisters, HCAs, Physician Assistants, F2 Drs). From those 20 questionnaires, I have received 16 responses.

Question 1 – I am aware the Resus Council (UK) has guidelines for Post Resuscitation care

YES	NO
12	4

Question 2 – do you feel confident knowing the treatment required under the ROSC care guidelines?

YES	NO
8	8

Question 3 – do you have the equipment/resources in ED to deliver post ROSC care?

YES	NO
10	6

If NO, state what you feel you need:-

- Stocked and checked resus trollies
- Checklist
- Training/Sims
- Equipment for cooling
- Adequate supply of pumps for infusions

Question 4 – would having a crib sheet/checklist with the Resus Council Guidelines on be useful?

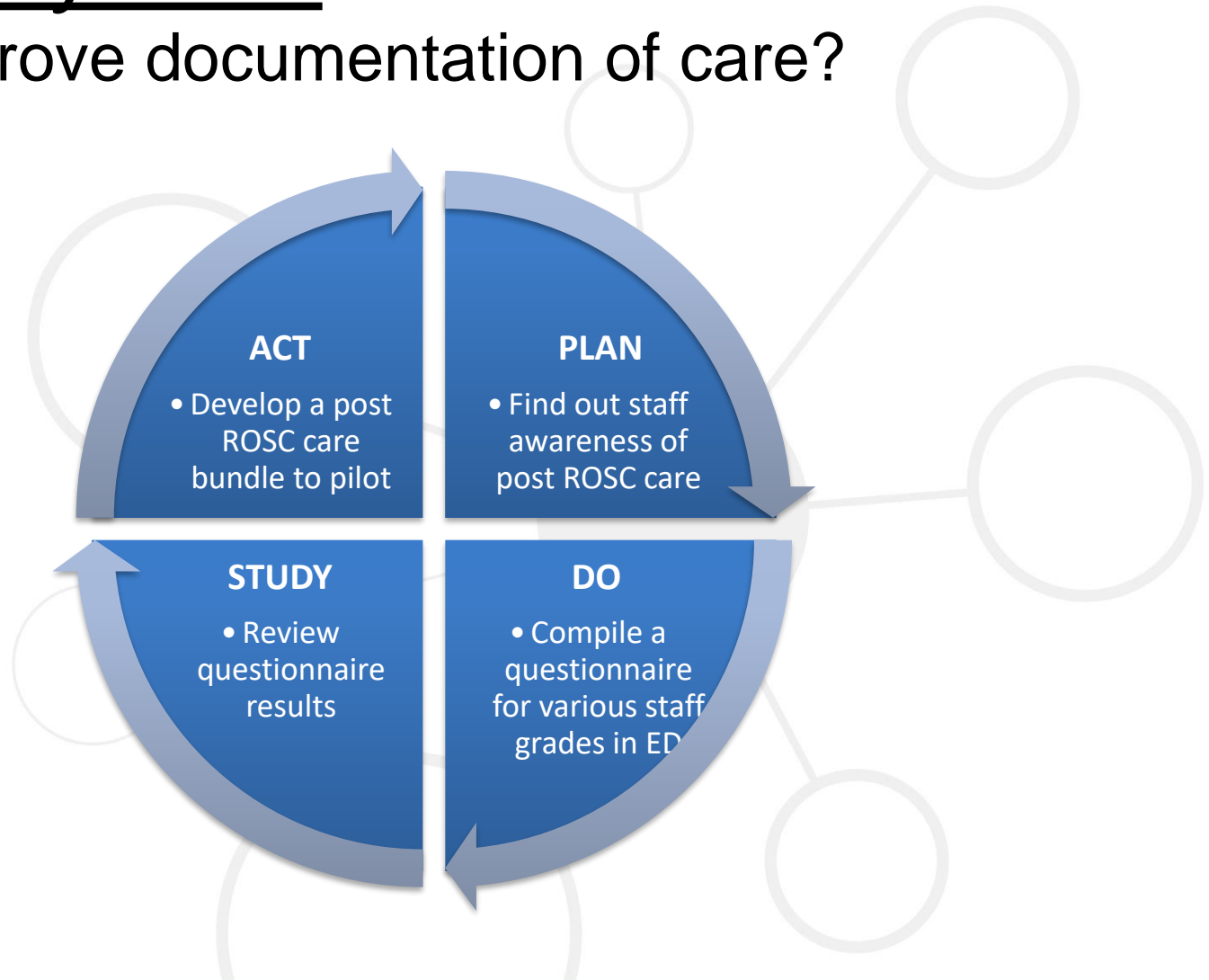
YES	NO
16	0

Question 5 – Do you feel there are adequate educational resources on the management of cardiac arrests and ROSC care in the ED?

YES	NO
4	12

PDSA Cycle 2

How to improve documentation of care?



ROSC Care Bundle V1



ROSC Care Bundle

For use immediately after return of spontaneous circulation (ROSC) post CPR. Time of ROSC

Name
DOB
MRN number
NHS number

Aim to complete the following within the first 10minutes after ROSC

Airway & Breathing

- Advanced airway – if patient is conscious use a stepwise approach to airway management until anaesthetic support is available
- Maintain SpO2 94%-98% - consider reducing supplemental oxygen from 15L to maintain target levels
- Establish waveform capnography
- Ventilate to achieve normocarbida
- NG tube

Airway Type	Target SpO2 94%-98%	Target ETCO2 4.0-5.7kpa
	Achieved %	Achieved kpa

Circulation

- 12 lead ECG – considered PPCI
- IV access x2
- Systolic BP>100mmHg – consider vasopressor/inotrope to maintain
- Fluid (crystalloid) – restore normovolemia
- Intra-arterial blood pressure monitoring
- Blood samples – FBC, Electrolytes, Blood glucose, blood gas

12 lead ECG		Systolic BP >100mmHg	
Time taken		Achieved BP	
Time reviewed			
For PPCI			

Temperature Control

- 32-36C – maintain a constant target temperature for 24 hours
- Sedation to control shivering

Temperature 32-36C	Method of cooling
Achieved Temp	

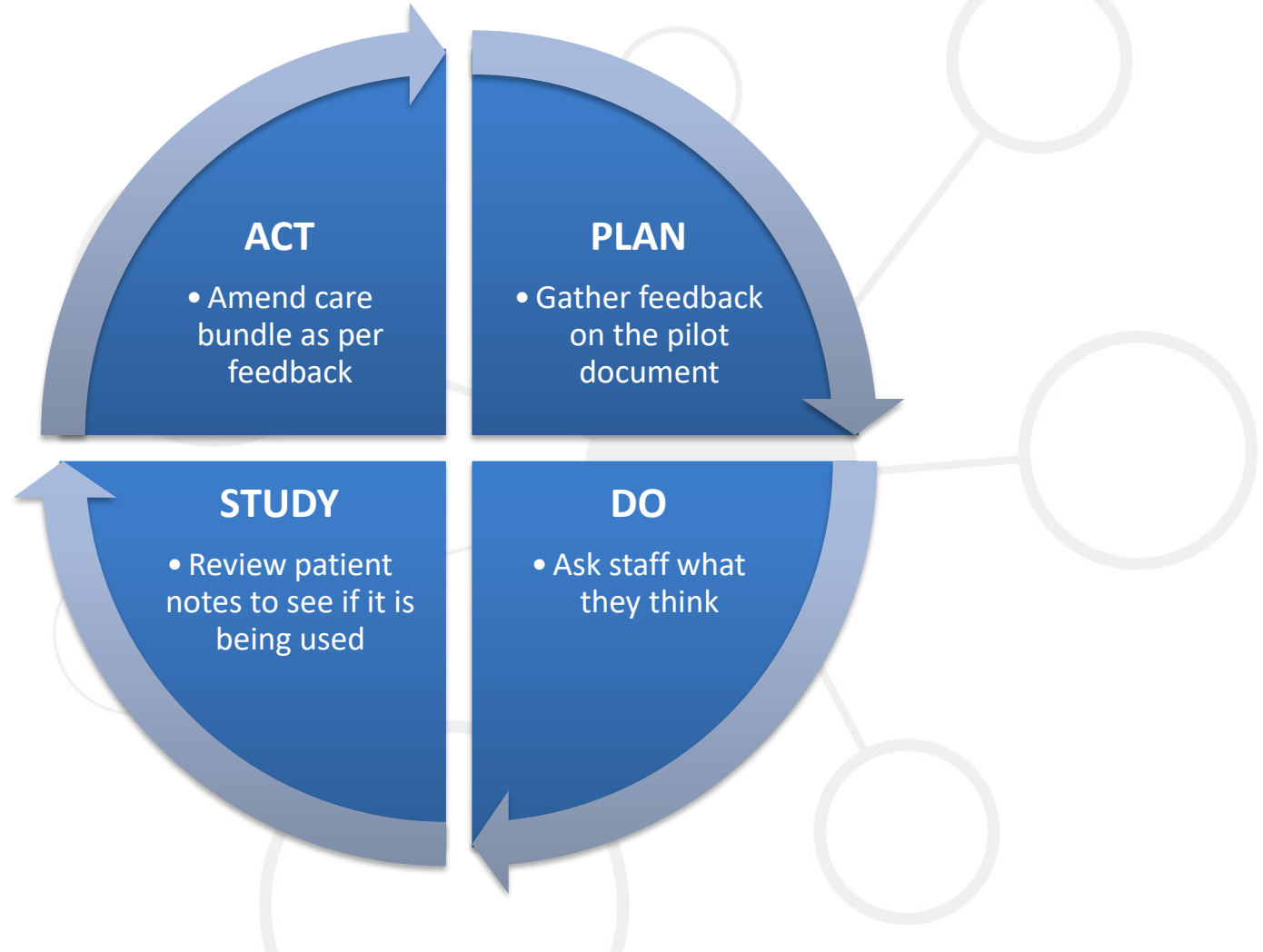
Reversible Causes

Cause	Present	Treatment
Hypoxia		
Hyperkalaemia		
Hyovolaemia		
Hypothermia		
Tension Pneumothorax		
Tamponade		
Toxins		
Thrombosis		

Signed	Designation	Date
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PDSA Cycle 3

Pilot the ROSC Care Bundle in ED



ROSC Care Bundle V2



Adult Post Resuscitation Care Bundle Gloucestershire Hospitals NHS Foundation Trust

Immediate Treatment & Diagnosis

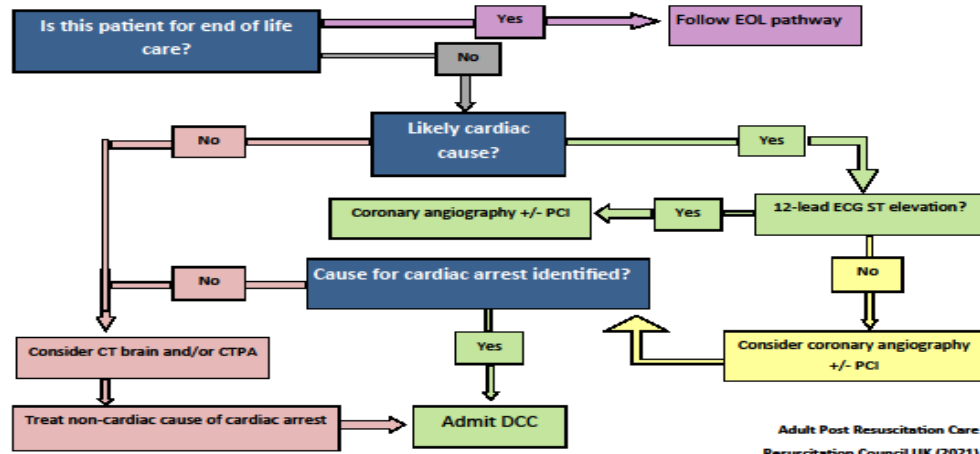
Name: _____
 Date of Birth: DD/MM/YYYY
 MRN Number: _____
 NHS Number: _____
308 2956 426 RTU LABEL HERE

Date: DD/MM/YYYY Time of ROSC: 00:00

Airway & Breathing			
Goal	Time achieved	Comments	Sign
Maintain spO2 94-98%	00:00		
Insert advanced airway	00:00		
Waveform capnography	00:00		
Ventilate lungs to normocapnia	00:00		

Circulation			
Goal	Time achieved	Comments	Sign
12 lead ECG	00:00		
Obtain reliable intravenous access	00:00		
Aim for systolic BP >100mmHg	00:00		
Fluid (crystalloid)- restore normovolaemia	00:00		
Intra-arterial blood pressure monitoring	00:00		
Consider vasopressor/inotrope to maintain SBP	00:00		

Control Temperature			
Goal	Time achieved	Comments	Sign
Constant temperature 32-36oC	00:00		
Sedation; control shivering	00:00		



Adult Post Resuscitation Care
Resuscitation Council UK (2021)

ADULT POST RESUSCITATION CARE BUNDLE PILOT

Background:- Successful return of spontaneous circulation (ROSC) is the final step in the chain to survival, but it is the first step in the journey to a complete recovery from cardiac arrest. Post cardiac arrest syndrome (a complex pathophysiological process) occurs following ROSC, due to the whole body ischemia and then a subsequent reperfusion response. The care and treatment these patients receive within the first 10 minutes after ROSC significantly influences the overall survival to discharge with favourable neurological outcomes.



If multiple ROSC times, write in the first time.

Not all goals will be appropriate for every patient. i.e. intubation or arterial blood pressure monitoring.
If a goal is not applicable then please put N/A in the comments.

If a goal is completed then ensure the box is signed. It does not need to be the person doing the task, you are signing to say it has been done.

Taken from the Resuscitation Council (RCUK 2021) Post Resuscitation Care Pathway

Once completed, scan on TRAK care and keep with the patient notes.

Any questions/comments please get in touch:-
Natasha Davy
Resuscitation & Simulation Officer
natasha.davy@nhs.net
Ext 5148 or bleep 1350

NHS Gloucestershire Hospitals NHS Foundation Trust

Name: _____ Date of Birth: DD / MM / YYYY
MRN Number: _____ NHS Number: 010 4882 447474 (680) 4480

18 and Over Post Resuscitation Care Bundle

Date: DD / MM / YYYY | Time of ROSC: 00 : 00

Airway and Breathing			
Goal	Time achieved	Comments	Signature
Maintain GCS	00 : 00		
Insert advanced airway	00 : 00		
Waveform capnography	00 : 00		
Ventilate lungs to normocapnia	00 : 00		

Circulation			
Goal	Time achieved	Comments	Signature
12 lead ECG	00 : 00		
Obtain reliable intravenous access	00 : 00		
Fluid (crystalloid) restore intravolemia	00 : 00		
Intra arterial blood pressure monitoring	00 : 00		
Endotracheal suction/anticholinergics to maintain SBP	00 : 00		

Control temperature			
Goal	Time achieved	Comments	Signature
Constant temperature 32-36°C	00 : 00		
Sedation; control shivering	00 : 00		

WHO is it for?
Any patient >18 years who has return of spontaneous circulation (ROSC) after a cardiac arrest

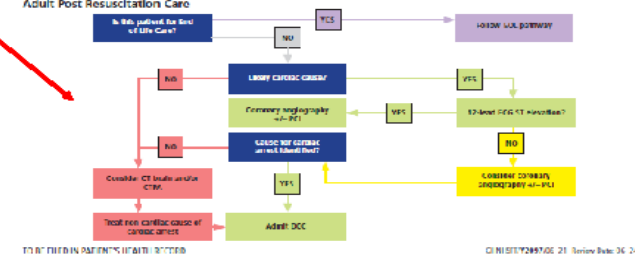
WHAT is it?
A care bundle listing interventions to be achieved following ROSC

WHERE can I find them?
Find them on the adult resuscitation trolleys in ED resus

WHEN do I use it?
As soon as ROSC is achieved in the patient

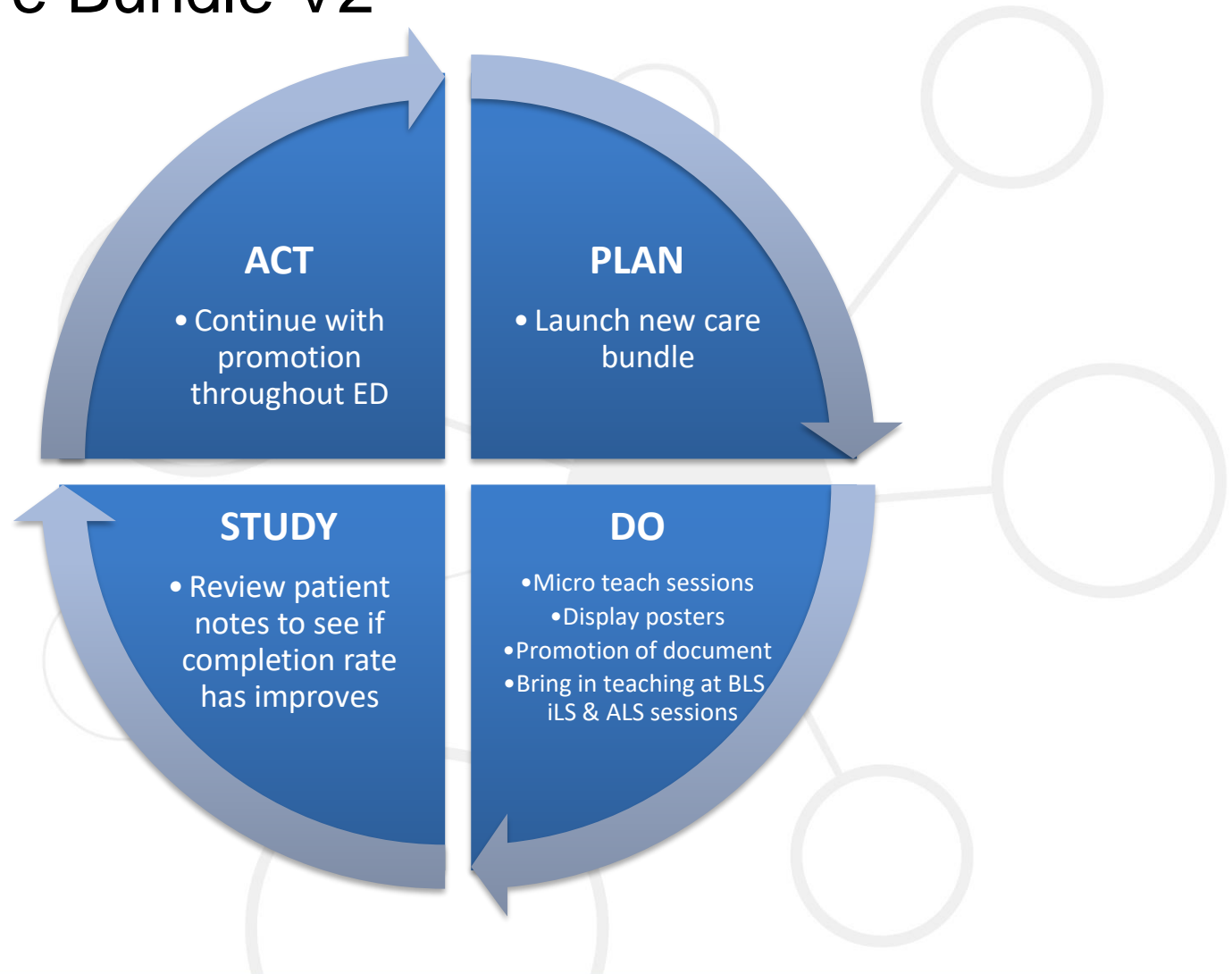
WHY are we doing it?

- * To improve survival to discharge rates post cardiac arrest
- * To standardise delivery of care
- * To formalise documentation



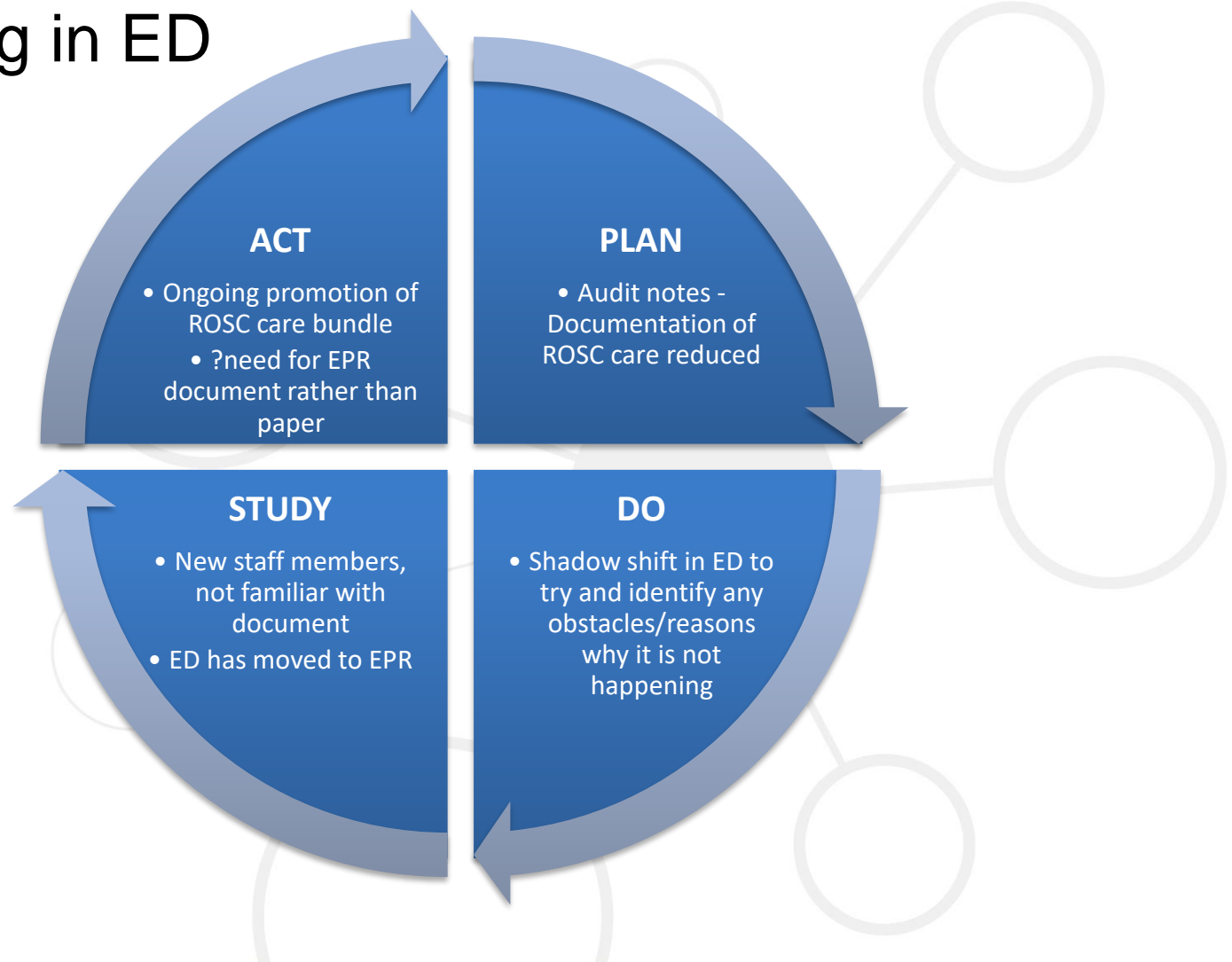
PDSA Cycle 4

ROSC Care Bundle V2



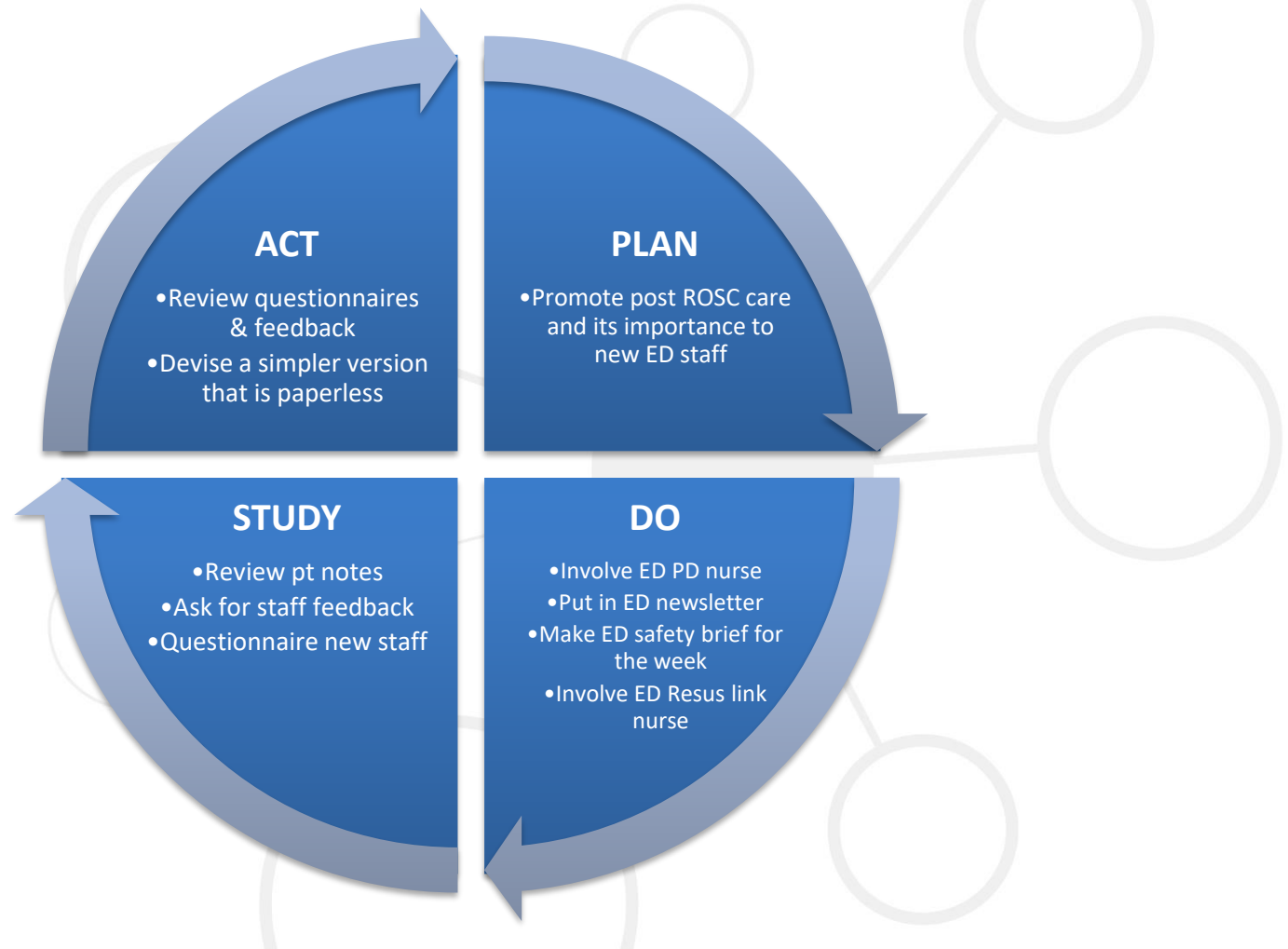
PDSA Cycle 5

Shadowing in ED



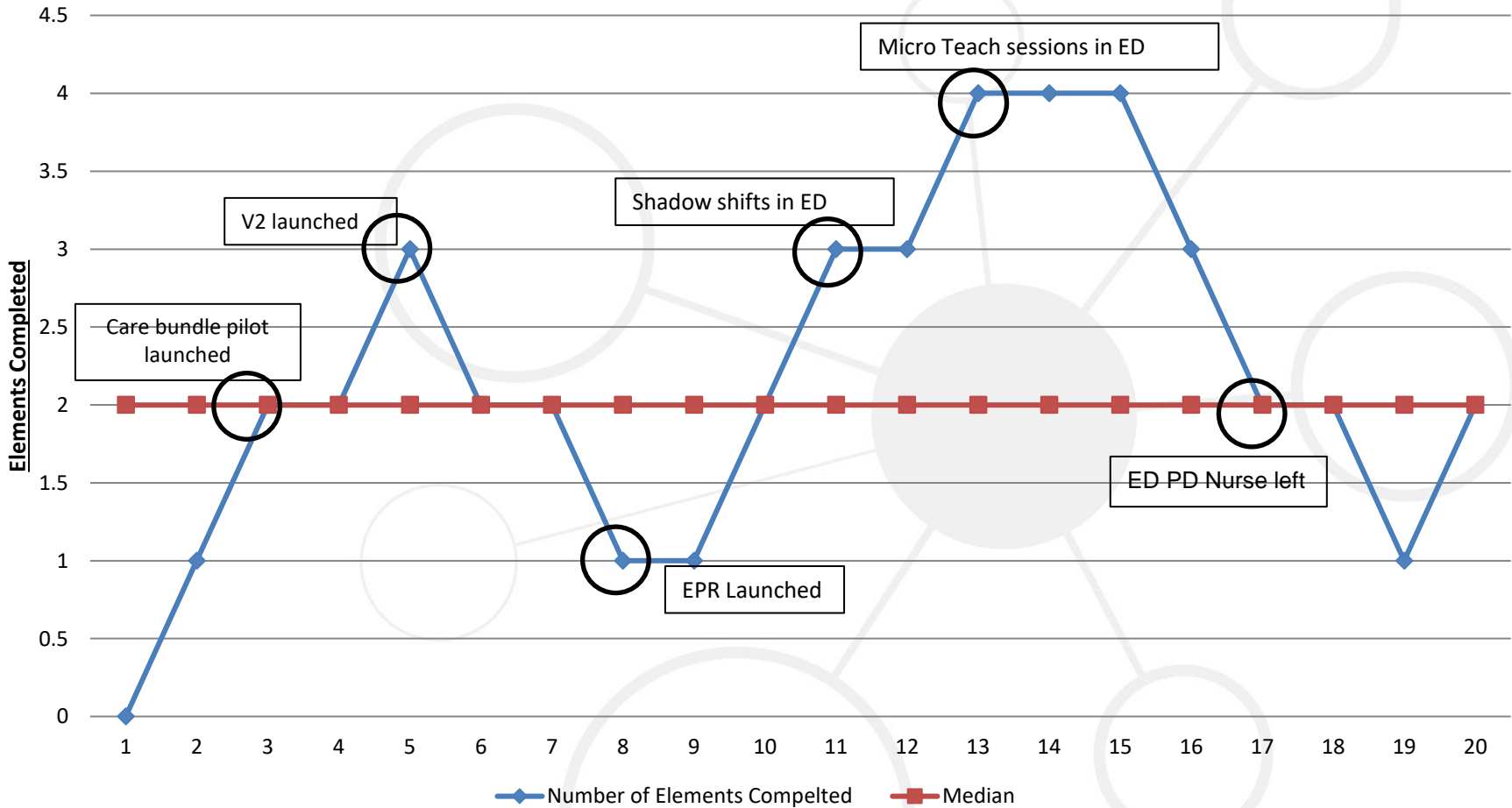
PDSA Cycle 6

Micro Teach sessions in ED



Run Chart

ROSC Care Bundle: Completion Rates

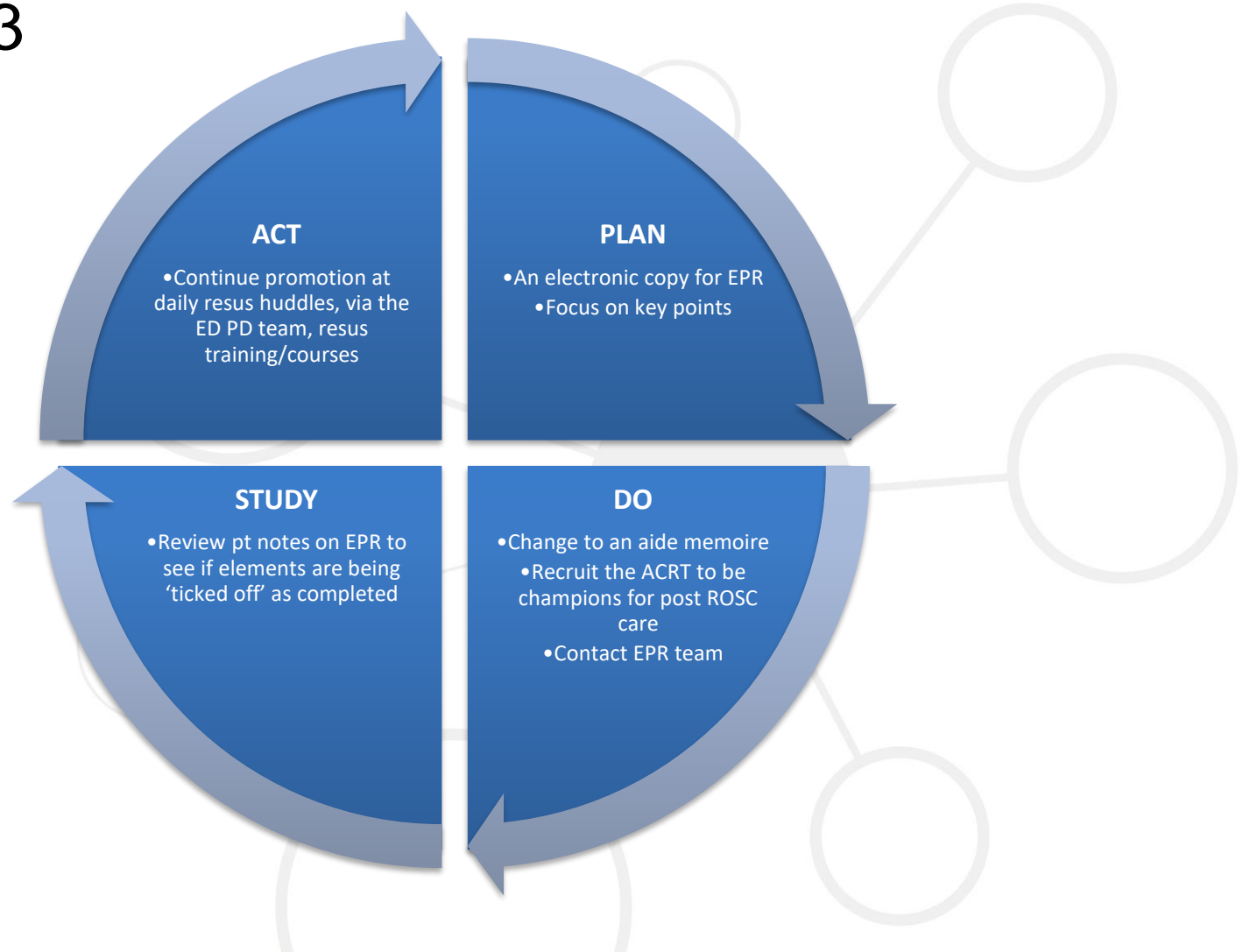


Key Results

- Initially a good response with completion.
- ED staff were engaging and had good understanding of post ROSC care
- When the ROSC care bundle was used it provided a cohesive template for documentation

PDSA Cycle 7

launch V3



ROSC Care Bundle V3

- **R** – Remain still (keep the pt still for at least 10mins post ROSC if possible to help with reperfusion syndrome)
- **O** – Observations (inc A-E assessment & 12 lead ECG)
- **S** – Saturations. (Maintain Normocapnia)
- **C** – Continuation of care

Issues

- COVID – not many arrests coming into ED
- High staff turn over in ED (initial staff trained have left so having to keep revisiting)
- ED turned paperless in the summer so not filling it in
- ED PD nurse left on secondment

Next Steps

- ACRT the one consistent so us them as a champion
- Roll out onto wards/clinical areas for all CA
- Have a digital version on EPR with post ROSC care listed to aid documentation compliance increase