Cardiac Arrest Review Panel (CARP)-a novel multi-professional approach to reviewing in-hospital cardiac arrests at an acute Trust in Essex, UK

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Aim

The vast majority of in-hospital cardiac arrests are preceded by a period of physiological deterioration (Deakin et al 2010). It has been suggested that as many as 75% of all in-hospital cardiac arrests could be prevented (NCEPOD 2012). It is advocated that hospitals have mechanisms in place to review incidents of cardiac arrest. At The Princess Alexandra Hospital NHS Trust this was initially instigated by the Critical Care Outreach Team (CCOT), a homogenous group of nurses. Feedback from this process was good but nursing teams expressed concerns they were not involved in the process. A new method for review was instigated by the Resuscitation Service in 2019.

Method

Key clinical members of staff from the Trust were recruited to form a Cardiac Arrest Review Panel (CARP), including senior and junior nurses, senior medical staff, Resuscitation Practitioners, CCOT and Pharmacy staff. An objective data collection form incorporating best practice matrices from NICE, NCEPOD and RCP was developed. The collection form also looked at harm triggers as detailed in the Global Trigger Tool (GTT). A new governance process was created to support this change of practice which included time frames for "Hot reviews" of events and outcomes from CARPs. CARPS were held twice monthly and were designed to only last 15 minutes in duration. CARPs were held during protected mealtimes, facilitating greater attendance from ward staff. The panel would review data already gathered and look for notable practice, any care/service delivery (CSD) issues or opportunities where a discussion regarding resuscitation status was missed. Data is collated monthly and presented to Trust committees.

Results

The CARP has reviewed 25 incidents since January 2019 and has found:

- 7 incidents that had no Care or Service Delivery (CSD) issues
- 4 unrecognised predictable events were found
- 10 incidents that had a missed opportunity to review resuscitation status prior to arrest
- 4 incidents of CSD issues for immediate review

Conclusion

Feedback following the introduction of the CARP has been extremely positive. It allows a multi-professional approach to cardiac arrest reviews, utilising a novel objective assessment method. Nursing staff report a greater sense of engagement in the process allowing them to "own" any issues and actions.

The introduction of the CARP has not only strengthened the governance processes around reviews, but has provided a conduit for learning from events which is shared both internally and externally with local commissioning groups, enhancing patient safety.

Cardiac Arrest Review Panel checklist Date:

PMH:	**Age**	**Initial Dx:**
Ongoing care:		
Patient No:		**Initials:**
Datix reference number:		
Admission date & time:		
Date of Arrest & Time:		
Length of stay:		
Ward:		
Named Consultant at time of arrest:		
Was CPR status documented on admission?		Y N (circle)
Was there a documented discussion regarding CPR status?		Y N (circle)
Was there Consultant led care within 12 hours of admission?		Y N (circle) If no, please document _____
Were observations documented as per trust policy?		Y N (circle)
Last NEWS before Cardiac Arrest, when (hrs) and frequency of obs		Hrs / Hrly
Highest NEWS in preceding 48 hours		
CCOT involved?		Y N (circle)
Delay in referral or review by senior/critical care?		Y N (circle)

Signature of Panel Chair_____

PAH Resuscitation Service CARP.MI/PC.V4-January 2019

GGT (Circle)			
General Care module		**Medication Module**	
Lack of NEWS or NEWS response	G1	Vitamin K	M1
Any Patient fall	G2	Naloxone	M2
Pressure sore present	G3	Flumazenil	M3
Readmission to hospital within 30 days	G4	Glucagon or Glucose for hypoglycaemia	M4
Shock or Cardiac Arrest	G5	Abrupt medication stop	M5
Confirm VTE (DVT/PE) following admission	G6	**Laboratory Test Module**	
Complication of procedure	G7	High IINR (>5)	L1
Surgical Care Module		Transfusion of blood or blood products	L2
Return to Theatre	S1	Abrupt drop in Hb or Hct (>25%)	L3
Change to planned procedure	S2	Rising urea or creatinine (>1.5xbaseline)	L4
Organ Injury/removal or repair	S3	Electrolyte Imbalance Na^+ <120 or >160, K^+ <2.5 or >6.5	L5 L6
Intensive Care Module		Hypoglycaemia	L7
Readmission to ICU/HDU	I1	Raised Troponin	L8
Unplanned transfer to ICU/HDU pre-arrest	I2	MRSA +ve	L9
CARI		C-Diff +ve	L10
Troponin rise		VRE	L11
AKI		New wound Infection	L12
INR		Hospital Acquired Pneumonia	L13
NEWS rise of 2 or more		Positive Blood Culture	L14
Electrolytes outside normal range			
Total CARI score			
Retain score			
Does the panel believe this Cardiac Arrest was predictable?		Y N (circle)	
If Yes, Refer to S.I.G?		Y N (circle)	
Does the panel believe an opportunity to review the patients resuscitation status was missed?		Y N (circle)	

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