Responding to clinical triggers
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Background
Do Not Attempt Resuscitation (DNAR) decisions have to be made in a timely manner, to avoid undignified and traumatic deaths in patients who are unlikely to benefit from cardiopulmonary resuscitation (CPR) attempts. (1)

This study evaluates practice at the Princess Royal University Hospital (PRUH) in the acute medical unit against the standards set out by the Royal College of Physicians, as listed below. (2) We specifically focused on whether patients with NEWS >5 during admission were having DNACPR decisions discussed and documented. We also audited whether DNAR forms were fully completed.

Royal College of Physicians triggers for DNA CPR discussion (2)
- NEWS >5 at any point of admission.
- Clinical red flags (chest pain (continuous >20mins), headache (of sudden severe onset or associated with jaw pain & scalp tenderness), cauda equina symptoms, palpitations (associated with syncope), painful swollen leg.
- Severe sepsis.
- Acute kidney injury (increase in serum creatinine >26umol in 48hr OR 1.5 rise in Cr OR reduced renal output.
- Patients at risk of medical complications.

Aims
- All patients with a NEWS score of >5 should have a documented DNACPR discussion.
- To improve the written & verbal communication around DNACPR decisions;
  - All sections of DNA CPR forms should be complete.
  - All DNA CPR forms should have evidence of communication with the patient and/or NOK.
  - All DNA CPR forms should have written evidence of communication with team members.

Method
- This was a snapshot audit of all medical patients on the EAU on the day of audit.
- Notes were reviewed to see if patients with NEWS >5 during admission had a DNAR decision documented, and forms were assessed for completeness

Cycle 1: 14/01/2017
1st Interventions
- Delivered teaching session to AMU consultants & junior doctors to improve awareness of who should trigger a DNA CPR discussion & how to fill out DNA CPR form correctly.
- Added CPR status column in doctors & nurses hand over sheet as a prompt to trigger DNA CPR discussions. (However this was discontinued by ward staff)

Cycle 2: 27/03/2017
2nd Interventions
- Delivered same teaching to new rotation of junior doctors
- Ward clerks added “Treatment Escalation Plan (TEP)” forms to all patient notes.

Cycle 3: 21/06/17

Results

<table>
<thead>
<tr>
<th>Percentage (%)</th>
<th>1st Cycle</th>
<th>2nd cycle</th>
<th>3rd cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Documentation</td>
<td>80</td>
<td>89</td>
<td>75</td>
</tr>
<tr>
<td>No Documentation</td>
<td>20</td>
<td>11</td>
<td>25</td>
</tr>
</tbody>
</table>

Percentage of patients with NEWS >5 with documentation of a DNACPR

<table>
<thead>
<tr>
<th>Number of DNA CPR forms</th>
<th>1st Cycle</th>
<th>2nd cycle</th>
<th>3rd cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>All sections complete</td>
<td>15</td>
<td>14</td>
<td>9</td>
</tr>
<tr>
<td>Incomplete</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

Number of DNA CPR forms with all sections completed

Discussion

<table>
<thead>
<tr>
<th>Limitations:</th>
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<tr>
<td>Limitations of this study include that there was a small sample size as we only looked at one unit and only a small number of patients reached NEWS &gt;5.</td>
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<td>We also need to consider that the population demographic of PRUH different to other hospitals, in particular that we have a large proportion of elderly patients with multiple co-morbidities.</td>
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<td>Auditors worked on the EAU ward for 1st &amp; 2nd cycle, this may have led to bias in the results or equally increased awareness due to this audit improving DNAR form filling.</td>
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Difficulties faced:
- It was not permitted to add a DNAR column on nursing handover sheets, encouraging nurses to remind doctors to consider DNAR status if they feel it has been missed.
- Not possible to add a DNAR column on the ward patient board, again prompting doctors to consider whether DNAR discussions have been missed.
- Too expensive to incorporate a DNAR form in the medical proforma.
- Often TEP forms were left blank.

Conclusion

In the 1st & 2nd cycle, our intervention (teaching) improved both the number of patients with NEWS >5 who had DNAR discussion, and the completeness of the forms when done. However, results from the 3rd cycle show a correlation between there being no junior doctors working on DNAR audit & poor results.

We are working closely with the DNAR champions at PRUH to suggest the following:
- DNAR Teaching to be arranged by medical education during doctors induction.
- Junior doctors complete 2 cycles of DNR audit with every rotation.

PRUH is planned to switch to EPR in the near future which, with automatic prompts, will likely improve rates of DNAR discussion.

References:
1) Resuscitation council. Decisions relating to DNA decisions. Available at URL: https://www.resus.org.uk/dnacpr/decisions-relating-to-cpr/