Generic Response for Deteriorating Patients

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Background

• Deteriorating patients have been a key focus for the SPSP since its launch in 2008. Acute hospitals now have an improved approach to identifying and treating deteriorating patients quickly and effectively.

• Existing work:

- National Early Warning Score (NEWS)
- Sepsis recognition & treatment
- Escalation processes
- Person-centred care planning
- 29% reduction in cardiac arrest rate since Jan 2016
- 21% reduction in Sepsis mortality since April 2013

• The work to date has identified an emerging need to better describe and support the different ways to recognise and respond to physiological deterioration from any cause.
Safety

• To be a SAFE hospital
• Avoid HARM

• Minimise damage when it does happen
• Prevent from happening in first place
HARM → Deterioration
Deterioration → Cardiac Arrest
INAPPROPRIATE CPR
or
FAILURE TO RESCUE
HIGH MORTALITY RATE
NO SECOND CHANCES
ULTIMATE HARM
Cardiac Arrest Rates per 1000 Admissions

2015
Nearly half the CPR in hospital avoidable

CPR Review outcomes:
1. Appropriate response to deterioration
2. Cardiac arrest unexpected, unavoidable and 999 call appropriate
3. DNACPR order should have been considered / would have benefitted patient
4. DNACPR in place but resuscitation attempted
5. Failure to recognise patient deterioration
6. Failure to respond to patient deterioration
7. Failure to refer to higher level of care
8. Cardiac arrest could have been avoided with different intervention.
9. Referral to SAER
Every system is perfectly designed to achieve the results it gets

Don Berwick

- inputs
- actions
- outcomes
Know the Score

Triage

Deteriorating Patient

Observations Taken

Clinical Help Called For

Medical Response

Higher level of care

Manage in situ

DNACPR Limitation

Cardiac Arrest

1

2

3

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inputs

• EWS
EWS scores associated with **cardiac arrests** and **mortality**

\[
R = 0.5526, \ p = 0.014. \ (5 \text{ million sets obs 70,000 patients})
\]
Triggers for Triage?

• **AKI** - x4 Mortality in hospital

• **Lactate** - Mortality > 30% if > 4 mmol/l

• **Patient /Carer Concern**

• **EWS** - Mortality correlation p < 0.001

• **Delirium** – mortality 22-76% in hospital
Know the Score

Triage

1. Deteriorating Patient
   - Observations Taken
   - Clinical Help Called For
   - Medical Response

2. Higher level of care
   - Manage in situ

3. DNACPR Limitation

Cardiac Arrest

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• Multiple changes in teams
• Multiple handovers
• Flicking through notes at 3am trying to find out about patient
• Trying to ID priorities.....
Reasons for no response

- Results: The incidence of physiological instability in the acute adult population was 4.04%. **Nearly half of these patients (42%) did not receive an appropriate clinical response from the staff,** despite most (69.2%) recognising their patient met physiological criteria for activating the RRS, and being ‘quite’, or ‘very’ concerned about their patient (75.8%).

Structured interviews with 91 staff members identified predominantly **sociocultural** reasons for failure to activate the RRS.
Atul Gawande

- 13,000 diagnoses
- 6,000 drugs
- 4,000 procedures
Know the Score

Triage

1. Deteriorating Patient
   - Higher level of care
2. Observations Taken
   - Manage in situ
3. Clinical Help Called For
   - DNACPR Limitation
4. Medical Response
   - Cardiac Arrest
Poor System Sensitivity

50% x 80% x 80% x 80%

• 26% best possible

Suboptimal Observation rates
Inaccuracies in Calculations
Human Factors
Communications Problems
<table>
<thead>
<tr>
<th>Outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiac Arrests?</td>
</tr>
<tr>
<td>Mortality?</td>
</tr>
<tr>
<td>ITU admissions?</td>
</tr>
<tr>
<td>Communication?</td>
</tr>
<tr>
<td>2222 calls?</td>
</tr>
<tr>
<td>Chain Length?</td>
</tr>
<tr>
<td>Obs Accuracy?</td>
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</tbody>
</table>
CHAIN LENGTH

Time to TRIAGE OR CLINICAL IMPROVEMENT

244 min

30 % Improvement
Know the Score ≥ The 5 key elements

- EWS
- LEARNING
- DETERIORATING PATIENT
- SSR STICKER
- DNACPR
- HACP

Healthcare Improvement Scotland

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<table>
<thead>
<tr>
<th>EWS &gt; 3 Trigger</th>
<th>1 sticker per episode per 24 hours</th>
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<tbody>
<tr>
<td></td>
<td>ESCALATE NOW IF CLINICAL CONCERN</td>
</tr>
<tr>
<td>Date:</td>
<td>Time:</td>
</tr>
<tr>
<td>Nurse in charge informed</td>
<td>✅</td>
</tr>
<tr>
<td>PatientTrack observation profiles/flags reviewed</td>
<td>✅</td>
</tr>
<tr>
<td>PRINT NAME/SIGNATURE:</td>
<td>/</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>EWS &gt;4 Action</th>
</tr>
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<tbody>
<tr>
<td>ESCALATE NOW (SEE FEWS ESCALATION CHART)</td>
</tr>
<tr>
<td>1. Responsible nurse and clinician to review patient &amp; complete sticker (within 1hr)</td>
</tr>
<tr>
<td>2. Possibly due to infection? Y (Complete Sepsis 6 Form) N</td>
</tr>
<tr>
<td>3. Appropriate escalation if ongoing deterioration – tick one only</td>
</tr>
<tr>
<td>a) For ICU</td>
</tr>
<tr>
<td>b) For HDU</td>
</tr>
<tr>
<td>c) Forward based care</td>
</tr>
<tr>
<td>4. Resuscitation status: for CPR ✅ DNACPR (Complete DNACPR Form)</td>
</tr>
<tr>
<td>5. DOCUMENT MANAGEMENT PLAN IN NOTES BELOW STICKER</td>
</tr>
<tr>
<td>PRINT NAME/SIGNATURE:</td>
</tr>
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</table>

- IF NO IMPROVEMENT, or EWS > 7 Then Call For Help
- IF FEWS 7 OR ABOVE AND NO IMPROVEMENT AFTER 1 HOUR WITH NO DECISION MADE TO LIMIT ESCALATION - MANDATORY CONSULTANT CONTACT NOW
- IF FEWS ≥ 5 OVERNIGHT – inform team consultant in morning

Discuss all plans with patient and family as soon as able & document
Reduction avoidable cardiac arrests

In-hospital cardiac arrest attended by the team per 1000 hospital admissions

- Your hospital
- Other hospitals

2015
2016
2018
2019
SAFETY NET

Simple - Triggers
Simple - Decisions
Simple - Communication

All preventable Cardiac Arrests prevented
All avoidable CPR avoided
Approach

• 90-Day learning cycle used to explore the benefits and risks of this development.

• This is a methodology for understanding and developing new concepts and provides a reliable and efficient way to explore ideas, assess their potential and bring them to action.
The aim of this work is to develop a better understanding of:

• The key components of a generic response to a deteriorating patient,
• How this could be tested in clinical practice, and
• The potential benefits and challenges of a generic response for staff and patients.
Outcome

• By the end of the process, we will have explored the potential for a method for recognition and response for people who are acutely deteriorating from any cause.

• We will have tested this approach with a view to further testing and implementation within boards.
What have we done?

**Phase 1**
Reviewed existing literature and spoke to experts in the field to develop an understanding of:
- the key components in the implementation of a generic response to a deteriorating patient,
- how complex this could be, and
- the benefits of a generic response to staff and service users.

**Phase 2**
Building on the literature review and expert interviews conducted in phase 1 of the process, we consulted with experts in the field to co-design a generic response for deteriorating patients to be tested in NHS boards.
What happens next?

During Phase 3, we will review tests and further refine the initial prototype for a generic response to deteriorating patients. A report will be developed to outline the learning from the 90 Day Process.
Over to you....

• Do you think the concept of a generic response to deteriorating patients has potential?

• Is there anything that you think should be incorporated into the response that was not addressed here?