Ten years of improving safety

Deteriorating Patient WebEx, Wednesday 25 April, 14:00-15:00

Welcome
#SPSP10
A few points for our WebEx today:

Please dial in on your phone: 0800 032 8069 and then use the pass code: 28921105#

Please mute your line by pressing *6 to reduce background noise
Introduce yourself
Please tell us your role and where you are based.

To get involved in the conversation, please click on the Chat icon.

Select **All Participants** from the drop down menu, type your message then click send. Introduce yourself.
This WebEx is being recorded for future use and reference
#SPSP10

## Agenda

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>14:00</td>
<td>Introduction &amp; national update</td>
<td>Wendy Nimmo</td>
</tr>
<tr>
<td>14:05</td>
<td>Cardiac arrest reduction in NHS Fife</td>
<td>Kathryn Brechin</td>
</tr>
<tr>
<td>14:30</td>
<td>Primary Care &amp; SAS</td>
<td>Graham Gauld &amp; Andrew Parker</td>
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<tr>
<td>14:50</td>
<td>Q &amp; A</td>
<td>All</td>
</tr>
<tr>
<td>14:55</td>
<td>Next Steps</td>
<td>Wendy Nimmo</td>
</tr>
</tbody>
</table>
Cardiac Arrests

13 hospitals have improvement or sustained improvements ranging from 20–80%
Update

- NEWS 2; SPSP recommendations
- NEWS 2 e-Learning module
- Deteriorating patient pathway
- Sepsis driver diagram
Ten years of improving safety

Know the Score

Ms Kathryn Brechin, Head of Nursing (Quality), NHS Fife
Dr Gavin Simpson, Consultant Anaesthetist, NHS Fife
The start of our journey: 2015 – Identifying the need for improvement

3.8 / 1000 discharges
SPSP Target to reduce CA rates by 50% - 2015 data
Audit of 17 Cardiac Arrests with CPR in January 2015

• Only 35% (n=5) of patients received appropriate care / intervention in line with standards identified by audit team.

• Out of these 5 patients, 3 were being managed in a higher level of care – ICU / CCU / MHDU.
Improvement Plan

FEWS – Fife Early Warning Score
Score 3 and above: Hourly observations & SSR

Roll out Scottish Structured Response (SSR):
Senior Medical Review
Decision re escalations of treatment
Sepsis screen
COMMUNICATE DECISIONS / PLAN

Site Safety Huddles:
Review of Patientrack (live)
Discuss all patients with FEWS >3 & discuss plan / escalation

• Develop HACP
• Promote appropriate DNACPR
• Promote SPICT

Review of cardiac arrests with CPR using a bespoke CPR SBAR review tool.
Introduce Emergency Bleep Meeting to review cases where opportunity for learning.
As the individual work streams progressed we recognised the need to pull the improvement work together as part of a single improvement rather than disparate developments.
Aim:

All preventable Cardiac Arrests prevented

All avoidable CPR avoided
USE FEWS - Fife Early Warning Score

1. Always do full set of observations: SpO₂, RR, PR, AVPU, BP and Temperature
2. Calculate FEWS. Record on Patienttrack or on FEWS chart
3. Review the chart. Know the score
4. Use the Escalation Chart to decide who should be involved
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
Clinical Observations – Use FEWS
VHK Site Safety Huddle

SINGLE TIME POINT
**Escalation – Revised Clinical Observation Procedure & Escalation Process**

### Acute Services Division: Fife Early Warning Score (FEWS) Escalation Process

<table>
<thead>
<tr>
<th>FEWS</th>
<th>0 / 1 / 2</th>
<th>3</th>
<th>4 or 3 for more than 1 hour</th>
<th>5 / 6 or 4 for more than 1 hour</th>
<th>≥7</th>
<th>≥7 with no improvement after 1 hour with no decision to limit escalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency of Monitoring</td>
<td>Minimum of daily observation</td>
<td>Minimum hourly observation</td>
<td>Minimum hourly observation</td>
<td>Minimum hourly observation</td>
<td>Consider continuous monitoring of vital signs, with regular recording of FEWS.</td>
<td>Consider continuous monitoring of vital signs, with regular recording of FEWS.</td>
</tr>
<tr>
<td>Minimum clinical response</td>
<td>Continue routine FEWS monitoring with every set of observations</td>
<td>Inform Nurse in Charge (NIC) Consider if escalation of care is required at first recording</td>
<td>Inform NIC + FY1/FY2/HAN/NP Clinical review required within 1 hr</td>
<td>Inform NIC + InformTeam or On Call Specialist Trainee / HAN Clinical review required within 1 hr</td>
<td>Refer to above actions and continue with escalation.</td>
<td></td>
</tr>
<tr>
<td>Minimum of daily observation</td>
<td></td>
<td></td>
<td>Minimum hourly observation</td>
<td>Minimum hourly observation Consider continuous monitoring of vital signs, with regular recording of FEWS.</td>
<td>Consider transfer of clinical care to HDU or ITU</td>
<td></td>
</tr>
</tbody>
</table>

- If patient has had FEWS of 5 or more overnight, Patient’s Consultant MUST be notified of patient deterioration in the morning.
- Discuss all plans with the patient and family as soon as able and document discussions in the patient’s healthcare record.
- Complete SSR sticker in notes if FEWS ≥ 3
- If clinical concern at any stage – escalate NOW
STICKER - Scottish Structured Response

1. If FEWS 3 or more, complete an SSR sticker. One sticker per episode per 24 hours
2. If the SSR sticker choices are not clear, get senior opinion
3. Document a plan and follow it.
Scottish Structured Response

All patients FEWS 3 or more - NIC to complete

All FEWS 4 or more - medical and NIC to complete
A: FEWS > 3
RECOGNITION/ESCALATION

ESCALATE NOW IF CLINICAL CONCERN

Date: ________________ Time: ________________ FEWS: __________

Nurse in charge informed □
Patient track observation profiles/flags reviewed □

PRINT NAME/SIGNATURE: ___________________ / ___________________

B: FEWS > 4 (or 3 for more than 1 hour)
RESPONSE/INTERVENTION

ESCALATE NOW (SEE FEWS ESCALATION CHART)

1. Responsible nurse and clinician to review patient & complete sticker (within 1 hr)
2. Possibly due to infection? Y (Complete Sepsis 6 form) N
3. Appropriate escalation if ongoing deterioration – tick one only
   a) For ICU
   b) For HDU
   c) For ward based care □
4. Resuscitation status: for CPR □ DNACPR (Complete DNACPR Form)
5. DOCUMENT MANAGEMENT PLAN IN NOTES BELOW STICKER □

PRINT NAME/SIGNATURE: ___________________ / ___________________

- IF NO IMPROVEMENT, OR FEWS 7 OR ABOVE - 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
DNACPR

If a patient is unlikely to survive CPR or CPR would not be appropriate then discuss and complete DNACPR

1

Complete an HACP

2

DNACPR must follow the patient

3
Review/confirm resus status & escalations of treatment

1. On admission;

2. When indicators of deterioration noted / new information available;
DNACPR Forms only refer to cardiopulmonary resuscitation, not to any other treatments.
Reducing Inappropriate CPR

The DNACPR Integrated Adult Policy has been in use for 10 years in Scotland & there are still times we don’t get it right.

From an audit of 94 cardiac arrests with CPR in 2015/16 (VHK):

- 30 (32%) should have been considered for DNACPR
- 8 (8.5%) had a DNACPR in place & still received CPR

Literature tells us DNACPR not considered because.... ‘Not enough time’ or ‘Care may stop’
HACP - HOSPITAL ANTICIPATORY CARE PLAN

1. Anticipate deteriorating health. Use SPICT to help identify patients at risk of dying

2. Plan ahead and talk to patients and family

3. Use HACP to communicate plan to the team.
Why do we need an HACP: Audit of all hip fracture deaths VHK (2012-2015)

- 5 patients had over 35 investigations
- 1 patient diagnosed as dying, had 45 investigations in their last week of life, which did not ultimately change their outcome.

Audit by Ballantyne, Bucknell (2015)
HACP

HACP provides clear communication of what **not to do** but also what **should be done**

Positive feedback (H@N FY1) – HACP helped with review, clinical decision making, & confidence to make appropriate escalations which included NIV and HDU admission for a complex patient with DNACPR.
**Hospital Anticipatory Care Plan (HACP)**

**Check:** HACP valid dates on reverse of page

Has a HACP order been completed: **YES** □ **NO** □

The Supportive & Palliative Care Institution Tool (SPICIT) is used with the identification of people at risk of deteriorating health and dying

**Patients who may benefit from an HACP when admitted to hospital include those with:**

- Risk of delirium
- Cognitive impairment
- Complex medical conditions
- Advanced cancer
- Dementia
- Neuromuscular conditions
- Renal failure

**Main Diagnosis:**

Indicate appropriate condition of treatment if required. Select one of the four boxes below.

- **Medical care (including CCU and possibility of intubation)**
- **Wean based care including rehabilitation and fluids**
- **Outpatient care including rehabilitation and fluids**
- **Cancer care including rehabilitation and fluids**

**Investigations & Interventions:** Consider and indicate the most appropriate options below. Changes can be made at any time with 24 hours’ notice to the individual.

<table>
<thead>
<tr>
<th>Intervention/Procedure</th>
<th>Comments/Instructions/Plan of Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invasive Procedure(s)</td>
<td>(Please state)</td>
</tr>
<tr>
<td>Intravenous Access</td>
<td></td>
</tr>
<tr>
<td>Intravenous Medication</td>
<td></td>
</tr>
<tr>
<td>Administration</td>
<td></td>
</tr>
<tr>
<td>Medical Administration</td>
<td></td>
</tr>
<tr>
<td>Endotracheal Intubation</td>
<td></td>
</tr>
<tr>
<td>Nasogastric Feeding</td>
<td></td>
</tr>
<tr>
<td>Renal dialysis</td>
<td></td>
</tr>
<tr>
<td>Clinical Observations</td>
<td>(Please state)</td>
</tr>
</tbody>
</table>

**Reasons for care plan:**

Signed:

Print Name: [ ]

Date commencing HACP: [ ]

**Responsible person:**

Signed:

Print Name: [ ]

Date commencing HACP: [ ]

**Note:**

Signed/Print/Valid card

- If a significant change is made to the HACP plan, please use the new document to show the new information and state:
  - Date signed
  - Date valid

**SCOTTISH PATIENT SAFETY PROGRAMME**

#SPSP10
Promoting SPICT – Consider indicators of deteriorating health

**Supportive and Palliative Care Indicators Tool (SPICT™)**

The SPICT™ is used to help identify people whose health is deteriorating. Assess them for unmet supportive and palliative care needs, and plan care.

**Look for any general indicators of poor or deteriorating health:**
- Unplanned hospital admission(s).
- Performance status is poor or deteriorating, with limited reversibility.
  (e.g., The person is in bed or in a chair for more than half the day)
- Depends on others for care due to increasing physical and/or mental health problems.
- The person’s care needs more help and support.
- The person has had significant weight loss over the last few months, or remains underweight.
- Persistent symptoms despite optimal treatment of underlying conditions.
- The person or family asks for palliative care to reduce, stop or not have treatment, or wishes to focus on quality of life.

**Look for clinical indicators of one or multiple life-limiting conditions:**

**Cancer**
- Functional ability deteriorating due to progressive cancer.
- Too hot for cancer treatment or treatment is for symptom control.

**Dementia/ frailty**
- Unable to dress, walk or eat without help.
- Eating and drinking less; difficulty with swallowing.
- Lively and food incontinence.
- Not able to communicate by speaking, little social interaction.
- Frequent falls, fractured tibia.

**Respiratory disease**
- Severe, chronic lung disease with breathlessness or chest pain at rest or on minimal effort.
- Severe, inoperable peripheral vascular disease.

**Heart/ vascular disease**
- Heart failure or extensive, unmetabolizable coronary artery disease with breathlessness or chest pain at rest or on minimal effort.
- Severe, inoperable peripheral vascular disease.

**Other conditions**
- Deteriorating and at risk of dying with other conditions or complications that are not reversible, any treatment available will have a poor outcome.

**Review current care and care planning:**
- Review current treatment and medications to ensure the person receives optimal care, minimise polypharmacy.
- Consider referral for specialist assessment if symptoms or problems appear complex and difficult to manage.
- Agree a current and future care plan with the person and their family. Support family care.
- Plan ahead early if loss of decision-making capacity is likely.
- Record, communicate and coordinate the care plan.
DNACPR and HACP
LEARNING

1. Report all cardiac arrests in DATIX
2. Complete SBAR and participate in review process
3. Shared learning with clinical team and organisation
Learning from Cardiac Arrest with CPR – Review Process

- All 2222 calls with CPR
- DATIX
- Formal structured SBAR review
  - Medical part
  - Nursing part
- If more information is required or areas that would benefit from further discussion, or if there are issues of concern / opportunity for learning.
- Emergency Bleep Meeting (EBM)
Emergency Bleep Meeting - Purpose

To review the **systems** we have when managing **deteriorating patients** and any factors which may be contributory to a **cardiac arrest** needing **CPR**.

All deaths which are ‘expected’ have DNACPR

Norfolk and Suffolk—

recommendation to investigate all unexpected deaths

EBM = NHS Fife formally reviews all unexpected deaths
Learning – Local & Organisational

• Often teams identify specific elements of procedure or care in their areas that may have opportunities for change or improvement.

• Changes often made by teams before EBM

• Specific areas of system-wide improvements based on learning from EBM
  - Scottish Structured Response sticker
  - Clinical Observation procedure
  - FEWS Escalation procedure
  - HACP / DNACPR audit and action plan
EBM Year 1 review: Improving but nearly half the CPR in considered avoidable following review

CPR Review outcomes:
1 - Appropriate response to deterioration
2 – Cardiac arrest unexpected, unavoidable and 2222 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
Where are we now?

Still on a journey......

• Celebrating Success
• Focus of sustaining and embedding improvements / initiatives in place
• Identifying new areas of improvement / focus
Celebrating Success: Observations on Time

Approaching 2 million sets Observations
Celebrating Success: Chain Length - Time to TRIAGE OR CLINICAL IMPROVEMENT

30 % Improvement
2 years data to Sept 2017
Celebrating Success: Cardiac Arrest Rate per 1000 Admissions

2015

3.8

2018

1.3
Celebrating Success: SPSP Cardiac Arrest Data

Data Validated from Dec 2013

Cardiac Arrest Rate

Rate per 1000 discharges

NHS Fife

VHK

Data Validated from Dec 2013
Celebrating Success: Inappropriate CPR attempts where DNACPR in place.

Acute Services Division
Number of inappropriate CPR attempts where a DNACPR was in place

12 months as of 13.04.2018

Data up to 18th April 2018
Deteriorating Patient
Observations Taken
Clinical Help Called For
Medical Response

Higher level of care
Manage in situ
DNACPR Limitation

Cardiac Arrest with CPR
SAFETY NET

Optimise Care

All preventable Cardiac Arrests prevented
All avoidable CPR avoided
Thank you

Questions?
SPSP Sepsis in Primary Care
Dr Graham Gauld
National Clinical Lead

@spsp_pc  #sepsiscollab
Participating Boards

Highland
Lothian
GGC
SAS
Aim: 95% of patients referred to SAS or Secondary Care will have a NEWS score recorded and communicated
Aim

By 31st March 2018, 95% patients (>16yo) who are being escalated from primary care due to a high index of suspected sepsis will have their NEWS communicated to the ‘receiving unit’/SAS. [n.b specific geographical area to be set]

**Measures & Rationale**

*Figure 3 shows the required measurements of the participating health boards, as part of the pilot programme. A data collection tool (excel document) will be provided to ensure uniform data collection. However, it is anticipated and encouraged that NHS health boards highlight additional measurements on their improvement journey that they may also wish to record and share with collaborative members.*

<table>
<thead>
<tr>
<th>1) Has the NEWS been recorded in appropriate referral documentation by the referrer? Yes/No</th>
<th>This may include the handover/referral letter/home visit summary to SAS or an appropriate OOH electronic record. This will be clarified in the guidance and rationale developed by the participating health boards. A blank form can be found to assist you in this in appendix 4.</th>
<th>Recorded</th>
</tr>
</thead>
<tbody>
<tr>
<td>2) Has the NEWS been communicated verbally to the ‘relevant accepting body’ at the point of call? Yes/No</td>
<td>Has the referring clinician verbally communicated the NEWS at point of referral to SAS/Acute receiving unit.</td>
<td>Communicated</td>
</tr>
</tbody>
</table>
Data Lothian UCS

Percentage of cases with suspected sepsis referred with documented NEWS:
October 2017 – 100%
November 2017 - 63.64%
December 2017 – 75%
January 2018 – 63.16%
February 2018 – 71.43

% Recorded per Individuals Reviewed

![Graph showing percentage recorded per individuals reviewed over time.](image-url)
GGC Data

% Completion of Sepsis Bundle

- Revised Data Bundle
- National Bundle Introduced
- In-Hours GPs joined programme

Total Number of Cases identified / Month

Template in Vision

National Early Warning Score (NEWS)

Relevant Symptoms
- URTI
- Meningitis
- Infect/wound
- LRTI
- UTI
- Abdo Pain
- Cellulitis
- Confusion
- Infect/device
- PUO (Other)

Score
- RESP. RATE: 22 2 Resp. Rate 21-24
- SpO2: 94 1 O2 Sats 94-95
- TEMP: 36 0 Temp 36
- BP: 140/80 0 BP (Systolic) 111 - 219
- HEART RATE: 50 0 Heart rate 50 - 89
- Conscious (AVPU): A 0 Alert
- Oxygen (Y/N): N 0 No

Total NEWS Score: 3  Low NEWS Score 1-4

Could this be SEPSIS  Yes  No

Peak flow:  
LMP: 13 February 2018
RBG:  

Comments:

Treatment Plan (Not active)
- Given Oxygen
- IV Antibiotics
- IV Fluids

Location:  

Notes: 
AND (and verbal communication of NEWS)
Highland

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>13/02/18</td>
<td><strong>Ambulance request for patient Pickup - Inverness</strong></td>
</tr>
<tr>
<td></td>
<td><strong>H</strong> Other hospital admission NOS discussed admission re suspected sepsis</td>
</tr>
<tr>
<td></td>
<td><strong>H</strong> O/E - pupil reactions normal Reactive</td>
</tr>
<tr>
<td></td>
<td><strong>H</strong> O/E - fully conscious Alert</td>
</tr>
<tr>
<td></td>
<td><strong>H</strong> O/E - pulse rate 50 beats/min</td>
</tr>
<tr>
<td></td>
<td><strong>H</strong> BP 140/60 taken Sitting Cuff. Standard O/E - blood pressure reading</td>
</tr>
<tr>
<td></td>
<td><strong>H</strong> O/E - temperature level - 36 deg C 36</td>
</tr>
<tr>
<td></td>
<td><strong>H</strong> Pulse oxymetry 94 %</td>
</tr>
<tr>
<td></td>
<td><strong>H</strong> O/E - rate of respirations = 22/minute</td>
</tr>
<tr>
<td></td>
<td><strong>H</strong> Urosepsis respiratory infection NOS NEWS data</td>
</tr>
<tr>
<td></td>
<td><strong>Score:</strong> 3 Method: NEWS for: National Early Warning Score - Royal College of Physicians Low NEWS Score 1-4</td>
</tr>
<tr>
<td></td>
<td><strong>H</strong> Suspected sepsis Comments with regards to NEWS clinical assessment</td>
</tr>
</tbody>
</table>
SAPG Pre-hospital antibiotic update

Dec 17: SBAR from HIS and SAS re Cefotaxime

Outcome: tasked with consensus SBAR for June 2018 SAPG
Scottish Ambulance Service

Led by Patient Safety Manager

Collaborative with 3 Health Boards

- Highlands & Islands
- Greater Glasgow & Clyde
- Lothian
Scottish Ambulance Service – Case studies
Scottish Ambulance Service

Recent pre hospital development

Sepsis guideline

Cefotaxime PGD amendment
Scottish Ambulance Service

NEWS

- ≥ 5
- Ask the question, could this deterioration be due to Sepsis?
- O2, Fluids (if paramedic) and pre alert ED department
- If > 1 hour transfer time - Cefotaxime
- Reviewing and developing ability to implement NEWS 2
Cefotaxime usage

Run Chart - Cefotaxime administration per month

Number of doses administered

- Median
- GP administration
Scottish Ambulance Service

Next steps

Full patient journey review for each cefotaxime administration for the first 3 months.

Ongoing monthly antimicrobial surveillance as part of the organisational medicines management processes
Scottish Ambulance Service

Next steps

Contribute to joint SBAR to SAPG

Feedback to SAPG in future post implementation
NEWS2

Evaluation: “NEWS (of 5 or more) more sensitive and specific than most existing systems.”

Validation: of NEWS use in pre-hospital settings for example, by ambulance services(1)

Recommendation 7: “should be used in the pre-hospital assessment of acutely ill patients by first responders to identify and improve the communication of acute-illness severity to receiving hospitals”
References

Questions?
Next steps...

- Survey monkey
- Deteriorating Patient Event 13th Nov 2018
- NEWS 2 introduction- boards

AND THANK YOU!