Working with NEWS in the Community
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GP Clinical Lead, West of England AHSN

@AlisonTavare
Cross System

- 3 Universities
- 5 Clinical Commissioning Groups
- 1 Ambulance Trust
- 2.4 million residents
- 6 Acute Trusts
- 7 Community Services
- 2 Mental Health Trusts

2.4 million residents
Avon and Wiltshire Mental Health Partnership NHS Trust

Bristol Community Health

NSCP

Sirona care & health

BrisDoc

GloUCESTERSHIRE Care Services NHS Trust

University Hospitals Bristol NHS Foundation Trust

North Bristol NHS Trust

North Somerset Clinical Commissioning Group

Swindon Clinical Commissioning Group

SEQOL care • health • support

medvivo integrating health and care

South Western Ambulance Service NHS Foundation Trust

Weston Area Health NHS Trust

Gloucestershire Hospitals NHS Foundation Trust

Bath and North East Somerset Clinical Commissioning Group

South Gloucestershire Clinical Commissioning Group

Great Western Hospitals NHS Foundation Trust

Bristol Clinical Commissioning Group

CareUK

NHS
# Why NEWS?

## National Early Warning Score (NEWS)*

<table>
<thead>
<tr>
<th>PHYSIOLOGICAL PARAMETERS</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiration Rate</td>
<td>≤8</td>
<td>9 - 11</td>
<td>12 - 20</td>
<td>21 - 24</td>
<td>≥25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxygen Saturations</td>
<td>≤91</td>
<td>92 - 93</td>
<td>94 - 95</td>
<td>≥96</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any Supplemental Oxygen</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature</td>
<td>≤35.0</td>
<td>35.1 - 36.0</td>
<td>36.1 - 38.0</td>
<td>38.1 - 39.0</td>
<td>≥39.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Systolic BP</td>
<td>≤90</td>
<td>91 - 100</td>
<td>101 - 110</td>
<td>111 - 219</td>
<td>≥220</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heart Rate</td>
<td>≤40</td>
<td>41 - 50</td>
<td>51 - 90</td>
<td>91 - 110</td>
<td>111 - 130</td>
<td>≥131</td>
<td></td>
</tr>
<tr>
<td>Level of Consciousness</td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td>V, P, or U</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*The NEWS Initiative formed from the Royal College of Physicians (RCP) (Emergency Medicine) and the Nursing and Allied Health Professions (NHSAHPP) and was jointly developed and funded in collaboration with the Royal College of Physicians, Royal College of Nursing, National Clinical Forum and NHS Training for Innovation.
NEWS 2 and sepsis

NEWS 2 sepsis score is not validated in primary care

Alex Burns general practitioner
Acute GP Service, Trelliske Hospital, Truro TR1 3LQ, UK

Inada-Kim and Nsutebu urge the health system to use the NEWS 2 score in all healthcare settings. They say that “a score in one setting must mean the same in any other.” The problem is that it doesn’t.

Improved communication in health systems should be encouraged, but as Bernard Shaw (maybe) said about the United Kingdom and United States, primary and secondary care will always be separated by the same language.

As with any scoring system, diagnostic test, or risk stratification tool, the predictive value is governed by the pre-test probability as well as the characteristics of the test. A NEWS score of 4 in an emergency medical setting does not mean the same as in an ambulance call-out or a GP surgery, for the simple reason that serious illness is not as common in these settings.

Clinicians should observe patients and be alert to sickness, but we should acknowledge that the NEWS score is not validated in primary care, let alone as a screening tool. We need research to establish what any warning score means in primary care; until then, we must accept that the NEWS score from primary care is spoken with a different dialect.

Competing Interests: None declared.

1. Inada-Kim M, Nsutebu E. NEWS 2: an opportunity to standardise the management of deterioration and sepsis. BMJ 2018;360:k2392. doi:10.1136/bmj.k2392

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West of England
Patient Safety Collaborative
Year 1

• Focus on introducing NEWS to all settings and using NEWS accurately
• Acute trusts standardised to NEWS

Acute – March 2015
- North Bristol Trust
- University Hospitals Bristol
- Weston General Hospital

Acute – March 2016
- North Bristol Trust
- University Hospitals Bristol
- Weston General Hospital

Patient Safety Collaborative
Year 2

Focus on using NEWS at handover of care

Patients to be seen at the right time, in the right place and by the right clinician
Digital Enablers

Templates in primary and community care systems

Auto calculation established within South Western ambulance service
Primary Care

- GP admitting teams asking for numbers
- NEWS 3 usually AMU but alternatives discussed eg hot clinic
- NEWS 5 usually seen in ED
- NEWS 7 blue light admission to ED
- However actions not ascribed to numbers and NEWS did not override clinical judgment
- SWAST asking for NEWS when transfer requested
Making the diagnosis

44 year old woman turned up at surgery at the end of the morning demanding to be seen
Smartly dressed; had just come from work
Vague history of feeling ‘rubbish’ and just wanted to see doctor
Has a history of a cough

<table>
<thead>
<tr>
<th>Physiological parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory rate</td>
<td>22</td>
</tr>
<tr>
<td>Oxygen sats on air</td>
<td>95%</td>
</tr>
<tr>
<td>Temperature</td>
<td>38.6</td>
</tr>
<tr>
<td>Systolic BP</td>
<td>118</td>
</tr>
<tr>
<td>Heart rate</td>
<td>98</td>
</tr>
<tr>
<td>Level of consciousness</td>
<td>Alert but very anxious</td>
</tr>
</tbody>
</table>
Communication between clinicians
NEWS and Spice

- AHP: HMP Bristol
- Asked to see prisoner under the influence of SPICE
- Initial assessment but then has to wait until in ‘fit state’ to take obs and had ‘raised temperature, significantly raised HR and RR’ and NEWS of 6
- Repeated observations 30 mins later so further examination and found infection injection site in his groin
- NEWS did not settle and was admitted with sepsis secondary to the groin wound
'Baselines'

- 85 year old woman with known COPD presented with sudden onset SOB and pleuritic chest discomfort.
- Says not like her usual exacerbation
- Left basal crackles

<table>
<thead>
<tr>
<th>Physiological parameter</th>
<th>Value: COPD annual review</th>
<th>Value: Presentation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory rate</td>
<td>18</td>
<td>24</td>
</tr>
<tr>
<td>Oxygen saturation air</td>
<td>94%</td>
<td>95%</td>
</tr>
<tr>
<td>Temperature</td>
<td></td>
<td>36.9</td>
</tr>
<tr>
<td>BP systolic</td>
<td>150</td>
<td>170</td>
</tr>
<tr>
<td>Pulse</td>
<td>70</td>
<td>108</td>
</tr>
<tr>
<td>Level alertness</td>
<td>alert</td>
<td>alert</td>
</tr>
</tbody>
</table>
‘End of life’

94 yo man visited day before with urine infection NEWS 3
Requested repeat visit as deteriorating and vomiting
Had dementia and living in nursing home. DNA CPR in place

<table>
<thead>
<tr>
<th>Physiological parameter</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory rate</td>
<td>40</td>
<td>3</td>
</tr>
<tr>
<td>Oxygen saturation on air</td>
<td>96%</td>
<td>0</td>
</tr>
<tr>
<td>Temperature</td>
<td>36.3</td>
<td>0</td>
</tr>
<tr>
<td>Systolic BP</td>
<td>70</td>
<td>3</td>
</tr>
<tr>
<td>Heart rate</td>
<td>123</td>
<td>2</td>
</tr>
<tr>
<td>Level of consciousness</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Discussed with family called but decided against admission. Given cyclizine IM to relieve vomiting
Died few hours later with family present. Urinary sepsis on death certificate as catheter in situ
We have saved lives

This day has had 2 x admissions to outreach.
2 cases for cellulitis. (see enclosed).

Lately unwell again today:

T39.2  Svo2 91%
L 120  HR 180 systolic

NEWS 5 7

IMP = Suspected 2nd to cellulitis

After treatment

NEWS 6 11 4 3

Ambulance ePCR
ED Triage
GP
Year 3: Providing the Evidence

• Systematic review

• Qualitative research: interviewing staff about their experience with NEWS

• Quantitative research: the numbers behind NEWS

• Patient Safety Measurement Unit (PSMU) and NHSi and the Suspicion of Sepsis Dashboard
Systematic review: Pre-hospital results

17 included studies (n=157,878)
1 study in a nursing home, the remainder in the ambulance service
EWS contained at least 3 physiological parameters

Key findings
• No patients with a score of 0 died within 48 hours
• Very few patients with low scores died within 48 hours
• Patients with high scores were at risk of serious health outcomes
• Results less clear for intermediate thresholds (e.g. 4 or 5)
• No study compared outcomes between populations with and without EWS
Qualitative research: Use of NEWS outside acute settings (in press)

• Staff interviewed from primary care, ambulance service, community and mental health
• NEWS effective supporting clinical decision making and escalation of care
• NEWS clear means of communicating clinical acuity between clinicians and across health care settings

• Challenges
  • For paramedics fitted with usual clinical practice but in primary care patient selection and different methods of clinical assessment
  • In community services and mental health adaptations were needed to make tool relevant to patient population
• I think it’s difficult to convey a patient’s condition over the phone and sometimes in the past I have been saying, “They have got tachycardia and they don’t look well.” If you say, “Actually they have got a NEWS score of six.” Suddenly they say, “Well I think we better see them.” (nurse)

• I guess I would use it if I’m being asked for it when I admit people and it makes my life easier to admit people, then I’d be more likely to use it… it’s one less thing to have hassle from an admitting person about if you’ve done it (GP)

• Although emergency departments understand if a blood pressure or heart rate is deteriorating, [NEWS] encapsulates all those baseline observations, so that we know that, actually, somebody who, originally, 20 minutes ago, had a NEWS score of four, now has a NEWS score of seven, and this is clearly identifiable as somebody who may need to go to the front of the queue (paramedic)

• Making the decision not to admit someone or not to refer someone, which we have to do most of the time, there’s potentially a lot of comeback on you for not doing that, so anything that covers you and helps protect you or back up your decision making is potentially useful. (GP)
Quantitative research summary:

- High NEWS scores are reasonably uncommon
  - NEWS of 5+:
    - 8% of 122,000 attendances ED
    - 12% of the 21,000 community health visits
    - 18% of 1.1m ambulance conveyances
    - 32% of 23,000 seen Acute GP team triaging admissions

- NEWS scores are a reasonably good indicator of how sick a patient is:
  - As NEWS increases, time to treatment decreases
  - As NEWS increases, length of stay increases

**NEWS 5+ fits with national recommendations screening for sepsis**
NEWS in Community (BCH)

- NEWS=0: 40%
- NEWS=1-2: 32%
- NEWS=3-4: 17%
- NEWS=5-6: 8%
- NEWS=7-8: 3%
- NEWS=9+: 1%

Number of NEWS scores recorded:
- NEWS=0
- NEWS=1-2
- NEWS=3-4
- NEWS=5-6
- NEWS=7-8
- NEWS=9+
Making the most of the Suspicion of Sepsis Dashboard

What is the suspicion of sepsis dashboard for?

Track
Analyze the time series analysis to track the system response to local improvement interventions.

Understand
Delve into the data at different levels to explore and understand the potential implications of the system and its relationships.

Plan
Use the data to support evidence-based planning and learning from areas of best practice.

How can I use the suspicion of sepsis dashboard?

Track the data over time to identify changes; think about the main question you need to ask.

Formulate your suspicion of sepsis question.

Compare and contrast with other areas; what can you learn?

Identify relevant metrics on the dashboard.

Look for patterns in the data which messages are hidden within.

Review metrics in context, with a critical eye.

Suspicion of Sepsis dashboard use notes

Find time to use the tool, not please attribute to Imperial College Health Partners and NHS Improvement.

The data in this dashboard were produced from NHS data by Imperial College Digital.

We recommend using the dashboard as part of a multidisciplinary team.

Suspicion of Sepsis Dashboard
Defining and measuring suspicion of sepsis: an analysis of routine data
Where are we going next?

- NEWS2: supporting adoption and spread. Working with SWAST
- NEWS2 Scale2: collaborative approach to identifying patients at risk of hypercapnia and sharing this information. Working across the system to develop a common pathway

- NEWS and Mental Health: secure units, rapid tranquillisation
- Learning Difficulties: empowering patients, families and carers

- ReSPECT: Recommended Summary Plan for Emergency Care and Treatment

- Evidence, evidence, evidence
Post op infection

50 year old woman presented to surgeons with anxiety and complaining she felt ‘really ill’

<table>
<thead>
<tr>
<th>Physiological parameter</th>
<th>Value 1</th>
<th>Value 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiratory rate</td>
<td>22</td>
<td>2</td>
</tr>
<tr>
<td>Oxygen saturation on air</td>
<td>94%</td>
<td>1</td>
</tr>
<tr>
<td>Temperature</td>
<td>35.8</td>
<td>1</td>
</tr>
<tr>
<td>Systolic BP</td>
<td>106</td>
<td>1</td>
</tr>
<tr>
<td>Heart rate</td>
<td>110</td>
<td>1</td>
</tr>
<tr>
<td>Level of consciousness</td>
<td>New onset confusion</td>
<td></td>
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</table>
Mortality from Suspicion of Sepsis
Resources: WEAHSN and NEWS

- WEAHSN Patient Story
- WEAHSN Implementation NEWS
- RCP NEWS2
- NEWS2 learning module