

# Use of Early Warning Scores by GP Practices

**NEQOS brief** – following initial discussion within the AHSN

It was agreed to conduct a short survey of GP practices within the AHSN area to determine to what extent early warning scores were in use.

## Summary of findings

- The survey had a good response rate with 178 responses received from General Practices, giving a response rate of 35% for the North East and North Cumbria.
- This survey shows 46% (95% CI 37% to 54%) of General Practitioners who responded are using NEWS, this figure is higher than might be expected.
- This survey demonstrates that NEWS are in use by an estimated 25% of GP practices.
- The most common use of NEWS for onwards referrals was requesting an ambulance.
- For GPs a third (20/62) use NEWS outside of the surgery setting (ie for home visits), around 13% use NEWS only in the surgery with 55% GPs using it across settings.
- The findings of this survey show that the use of NEWS is common in GP practices in the North East and North Cumbria albeit currently across a minority of GP practices.

## Acknowledgements

We would like to acknowledge the staff of the North East Quality Observatory Service (NEQOS) for their help in creating the questions in the on-line survey tool and providing the responses to the authors for analysis. Also staff in the North East Commissioning Support Service (NECS) and Clinical Commissioning Groups (CCGs) who helped distribute the link to the on-line survey via emails to General Practices.

## Background

National Early Warning Scores (NEWS) are in widespread use in hospitals to standardise the assessment and response to acute illness using six physiological parameters, often referred to as 'vital signs'. Use of NEWS has been increasing in out-of-hospital settings but it is not known how much use is occurring in General Practices in the UK.

National Early Warning Scores are being used by General Practices in the UK, predominantly by General Practitioners, mainly during the process of transferring patients to hospital. However, it is not known how common the use of NEWS is in General Practice.

## Introduction

The Royal College of Physicians of England published the first version of the National Early Warning Score (NEWS) in 2012 and updated it in December 2017<sup>1</sup>, when it became known as NEWS2. It advocates a system to standardise the assessment and response to acute illness and has been widely adopted in acute settings, with support from NHS Improvement who produced a Patient Safety Alert and resources to support the safe adoption of the revised NEWS2<sup>2</sup>.

NEWS requires the measurement of six parameters: temperature, pulse, systolic blood pressure, respiratory rate, oxygen saturation and level of consciousness. New-onset confusion was added into the 2017 update (NEWS2), along with adjustment for patients on oxygen. A score of 0–3 is given to each parameter, and the component scores are summed to produce the NEWS. The overall NEWS triggers a response, ranging from repeating the NEWS within a specific time frame to initiating an emergency medical assessment. In hospital settings, the ability of different NEWS thresholds to predict adverse health outcomes has been established<sup>3</sup>, and there are standardised response charts. Use of NEWS has been advocated in community settings, including in care homes<sup>4</sup>.

The extent to which General Practices are using NEWS is unknown and although it is possible to record both vital signs and NEWS in clinical records in General Practice this is not widely done in a way that allows data extraction. It was therefore decided that the only feasible method for assessing current use of NEWS was via a survey method.

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<sup>1</sup> Royal College of Physicians. *National Early Warning Score (NEWS) 2: Standardising the assessment of acute-illness severity in the NHS*. Updated report of a working party. London: RCP, 2017. <http://bit.ly/2AorjLw>

<sup>2</sup> Patient Safety Alert: Resources to support the safe adoption of the revised National Early Warning Score (NEWS2). NHS Improvement 2018. <https://www.england.nhs.uk/2018/04/safe-adoption-of-news2/>

<sup>3</sup> Downey CL, Tahir W, Randell R, Brown JM, et al. Strengths and limitations of early warning scores: a systematic review and narrative synthesis. *Int J Nurs Stud* 2017; 76:106–19

<sup>4</sup> West Hampshire Clinical Commissioning Group. RESTORE2: recognise early soft-signs, take observations, respond, Escalate (2019). Available at: <https://www.westhampshireccg.nhs.uk/restore2-training-and-resources> (accessed 23 December 2019)

## Methods

### Design and Setting

A short, eight question, on-line survey, distributed by email to all 502 practices in the North East and North Cumbria (NENC), identified by Clinical Commissioning Groups. To assess uptake of NEWS by General Practices as reported through an on-line survey.

### Survey participation

All General Practices in the geographical area covered by the North East and North Cumbria Academic Health Science Network were asked to take part in the on-line survey via emails sent by the North East Commissioning Support (NECS) unit. The survey was sent to 502 General Practices in 12 Clinical Commissioning Groups in December 2019. The survey was deliberately brief: Consent to participate and use of anonymised data plus seven questions, so as to maximise response rates. Respondents only identified themselves by professional role and CCG area. We did not specify who should complete the questionnaire in each practice, again in order to maximise the number of practices responding. We used the Smart Survey<sup>5</sup> on-line survey tool, and used its reporting tools to report the number and percentage of responses. The exact wording of the questions is shown in the tables of results. Skip logic was used so that respondents not using early warning scores were not asked questions about the context of their use. SPSS (version 26) used for further analysis.

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<sup>5</sup> <https://www.smartsurvey.co.uk>

## Results

There was a good response rate to the survey with 178 responses received from General Practices. Whilst we cannot definitively exclude the possibility that more than one response was received from each practice, it is unlikely that this occurred and so the response rate is likely to be 178 from 502 practices or (35%).

**Table 1 – use of NEWS by role**

Role		Yes	No	Row Total	Column Total
GP	Count	62	74	136	136/178
	(%)	46%	54%	100%	76%
Nurse	Count	15	11	26	26/178
	(%)	58%	42%	100%	15%
Other	Count	1	15	16	16/178
	(%)	6%	94%	100%	9%
All staff	Count	78	100	178	178
	(%)	44%	56%	100%	100%

Table 1 shows that more than two fifths of respondents (44%) reported using NEWS with the majority of responses received from GPs, 136/178 (76%). Table 2 summarises free text comments from the question which asked whether you were using NEWS, with a typical comment used to identify common themes. Some respondents questioned the applicability of NEWS to general practice with the comment shown below an example.

**Table 2 – comments on use of NEWS**

Category (number)	Example
Admissions (8)	"I only use it for patients I feel are clinically compromised and where I consider admitting them."
Applicability (10)	"Not using in primary care as it is precisely a tracking tool only validated for sequential measurements in secondary care situations."
Aware (4)	"In use at the community hospital but not at the surgery."
Not aware (3)	"No idea what this is".
Systems (10)	"Computer system has sepsis warning triggers and prompts."
Vital signs (7)	"I document all the NEWS parameters but do not use them to make up a score."

Two thirds of respondents (67%) using early warning scores reported using NEWS2 with the remainder using either NEWS or another early warning score. Question 7 in the survey asked how the NEWS information was recorded for patients with the most common response being that this is 'Inputted to the clinical record'. This information is presented in Table 3.

**Table 3 – recording of NEWS**

		Frequency	Percent
Valid	Inpitted to clinical record	49	62.8
	Inpitted to clinical record & hand written and scanned	1	1.3
	Hand written but not scanned	1	1.3
	Used but not recorded	2	2.6
	Mixture of above	20	25.6
	Used but not recorded & Other	2	2.6
	Other	3	3.8
	<b>Total</b>	<b>78</b>	<b>100.0</b>

The chart below is based on the responses to Question 8 of the survey which asked whether early warning score information was used for making onwards referrals. The responses show that the most common use of NEWS was requesting an ambulance and that 27% (21 / 78) respondents were never asked for this information to make onwards referrals.

**Chart – use of NEWS for onwards referrals**

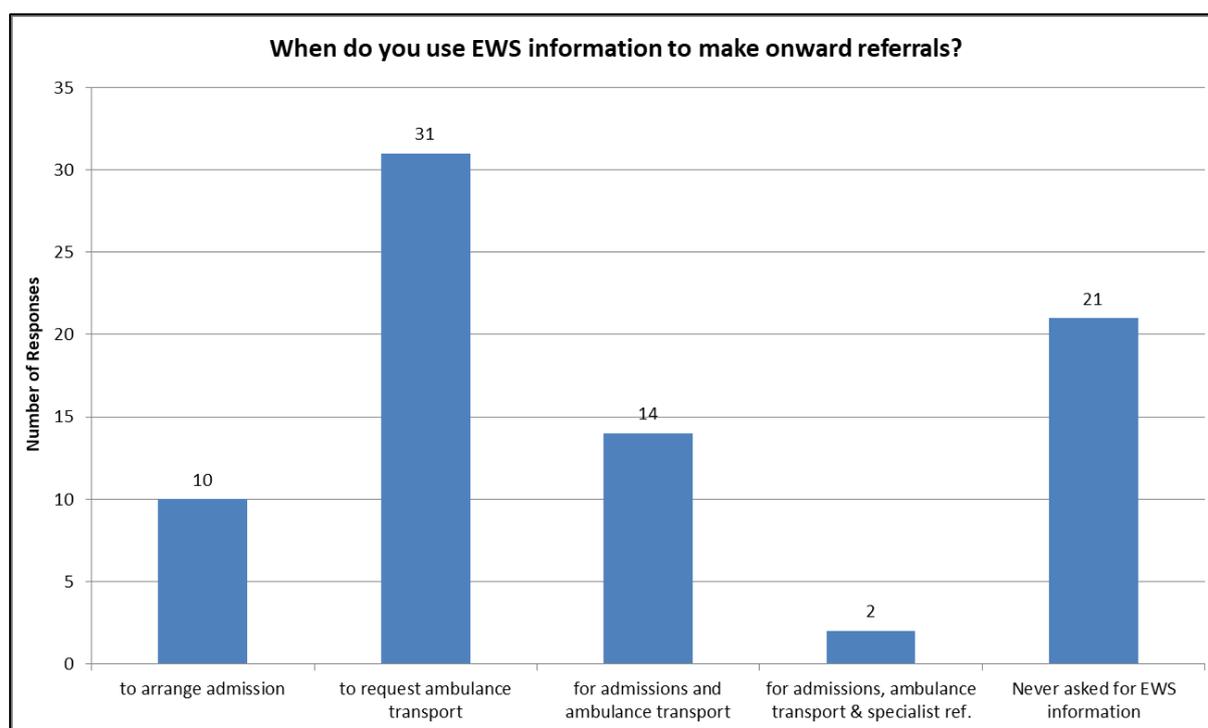


Table 4 shows that of the 62 GP respondents a third (20) use NEWS outside of the surgery setting (ie for home / nursing home visits), around 13% use NEWS only in the surgery with 55% GPs using it across settings; with the nurses using NEWS more in the surgery.

**Table 4 – use of NEWS in Surgery and Outside**

Role		Surgery only	Surgery and other	Outside surgery	Total
GP	Count	8	34	20	62
	(%)	13%	55%	32%	100%
Nurse	Count	6	9	0	15
	(%)	40%	60%	0%	100%
All staff	Count	14	43	21	78
	(%)	18%	55%	27%	100%

## Discussion

- Summary

This small survey indicates that General Practices are taking up use of NEWS and vital signs despite the relatively weak evidence base in out of hospital settings. A minority of practices are concerned that NEWS2 may not be validated adequately in primary care and by implication that the opportunity costs of using NEWS has not been adequately assessed. Whilst advocates of NEWS emphasise the importance of end of life care it is not known whether use of NEWS changes the likelihood of being transported to hospital.

- Strengths and limitations

This is a small survey with a 35% response rate (if we assume one respondent per practice). Respondents were self-selecting and are likely to be from General Practices with an interest in this topic. We therefore think it is unlikely that uptake of NEWS is higher than reported here. 78 respondents reported using Early Warning Scores, which would mean that if each respondent comes from a different practice, a minimum of 15% of the 502 practices in the area are using this approach, and if the 35% rate is applied this could be as high as 200 practices. The true value is likely to lie between these two estimates (i.e. about a quarter of practices, in all likelihood, are using NEWS at least some of the time).

Currently NEWS are seen as being useful in secondary (hospital) settings but there is scope to develop their use in primary care. It is not possible to quantify the benefits of use however this survey demonstrates that NEWS are in use by an estimated 25% of GP practices.

- Comparison with existing literature

We do not know of any surveys or other methods of uptake of NEWS in General Practice in the UK, however, use in care homes is increasing<sup>6</sup> despite current scepticism<sup>7</sup> about the value of NEWS in out of hospital settings.

- Implications for research and/or practice

It is unlikely that the move towards the greater use of vital signs and of early warning scores in out of hospital settings will stop despite the relatively meagre evidence base because of the inherent value in having a standardised approach to deterioration across care settings and in the capture and monitoring of the patient's vital signs.

We believe that use of observations and consequent early warning scores is perceived by at least some care homes as a means of getting a response from GPs and rapid response nursing teams. It may be used to talk to GPs and others to help make a decision about the urgency, or indeed whether, a patient needs to be seen and adoption is being driven by this need to control demand rather than a clear evidence base about the validity and reliability of NEWS in out of hospital settings. Similarly ambulance services and admitting hospitals are seeking vital signs and or NEWS from General Practitioners during the process of booking and transferring patients to hospital and this may be encouraging use in General Practice.

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<sup>6</sup> Barker R, Stocker R, Russell S et al. Distribution of the National Early Warning Score (NEWS) in care home residents. *Age Ageing* 2019; 49: 141–145. doi: 10.1093/ageing/afz130

<sup>7</sup> Sevim Hodge, Carl Thompson, Adam L Gordon, National early warning scores in care homes: do policy imperatives reflect a genuine need?, *Age and Ageing* 2020 49: 5–6. doi.org/10.1093/ageing/afz149

## Conclusions

National Early Warning Scores are being used by General Practices, predominantly by General Practitioners and mainly during the process of transferring patients to hospital.

This survey shows 46% (95% CI 37% to 54%) of General Practitioners who responded are using NEWS, the confidence intervals are based on the method described by Altman<sup>8</sup>. The figure for the use of NEWS is higher than might be expected, given the controversy still surrounding use of vital signs and NEWS in primary care.

There is an important minority of respondents who do not believe NEWS is applicable in General Practice.

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<sup>8</sup> Altman D et al. Statistics with confidence: Confidence Intervals and Statistical Guidelines, 2000

## Appendix – Survey questions

### Q1

- We estimate that this survey will take 5 minutes to complete.
- Please do not add any patient, clinical or any other personal identifiable information.
- I give permission for my survey results to be recorded.
- I understand that results will be looked at by staff undertaking the project.
- I understand that any personal information collected during this survey will be anonymised and remain confidential.
- I understand that my participation is voluntary.

### Q2

2. What is your role?

- GP
- Nurse
- Other

### Q3

3. Please select the CCG your practice belongs to from the list

- NHS South Tees CCG
- NHS Newcastle Gateshead CCG
- NHS Northumberland CCG
- NHS North Tyneside CCG
- NHS North Durham CCG
- NHS Durham Dales, Easington & Sedgefield CCG
- NHS Darlington CCG
- NHS Hartlepool & Stockton-on-Tees CCG
- NHS Cumbria CCG
- NHS Sunderland CCG
- NHS South Tyneside CCG

### Q4

4. Are you personally using an early warning score (also sometimes known as a 'track and trigger' tool) in the detection, management or communication of physical deterioration in adult patients (ie not including patients less than 16 years of age or in women who are pregnant)?

- Yes
- No - please add any comments and press 'next page'. That will be the end of the survey

**Q5**

5. What early warning score do you use?

- National Early Warning Score (NEWS) – RCP 2012
- National Early Warning Score (NEWS2) – RCP 2017
- Other

**Q6**

6. In what context do you use your early warning score?

- Nursing home visits
- Residential care home visits
- Home visits
- Surgery appointments
- Other

**Q7**

7. How do you record the early warning score?

- Inputted onto patient records via clinical systems
- Handwritten onto patient notes and subsequently scanned into clinical systems
- Handwritten onto patient notes, but data not inputted into clinical systems
- Results used to make a judgement, but not recorded
- A mixture of the above
- Other

**Q8**

8. Are you asked for early warning score information when making onward referrals? If so, is this

- when arranging admission
- when requesting ambulance transport
- during a specialist referral
- I have never been asked for Early Warning Score information
- Other (please specify):