

Appendix 1: Triage tool scoring details

CURB-65 and CRB-65

The CURB-65 score uses five parameters, each scoring one point when positive and zero if negative, to give a total score between zero and five. The CRB-65 score does not include urea, so the total score is between zero and four.

Five parameters:

1. Confusion: Glasgow Coma Score (GCS) is less than 15 or AVPU is recorded as anything less than alert (A)
2. Urea: Raised blood urea over 7mmol/litre
3. Respiratory: rate of 30 breaths per minute or more
4. Blood pressure: diastolic BP is 60mmHg or less or systolic BP is 90 mmHg or less
5. Age: 65 years or more

If data for a parameter was missing, we scored the parameter as zero.

PMEWS

PMEWS uses six physiological and patient parameters to calculate a score from zero to 19. The score is calculated by taking the score in the table below dependent on each of the six physiological parameters then adding points for two patient parameters after if they are positive.

Physiological:

| Score | 3 | 2 | 1 | 0 | 1 | 2 | 3 |
|-------------------|-----|-------|-----------|-----------|-----------------------|---------|---------------|
| Respiratory Rate | ≤8 | | | 9-18 | 19-25 | 26-29 | ≥30 |
| Oxygen saturation | <89 | 90-93 | 94-96 | >96 | | | |
| Heart Rate | ≤40 | 41-50 | | 51-100 | 101-110 | 111-129 | ≥130 |
| Systolic BP | ≤70 | 71-90 | 90-100 | >100 | | | |
| Temperature | | ≤35.0 | 35.1-36.0 | 36.1-37.9 | 38-38.9 | ≥39 | |
| Neurology | | | | Alert | Confused Agitated* | Voice | Pain Uncon |

* confused/agitated is based on GCS<15, or if confusion is ticked as a presenting feature

Patient:

1. Add 1 point if age>65
2. Add 1 point if either:
 - a. Patient lives alone / no fixed abode or
 - b. has a co-morbidity (respiratory, cardiac, renal, immunosuppressed, diabetes)
 - c. performance status is more than two suggesting limited activity can self-care, limited activity limited self-care, or bed/chair bound no self-care.

If data for a parameter was missing, we scored the parameter as zero. If more than three parameters were missing, we did not calculate a score for the patient. If AVPU was missing and GCS was recorded, we imputed the following AVPU scores using GCS: Alert if GCS=15, Verbal response if GCS=12-14; Pain response if GCS=9-11 and Unconscious if GCS<9.

Swine Flu Adult Hospital Pathway

The Swine Flu Adult Hospital Pathway consists of seven criteria operating as a rule, with the rule being positive if any criteria reaches its threshold.

| Criteria Label | Criteria | Threshold |
|----------------|--------------------------------------|--|
| A | Severe respiratory distress | Severe breathlessness (severe respiratory distress ticked on form) |
| B | Respiratory rate | Over 30 breaths per minute |
| C | Oxygen saturation | ≤92% on pulse oximetry, breathing air or on oxygen |
| D | Respiratory exhaustion | New abnormal breathing pattern (respiratory exhaustion ticked on form) |
| E | Dehydration or shock ^a | Systolic BP <90 mmHg and /or diastolic BP <60 mmHg. Sternal capillary refill time >2 seconds, reduced skin turgor |
| F | Altered conscious level ^b | New confusion, striking agitation or seizures |

| | | |
|---|-------------------------------------|--------------------------|
| G | Other clinical concern ^c | Another clinical concern |
|---|-------------------------------------|--------------------------|

a) dehydration or shock was defined if they were recorded as having severe dehydration, or systolic BP <90 mmHg and /or diastolic BP <60 mmHg, or central capillary refill is categorised as abnormal.

b) Altered conscious was positive if GCS was less than 15 or AVPU was anything other than A.

c) Other clinical concern was not recorded in the data, so two scores were calculated, one where point G was ignored and the Swine Flu hospital pathway calculated based on the first 6 items, and another where clinical concern was considered positive if NEWS2 was greater than 4 or any parameter in NEWS2 was given a score of 3.

If data for a parameter was missing, we defined the parameter as being negative. If more than three parameters were missing, we did not calculate a score for the patient.

NEWS2

The NEWS2 has seven parameters, each of which are scores from zero to three providing an overall score between zero and 20. The scores for each parameter can be found in the table below.

| Score | 3 | 2 | 1 | 0 | 1 | 2 | 3 |
|-------------------|-------|---|-----------|-----------|-----------|---------|--------------------------------------|
| Respiratory Rate | ≤8 | | 9-11 | 12-20 | | 21-24 | ≥25 |
| Oxygen saturation | ≤91 | 92-93 | 94-95 | ≥96 | | | |
| Heart Rate | ≤40 | | 41-50 | 51-90 | 91-110 | 111-130 | ≥131 |
| Systolic BP | ≤90 | 91-100 | 101-110 | 111-219 | | | ≥220 |
| Temperature | ≤35.0 | | 35.1-36.0 | 36.1-38.0 | 38.1-39.0 | ≥39.1 | |
| Neurology | | | | Alert | | | Confusion, Voice, Pain, Unresponsive |
| Air or Oxygen | | Oxygen (based on FiO ₂ >21%, or FiO ₂ >0 L/min) | | Air | | | |

If data for a parameter was missing, we scored the parameter as zero. If more than three parameters were missing, we did not calculate a score for the patient. The scale for patients with confirmed hypercapnic respiratory failure was not used. We analysed NEWS2 in two ways: (1) As a score, with thresholds between zero and 20 on the total score; (2) As a rule, with a single threshold of a total score greater than four or a score of three on any parameter.

The WHO decision-making algorithm for hospitalisation with pneumonia

The WHO decision-making algorithm for hospitalisation with pneumonia recommends admission for an adult patient (rule positive) if any of the following are present:

- respiratory rate >30/minute,
- oxygen saturation <90%,
- respiratory distress,
- age >60,
- any of the following comorbidities; hypertension, diabetes, cardiovascular disease, chronic respiratory disease, renal impairment immunosuppression

If data for a parameter was missing, we assumed it was negative. If more than three parameters were missing, we did not calculate a score for the patient