A Balanced Solution

A review of the quality of the care in hospital provided to adults with abnormal levels of blood sodium

RECOMMENDATION IMPLEMENTATION SUGGESTIONS

1 RECOMMENDATION IMPLEMENTATION SUGGESTIONS

- Care bundles for **acute kidney injury**, **falls** and **sepsis** have been shown to improve patient care by providing clinicians with clear information on what investigations and treatment need to be undertaken and the timeframe in which this should happen. A clear definition is needed on which staff groups deliver which component of these care bundles, along with 'tick boxes' to indicate completion to improve compliance. In addition, the senior responsible clinician for ensuring delivery of the care bundle should be clearly indicated
- There would need to be appropriate guidance on determining which investigation(s) should be undertaken to prevent over-investigation
- These items, including documentation of the time it was done could be considered as part of the care bundle
  - Fluid assessment
  - Initiation of fluid balance monitoring
  - Medication review
  - Urine/plasma osmolality
  - Urine sodium
  - 08:00-09:00 cortisol and other tests as needed such as liver function, thyroid function and NTproBNP
- Local service level agreements should be put in place specifying turnaround times for urgent investigations and these should be regularly audited
- Development of eLearning training packages for non-specialist healthcare professionals to assess and treat patients with abnormal blood sodium levels, including 'red flags' for escalation to specialists.

2 RECOMMENDATION IMPLEMENTATION SUGGESTIONS

- Communications from national bodies to remind healthcare professionals to accurately record fluid balance (all fluid intake and output), and regular local auditing of completeness of fluid balance documentation
- Electronic patient record procurement criteria should include a requirement for intuitive access to fluid balance data, including ease of integrating it into clinical assessment
- Improved training for medical students, resident doctors and other clinical staff on how to undertake an appropriate clinical assessment of a patient's fluid status
- Development of appropriate training and accreditation for clinicians to expand the use of PoCUS alongside clinical assessment of fluid status
- Consensus agreement on how and when PoCUS should be used to complement clinical fluid status assessment
- Trusts/health boards to consider business planning to cover any additional technology required to deliver PoCUS testing
- National improvement programmes to understand the challenges of consistently recording fluid balance, what might help to overcome those challenges, and to understand if there are any acceptable options to fluid balance monitoring (e.g. daily weights)
- NIHR to consider a themed call around the clinical trials comparing standard (clinical assessment) to PoCUS directed fluid therapy in the management of patients with an abnormal blood sodium.

3 RECOMMENDATION IMPLEMENTATION SUGGESTIONS

- Hospital executives, supported by clinical and laboratory staff, should talk to their local business intelligence units (or equivalent) to determine how this integration of point-of-care testing can be achieved.
- Undertake regular audit of adherence to entering full demographic data on point of care analysers to facilitate linkage to patient's electronic records, and identification of when exemption may be indicated (e.g. identity of patient unknown, mass casualty events).

4 RECOMMENDATION IMPLEMENTATION SUGGESTIONS

- Use of hypertonic saline could be improved through localisation of nationally developed guidance, to provide clinicians information on local specialist support for managing hyponatraemia
- Alongside this, the development of standardised training packages, potentially including multidisciplinary simulation training, would improve the appropriate use of hypertonic saline and the assessment of patients with abnormal blood sodium levels
- Local agreements as to where patients are admitted following administration could be agreed
- Audits of blood sodium monitoring in patients given hypertonic saline
- Guidelines could have specific times at which blood sodium levels should be measured and a standardised treatment plan for managing over-correction to reduce the risk of patients developing osmotic demyelination syndrome.

5 RECOMMENDATION IMPLEMENTATION SUGGESTIONS

- Patients admitted with hypo- or hypernatraemia should have a comprehensive medication review at the point of identification of the abnormal blood sodium
- Hospitals should have protocols and/or a standard operating procedure on how the medication review should be undertaken, and regular auditing that this has been undertaken
- Chief Executives and others could ensure that discharge letters include a mandatory section on whether any medication changes have occurred, with the rationale for those changes
- Clinicians should balance changing medicines to reduce the risk of recurrence of further abnormal sodium disorders against the risk of stopping a clinically important drug for an underlying long-term health condition (for example epilepsy)
- Involve appropriate specialists in outlining the rationale for the changes in communications to the GP and/or other healthcare professionals once made. Failure to do this increases the risk that medicines may be recommenced after discharge, leading to recurrence of the hyponatraemia and associated risks. Conversely, changes undertaken in primary care may not be visible when a patient presents to hospital
- Local agreements should be in place about who counsels patients, and their family/carers if appropriate, on their medications, including any changes, at the point of discharge
- The NICE clinical knowledge summary could be updated to strengthen information about communication of medication changes.