TO IMPROVE THE CARE PROVIDED TO PEOPLE WITH ABNORMAL BLOOD SODIUM LEVELS…

Develop care bundles and training to reduce variation in the assessment and management of abnormal blood sodium levels.

Abnormal blood sodium levels were not always acted on as they should have been, leading to under investigation, inappropriate treatments and poor overall management.	116/265 (43.8%) emergency admission hyponatraemia patients should have had further investigations.	Training on hyponatraemia was provided to foundation doctors in most hospitals, but less so for other grades and specialties (37/100; 37.0%). Training on hypernatraemia was only provided in 14/99 (14.1%) hospitals.

Improve the clinical assessment of fluid status in all patients.

Patients do not have consistent assessment of their fluid status and monitoring and/or recording of their fluid balance.	57/270 (21.1%) patients with hyponatraemia did not have a fluid status assessment documented in their notes during their initial assessment. Furthermore, monitoring and documentation of fluid balance was inadequate in 85/205 (41.5%).	The accuracy of completion of fluid balance charts was only audited in 51/83 (61.4%) hospitals. In 73 hospitals this could not be answered.

Integrate test results into patient electronic records to help identify trends in blood sodium levels.

Frequently, results from point-of-care testing are not directly linked into the hospital laboratory electronic reporting system leading to delays in treatment.	Initial blood sodium results in patients with hyponatraemia (357/386; 92.5%) were from laboratory testing rather than point-of-care testing.	There were delays in the treatment of emergency admission hyponatraemia (64/255; 25.1%) and 17/64 (26.6%) were attributed to the impact of out-of-hours care with reduced staffing.

Standardise the use and the dosing of hypertonic saline solution.

Clinical staff are unsure when to use hypertonic saline and the dosage needed. This is hindered further by the variability in the concentrations stocked across all hospitals.	55/354 (15.5%) patients received hypertonic saline as part of their treatment. For seven patients, this was not indicated.	Of the 28/55 patients administered with hypertonic saline in an emergency department, only 11 were admitted to a critical care unit.

Document and communicate all medication changes to all healthcare providers and patients.

Medication changes were not always communicated which could lead to patients restarting medications that had caused their abnormal blood sodium.	225/270 (83.3%) patients admitted on an emergency basis with hyponatraemia were taking one or more medication that could have contributed to their hyponatraemia.	'Communication' to the GP that a medicine had been stopped, was commonly absent from the patient's medication list at discharge.

Blood sodium levels is one of the most requested pathology tests and levels outside the reference range are encountered regularly by a wide range of primary and secondary care specialties. The detection of an abnormal blood sodium is often an incidental finding and may or may not be related to the condition being investigated. Hyponatraemia and hypernatraemia are not diagnoses on their own, and it is vital that the underlying cause of the abnormality is identified and treated.

The care of patients in hospital between 1st Oct 2023 and 31st Dec 2023 with a diagnosis code of hyponatraemia or hypernatraemia was reviewed using 428 sets of case notes, 650 clinician questionnaires and 156 organisational questionnaires.