DETAILED FINDINGS ABOUT THE SUPPORT FOR CLINICIANS TREATING PATIENTS WITH ABNORMAL BLOOD SODIUM LEVELS

Training for clinical staff

Training in hospitals on hyponatraemia and/or fluid management was more commonly provided to foundation doctors (97/115; 84.3% unknown in 41), although it was only part of mandatory training in 30/90 hospitals (unknown in 66). Training for other grades and specialties was less common (37/100; 37.0% unknown in 56). Training for staff on the management of hypernatraemia was only provided in 14/99 (14.1%) hospitals (unknown in 57). The high number of 'unknowns' suggests that the percentages may be a generous assessment of training provided.

Where training was provided it typically involved a single session with no assessment of its efficacy or impact. It is likely to have a greater impact on resident doctors, as well as other staff, when senior staff such as consultants, ward managers and matrons actively assess patients with hyponatraemia and manage treatment accordingly. It is important that, where appropriate, consultants and senior nursing staff are provided with access to regular training to maintain their own knowledge and skills in managing hyponatraemia and fluid management. Additionally, inter-professional simulation-based training may improve retention of the information and lead to overall improved patient care.

Audit and quality improvement projects

Regular audit of the management of hyponatraemia or hypernatraemia will determine where improvements are required, which can be addressed through quality improvement projects.

Quality improvement projects on hyponatraemia been undertaken in only 46/103 (44.7%) hospitals (unknown in 53), and only eight in hypernatraemia, in the previous five years. Where undertaken positive actions included dedicated training for resident doctors, hyponatraemia investigation order sets/bundles, hyponatraemia assessment and management guidelines and protocols, guidance on use of hypertonic saline solution and development of electronic referral systems to specialist services for advice/clinical reviews and updating local guidelines on hypernatraemia management.

Specialist input and support

The reviewers found that 203/248 (75.2%) patients with hyponatraemia either received appropriate specialist input or did not need it. The type of specialist input the patient received e.g. endocrinology, renal, critical care or other specialist input was not specified. Specialist advice for clinicians treating patients with hyponatraemia was available in 140/156 (89.7%) hospitals and was largely provided by services within the hospital or with a network.

The advice could be provided by more than one speciality; endocrinology provided most of the advice (126/140; 90.0%) while clinical biochemistry only provided advice in 24/140 (17.1%) of hospitals (T7.1). This advice was available 24 hours a day in 71/140 (50.7%) hospitals; it was available in normal working hours (08:00 to 18:00) seven days a week in ten hospitals and in normal working

hours only on weekdays in 49. However, in clinical practice, patients' hyponatraemia was often managed by emergency medicine and acute/general physicians, rather than specifically by endocrinology or critical care teams.

Table 7.1 Specialities providing advice on hyponatraemia	Number of hospitals	%
Endocrinology	126	90.0
Critical care	49	35.0
General medicine	36	25.7
Clinical biochemistry	24	17.1
Renal medicine	15	10.7
Other	10	7.1

Organisational questionnaire data. Answers may be multiple; n=140

There are many physicians in other specialities who have developed expertise/specialist interests in the assessment and management of blood sodium abnormalities; it is important that each hospital provides guidance on who to contact locally to facilitate accessing this specialist advice. Timely specialist input can help with diagnosing the cause of the hyponatraemia and ensuring the appropriate and timely treatment is administered in the correct clinical environment.

There is generally less need for specialist input in patients with hypernatraemia as diagnosing the underlying cause and determining the appropriate treatment option(s) is less challenging than in patients with hyponatraemia. In this study 53/65 (81.5%) patients had appropriate specialist input or did not require it.

Specialist advice for clinicians treating patients with hypernatraemia was available in 126/156 (80.8%) hospitals and largely provided by services within the hospital. This advice was only available 24 hours a day in 67/126 (53.2%) hospitals, and it was available in normal working hours (08:00 to 18:00) seven days a week in seven and in normal working hours only on weekdays in 44. Like hyponatraemia, specialist advice on hypernatraemia was predominately provided by endocrinologists.