Royal Free London NHS Foundation Trust

The Royal Free Hospital

Quality Report

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This report describes our judgement of the quality of care at this hospital. It is based on a combination of what we found when we inspected, information from our 'Intelligent Monitoring' system, and information given to us from patients, the public and other organisations.

Summary of findings

Letter from the Chief Inspector of Hospitals

We undertook an unannounced focused inspection in the critical care department of the Royal Free Hospital which is operated by the Royal Free London NHS Foundation Trust.

The inspection was conducted because the Care Quality Commission (CQC) had received anonymous information that the implementation of a new patient record IT system (CCCIS) had meant patients had been harmed, and was creating an ongoing a risk to patient safety.

During our inspection we found no evidence that patients had been harmed or were at a higher risk of harm as a result of the implementation and use of the new IT system.

At the point of our inspection, we found staff had ceased to use the critical care clinical information system (CCCIS) in early July 2017 in its full capacity as a result of the safety concerns being raised by individuals with the trust. Our inspection therefore focused on how the project had been managed and implemented and the resulting service. Some elements of the CCCIS were still in use, including electronic prescribing and access to diagnostic imaging.

We have not rated any part of this inspection because of its specific focus which did not include all areas of our ratings assessment model.

The summary of our key findings of our inspection were:

- No patients had been harmed as a result of implementing the new IT system. The mortality rate in the 12 months prior to our inspection was significantly better than the national average.
- Although incident tracking and documentation was consistent, there were variable approaches to resolving safety concerns. In addition not all staff felt the incident investigation system was effective.
- A key risk to the safety and sustainability of the service related to short staffing, including a 29% vacancy rate in the nursing team and a 26% vacancy rate amongst junior doctors.
- A dedicated project team had worked with clinical staff who had undertaken additional training to support the pilot scheme of a new CCCIS.
- There was evidence of a responsive approach to risk management during the CCCIS pilot although a significant number of clinical staff disagreed with this.
- Care and treatment was benchmarked against national standards through a programme of local audits and contribution to national audits, including the intensive care national audit and research centre. There was evidence staff improved care policies and protocols as a result of audit outcomes.
- We found evidence of significant and persistent disagreement and conflict between staff at different levels of responsibility. The senior leadership team had not demonstrably addressed this nor implemented timely strategies to reduce pressure on affected staff.

Our key findings were:

- Although incident tracking and documentation was consistent, there were variable approaches to resolving safety concerns. In addition not all staff felt the incident investigation system was effective.
- A key risk to the safety and sustainability of the service related to short staffing, including a 29% vacancy rate in the nursing team and a 26% vacancy rate amongst junior doctors.
- A dedicated project team had worked with clinical staff who had undertaken additional training to support the pilot scheme of a new critical care clinical information system (CCCIS).
- There was evidence of a responsive approach to risk management during the CCCIS pilot although a significant number of clinical staff disagreed with this.
- During the early implementation phase, on-site support for clinicians had been provided on a 24-hour basis by nurses and pharmacists who were trained as ‘super users’.

Summary of findings

- Care and treatment was benchmarked against national standards through a programme of local audits and contribution to national audits, including the intensive care national audit and research centre. There was evidence staff improved care policies and protocols as a result of audit outcomes.
- The mortality rate in the 12 months prior to our inspection was significantly better than the national average.
- We found evidence of significant and persistent disagreement and conflict between staff at different levels of responsibility. The senior leadership team had not demonstrably addressed this nor implemented timely strategies to reduce pressure on affected staff.
- Clinical governance and risk management strategies were well established and effective in service improvement but there was limited evidence they were effective in driving good working relationships or project management.
- Senior divisional staff had instructed external NHS bodies to visit the unit and implement strategies to improve working relationships and leadership.

There were also areas of practice where the trust should consider making improvements:

- The trust should work with all staff groups and their representatives to assess how staff can feel more involved in major changes within the trust.
- The trust should review how governance systems can be made more open and effective in relation to project implementation and conflict management.

Professor Edward Baker
Chief Inspector of Hospitals

The Royal Free Hospital

Detailed findings

Services we looked at
Critical care

Detailed findings

Contents

Background to The Royal Free Hospital

We carried out an unannounced focused inspection on 18 July 2017 in the critical care department of the Royal Free Hospital following anonymous concerns raised with us. The concerns related to the pilot phase of a critical care clinical information system (CCCIS) and related impact on patient safety.

The critical care department has 34 beds within the surgical and associated services division. The department was recently moved from the urgent division and at the time of our inspection a transitional leadership team was in place. There had been recent significant changes to the governance structure at the hospital and therefore at the time of our inspection most of the senior leaders were new to their role.

We did not rate critical care services as part of this inspection and instead collected evidence, including through conversations with staff, to address the key parts of the safe, effective and well-led key lines of enquiry. We did not inspect any other hospital services as part of this inspection.

Our inspection team

Head of Hospital Inspections: Nicola Wise, Care Quality Commission

The team included three CQC inspectors and two specialist professional advisors. One specialist advisor was an intensive care consultant and one specialist advisor was an intensive care nurse.

How we carried out this inspection

Because of the specific concerns raised we focused our inspection on answering three key questions; is the service safe?, is the service effective?, and is the service well led?

To complete this inspection we:

- Reviewed information publically available about the critical unit as well as data from our most recent comprehensive inspection.
- Conducted an unannounced inspection on 18 July 2017.
- Observed clinical care and reviewed patient records in the critical care unit.
- Reviewed clinical governance and risk management information in relation the launch and trial of the critical care clinical information system (CCCIS). This included the minutes of project board meetings, staff meetings and divisional meetings.
- Spoke with 27 members of staff across all grades and levels of responsibility. This included consultants, junior doctors, senior and junior nurses, nurse educators, divisional and clinical directors, allied health professionals, pharmacists and staff involved in the CCCIS development and launch.

Detailed findings

- After our inspection we asked the trust to submit a standard set of safety data so that we could establish its performance in mandatory areas alongside the focus of our site visit.

Critical care

Safe	Not sufficient evidence to rate
Effective	Not sufficient evidence to rate
Well-led	Not sufficient evidence to rate
Overall	Not sufficient evidence to rate

Information about the service

The critical care department at the Royal Free Hospital consists of three 'pods' located on the same floor with 34 beds. All of the beds can be flexed to provide level two high dependency care or level three intensive therapy care.

Between January 2017 and June 2017, 4,094 level three bed days were used out of a total available of 6,154, which represented a level three occupancy rate of 66%. During the same period, the unit used 2,272 levels two bed days and 168 bed days. Between April 2016 and June 2017, critical care services cared for 2,151 patients. Overall, annual occupancy between June 2016 and June 2017 was 103%.

We last inspected this department in August 2016 and rated it as good overall. At this inspection, we did not rate the service and instead focused on the safe, effective and well-led domains. This was so we could review information related to the planning, launch and monitoring of a new critical care clinical information system (CCCIS) about which we received information regarding an immediate risk to patient safety. The CCCIS pilot was introduced in late March 2017 and started with two bed spaces, which was increased to 11 bed spaces gradually. The number of beds with CCCIS in use fluctuated between two and 11 for the duration of the pilot.

At our inspection, we found staff had ceased to use CCCIS in early July 2017 in its full capacity as a result of the safety concerns of some individuals. Our inspection therefore focused on how the project had been managed and implemented and the resulting service. The electronic prescribing and medicines administration (EPMA) system, which formed part of the overall patient record system with CCCIS, was still in use alongside a diagnostic imaging IT system. We included these functions in our inspection as well as consideration of standardised data submitted to us by the trust afterwards.

Critical care

Summary of findings

Our key findings were:

- Although incident tracking and documentation was consistent, there were variable approaches to resolving safety concerns. In addition not all staff felt the incident investigation system was effective.
- A key risk to the safety and sustainability of the service related to short staffing, including a 29% vacancy rate in the nursing team and a 26% vacancy rate amongst junior doctors.
- A dedicated project team had worked with clinical staff who had undertaken additional training to support the pilot scheme of a new critical care clinical information system (CCCIS).
- There was evidence of a responsive approach to risk management during the CCCIS pilot although a significant number of clinical staff disagreed with this.
- During the early implementation phase, on-site support for clinicians had been provided on a 24-hour basis by nurses and pharmacists who were trained as 'super users'. External floorwalkers were also available 24/7 for 10 weeks post the go-live date.
- Care and treatment was benchmarked against national standards through a programme of local audits and contribution to national audits, including the intensive care national audit and research centre. There was evidence staff improved care policies and protocols as a result of audit outcomes.
- The mortality rate in the 12 months prior to our inspection was significantly better than the national average.
- We found evidence of significant and persistent disagreement and conflict between staff at different levels of responsibility. The senior leadership team had not demonstrably addressed this nor implemented timely strategies to reduce pressure on affected staff.
- Clinical governance and risk management strategies were well established and effective in service improvement but there was limited evidence they were effective in driving good working relationships or project management.
- The new site-based executive team had recognised culture and leadership issues in the ICU department and had commissioned work with NHS Elect to improve the situation.

Critical care

Are critical care services safe?

Not sufficient evidence to rate

Our main findings for safe were:

- Staff were confident in the use of the electronic incident reporting system and there was evidence the senior team investigated reports.
- Not all staff we spoke with said they were confident the senior team took incidents seriously and some staff said they did not receive feedback from reports.
- The unit demonstrated consistently good results in infection control practice through hand hygiene and hospital-acquired infection audits.
- Controlled drugs were stored and administered in accordance with national best practice guidance.
- An electronic prescription management system was implemented as part of the critical care clinical information system (CCCIS) pilot. This included improved risk reduction for infusions but resulted in increased medicine-related errors and challenges for staff. The trust commented that this was an increase in the reporting of medicine related errors as it was more transparent to identify errors using an electronic prescribing and medicines administration compared to a paper drug chart.
- In the previous 12 months, 40% of reported incidents related to medicines.
- An initial gap in staff training with the CCCIS had resulted in the loss of 400 patient note entries. However, there was evidence CCCIS manufacturer staff were responsive to changing the system in response to staff feedback.
- Average compliance with safeguarding training was 93% and 91% for all mandatory training, which did not meet the trust target of 95%.
- During the CCCIS pilot staff demonstrated a low threshold for risk and reverted to paper-based documentation if a patient deteriorated or if their condition became more complex.
- The results of a CCCIS user survey indicated 71% of nurses felt the system distracted them from providing actual clinical care to their patients and 24% said they felt the system was not safe, compared with 29% of doctors.
- There was a 29% vacancy rate for nurses, a 26% vacancy rate for junior doctors and two consultant vacancies.
- The service met the requirements of the Faculty of Intensive Care Medicine in relation to nurse to patient and consultant to patient ratio.

Incidents

- Never events are serious incidents that are entirely preventable as guidance, or safety recommendations providing strong systemic protective barriers, are available at a national level, and should have been implemented by all healthcare providers. Between April 2016 and June 2017, critical care services reported one never event. This related to the misplacement of a naso-gastric tube prior to the commencement of feeding. The senior team completed an investigation that found differing policies between trust sites had contributed to this and as a result standardised practices were introduced.
- In accordance with the Serious Incident Framework 2015, critical care services reported two serious incidents between April 2016 and June 2017. The incidents related to a medicines error and an allegation made against the conduct of a member of staff. We saw a multidisciplinary team, including the clinical lead and patient safety and risk manager, had completed a root cause analysis in each instance. As a result, the critical team established more consistent working practices and wider cross-team working, including with the patient advice and liaison service and pharmacy team.
- Staff used an electronic system to submit incident reports. During the pilot phase of the critical care clinical information system (CCCIS), the trust implementation team and project team worked with the senior critical care team to investigate incident reports submitted in relation to the CCCIS. This included weekly meetings between the project team and clinical lead.
- We found evidence the CCCIS project team had managed risks associated with the system based on learning from incident investigations. For example, the team changed the colour of the screen used for prescribing to ensure staff recognised when they were about to issue a medicine instruction. In addition the team revised the prescription guidance for immuno-suppression medicine to make it more appropriate to the critical care environment.
- Although staff were confident in the reporting of incidents, some individuals told us they did not receive

feedback. For example one member of staff said they had submitted incident reports in relation to the CCCIS pilot. They said, "The senior team would mark the incident as 'resolved' but this felt like a tick-box exercise. I didn't think it was resolved and didn't get any feedback from it." However, we saw evidence that incidents were discussed during daily CCCIS 'checkpoint' meetings and in daily safety briefings as part of shift handovers.

- Between March 2017 and July 2017 staff reported 280 incidents. Of this 80% resulted in no harm, 19% resulted in low harm and 1% resulted in moderate harm. Only one of the incidents was directly attributed to the CCCIS pilot. This involved a server failure which meant there was a delay in electronic prescribing for a patient. Staff reverted to a paper-based system and the incident was escalated to the project team. There was no harm to the patient. One incident related to clinical staff from another medical service who refused to use the CCCIS to complete patient notes.
- Staff reported 25 incidents relating in some way to the CCCIS between March 2017 and June 2017. Incidents related to missed medicine doses, incorrect medicine protocols and medicines stopped in error. The clinical governance lead identified the root cause of each incident, which was most commonly unanticipated errors in the system or the methods used by staff. Although these incidents provided a commentary on how the CCCIS pilot was working, none of them occurred as a result of specific system faults and none of them resulted in patient harm.
- A clinical informatics pharmacist had conducted a comparison of incident reports between January 2016 to March 2016 and January 2017 to March 2017. This was to identify any increase in incidents caused by the implementation of CCCIS. This search found no increase in the submission of incident reports between the periods. Despite this, four members of staff we spoke with said incidents had significantly increased during the pilot. We were not able to identify why the accounts differed.
- The senior team had conducted a 'risk round-up' exercise to review incidents and complaints between August 2016 and February 2017 as a strategy to identify themes for learning and improvement. We saw this led to improved and more frequent guidance for staff. For example, confidentiality guidance was improved following an avoidable data breach and more specific training for securing central lines was issued.
- Consultants led monthly multidisciplinary morbidity and mortality (M&M) meetings to review patient deaths and identify areas for improvement in clinical care, process or policy. We looked at M&M records from March 2017 to May 2017 and found staff maintained consistently detailed records of mortality and identified contributing factors such as staff expertise, healthcare-related infections and delays in care or transfer. During this period there were no unexpected deaths.

Cleanliness, infection control and hygiene

- As at July 2017, 96% of staff had up to date infection control level one training and 80% had up to date level two training. The trust's minimum target was 95%.
- The critical care team and trust infection control team used a scorecard to track cumulative cases of methicillin-resistant Staphylococcus aureus (MRSA), Clostridium difficile (C.Diff) and methicillin-sensitive Staphylococcus aureus (MSSA). Between June 2016 and June 2017 there were no cases of hospital-acquired MSSA, MRSA or C.Diff reported in critical care.
- An infection control nurse conducted a 'reducing risks' spot check in critical care every two months. This involved an observation of staff providing care to identify areas of good practice that would normally present the growth or spread of C.Diff or MRSA. The latest results related to March 2017, May 2017 and June 2017, in which critical care achieved 100% compliance.
- A senior nurse conducted a hand hygiene spot check observation of staff in up to 10 bed spaces each month. Results from March 2017 to June 2017 demonstrated an overall compliance rate of 98%. This was an average figure and reflected 100% compliance in three months and 91% compliance in one month. Non-compliance was found when a consultant, registrar and nurse did not follow World Health Organisation hand hygiene guidance before or after a patient contact and did not use hand gel or hand wash appropriately. The auditing nurse brought this to the attention of the staff involved and reminded them of critical care policy.

Environment and equipment

- We found six cardboard boxes containing pulp products stored on the floor of the dirty utility room in the east critical care unit. This represented poor infection control practice related to the risk of contamination with spillages.

- The CCCIS system integrated IT equipment so that physician and nursing documentation and information from medical devices was displayed directly into monitors. However, staff consistently described problems with access and slow workflows when using this system.
- An assigned technician was responsible for maintaining medical equipment as part of a rolling preventative maintenance programme. In July 2017, 76% of planned maintenance was up to date.
- We looked at all of the resuscitation trollies in critical care and found staff had signed daily safety checklists on every day in the three weeks prior to our inspection. Trollies were fully stocked and all equipment and consumables items were ready for use.

Medicines

- Controlled drugs were stored and administered in accordance with national best practice guidance. This included electronic prescribing and checks on dosage and type of medicine by two nurses.
- The CCCIS had included an electronic patient drug chart, similar to a medicine administration record (MAR). However, staff told us this did not automatically highlight any outstanding medicines needed if they did not manually open and check the page. In addition, doctors told us prescribing from the related electronic prescribing and medicines administration system (EPMA) system caused delays to care due to the complexity of the system. For example, there was no function to rapidly identify commonly-prescribed medicines and instead doctors had to search and select from thousands of drug combinations. In addition the system did not retain completed prescriptions as immediately available for longer than five days. This meant it was not immediately clear to staff when prescriptions had been issued. After our inspection the trust advised us they had improved EPMA access with the introduction of a search system and mechanism prescribers could use to quickly find common medicines. We were not able to confirm why prescribing clinicians were unaware of this during our inspection.
- The trust commented that the EPMA system had a medication administration 'wizard' which guided the nurse through medicines administration and highlighted overdue medicines at the top of the list. They stated that the drug chart highlighted clearly any overdue medicines or urgent (or STAT) medicines, and the nursing home page (or landing page) guided the nurse towards what was due in the next two, four and 12 hours aiding their organisation for medicines.
- Staff had reported two medicine administration errors and three medicine errors relating to immunosuppression as a result of incorrect use of the EPMA. We spoke with the senior critical care team about this who told us the complexity of the prescribing system, including a combined system for identifying the type of medicine, dose and route, had led to mistakes. However, staff in the clinical education team told us the electronic prescribing function had been implemented to address an increase in medicine errors that occurred prior to the pilot scheme. In addition a consultant told us medicine errors during this period had doubled but the pharmacy team told us there had been no increase in errors as a result of the system. For example one pharmacist said, “There was an increase in incident reports but this was reflective of the high level of tension amongst some members of the critical care team. Some staff started submitting large numbers of incident reports that were queries not incidents. We provided support to these staff but the reports weren’t treated as incidents because that’s not what they were.” The patient safety team and clinical governance lead had conducted a comparison of prescribing errors before and after the introduction of EPMA. This showed an increase from eight errors overall in 2016 to 25 errors between January 2017 and June 2017.
- The EPMA included the management of infusions, which enabled the electronic system to send information directly to infusion devices. This meant patients received infusions as part of a ‘closed loop’ system that protected them from inaccurate doses.
- A team of critical care pharmacists provided dedicated cover and each member of this team had completed extended EPMA training as ‘super users’ to enable them to support staff during the pilot. In addition, a pharmacist joined at least one consultant-led ward round each day and conducted their own twice-weekly ward round. The team increased this to a daily ward round during the pilot phase of CCCIS as a safety verification strategy to ensure medicine administration was accurate and safe.
- Between March 2017 and July 2017, 40% of reported incidents related to medicines. Of these, 46% involved

controlled drugs and 37% related to medicine administration. Staff highlighted 22 medicine incidents, which represented 19% of the total, as requiring discussion with the EPMA and CCCIS project team. In each case we saw evidence of learning or system development. For example, following an incident in which a prescribed dose of medicine was missed, the project team changed EPMA to ensure dose times were more accessible on the system.

- The concerns staff raised with us regarding medicine prescribing in the CCCIS were reflected in the results of a staff survey that indicated 62% of doctors and 40% of nurses frequently experienced difficulty in medicine administration.
- Staff raised concerns with us that the electronic prescribing and medicines administration system (EPMA) that was part of the CCCIS did not include restricted access. This meant any member of staff with an IT smart card could access it, including staff without prescribing privileges. We spoke with a member of the trust implementation team about this who told us this was a feature of the software and the trust did not have the ability to override it. However, there had been no reported instances of inappropriate prescribing as a result of this. In addition the pharmacy team had restricted access to antibiotics used for immune-suppression to clinical specialists in that area.

Records

- Staff described significant problems in saving patient notes on the CCCIS due to confusion over the operating system and the complexity of how notes needed to be sequenced. For example if they entered notes in an order that was not compliant with the software, notes could be lost. A senior clinician told us 400 patient note entries had been lost in this manner. At the time of our inspection staff had ceased to use most of the CCCIS system and were using paper-based records for observations and care records. CCCIS was still in use for reviewing blood results and diagnostics.
- Allied health professionals had not always had appropriate access to the CCCIS. For example, one physiotherapist had received no formal training on the use of the system and the trust had failed to provide an individual log-in card. This meant they relied on a temporary card and one-to-one support from floor-walkers to access the system. They told us this caused delays to patient care because it took more time to complete observation records.
- Where a patient was transferred from an inpatient ward to critical care, the patient at risk and resuscitation team (PARRT) provided a verbal handover and completed paper-based patient notes. However, PARRT nurses told us if they had needed to use the CCCIS, critical care nurses or the matron had provided support.
- A lead member of staff in informatics demonstrated how the CCCIS project team was responsive to staff feedback in relation to records. For example within 24 hours of the launch doctors had asked to have the ward round paperwork redesigned. The CCCIS manufacturer team redesigned this overnight and project staff described them as “very responsive”.

Safeguarding

- As at July 2017, 95% of critical care staff had up to date safeguarding adults level one training and 94% had up to date level two training. Staff were also required to undertake child safeguarding training and 94% of staff had up to date level one training and 89% had up to date level two training. The trust’s minimum target was 95%.

Mandatory training

- At the time of our inspection, 91% of critical care staff were up to date with mandatory training. This was lower than the trust target of 95%. However, this was an overall average and reflected full compliance in six of the 22 training topics.

Assessing and responding to patient risk

- Staff used a patient acuity tool they had designed in-house to assess patients’ clinical needs as well as the skill mix of staff needed. This was a new flowchart-based system that enabled staff to respond quickly to the changing needs of patients.
- During the pilot phase of the CCCIS system, critical care staff worked to a low threshold for patient risk. This meant if a patient deteriorated staff could remove them from the CCCIS and revert to a paper-based system for records and observations. This meant patient safety was not compromised because a back-up system was in

place. However, clinical staff told us the complexity of the CCCIS meant it had been difficult to identify patients whose conditions deteriorated as quickly as they would usually.

- There was a demonstrable gap in planning for risks to patients in the software manufacturer's design team. This was because there was no evidence they incorporated the feedback of clinical staff in relation to safety systems and features.
- Some staff told us the CCCIS did not allow them to maintain safe levels of oversight of each patient's clinical background and developing medical needs. This was because of the number of stages or actions they needed to complete to find notes and observations. For example, one patient complained of abdominal pains following liver surgery. A senior nurse told us the CCCIS was so complicated that the patient's medical team wasted over two days trying to identify the problem when they felt it could have been found much more quickly using the previous paper-based system.
- The PARRT team had been trained to navigate the CCCIS system so they could assess patients who were deteriorating and ensure they could access discharge summaries for patients being transferred to a ward.
- The CCCIS software manufacturer compiled a list of safety concerns raised by staff, which the senior project team identified as most commonly relating to the length of time it took to navigate the system. From speaking with staff and looking at the minutes of risk meetings it was clear there were significant differences in clinical safety judgement between members of staff. This meant there was not a consistent approach to identifying patient risk and deciding when to remove CCCIS.
- Clinical staff described safety concerns with regards to the use of CCCIS to monitor patient risk. For example, one member of staff identified a patient who was placed at additional risk following a failed transplant because none of the clinical staff involved in their care could find the information they needed in CCCIS.
- The results of a CCCIS user survey indicated 71% of nurses felt the system distracted them from providing actual clinical care to their patients and 24% said they felt the system was not safe, compared with 29% of doctors.
- Resuscitation was part of the trust's mandatory training programme for all staff. As at July 2017, 95% of critical care staff had up to date basic training and 91% had advanced training. This partially met the trust's minimum target of 95%.
- In August 2016, the PARRT completed an audit of observation charts and nursing notes in 13 wards to identify if ward staff provided appropriate care for patients who were deteriorating. The audit found staff had appropriately escalated and commenced observations for patients who had triggered the national early warning scores (NEWS) system, which the hospital used to identify early deterioration and plan for critical care if needed. Overall the PARRT team found ward staff had completed 92% of expected observations.
- A June 2016 handover audit found inconsistencies and standards between shifts during nurse handovers, which meant safety checks could be missed. As a result, the critical care team formalised handovers with the introduction of a new guidance tool and the PARRT team provided additional training on the use of the SBAR tool. SBAR is an acronym for Situation, Background, Assessment, Recommendation; a technique that can be used to facilitate prompt and appropriate communication.

Nursing staffing

- A team of 138 whole time equivalent (WTE) nurses, supported by 13WTE healthcare assistants (HCAs) provided care in the critical care unit. This represented a shortage of 56WTE nurses and 3WTE HCAs against the established number needed to fully provide the service.
- Staff reported a significant increase in the time taken to complete patient handovers during the implementation period of the CCCIS. For example, nurses told us individual patient handovers increased from around 15 minutes to over 40 minutes. This was reflected in clinical governance meeting minutes.
- Nurses were allocated in their teams to a critical care pod for two months at a time. This meant staff gained skills in each area of critical care and experience working with different senior nurses.
- The unit regularly used bank and agency nurses to make up shortfalls in the permanent team. We found that nurses were appropriately qualified and experienced and the senior nurse in charge verified this prior to each shift.

Critical care

Medical staffing

- Consultant to patient ratio met the national standards set by the Faculty of Intensive Care Medicine (FICM). This included on-site consultant cover from 7.30am to 9.30pm seven days a week with three consultants Monday to Friday and two consultants at weekends. A consultant reviewed each patient within 12 hours of admission and the consultant to patient ratio did not exceed the FICM standard of 1:15.
- Five junior doctors provided care during the day and four junior doctors provided this overnight. One doctor acted as a 'float' for the rest of the hospital to review patients who needed a ward review after discharge from critical care.
- There was a 26% vacancy rate for junior doctors between May 2017 and July 2017 due to resignations.
- The senior team had submitted a business case for the recruitment of more doctors, including additional consultants to provide improved weekend cover.
- The senior medical team had completed a business case to increase recruitment of junior doctors and middle grade doctors.
- Consultants led twice daily ward rounds in line with FICM guidance. However, senior clinical staff told us that during the CCCIS pilot, morning ward rounds had been significantly extended, sometimes by three hours. They told us this delayed patient care and extended the admissions process unnecessarily. This was reflected in the minutes of clinical governance meetings we looked at.
- A North East and North Central Adult Critical Care Network peer review in November 2016 noted that consultant on-call cover overnight was insufficient and the unit did not always meet the GPICS guidance ratio of junior doctors to patients as 1:8.

Are critical care services effective?

Not sufficient evidence to rate

Our main findings for effective were:

- A November 2016 peer review by the North East and North Central London Adult Critical Care Network identified overall good standards of care, with most concerns relating to staffing levels.
- Staff demonstrated they were responsive to changing and updating policies and procedures based on the latest best practice guidance.
- Care and treatment was benchmarked through a gap analysis and action plan system that assessed care practice against national standards, including that issued by the National Institute of Health and Care Excellence. However, there was limited evidence action plans were used effectively.
- The patient risk and safety manager completed regular audits and assessments to improve safe care against national confidential enquiry into patient outcomes and death (NCEPOD) guidance.
- The unit participated in the Intensive Care National Audit and Research Centre (ICNARC) data collection programme used to assess and benchmark quality care.
- The mortality rate in the 12 months prior to our inspection was better than the national average.
- The unit did not meet the Intensive Care Society and Faculty of Intensive Care Medicine standard that a minimum of 60% of nurses hold a post-registration qualification in intensive care medicine.
- Critical care performed variably in the 2016 general medical council (GMC) junior doctor satisfaction survey and performed poorly in the nurse staff survey in relation to manager support for appraisals.
- A multidisciplinary team of allied health professionals provided specialist care.

Evidence-based care and treatment

- Critical care was part of the North East and North Central London Adult Critical Care Network. The network conducted a peer review of the unit in November 2016 to review quality improvement and share best practice. The network reported on overall good standards of evidence-based care and noted concerns about staffing levels for consultants, junior doctors, nurses and pharmacists. For example, bed numbers had increased from 24 to 34 but the number of pharmacists had decreased from 2.9 whole time equivalents (WTE) to 1.9WTE.
- Critical care staff had established a local audit plan of 10 clinical audits for 2017 to monitor and assess the use of high impact interventions such as for taking blood cultures, prescribing antibiotics and managing urinary catheters. Individual staff also had audit responsibilities in specialist areas such as nutrition, need safety and tracheostomies.

Critical care

- A June 2016 renal protection protocol compliance audit found staff did not always adhere to the protocol. As a result educational leads provided additional training to junior doctors and clinical practice educators worked with nurses to ensure they complied with bedside protocol.
- Trust care and treatment guidelines were integrated into the use of the clinical information system (CCCIS). For example, a dietician told us they maintained care planning in line with trust guidance regardless of whether a patient had been cared for using the CCCIS or not.
- A lead nurse in clinical informatics had supported the critical care team in the implementation of the CCCIS pilot to identify strategies to produce audit data that could be used to identify good practice and benchmarking. For example, some staff raised concerns that medicine errors had increased as a result of the system. To address this the clinical informatics nurse attempted to audit incident reports in relation to this but inconsistencies in the pilot scheme meant this could not be achieved. This meant there was a lack of audit data to establish the benefits and outcomes of the system. However, as the pilot ran for a limited period of time with a maximum of 11 beds in use it was not possible to undertake meaningful audit.
- Staff demonstrated they were responsive to changing and updating policies and procedures based on the latest best practice guidance. For example, staff removed a specific brand of mouthwash from the ventilator-associated pneumonia care bundle after information it did not benefit the patient. In addition, staff updated the sepsis guidelines with regards to the fluids used for first line resuscitation following new research outcomes.
- Critical care participated in the trust's overarching gap analysis and action plan (GAAP), which assessed compliance with clinical guidance (CG) from the National Institute for Health and Care Excellence (NICE). For example out of the 25 guidelines issued in CG83 rehabilitation after critical illness in adults, critical care was fully compliant with 19, partially compliant with five and non-compliant with one. Areas of partial or non-compliance related to the lack of printed information for patients on their condition and treatment and lack of provision for follow-up following discharge. There was limited evidence staff planned to address areas without full compliance with an action plan. For example, they had identified the need for further discussions with the senior team but there was no timescale, formal process or implementation lead for this.
- GAAP found critical care to be fully compliant with 27 of 35 recommendations in NICE CG135 in relation to organ donation for transplantation.
- Clinical and quality teams, including the patient safety and risk manager (PSRM), assessed care delivered against national confidential enquiry into patient outcomes and death (NCEPOD) guidelines. In 2016, the team found the unit to be partially compliant with NCEPOD0612 in relation to the time taken to intervene in a cardiac arrest. In addition, six recommendations were made to improve compliance with NCEPOD1105 sepsis management. This included through the use of standardised preformas, improved communication with patients and the inclusion of sepsis on death certificates.
- In February 2017, the PSRM made two recommendations to ensure critical care staff were fully compliant with NCEPOD2014 in relation to tracheostomy care. This included the use of World Health Organisation checklists when staff inserted tracheostomies.

Pain relief

- Staff prescribed patient-controlled analgesia (PCA) where appropriate. Although this was included in the EMPA, staff told us the system did not show how much of the medicine the patient had required. As a result a pharmacist met with the pain team, who identified new PCA equipment that would work more consistently with the electronic prescribing and medicines administration (EPMA) and CCCIS systems.

Nutrition and hydration

- The CCCIS system enabled dieticians to document feeding plans and malnutrition assessments, including the prescription of total parenteral nutrition.

Patient outcomes

- The unit participated in the Intensive Care National Audit and Research Centre (ICNARC) data collection programme used to assess and benchmark quality care.

Between January 2016 and December 2016, the standardised mortality ratio was 0.96, which was better than the national average and meant fewer patients died than were expected.

- Between March 2016 and April 2017 1% of patients who were discharged from critical care were readmitted within 48 hours. This was similar to the national average of 1.1%.
- Between April 2016 and June 2017 the mortality rate was 13%, which was significantly better than the national average of 22%. During the same period, 837 patients experienced a delayed discharge. This represented 50% of admissions.
- As a result of audit feedback, staff introduced Richmond Agitation and Sedation Scale (RASS) to the nursing observations to ensure patients were not over sedated.

Competent staff

- As at July 2017, 45% of nurses held a post-registration qualification in critical care. This was worse than the Intensive Care Society and Faculty of Intensive Care Medicine minimum standard of 60%. However, the trust informed us that they had an ICU bank that had 52 ICU Band 6 nurses all of whom had the ICU post registration course. Additionally, all band 5s were sent on the intensive care course within the first 6 months of starting (pending availability), and then on the next available ICU course.
- The CCCIS project team and trust implementation team provided training for staff nurses and doctors in the use of the new system. We asked 20 members of staff about this. One member of staff said the training was not adequate because it had not been specific enough to critical care. For example, they said the training on discharge processes was generic and did not support the complex liaison often needed for discharges. The training consisted of four hours face-to-face training followed by three hours of online learning, which staff were required to complete themselves. Staff told us the gap of up to 12 weeks between training and the system roll-out meant they had lost many of the new skills.
- A team of bank nurses initially took the CCCIS training and a senior nurse ensured at least two were rostered onto every shift during implementation. A senior nurse told us the project team increased this immediately when they realised there were not enough trained staff but that this was restricted due to short staffing.
- A team of 'super users' had provided one-to-one support and guidance for clinical staff on the use of the CCCIS system. Critical care nurses and staff from the software manufacturer made up the super user team and pharmacists provided additional support as they were trained in the electronic prescribing function of the software.
- Staff told us the trust implementation team had provided 'cluster' training days after the CCCIS project was one year into development. This included training all senior band seven nurses as super users. In addition, a team of external non-clinical floorwalkers were trained to assist clinical staff in the use of the system. Members of this team were available 24-hours, seven days a week during the first ten weeks of the pilot scheme.
- The critical care pharmacy team had provided bedside learning sessions for clinical staff in the use of the EPMA as well as delivering an online prescription training course and practical prescription sessions in the two weeks prior to implementation.
- The patient at risk and resuscitation team (PARRT) provided on-site resuscitation training to clinical staff and each nurse consultant or clinical nurse consultant was a faculty member for team based simulation training.
- The CCCIS project board had implemented a training strategy for the system ahead of its implementation that identified the study commitment required and which staff groups were to be prioritised. We noted that allied health professionals were included in the strategy although senior clinical staff told us they were not included in the training.
- As this was a focused inspection we did not look in detail at staff appraisals. However, results from the 2016 staff survey indicated that 81% of staff said their training and development needs were discussed in their last appraisal although only 39% said they received support from their manager to achieve this. In addition, 16% of respondents said they left the appraisal feeling that their work was valued. This was significantly worse than the trust average of 30%.
- Critical care performed variably in the 2016 general medical council (GMC) junior doctor satisfaction survey. For example the overall satisfaction rate of respondents was 72%, which represented a slight improvement of 1% from the previous survey results in 2013. Satisfaction

with induction, work load and handovers had deteriorated during this period and satisfaction with local teaching and educational supervision had improved.

- An education programme was in place to give staff access to specialist learning opportunities. In 2016 and 2017 this included a guest speaker for brainstem testing, devastating brain injury and out of hospital cardiac arrest as well as sessions on delirium and acquired kidney injury. We saw this programme combined an audit approach and led to improved clinical practice. For example, a July 2016 audit checked clinical practice and documentations against the 2013 Clinical Practice Guidelines for the Management of Pain, Agitation and Delirium in Adult Patients in the Intensive Care Unit and NICE CG 103 in relation to the management of delirium. The audit found significant shortcomings in how staff cared for patients with delirium. For example, staff had documented RASS scores more than four times every 12 hours for only 30% of patients. In addition, despite 42% of assessable patients triggering the confusion assessment method for intensive care units (CAM-ICU), staff had not assessed any patients for delirium using a validated tool. As a result more specialised training was introduced for doctors to set RASS targets at ward rounds and nurses undertook more thorough training on the assessment and management of delirium. In addition, acute delirium management guidelines were established and a local policy on assessment and management of delirium was developed.
- Although all new nurses undertook a supernumerary period during which they were mentored, we saw negative feedback from this process in nurse meeting minutes. Senior nurses who acted as mentors commented that they had no guidance on what to include for new nurses during supervision and also noted that short staffing meant they were often too busy to provide new nurses with a meaningful experience. Although senior staff at the meeting acknowledged this as a concern, there was no immediate resolution. After our inspection the trust told us mentors were given structured guidance and support in the form of competency booklets and from the clinical education team. We were not able to identify why staff we spoke with were unaware of these.

Multidisciplinary working

- The multidisciplinary team had not been included in training for using the new CCCIS and the system included only basic documents for staff to write notes and observations rather than the templates they had previously used. This meant writing notes was more time-consuming and allied health professionals told us they often lost notes they had written because the system only saved them if they were entered in a specific sequence.
- A nurse consultant led the PARRT, which was staffed by clinical nurse specialists who provided a 24-hour, seven day service. This team provided rehabilitation and tracheostomy weaning for patients who had been discharged from critical care.
- A multidisciplinary team of allied health professionals provided specialist care. This included six physiotherapists, an occupational therapist, two dieticians and two speech and language therapists.
- Weekly multidisciplinary team meetings took place to review patients who had been admitted to critical care for over 14 days. As a result of this approach rehabilitation was implemented earlier and the overall length of stay and readmission rate had decreased.
- We looked at the rota for floor walkers and super users for the CCCIS pilot for March 2017 and April 2017. Five nurse super users and an EPMA pharmacist were available 24-hours, seven days a week during this period.

Are critical care services well-led?

Not sufficient evidence to rate

Our main findings for well led were:

- We found significant, on-going disparities and conflicts between staff at different levels of responsibility and seniority.
- Staff gave varying feedback on the working culture and atmosphere, including some who described bullying and in appropriate behaviour from colleagues.
- Clinical governance and risk management strategies were well established and effective in service improvement but there was limited evidence they were effective in driving good working relationships or project management.

Critical care

- The senior leadership team had not resolved the on-going concerns of staff during the implementation phase of the clinical information system (CCCIS). A staff survey to gather experience of using the CCCIS indicated 60% of the nurses and doctors who responded felt the system was unsafe.
- The senior leadership team had failed to act on significant conflict in the department.
- Although there was evidence of regular staff engagement, survey results were poor and typically worse than the rest of the trust. There was very limited evidence of coherence and drive in the senior team to resolve this.
- There was evidence the CCCIS project team implemented strategies to reduce risk and address the concerns of clinical staff.
- There was a lack of consistent evidence that departmental managers had the capacity to monitor the workload and level of responsibility of their staff.
- The working culture of critical care meant that staff did not always feel involved in decision-making that affected them.
- The most recent staff survey took place in September 2016 with a response rate of 45%. The department performed worse than the rest of the trust in 57% of the questions asked.
- The new site-based executive team had recognised culture and leadership issues in the ICU department and had commissioned work with NHS Elect to improve the situation.

Leadership of service

- A divisional director had overall responsibility for the surgery and associated services division and a clinical director maintained oversight of anaesthetics, theatres and critical care. A divisional director of operations, supported by a senior operations and clinical manager provided operational leadership. A divisional director of nursing supported by two matrons led nursing care.This was a new leadership team implemented in early July 2017.
- A project manager and clinical lead had led the implementation phase of the CCCIS with support from a responsible officer and dedicated project team.
- Staff told us the use of the CCCIS had reduced the amount of time they could spend with patients because of the additional time needed to navigate the system. There were no contingency plans from the leadership in place for this. For example one nurse said, “Basic observations were taking 20 minutes to document. That’s 20 minutes we’d normally spend talking to patients and their relatives. Facing away from them and paying attention to two computer screens instead made it difficult for them to interrupt us or speak to us.”
- It was not clear that the leadership structure in critical care had supported staff during a time of transition and additional pressure in the unit. For example one senior member of staff said, “The support for the CCCIS was super, especially the prescribing system. I was very surprised none of the doctors engaged with us as super users. This was open to everyone so it was really disappointing no-one in the senior team looked into this and encouraged doctors to become more involved.”
- Staff told us they felt there were gaps in leadership during the pre-implementation phase of the CCCIS pilot. This was because they undertook training up to five months before the system was launched, which meant they needed refresher training and had not been given any practical practice in using the system.
- There had been recent significant changes in the leadership structure of critical care, including within the leadership team for the pilot scheme implementation of the CCCIS. This included a new divisional director and clinical lead. In addition, the trust had reconfigured directorates and critical care had moved from the urgent care division to the surgical and associated services division.
- To better understand the additional pressure on working relationships described by the majority of staff we spoke with, we asked 14 people about input and support from the leadership team. One senior clinical member of staff said, “From my point of view there has been zero input from anyone above matron level. I haven’t had any input from or seen any clinical directors or the head of nursing in the unit for the whole time we’ve had problems.” One member of staff said, “I feel that we were listened to. I submitted incident reports and spoke to the matron about my concerns and I got good feedback and support.” One member of staff said, “We as a team have been placed in the middle of disagreements between senior staff. The clinical director was clear they had better ideas than CCCIS and didn’t want it to work while others were pushing us to work with it. We lost momentum because of these competing demands and the balance between professionals was not well established. The leadership team did not try

and bridge the gap between doctors and nurses." One clinical member of staff said, "The leadership function in this hospital is very much focused on performance and not on staff wellbeing. I have never worked somewhere that is so uncaring and lacks even the most basic of leadership. The [CCCIS project] failed because there was no joined-up working between budget holders and clinical staff. Now the trust is looking for scapegoats and people to blame so I think the already very high turnover rate will get even worse."

- There was not consistent evidence that departmental managers had the capacity to monitor the workload and level of responsibility of their staff. For example, one individual who had been involved in the implementation of the CCCIS project said they were expected to working increasing hours for no extra pay on top of their clinical work until they escalated this to the senior team.
- Some staff told us the lack of coordination from the leadership team meant that some staff individually refused to participate in the CCCIS pilot and made unilateral decisions without consultation, which affected working relationships and patient care. This was because they felt care decisions were not well coordinated and there was a lack of safety oversight from senior responsible staff.
- We found a lack of leadership support specifically for bank nurses. For example, a temporary workforce office was responsible for this staff group but nurses we spoke with did not know how to contact them or how to obtain support. For example one nurse said, "I've never met the person who is responsible for us. We just have to look after ourselves. Usually this is okay but it means we're not taken seriously when something goes wrong. I filed a complaint two years ago in a bullying incident and it still isn't resolved. It certainly isn't a priority [for the trust]." The trust subsequently commented that the ICU bank was managed by ICU matrons though the band 7 structure. Staff booked shifts through this system. All staff were supported from band 7 and matrons. Bank staff were allocated to teams of nurses led by a band 7. Bank staff attended cluster education days along with substantive staff and were also offered training and education to ensure they are compliant with mandatory training. Any complaints should be reported through to matron who would escalate to the trust wide bank team to investigate.
- The new divisional director acknowledged the concerns about team coherence and leadership and outlined a plan to improve this, including support from another NHS agency to look at structure, culture and leadership as well as another project to improve workforce dynamics.

Vision and strategy for this service

- Critical care had a 10 year strategic vision to address the hospital's expansion plans and meet the clinical needs for post-operative patients. The vision outlined an ambition to stabilise staffing levels, achieve an IT solution and open 11 high dependency beds specifically for post-operative care.
- The clinical information system (CCCIS) project team had collected feedback from staff involved in the pilot scheme as a strategy to improve the system for other areas of the hospital and ensure it was improved if the senior team relaunched it in critical care. Staff told us they expected this to happen as part of a critical care improvement programme and a redesigned strategy for the service that was in the process of development.

Governance, risk management and quality measurement

- A divisional board met monthly to review quality, clinical governance and departmental risk registers. We looked at the latest available minutes from the urgent care divisional board meeting and found it was well attended by appropriate staff and focused on risk management and quality of care provided. This took place prior to the change in divisional membership.
- The CCCIS project team and the clinical risk lead had completed a risk assessment for the roll-out of the CCCIS, including from discussions and training with staff. At the point the project was suspended there were 31 items on the assessment log, of which 19 were open and unresolved. Resolved risks were clearly documented in some cases. For example, doctor documentation training had been redesigned and redelivered following changes to CCCIS. However, other risks had been marked as resolved but without well-defined outcomes. For example, a key risk was noted as the resistance of some critical care staff to the pilot scheme. Although the status of this risk was marked as closed, there was no evidence a strategy to engage with detached staff had been completed.

Critical care

- We spoke with staff who had provided care to patients whilst using the CCCIS system in its pilot phase. One nurse told us they had reported a number of errors or issues with the system to the project team but had received no reply or resolution. For example, it was not clear where nurses should record nasogastric aspirate, which led to an inconsistent approach to recording and inaccurate output totals being calculated. In addition, patient global assessment of pain could not be correctly recorded.
- Twice-weekly implementation meetings took place between critical care staff, the trust project team and a senior trust board team. Weekly board meetings also took place but some staff told us the senior responsible officer was not approachable and did not act on feedback. In addition one senior member of staff said they felt meeting minutes were not accurate and did not represent the process or outcomes of meetings. During the pilot scheme senior sisters met with the matron, floor walkers and super user team every day to identify emerging problems with the system so they could be resolved or escalated without delay. The CCCIS project manager prepared a daily report for the software manufacturer support team so that on-going issues could be addressed. We looked at three daily reports and found them to be detailed and to include specific concerns and requests for solutions for the CCCIS.
- The team of super users compiled a record of concerns and risks associated with the CCCIS raised by staff each day and presented these to the senior leadership team.
- Although the governance system in place meant risks to patients were consistently managed, it did not demonstrably contribute to cohesive team working. For example, senior staff told us they had not been consulted in the removal of the CCCIS and instead some clinical staff had decided to stop using it without consulting the wider team. In addition six members of staff told us they had not been supported by some members of the senior leadership team and that the lack of governance in relation to staffing had resulted in difficult working conditions some people were blamed for the pilot scheme's failure. One member of staff said, "We got an email two weeks ago to say they were switching the system off. I was surprised because we were getting good feedback from staff right up to that point and the working teams were looking at this every day. We've had no formal debrief, no meeting from the [senior team] so I don't know what's happening."
- Three working groups had been established during the CCCIS pilot to provide trouble-shooting support to staff and to drive development and improvements. As part of this approach, the clinical governance lead had issued nurses and doctors with a survey to find out if they felt the CCCIS was a safe system. The results indicated that 60% of both staff groups felt the system was not safe.
- The CCCIS project team used a risk register to monitor and assess risks relating to the implementation of the software. We found when CCCIS was removed from critical care, the project team transferred remaining risks to the departmental register. This team had managed risks appropriately during the implementation of the system. For example they identified one risk relating to the continuity of patient documentation when they moved between services, such as from critical care to diagnostic imaging and back again. The risk occurred because of the different patient records systems used by the different departments. This risk was mitigated by the critical care nurse to patient ratio of 1:1 and by the reviews completed by a nurse and junior doctor before and after each transfer for diagnostics.
- From our conversations it was clear that clinical staff felt affected by the financial pressures of the trust. Staff told us they felt pressured to implement the CCCIS due to financial pressure from the senior team and nurses told us they felt no additional CCCIS training had been provided due to financial issues.
- We looked at the minutes of the EPMA working group meeting, which was used by the project team to identify and resolve issues with the system. This included specific feedback from staff on why certain aspects were difficult to follow but did not include a time frame for resolution.
- We looked at a sample of project board meeting minutes relating to the implementation of the CCCIS between February 2017 and June 2017. We saw the meetings were consistently well attended and that the concerns raised with us were repeatedly discussed in the meetings. In addition there was evidence of senior multidisciplinary working to resolve concerns raised by clinical staff that the CCCIS was clinically unsafe. This included reviewing training, on-site technical support, support from the system manufacturer and monitoring of incident reports. There was evidence the project team implemented strategies to reduce risk and address the

concerns of clinical staff. For example, the project team established a training programme for expert staff in each of the three component areas of CCCIS to provide more targeted technical and developmental support.

- In advance of the implementation of the CCCIS, the project team established workflow teams for doctors, nurses, pharmacists and key administrative staff in critical care. This was established in May 2016 and included 15 nurses and 11 doctors or senior nurses, of which four were critical care consultants. However, we did not see evidence this system took place in practice and there was inconsistent evidence of consultant input. For example, two consultants declined to attend all seven of the workflow meetings, one consultant declined to attend three meetings and only one consultant attended all workflow meetings. This meant there was limited input into workflow development from this staff group. We were told the reason for inconsistent consultant input and engagement at the development stage was due to staffing issues and high vacancy rates. Staff felt that that the trust should not have tried to implement the new system at this time but did so due to financial pressures.
- The project team used a hazard summary tool in each phase of CCCIS implementation to monitor risks to patients and staff and identify mitigation strategies. These included improving training and developing department policy frameworks to ensure care could be provided safely during the pilot phase. For example the risk of creating a discharge summary for the wrong patient was mitigated by training for staff and a system implemented to ensure that only information consented by the patient was sent to their GP as part of the discharge process.
- At the time of our inspection there were eight items on the critical care risk register. The senior team had classified two risks as extreme, five risks as high and one risk as moderate. The extreme risks related to a 26% vacancy rate amongst junior doctors and a lack of patient flow and capacity.

Culture within the service

- Six members of staff told us they felt they had been pressured into implementing the CCCIS for patients before they felt ready to do so. One member of staff said, "[The trust] made it very clear to us we were to launch on time at all costs due to their financial obligation. This was contradictory to how safely we normally work, where patient safety always comes first. Instead the divisional director of nursing at the time was really pushing us to move forward and we increased the system from four beds to 11 beds before we were ready." Another member of staff said, "There has been lots of blaming around why the system didn't work. Senior managers have bullied some individuals for not making it work and the chief executive has e-mailed [critical care doctors] to assign blame, which is completely inappropriate." One member of staff said, "Doctors had enormous problems adapting to the new system. With the exception of some junior doctors, most of the team could not manage their workflows on the system. This was astonishing. A number of this team refused to use the CCCIS and bullied those of us who were there to help. Two consultants made derogatory and hurtful comments about us when we tried to help. The system was not inherently unsafe but their attitude made it unsafe." Another member of staff said, "Some of the more junior staff who were floor walkers for the CCCIS pilot struggled with the attitude of some other clinical staff. We were told we were 'only' nurses and so couldn't help doctors with the system. I felt there was an enormous lack of leadership during this period. The [senior team] would listen to us but not do anything. It's a very uncomfortable position to be in when some doctors used the system without any problems but the others victimised us when they couldn't manage it."
- Nursing staff and allied health professionals we spoke with about the implementation of the CCCIS said although support was provided, it put pressure on the relationship between different teams. One member of staff said, "Some of the [critical care team] decided they just didn't like the system and so refused to use it. That made for a difficult and tense working environment and made the situation much worse."
- The working culture of critical care meant that staff did not always feel involved in decision-making that affected them. For example, nurses told us the removal of the CCCIS was abrupt and they did not know why this had happened. Nurses we spoke with at all levels said they had received no information about the reasons for this and did not know what would happen next. One nurse said, "The consultants have been told what's happening but no-one else has. That's demoralising after we spent so much time getting used to it." We found consultants had reduced the number of CCCIS beds to zero and had made the decision unilaterally to

cease using the system. There was no evidence of engagement with the divisional team, matron or project team regarding this. After our inspection the trust provided evidence of e-mails sent to all critical care nurses regarding the suspension of the CCCIS. We were not able to confirm why the nurses we spoke with were unaware of this.

- Staff involved with the CCCIS project team told us the team had been under-resourced and that, "Stress levels were very high." They told us this was because of staff turnover and a lack of interest in existing staff joining the team.

Staff engagement

- There were inconsistencies in how the senior unit team and trust implementation team had engaged critical care staff in the implementation of the CCCIS and using feedback to direct this. For example, senior band seven nurses told us they had not been involved in the project and the nurses who had been responsible for this had not asked for input or suggestions from them. This meant some members of the nursing team felt the system had not been developed with their needs in mind. In addition only one critical care consultant had been involved in the design and adaptation of the system. Consultants told us this was due to short staffing and vacancies in the team. We spoke with the chief information officer about this. They said consultants from two other NHS trusts had offered to spend time with their critical care counterparts to support them in using the system as their home trust had successfully implemented this. In addition nurses in the project team and the nursing lead for informatics had met with a range of critical care staff to discuss their needs and how the software could be adapted.
- Two critical care research nurses had completed user acceptance testing of the CCCIS and attended planning meetings with the software manufacturer. This enabled them to provide direct support and training to critical staff in advance of implementation. Although this team were not available throughout the pilot programme, alternative staff did ensure support and guidance was continual.
- The CCCIS project team demonstrated how they responded to staff concerns in the use of the system by implementing improvements. For example, the team added symbols to the diagnostic and imaging tests ordering page to make it easier for clinical staff to identify what they needed to order.
- The most recent staff survey took place in September 2016 with a response rate of 45%. The department performed worse than the rest of the trust in 57% of the questions asked. For example, 19% of respondents said there were enough staff to do their job properly compared with 31% in the rest of the trust. The divisional board had reviewed staff survey results in April 2017 and conducted a benchmarking exercise to identify how results compared to other NHS trusts nationally.
- The senior trust team had acted on some of the negative results from the staff survey that indicated low levels of engagement and job satisfaction amongst nurses and junior to mid-grade doctors. This included obtaining support from an external organisation to work with critical care teams to improve relations.
- The CCCIS project team conducted user surveys with nurses and doctors to gauge levels of confidence as well as qualitative feedback on the use of the system. The surveys generated large quantities of qualitative feedback in which respondents described concerns about clinical safety and risk. Although there were numerous forums in which the project team and clinical governance teams discussed risks and hazards, there was limited evidence the concerns from the surveys were used to inform on-going implementation or improve patient safety. This was reflected in the decline of survey responses from up to 30 per day in May 2017 to zero per day in June 2017.
- Staff met within their professional group peers at least monthly. We saw from looking at the minutes of meetings that feedback from individuals was discussed and areas for improvement identified. For example, consultants were aware of poor feedback from junior doctors in the GMC survey and identified a weekly time slot where more regular teaching would be possible.
- The trust board had not included front-line nurses responsible for CCCIS training and implementation in project meetings. A nurse told us this meant they felt disconnected from the project team and not readily able to contribute to improvements with the feedback they gained from working on the unit.

Outstanding practice and areas for improvement

Areas for improvement

Action the hospital SHOULD take to improve

- The trust should work with all staff groups and their representatives to assess how staff can feel more involved in major changes within the trust.
- The trust should review how governance systems can be made more open and effective.