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Chapter 1: Introduction and Overview

Trust Profile

Nottingham University Hospitals (NUH) NHS Trust is the fourth largest acute Trust in the East & West Midlands and has three main sites:

- QMC campus hosts our Emergency Department (ED), the East Midlands Major Trauma Centre and Nottingham Children’s Hospital.
- Nottingham City Hospital campus hosts our cancer centre, heart centre and stroke services.
- We also provide a range of outpatient services (including hearing services) from Ropewalk House.

We provide services to over 2.5 million residents in Nottingham and its surrounding communities. We also provide specialist services for a further 3-4 million people from across the region. We are one of the largest employers in the region, employing around 14,500 people.

We have 85 wards and around 1,700 beds.

We are at the forefront of many leading research programmes and new surgical procedures. In partnership with the University of Nottingham, we operate two National Institute for Health Research (NIHR) Biomedical Research Units - in Hearing and Digestive Diseases.

As a teaching Trust we have a strong relationship with our colleagues at the University of Nottingham and other universities across the East Midlands. We play a vital role in the education and training of doctors, nurses and other healthcare professionals.

NUH Trust-wide patient safety programme

Our patient safety programme is central to achieving our ambition to deliver care which is free of avoidable harm. A number of our patient safety priorities have been shaped through the national Sign up to Safety Campaign. Sign up to Safety aims to make the NHS the safest healthcare system in the world, building on the recommendations of the Berwick Advisory Group. Sign up to Safety have also negotiated with the NHS Litigation Authority (NHS LA) a one-off incentive scheme inviting NHS organisations to bid for patient safety improvement monies. NUH was successful in its bid, securing £1,429,837 in support of discrete patient safety projects.

This report provides an overview of the programme’s achievements in 2015/16 and priorities for 2016/17. The safety programme is core to achieving the Trust’s objectives for patients with regards to:

- Improving clinical outcomes (and improving the proportion of patients who receive harm-free care including from medicines).
- Involving patients in their care decisions (through education, patient activation).
- Teaching, Learning and Staff Satisfaction (particularly through introducing in-situ team training and human factors).
- Value for money (through reducing avoidable harm, length of stay and claims).
This annual report should be read in conjunction with Nottingham University Hospitals Quality Account and Better for You Annual Reports, available online.

At a glance: Success from 2015/16

<table>
<thead>
<tr>
<th>Workstream</th>
<th>Success</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Perceptions of their Safety</td>
<td>96.5% of patients reported feeling safe whilst attending NUH (April 2013 to January 2016).</td>
</tr>
<tr>
<td>Duty of Candour</td>
<td>100% of audited cases showed that an appropriate initial disclosure had occurred after an incident (that met the threshold for Duty of Candour).</td>
</tr>
<tr>
<td>Patient Safety Conversations</td>
<td>38 conversations took place across NUH allowing staff to talk freely about safety concerns with the Board of Directors.</td>
</tr>
<tr>
<td>Sign Up To Safety: Recognise and Rescue</td>
<td>Dashboard developed allowing accurate identification of factors associated with failure to recognise and rescue (e.g. overdue observations).</td>
</tr>
<tr>
<td>NHSLA Improvement Bid: NUH TEAMS</td>
<td>Launched structured team training and local improvement programme in Theatres at NUH.</td>
</tr>
<tr>
<td>Medicines Safety</td>
<td>Comprehensive assessment of the Trust-wide risk of harm from medication achieved resulting in defined improvement programmes of work.</td>
</tr>
<tr>
<td>Antimicrobial Stewardship</td>
<td>A new committee was established to consider Antimicrobial Stewardship at NUH.</td>
</tr>
<tr>
<td>Medicines Education Group</td>
<td>Launched the first NUH “Talk About Medicines Week” with great success engaging staff and patients in medication safety.</td>
</tr>
<tr>
<td>Recognise and Rescue</td>
<td>Reviewed Sepsis management at NUH and showed that antibiotic administration in less than 1 hour had increased from 35% to 90% over the last 6 years. There have also been significant reductions in length of stay and mortality associated with emergency laparotomy.</td>
</tr>
<tr>
<td>Critical Care Outreach Team</td>
<td>Has successfully expanded to provide 24/7 cover.</td>
</tr>
<tr>
<td>Inpatient Falls</td>
<td>Have fallen compared to previous years (e.g. 22% reduction in falls causing harm from 2014/15).</td>
</tr>
<tr>
<td>Pressure Ulcers</td>
<td>Have shown reductions in avoidable stage 2 and 3 pressure ulcers.</td>
</tr>
<tr>
<td>Safe Surgery and Think Drink</td>
<td>Has significantly reduced the time patients wait without a drink before their operation.</td>
</tr>
<tr>
<td>Safe Nursing and Midwifery Staffing</td>
<td>Have implemented a red flag system to highlight staffing issues and created a Safe Staffing app rolled out to 82 wards.</td>
</tr>
<tr>
<td>Infection Prevention and Control</td>
<td>Reduced hospital-acquired C-difficile infections substantially.</td>
</tr>
<tr>
<td>Children's Hospital</td>
<td>Are focussing on medication incidents and sharing learning through “Lite Bites” and have improved staffing establishment.</td>
</tr>
</tbody>
</table>
Education and Leadership

Shared Governance has continued to expand with a total of 30 councils.

Staff Improving Patient Safety (SIPS) is re-energising frontline staff to undertake Quality Improvement Projects.

Trent Simulation and Clinical Skills centre have successfully integrated a number of Human Factors programmes and is working on developing in-situ simulation. They have also launched a Masters In Quality and Patient Safety Improvement.

---

At a glance: Programmes of work for 2016/17

<table>
<thead>
<tr>
<th>Workstream</th>
<th>Priorities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sign Up To Safety: Recognise and Rescue</td>
<td>Develop and implement a framework for improvement around Early Warning Scores across 5 ward areas [followed by Trust-wide roll out]. Achieve national Sepsis improvement CQUIN.</td>
</tr>
<tr>
<td>Sign Up To Safety: Medicines Safety</td>
<td>Develop and implement improvement interventions in support of improving documentation of allergy status, reducing the number of omissions of critical drugs [for non-clinical reasons] and reducing opioid related harm.</td>
</tr>
<tr>
<td>Sign Up To Safety: Patient Partnership</td>
<td>To implement a Patient Safety Toolkit which will increase patient, family and carer information and engagement around patient safety.</td>
</tr>
<tr>
<td>NHSLA: NUH TEAMs</td>
<td>To expand the team training and improvement programme across NUH Theatres with the goal of being Trust-wide long-term.</td>
</tr>
<tr>
<td>NHSLA: eCoroner</td>
<td>To implement electronic method of confirming death with screening to identify any sub-optimal care.</td>
</tr>
<tr>
<td>NHSLA: Medway Orders and results</td>
<td>Launch the new Order Communications and Results Reporting system to improve management of diagnostic investigations.</td>
</tr>
<tr>
<td>Antimicrobial Stewardship</td>
<td>Achieve national Antimicrobial Stewardship CQUIN.</td>
</tr>
<tr>
<td>Medicines Safety</td>
<td>Focus on reducing Trust-wide medication risks, including introduction of dose error reduction software on syringe pumps and introduction of electronic prescribing and administration of Paediatric chemotherapy.</td>
</tr>
<tr>
<td></td>
<td>Achieve Medicines Reconciliation local CQUIN.</td>
</tr>
<tr>
<td>Inpatient Falls</td>
<td>Continue rigorous scrutiny of Root Cause Analysis investigations after a fall with harm and share learning.</td>
</tr>
<tr>
<td>Pressure Ulcers</td>
<td>Continue reviewing targets and trajectories for Stage 2 pressure ulcers with continued moisture lesion management training.</td>
</tr>
<tr>
<td>Venous Thromboembolism (VTE)</td>
<td>Implement robust processes to identify Hospital Acquired Thrombosis.</td>
</tr>
<tr>
<td></td>
<td>Implement VTE risk assessment in Nerve Centre in support of achieving 95% VTE target.</td>
</tr>
<tr>
<td>Section</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Safer Surgery</strong></td>
<td>Support the roll-out of NUH Teams and harmonise local “Safe Surgery” policies with the national standards.</td>
</tr>
<tr>
<td><strong>Safer Nursing and Midwifery Staffing</strong></td>
<td>To complete the establishment reviews of Children’s Hospitals, Maternity and Emergency Services with proactive recruitment and retention to reduce vacancies.</td>
</tr>
<tr>
<td><strong>Infection Prevention and Control</strong></td>
<td>To continue to reduce C-difficile infections and to aim for no cases of MRSA bacteraemia.</td>
</tr>
<tr>
<td><strong>Children’s Hospital</strong></td>
<td>Increase situational awareness training for staff surrounding medication safety and roll out pilot projects across the Children’s Hospital. To continue active recruitment for safe staffing. To develop staff training programmes around mental health patients on acute Children’s wards.</td>
</tr>
<tr>
<td><strong>NUH &amp; SFFT</strong></td>
<td>Develop a Trust Wide Patient Safety Improvement Strategy across the proposed merged organisation.</td>
</tr>
</tbody>
</table>
Chapter 2: Understanding and Measuring Safety

NUH uses multiple sources of information to inform us “how safe we are” (Figure 2A).

Figure 2A: sources of information used at NUH

Mortality Indicators

There are arguments against measuring mortality as a measure of quality or safety (Shahian et al 2010, Girling et al 2012, Shojania 2012) and arguments against measuring an absence of mortality i.e. lives saved. There is no single reliable measure to capture all preventable deaths in healthcare.

Extensive analysis has been undertaken to understand our elevated HSMR position outlined in a number of publically available board papers at: Board papers 2016 - Nottingham University Hospitals NHS Trust

Priorities 2016/17:

1. Establish a Trust wide mortality review group (further to CEC).
2. Implement the requirement to screen all inpatient deaths through the introduction of an electronic screening tool (autumn 2016).
3. Track impact on palliative care coding adjustment.
4. Ensure compliance with best care and treatment practice in those diagnostic groups that have most impact on our higher-than-expected HSMR.
Incident Reporting (via Datix)

All staff are encouraged to report incidents, no matter the level of harm. Our staff appreciate that we can prevent future harm to our patients by learning from errors and identifying hazards. Recognising and reporting an incident (or near-miss) is the first step in that learning.

NUH reports a relatively high number of incidents (per 100 admissions) and this number has increased over the past six years (figure 2B). The majority of our incidents continue to cause no harm (76.5%) or low harm (22.4%) (table 2C), with a total of 24,021 incidents reported in 2015/16.

The type of incidents reported have also remained relatively consistent (figure 2D) with pressure ulcers (n=3881), medication incidents (n=2877), tissue damage (not pressure related, n=2456) and falls (n=2335) being our more commonly reported incidents. It should be noted that in the case of pressure ulcers, a large proportion of these are inherited from the community.

Figure 2B: incidents by date from April 2010 to February 2016

Table 2C: degree of harm for incidents 2015/16

<table>
<thead>
<tr>
<th>Degree of Harm</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>18,377</td>
<td>76.50%</td>
</tr>
<tr>
<td>Low</td>
<td>5,379</td>
<td>22.39%</td>
</tr>
<tr>
<td>Moderate</td>
<td>233</td>
<td>0.97%</td>
</tr>
<tr>
<td>Severe</td>
<td>19</td>
<td>0.08%</td>
</tr>
<tr>
<td>Catastrophic (e.g. death caused by the incident)</td>
<td>13</td>
<td>0.05%</td>
</tr>
<tr>
<td>Total</td>
<td>24,021</td>
<td>-</td>
</tr>
</tbody>
</table>
NUH maintains a strong focus on developing and supporting an organisation-wide safety culture within which staff are encouraged to maintain continuous vigilance towards potential risks to patient safety, to identify and address these, to acknowledge when things have gone wrong and to report all incidents, including near miss events. All reported incidents are investigated in order that learning can be identified and actions are put in place to ensure improvement. Serious Incidents are investigated by a consultant-led panel, the learning is disseminated across the organisation and implementation of the recommendations is monitored to completion through corporate and divisional governance processes. Patient safety incident data is uploaded weekly to NHS England via the National Reporting & Learning System (NRLS).
In March 2015, NHS England published a revised Serious Incident Framework, to include a revised Never Events Policy and Framework. Under the new framework the definition of Serious Incidents (SIs) has changed and many of SIs in the specific classes (patient falls resulting in fracture, selected maternity incidents, selected infection prevention & control incidents and hospital acquired stage 3 & 4 pressure ulcers) no longer fit the SI category; subsequently fewer of these incidents are now being reported as SIs.

These incidents continue to be monitored, investigated and managed through their dedicated Trust committees and the Quality Assurance Committee receives regular progress reports. NUH continues to work closely with our Commissioners in the management of SIs.

In 2015/16 we reported 16 unclassified Serious Incidents, including 5 Never Events, as described in table 2E.

Table 2E: Serious Incidents (including Never Events) April 2015 to March 2016

<table>
<thead>
<tr>
<th>Serious Incidents (SI) Unclassified 2015/16</th>
<th>Never Event</th>
<th>SI</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medication error</td>
<td>3</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Patient fall sustaining significant head injury</td>
<td>3</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Screening related incidents</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Inadvertently retained swab post procedure</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Transfusion related incidents</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Incorrect implant/prosthesis fitted</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Patient identification incident</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Missed or delayed diagnosis</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Lack of appropriate follow up</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Laboratory acquired infection</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Totals</td>
<td>5</td>
<td>11</td>
<td>16</td>
</tr>
</tbody>
</table>

Following investigation, three of the above incidents were de-escalated from SI status as it was identified that they did not meet SI criteria. This included one patient fall sustaining significant head injury, one screening related incident and one missed or delayed diagnosis. This reduces the 16 reported unclassified SIs to a total of 13 for the period.

We also reported 126 SIs in specific categories, as illustrated in the table 2F. 26 of these were de-escalated from SI status following completion of the investigation; this reduces the number to a final remaining 100 for the period.

Table 2F: Serious Incidents for specific categories 2014/15 and 2015/16

<table>
<thead>
<tr>
<th>Serious Incidents (SI) Classification</th>
<th>2014/15</th>
<th>2015/16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient falls resulting in a fracture or a significant head injury</td>
<td>74</td>
<td>16 (1 removed)</td>
</tr>
<tr>
<td>Maternity-related matters</td>
<td>38</td>
<td>15 (4 removed)</td>
</tr>
<tr>
<td>Infection prevention and control</td>
<td>63</td>
<td>37</td>
</tr>
<tr>
<td>Pressure ulcers (stage three)</td>
<td>50</td>
<td>58 (21 removed) **</td>
</tr>
</tbody>
</table>

**Pressure ulcer data is subject to a validation date lag of 45 days so incidents reported in March 2015 could be subject to removal or amendment
Never Events

Never Events are defined as ‘serious, largely preventable patient safety incidents that should not occur if the available preventative measures have been implemented by healthcare providers’ (Department of Health, 2012).

NUH reported five Never Events during 2015/16:

- In two unrelated incidents, medication intended for oral administration were inadvertently administered via an intravenous cannula. Both incidents resulted in low patient harm.
- A patient undergoing Maxillofacial surgery was fitted with an incorrect size implant, requiring a further procedure to correct the mistake. The incident resulted in low patient harm.
- A retained swab was identified following an invasive procedure. The incident resulted in moderate patient harm.
- An infusion intended for administration via an epidural catheter was inadvertently administered via an intravenous cannula. The incident resulted in moderate patient harm.

Examples of learning from our incidents

NUH continuously aims to learn from incidents and disseminates learning to frontline staff. This is achieved through a variety of mechanisms, including a monthly patient safety newsletter. Examples of learning include:

- Review and update of policy, procedure and guidance, for example the Abdominal Aortic Aneurysm Incidental Findings Procedure.
- Addition of mandatory questions to the electronic ordering of blood cultures process, to assist in identification of samples that require processing as high risk.
- A review of haemodialysis training and competency packages to ensure that blood borne virus awareness amongst all staff who dialyse (registered and non-registered) is maximized.
- Development of a falls ‘Tag’ system on the Lyn Jarrett Unit whereby staff responsible for the observation of patients at high risk of falling are made visually identifiable to all and are aware that they must maintain direct observation of the patient(s) until they have been ‘tagged’ by a colleague who takes over the task.
- Implementation of a staff rotation programme between Theatre Recovery Units at Queen’s Medical Centre Campus and City Hospital Campus to encourage staff development and standardisation of practice.

Risk Register

We compare our experience of incidents with our risk register, below table. We attribute the substantial increases in incidents in some of these domains due to increased awareness of the importance of reporting, rather than to deterioration in our care. All of the below risks have patient safety improvement projects aligned to them to help mitigate the risk (table 2G).
Table 2G: Risk Register 2015/16

<table>
<thead>
<tr>
<th>Risk Score 15/16</th>
<th>Clinical Risk Detail</th>
<th>No. of reported incidents 2012/13</th>
<th>No. of reported incidents 2013/14</th>
<th>No. of reported incidents 2014/15</th>
<th>No. of reported incidents 2015/16</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>Patient harm resulting from limited capacity of critical care facilities at QMC (impact on ward patients).</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>16</td>
<td>Patient harm from failure to reduce Healthcare Acquired Infections (C Difficile).</td>
<td>9</td>
<td>8</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td>15A</td>
<td>Patient harm from delay or failure in diagnosis.</td>
<td>29</td>
<td>38</td>
<td>28</td>
<td>45</td>
</tr>
<tr>
<td>16</td>
<td>Patient harm from hospital acquired venous thromboembolism and pulmonary embolism [failure to risk assess &amp; prescribe].</td>
<td>25</td>
<td>24</td>
<td>18</td>
<td>23</td>
</tr>
<tr>
<td>16</td>
<td>Failure to report or act on abnormal test/ investigation results.</td>
<td>23</td>
<td>24</td>
<td>27</td>
<td>11</td>
</tr>
<tr>
<td>16</td>
<td>Patient harm from avoidable in-patient falls.</td>
<td>1,247</td>
<td>1,117</td>
<td>864</td>
<td>632</td>
</tr>
<tr>
<td>16</td>
<td>Risk of a Never Event occurring.</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>9</td>
<td>Incorrect patient identification leading to patient harm from investigations, procedures &amp; treatment.</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15</td>
<td>Patient harm from medication errors.</td>
<td>425</td>
<td>567</td>
<td>249</td>
<td>237</td>
</tr>
<tr>
<td>16</td>
<td>Patient harm from failure to recognise or respond to deterioration and rescue.</td>
<td>2</td>
<td>161</td>
<td>272</td>
<td>238</td>
</tr>
</tbody>
</table>

A- Risk score is pending clinical risk committee review.

Supporting second victims after incidents

Whilst significant physical and psychological harm can happen to patients when errors occur, we often forget that similar psychological harm can happen to staff involved in those incidents. NUH supports staff after incidents, but work is beginning in 2016/17 to develop support of these “second victims”. This is in collaboration with the University of Leicester and is involving exploring the perceptions of staff after incidents to develop effective pathways to provide staff with support locally and externally to the Trust.

Patients’ views on safety

96.5 % (n=11,324) of patients reported feeling safe (April 2013 to January 2016) whilst attending NUH. The small proportion of patients who did not feel safe, reported a number of reasons summarised in figure 2H.
In the final quarter of 2015-16, 712 points of positive feedback were provided by patients on what helped them feel safe. Themes include the quality of care provided, staff and levels of staffing, the quality and professionalism of staff.

**Duty of Candour**

The Duty of Candour is a statutory requirement (Regulation 20 of the Health and Social Care act 2008) for all providers registered with the CQC. It calls for the mandatory disclosure of medical error to patients and their relatives and was a key recommendation of the Francis report after the independent enquiry into the failings at Mid-Staffordshire NHS Foundation Trust. Francis called for a change in the way the NHS deals with error with increased openness and transparency. The Duty of Candour therefore forms a legal obligation to inform patients and relatives that an error has occurred in their care, particularly if it caused them harm.

During the last year NUH has strived to develop a Trust-wide understanding of Duty of Candour, with education of all staff groups around the key concepts. This work has included:

- Incorporation in regular teaching session from the Clinical Quality, Risk and Safety Team.
- Incorporation of the requirement in all induction and mandatory training.
- Development of a podcast surrounding the requirement which has been highlighted as an example of good practice by the Sign up to Safety Campaign (it can be accessed [here](#)).
- Audit of compliance with Duty of Candour has shown excellent results with 100% of the cases audited where Duty of Candour applied showing that an initial disclosure had occurred at an appropriate time after the incident.
During the next year, the Duty of Candour steering group will work to:

• Continue to educate staff at NUH.
• Improve our process with following up in writing with patients or relatives after incidents that meet the threshold for Duty of Candour.
• Develop the incorporation of Duty of Candour into our Incident Reporting Systems.

**Patient Safety Conversations**

Regular Patient Safety Conversations at NUH provide opportunities for frontline staff to talk openly and honestly with the Board of Directors about any safety concerns they may have. In these conversations an executive and non-executive director, accompanied by a senior member of the governance team visit a particular area of the Trust. Following the conversation a synopsis is written and shared with the area visited. The visiting team also feedback any concerns and work to address these with the manager of the area visited.

*Summary of work and results from 2015/16:*

38 conversations took place across NUH: 19 at the QMC campus and 19 at the City campus. The conversations included all of the Divisions. *Common themes from the conversations:*

- **Staffing:** Ensuring safe staffing levels and reliance on agency.
- **Estates and Environment:** Lack of storage and space and availability of facilities for both staff and patients.
- **Equipment:** Availability of key pieces of equipment.
- **Ensuring Safe Care:** Reducing falls, venous thromboembolism and particularly medicines safety and recognising and managing unwell patients.
- **Teamworking and Communication:** Ensuring safe and comprehensive handover of patients between areas and escalation of care.
- **Discharge:** Availability of TTO medications, efficiency of transport services and unnecessary long durations of stay.
- **Cleanliness:** Challenges in ensuring a consistent high-level of cleanliness.
- **Empowering Staff:** the Trust’s Shared Governance programme was highlighted as a very positive initiative to support staff to make improvements on the frontline.

**Priorities for 2016/17:**

During the next financial year, priorities will include:

- Extending the conversation process to other areas including Ropewalk House.
- Developing the database for capturing highlighted themes from conversations.
- Considering how to assess the impact of conversations.
Patient Safety Culture

Patient Safety Culture and Climate are essential in ensuring we deliver safe, high-quality care to patients. Safety culture refers to how safety is thought about and implemented within an organisation, climate relates to staff perceptions about safety. It is important to be aware of our culture and climate as this helps direct safety efforts.

Summary of work from 2015/16:

NUH undertook preliminary work to explore Safety Culture amongst the consultant body at NUH, in collaboration with Sherwood Forest Hospitals. This was supported by Pascal Metrics, a group experienced in evaluating culture. The survey looked at staff perceptions of leadership, teamworking, safety and wellbeing.

Priorities for 2016/17:

NUH continues to undertake Culture and Climate work both at small and large scale:

- In collaboration with the East Midlands Patient Safety Collaborative, a 3 year culture project is starting in the Emergency Department and Maternity to explore the current culture and focus interventions where improvements are required.
- Small scale climate work is happening around the Trust, an example being through the NUH TEAMS project looking at safety and teamwork climate in Theatres (see under NHSLA).
Chapter 3: Sign Up To Safety

NUH “Signed up to Safety” in July 2014. This NHS England campaign is harnessing the commitment of staff across the NHS in England to make care safer. Those signed up to the campaign are united by a common goal; to make the care we give our patients as safe as possible. A number of our safety priorities in 2015/16 have been shaped by this campaign. You can find out more on the campaign website here.

Our Sign up to Safety improvement priorities for 2015/16 (three year programme) include:

1. Careful observation of the acutely unwell patient and promptly escalating care when required (Recognise and Rescue).

This section looks at specific aspects associated with our Sign up to Safety plan.

Sign Up To Safety: Recognise and Rescue

The overarching goal of the programme is to improve Early Warning Score (EWS) and Paediatric Early Warning Score (PEWS) policy compliance in high-risk, in-patient wards, against 4 areas:

- Are staff receiving appropriate education and training to ensure competence in the use of EWS?
- Are observations being done on time?
- Are nursing staff escalating in a timely and appropriate manner to Critical Care Outreach?
- Are doctors responding to EWS triggers in a timely and appropriate manner?

Summary of work, learning and results from 2015/16:

- Development of an electronic observation (Eobs) dashboard in preparation for roll-out to the Trust.
- Development of EWS dashboard for 2015 looking at:
  - Overdue observations
  - Observation Frequency
  - Percentage of patient triggering escalation
  - Number of unscheduled admissions to critical care
  - Number of Datix incident related to EWS
  - Compliance with commencing fluid input and output monitoring
  - Staffing levels including the use of agency staff
  - Critical Care Outreach Team (CCOT) formal referrals using SBAR format (Situation, Background, Assessment and Recommendation).
- Identification of areas in need of improvement work.
- Dissemination of information to Matrons and wards managers of these areas.
- Development of observation equipment audits for identified areas.
- Ongoing development of new online audit tool to monitor the escalation process.
• Ongoing development of staff questionnaires to assess retention of knowledge of escalation pathway since the introduction of automated escalation.
• Ongoing development of staff questionnaires to assess barriers in relation to escalation.
• There is currently no formal annual education for staff around EWS, escalation or eObs (electronic observations).
• There is currently no formal induction process for agency staff working with NUH using eObs or the NUH EWS.

Priorities for 2016/17:

• Achieve local CQUIN funding for EWS project.
• Develop working framework for EWS improvement across 5 ward areas to roll out across the Trust over the following two years.
• Develop a program of education for NUH and agency staff around EWS and eObs to be included within induction and possible mandatory training.
• Develop EWS dashboard and targets to allow for ward self-improvement (Nursing & Midwifery Dashboard).

For further information: Debbie.Allcock@nuh.nhs.uk or Joseph.Firth@nuh.nhs.uk

Sign Up To Safety: Medicines Safety

The Medicines Safety Group identified omitted doses of critical medicines, poor quality of prescribing and preventable harm from opioids as priority medicines safety risks. These risks have been targeted for improvement through the medicines safety work stream for ‘Sign up to Safety’ which aims to reduce avoidable harm through:

• Improving documentation of allergy status.
• Improving medicines reconciliation within 24 hours of admission.
• Reducing the number of omissions of critical drugs (for non-clinical reasons).
• Follow up of naloxone use (opioid reversal agent) to identify factors for opioid related harm.

As this work progresses it is anticipated an increase in reporting of medicines incidents will be seen. A pilot was conducted using the national medicines safety thermometer audit tool to collect the required data on a small group of adult wards. Different methods of data collection (web-based form/App) were tried. Data collection using an NUH audit tool has also been completed. There has been ongoing development and pilot of NUH medicines safety thermometer questions. Baseline data collection is planned to commence in the first quarter of 2016/17.

During 2015/16 an Opioid Task and Finish group was convened to identify contributing factors for opioid-related avoidable harm. This will help inform the actions required to make prescribing and administration of opioids safer for our patients.
Priorities for 2016/17

Develop and implement improvement interventions in support of:

- Improving documentation of allergy status.
- Improving medicines reconciliation within 24 hours of admission.
- Reducing the number of omissions of critical drugs (for non-clinical reasons).
- Follow up of naloxone use (opioid reversal agent) to identify factors for opioid related harm.

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Sign Up To Safety: Patient Partnership

Patients, their families and carers can be instrumental as partners in improving patient safety. One element of activating patients is to provide appropriate resources to empower them, recognising that patients and caregivers are an integral part of the team. This work stream is associated with a CQUIN and will increase opportunities for patients, their families and carers to become part of an integrated system to increase the safety of their care. The aim is to move away from an approach of asking patients about their experience of safety as a retrospective measure of past harm to one where we consider how patients might be able to help us prospectively manage their safety going forward.

Summary of work and results from 2015/16:

A Patient Safety Reference Group was established. There are 4 members of the public who joined this group. A scoping exercise has begun to look at current internal and external resources available around patient information and engagement in safety.

Priorities for 2016/17:

The Patient Safety Reference Group will also include NUH members of staff that have expressed an interest in this project. The Group meets on a monthly basis (from May 2016). The aim of the project is to implement a Patient Safety Toolkit which will increase patient, family and carer information and engagement around patient safety. To achieve this, engagement will take place with key stakeholders within the Trust and an extensive scoping exercise will be conducted of existing resources around patient safety both within the Trust and externally. A patient evaluation of current available patient safety resources in the Trust and externally will be completed using questionnaires and focus groups. The questionnaire and focus groups will also be used to measure the accessibility and usefulness of resources currently available to patients cared for at NUH. The Patient Safety Toolkit will include patient information, podcasts, links to web sites and development of the current NUH public website.

For further information: Debbie.Allcock@nuh.nhs.uk
Chapter 4: NHS Litigation Authority (NHSLA) Improvement Bid

In December 2014 analysis of our claims data was undertaken alongside incident and complaints intelligence. For the period April 2009 to March 2014 the total value of claims for the Trust was £91,444,780.13 (375 claims). 347 low value, high volume claims accounted for over a third of the total claim value (£34,751,020).

154 of the low value, high volume claims were around failure or delays in diagnosis and treatment. The total value of these claims was £18,511,055, accounting for over 50% of the total claim value in this category.

For the same period, April 2009 to March 2014, 5,527 incidents under the category delay/failure to treatment or procedure were identified along with a further 4,413 incidents relating to delays in or failure to diagnose (combined total 9,940). This was 13% of the total reported patient safety incidents in the Trust for the same period.

This analysis informed a successful bid to the NHS LA for £1.4 million to invest in safety improvement work with the aim of reducing litigation claims (by volume and cost).

This section summarises the work undertaken in 2015/16 as part of that improvement bid.

NUH TEAMS

The NUH TEAMS programme is based on the validated and evidence-based TeamSTEPPS model after adaptation to NUH. This work represents a collaborative project between the Trent Simulation Centre and Clinical Skills Centre (TSCSC) and the Patient Safety team in NUH Theatres with the overall aim of improving the quality of patient care through developing excellence in teams at NUH.

2015/16 saw the launch of the programme in Theatres across NUH with the key outcomes being:

- Set-up of the multi-professional implementation group, meeting on a monthly basis. This group has overall responsibility for the programme in Theatres and dissemination beyond.
- Employment of a band 6 Programme Lead who has the sole role of leading on programme implementation in Theatres. This is a one-year secondment to NUH TEAMS.
- Development of the programme for Theatres which includes a process of engagement, measurement, team training delivery and set-up of Theatre Improvement Groups.
- Testing of the programme in Combined Specialties at Nottingham City Hospital campus and adapting the programme based on feedback.

The full programme started in Theatres in January 2016.
Priorities for 2016/17:

- Continuation of the NUH TEAMS programme in Theatres with the aim of integrating the programme in at least 12 Specialty Teams.
- Developing the Theatre Improvement Group (TIG) role in each specialty with a reporting and coaching pathway.
- Creating a sustainability plan with faculty development of key enthusiastic individuals in Theatres for further training.
- Prove that the programme works through presentation of outcome metrics.
- Engagement of other areas of NUH to integrate the NUH TEAMS programme into e.g. Emergency Department (ED).

For further information: Nicholas.Woodier@nuh.nhs.uk

Medway Orders and results

This project aims to replace the Order Communications and Results Reporting (OCR) functions of NotIS (our current system for ordering and reviewing tests) with modules within Medway PAS.

Medway will provide the Trust with functionality for active results notification and electronic results acknowledgment. Outstanding unacknowledged results will be provided to clinicians in an electronic results “inbox”, which will replace the delivery of printed results and reports. There will be a requirement to electronically “sign-off” results. This will enable us to meet NHSLA requirements for results management and reduce the clinical risk associated with inadequately managed diagnostic investigations.

Priorities for 2016/17:

This project is underway at present. Results are currently being received into the Medway PAS test environment and once signed-off as accurate, results will be delivered as a silent feed into the live system. This will enable results viewing from within Medway ED when EDIS is replaced by Medway ED this summer. We are aiming to go-live in October 2016 for inpatient and outpatient radiology and inpatient pathology ordering. Outpatient pathology ordering will be introduced later in the year (due to the process changes associated with replacing current OP paper-based pathology ordering). Medway will contain around 6 months of historical data. Options for retrieval of historical data contained within NotIS are being developed at present.

Service Orders (e.g. speciality referrals) currently requested in NotIS will be reviewed to determine the most appropriate mechanism for replacement (e.g. either as orders within Medway or via Nerve Centre). This work will be ongoing throughout 2016/17.

For further information: Jeremy.Lewis@nuh.nhs.uk
e Coroner and Mortality Screening Platform

NUH are planning to introduce an electronic coroner and mortality screening tool. This is in part in response to external requirements on acute Trusts from 2016/17 to “Publish avoidable deaths annually and implement programmes to improve”.

Currently 60% of deaths in NUH are referred to HM Coroner Nottingham, the majority via the telephone. The referral process is time inefficient, poorly recorded and resulting delays or miscommunication have had an adverse effect on bereaved families’ experiences.

Priorities for 2016/17:

• Confirmation of death will be via an electronic method in Nerve Centre.
• In hospital patient deaths can be reviewed using a screening template to identify evidence of sub-optimal care, assist with clinical coding and analysis of end of life care.
• Where possible the screening template will be pre populated by other data sources.
• Notification of deaths will, where required, result in an electronic referral to the coroner.
• GPs will be notified of a patient’s death electronically.

For further information: patientsafety@nuh.nhs.uk
Chapter 4: Patient Safety Work streams

Medicines Safety

NUH reported 2880 incidents under the medication codes during the period April 2015 to March 2016 (figure 4A). Over 92% of incidents were ‘no harm’, and <1% of incidents caused moderate harm or above. Approximately 400 incidents are non-patient safety incidents relating to discrepancies in medication documentation (controlled drugs), drug storage and transportation.

Figure 4A: NUH incidents under medication codes April 2015 to March 2016.

During 2015/16, the medicines safety group (MSG) led development of a comprehensive set of risk assessments to underpin the Trust-wide risk assessment on harm from medication. These include:

- Preventable harm due to omitted and delayed critical drugs.
- Preventable harm due to quality of prescribing incorrect dose, incorrect frequency, transcriptions errors, rationalising treatment.
- IV drug preparation and administration, incorrect drugs and doses prepared at ward level.
- Preventable harm due to opioids.
- Preventable harm due to insulin; includes overdose of insulin due to abbreviation or incorrect device (Never Event).
- Preventable harm due to anticoagulants.
- Preventable harm due to potassium; includes miss-selection of concentrated potassium (Never Event).
- Preventable harm due to methotrexate; includes overdose of methotrexate for non-cancer indications (Never Event).
- Preventable harm due to drugs used for conscious sedation; includes miss-selection of high strength midazolam (Never Event).
- Wrong route intrathecal drug administration; includes risk of intravenous chemotherapy administered via the intrathecal route (Never Event).
• Wrong route enteral drug administration; *includes risk of oral/enteral medication or feed/flush administered by any parenteral route* (Never Event).
• Wrong route epidural drug administration; *includes intravenous administration of a medicine intended to be administered via the epidural route* (Never Event).
• Preventable harm due to adverse drug reactions/idiosyncratic reactions.

A work plan is in place to review each of these risk assessments and action plans at intervals over the course of 12 months.

Actions implemented at a Trust level during 2015/16 to address the medicines safety risks include updating ward stock lists to ensure they include a core list of drugs that may be required to treat medical emergencies, review of medicines policies, developing and updating of medicine-related Trust-wide guidelines for example on *Hypokalaemia, Naloxone, Flumazenil, Local Anaesthetic Toxicity*.

The MSG and Medicines Education Group (MEG) have worked collaboratively to ensure there is sharing learning on medicines safety risks. This has included development of regular bulletins on learning from incidents, podcasts for example on, risks with insulin, anticoagulants, and conscious sedation. MEG has also produced a short film for staff highlighting the risks with Methotrexate. NUH staff have worked with colleagues from other Nottinghamshire Trusts and local CCGs to develop a leaflet to increase patient and carer participation in safer management of their medicines as they move across the interfaces of care. A ‘Talk about Medicines’ week was held in June 2015 which included "Medicines Huddles" - multi-professional medicines conversations between prescribers, pharmacists and patients on clinical areas, led by medicine safety champions.

A program of work has commenced to develop Divisional/Specialty ‘child’ risk assessments and action plans based on the Trust ‘parent’ medicines safety risk assessments as appropriate. This will ensure local ownership of the medicines safety risks. The Medicines Governance and Divisional Governance structures will be used to ensure accountability for implementation of actions at both a Trust wide and Divisional/specialty level. Some examples of how this is working are described below:

• Following an assessment of insulin risks one area introduced nurse insulin champions and developed Hypo boxes to improve their access to medicines to treat hypoglycaemia emergencies. This is now being taken forward as a project to introduce Hypo boxes on wards across the Trust.
• Our Acute Medicine team have reconfigured their clinical pharmacy service to reduce avoidable harm from prescribing errors and improve access to medicines when patients are admitted to hospital. Clinical pharmacists work 8am-8pm 7 days a week to reconcile medicines within 24 hours of admission, order new drugs and check discharge prescriptions. A medicines management assistant is used to transfer medicines to help reduce omitted doses of medicines.

Knowing how we are doing:

The MSG has a medicines audit plan overseen by the Medicines Governance Committee. During 2015/16 the following data collection and audits were undertaken:

• Accuracy of prescribing and clinical pharmacist interventions.
• Drug use in conscious sedation.
• NICE allergy guidance.
• NUH Rivaroxaban guideline.
• Medicines reconciliation within 24 hours.
• Storage and security of medicines.
• Controlled drugs.
• Antimicrobial stewardship.

**Key Outcomes:**

• **Clinical Pharmacist interventions:** in a 7 day period clinical pharmacists recorded over 2100 interventions to make prescriptions safe for patients or optimise treatment.
• **Audit of drugs used in conscious sedation:** high level of compliance with documentation and training of sedationists and sedation assistants.
• **Adherence to NICE Allergy guidance (NICE guidance):** high level of compliance for allergy documentation on the prescription chart/outpatient prescription and inclusion in the discharge letter for inpatients.
• **Rivaroxaban guideline:** this small audit showed a high level of compliance with the guideline.
• **Medicines reconciliation in 24 hours:** 100% on B3 (Medical Admissions) where there are clinical pharmacists available 8am-8pm 7 days a week.
• **Storage & Security:** completed in 142 areas of the Trust. High level of compliance with general medicines security. Very high compliance with secure fluid storage and availability of Anaphylaxis and emergency drugs. 100% Outpatient prescription pads locked away when not in use.
• **Trust wide Controlled Drugs audit June/July 15:** very high compliance with controlled drug checks and key custody.
• **Antimicrobial point prevalence audit November 15:** very high compliance with the restricted antibiotic policy. Only 5/267 restricted antimicrobials were not approved.
• **Specialty antibiotic stewardship audits October 2015:** high level of compliance with Trust antibiotic guidelines, documentation of indication and documentation of a 3 day review in the notes/prescription chart.

Action plans are in place to address areas of weakness identified.

**Managing external alerts on medicines safety issues:**

The MSG has implemented the NHS England alerts within the required timescales on:

• ‘Support to minimise the risk of distress and death from inappropriate doses of naloxone’.
• ‘Addressing antimicrobial resistance through implementation of an antimicrobial stewardship programme’.
• ‘Risk of death or severe harm due to inadvertent injection of skin preparation solution’.
• ‘Risk of severe harm or death when desmopressin is omitted or delayed in patients with cranial diabetes insipidus’.
As part of the implementation action plans the naloxone guideline has been revised, a gap analysis has been completed and an action plan developed for antimicrobial stewardship, Sterile procedure packs have been reviewed to include a blue bowl for scrub solution and sterile labels, ‘out of hours’ accessibility to desmopressin products within the Trust has been improved.

Medication Never Events:

In September 2015 an epidural was administered via the intravenous route. This is a Never Event. Epidural infusion giving sets and intravenous cannulae share a common connector design. There is currently no equipment to prevent wrong route administration of an epidural. Local anaesthetic toxicity guidelines had been updated and communicated to staff prior to this incident. Local anaesthetic toxicity management boxes containing Intralipid 20% are stocked in areas that use epidurals. Following a detailed investigation and apology to the patient, we have changed our policy on which staff are authorised to connect epidural infusions. We have also reviewed our training for staff who are authorised to administer epidurals.

In 2015/16, on two separate occasions (November 2015 and February 2016) our patients have been administered an oral liquid by the intravenous route. Neither patient was significantly harmed. This type of incident could cause serious (even fatal) harm. These incidents are classed as Never Events by NHS England. Purple oral/enteral syringes should be used for administration of oral liquid medicines via enteral tubes. These syringes will not connect to intravenous cannulae. The availability of oral syringes on wards and departments was audited as part of the medicines audit in June 2015 and showed almost 100% compliance on wards throughout NUH. There is a Trust policy on the use of syringes to administer feeds, flushes and medication. We have apologised to the patients and conducted in-depth investigations to identify why these incidents happened. The root causes of the incidents are different. There is an absence of a strong control to physically prevent parenteral (IV) syringes being used to measure doses of oral liquid medicines. This concern has been shared with the NHS England medicines safety team. Action plans are being developed.

The medicines safety group manages risk assessments on wrong route administration of drugs and monitors for wrong route administration incidents during the Trust wide review of medicines incident data. Historically there has been no trend with this type of error at NUH and these are thought to be unfortunate isolated incidents.

Priorities for 2015/16:

- Continue to implement actions at Trust wide level to address medicines safety risks, including introduction of dose error reduction software on syringe pumps and introduction of electronic prescribing & administration of Paediatric chemotherapy.
- Continue with the medicines assurance program through development of Divisional/specialty level medication risk assessments and delivery of the medicines audit program.
- Continue with the ‘Sign up to Safety’ medicines improvement program.

For further information: Rachel.Medcalf@nuh.nhs.uk
Antimicrobial Stewardship at NUH

The Antimicrobial Stewardship Committee (ASC) will be responsible for overseeing a comprehensive programme of antimicrobial stewardship (AS) activities at NUH.

Summary of work and results from 2015/16:

A new ASC was established and had its inaugural meeting in August 2015. Membership is consistent with the requirements of the Public Health England (PHE) “Start Smart then Focus” antimicrobial stewardship toolkit. The Committee will meet on a quarterly basis and will report to the Medicines Governance Committee.

The Committee is in the process of securing funding for additional resources. So far outputs include:

- Completed a Gap analysis on the PHE “Start smart then focus” antimicrobial stewardship toolkit, NICE antimicrobial stewardship guidance and updated Health and Social Care Act.
- Developed and finalised the Trust antimicrobial stewardship risk assessment, presented to the Medicines Governance Committee on 3rd March 2016.
- Completed a gap analysis for the NICE allergy guideline. Supported an audit of compliance with the NICE allergy guideline and the Trust Medicines Code of Practice with respect to the documentation and communication of known drug allergies.
- Submitted a portfolio of evidence for the NHS England stage 2 patient safety alert on antimicrobial resistance.
- Wrote three educational safety messages on the use of antimicrobials which were displayed on the Trust intranet in November and December 2015 (Penicillin allergy, antimicrobials and critical drugs list, world antibiotic awareness week/prudent antibiotic prescribing guidance).

Priorities for 2016/17:

- Detailing the ASC workplan based on the extended gap analyses mentioned above, to allow appropriate allocation of time and resources.
- To develop and finalise a comprehensive audit plan for antimicrobial stewardship.
- To develop our educational strategy in conjunction with the Medicines Education Group to co-ordinate a Trust wide programme for prescribers and those who administer antimicrobials.

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Medicines Education Group (MEG)

MEG was first established in 2014. Its main objective is to increase awareness and review the delivery of education around medicine-related topics. The group is multi-professional with overarching responsibility for the implementation of medicines management training required for all healthcare professionals at NUH.
Summary of work and results from 2015/16:

- The first “Talk about Medicines week” (TaM) was launched across NUH in order to engage on the topic of medicines education within the wider community and tackle the issue using a fully patient centred, multiprofessional approach (table 4B).
- Development of a new intranet page making it easier for staff to navigate. A large number of resources have been uploaded for staff including posters from TaM week.
- Podcast development and increased delivery of Podcasts at alternative forums.
- Development and delivery of a NUH Prescribing Assessment (now termed as Foundation Skills Assessment) sessions for F1 trainees previously failed or not undertaken.
- Collaborative work with the Trent Simulation centre and developed/delivered IV skills training simulation for F1 trainees which was positively evaluated by attendees and plans in place to consider inclusion in mandatory F1/F2 training.
- Development of patient leaflet “Going into Hospital”. Now available across interface and NUH for staff/patients.

**Table 4B: Talk About Medicines Week 2015**

| Multi-professional, multi-provider showcase event was held on each campus. | Pharmacology workshops delivered for nursing/AHP staff on each campus |
| Medicine related medical grand round presentations | Pilot a NUH patient medicines helpline |
| 68 Multiprofessional Ward “huddles” | Patient facing stands at main pharmacy (cross site) |
| Junior doctor medicine educational requirements survey | Launch of MEG Methotrexate video |

Priorities for 2016/17:

- TaM will be repeated during 2016 and will see increased collaboration across the whole Nottingham community. The event will build on the success from 2015 and focus on educational updates for staff and increased patient engagement.
- Developing a Trust-wide medicines education strategy undertaken in collaboration with appropriate stakeholders and professional leads for multiprofessional education at NUH. Review of national recommendations and legislative requirements for medicines education for staff.
- Developing bespoke medicines training for Trust Grade doctors (often overseas doctors) with the implementation of foundation skills assessment.
- Focus on Podcast development for non-prescribing staff.
- Finalise and implement ICT project (eTTO access for MAST students) include system testing and education, teaching and communication to all MAST students/supervisors/relevant ward staff.

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Recognise and Rescue

Recognise and Rescue (R&R) incorporates a number of workstreams. Summaries are provided here and supplement the information provided under the Sign up to Safety section.

Sepsis:

Our successful programme to improve care for patients with sepsis (a condition where your whole body fights infection) has been running since 2009.

In March 2016, we compared our sepsis care now with 6 years previously, and can show just how far we have come. Antibiotic administration in under an hour has increased from 35% to 90% and compliance with the ‘pre-ICU’ care bundle from 25% to 72%. Crude critical-care sepsis mortality has fallen from 42% to 28%, and septicaemia HSMR (standardised mortality) has fallen from 119 to 85.

We use a variety of methods to ensure ongoing improvement, including a process of rapid performance feedback to clinical staff. This focuses on individual cases that were treated by a particular team and demonstrates areas of good practice and where there is room for improvement. This method encourages conversations between the improvement team and frontline clinicians and has changed a process of sterile collection of statistics into a mechanism to promote personal accountability by setting (and reporting against) clear standards.

In March 2016 we started Phase 1 of the Nerve Centre sepsis screening tool using eObs physiology which will eventually result in automated clinician mobile alerts. This will hopefully further boost our ability to respond rapidly to this patient group and is a first step to aligning sepsis screening at NUH to the National NICE guidelines which will be confirmed in July 2016.

In addition to work at NUH, we have carried out a cross-boundary pilot project, working with colleagues in primary care to look at the entire patient journey with sepsis for those patients who first access medical assistance in primary care, but who require admission to critical care at NUH within 12 hours of admission to hospital. The findings from this project will be disseminated at a range of primary and secondary care forums.

For further information: Sally.Wood@nuh.nhs.uk or Mark.Simmonds@nuh.nhs.uk

Acute Kidney Injury (AKI):

We continue to deliver an AKI service at QMC campus, this provides on-site consultant and nurse practitioner cover Monday to Friday and nurse cover on a Sunday. The Nursing team members are provided by the CCOT and through a rotational post (band 6) from Carrel Renal Unit.

Delivery of renal inpatient review service at Sherwood Forrest Foundation Trust (which includes patients with AKI) through consultant sessions, Monday to Friday morning.

Priorities include the progression of further work to change AKI alert on NotIS into an active alert that will be sent via Nerve Centre to junior doctors hand held devices.
We continue to work with pathology to adopt a national AKI algorithm and plan to roll this out to primary care.

**Emergency Laparotomy:**

The aim of this work stream is to revolutionise the emergency surgery pathway for high-risk patients by creating a pathway that triggers earlier clinical risk assessment and senior decision making, rapid access to a CT scan diagnosis and swifter access to theatres and critical care for those at high risk of peri-operative mortality and morbidity.

**Summary of work and results from 2015/16:**

- Significant reductions in hospital and critical care length of stay resulting in financial gains and improved capacity for elective work within general surgery.
- Significant reduction in overall and high risk in-patient mortality in line with national standards.

**Priorities for 2016/17:**

- Continue to see reductions in length of stay and mortality.
- To set up dedicated Health Care of the elderly weekly ward round to minimise the morbidity surrounding emergency laparotomies in the over 70s. Work is currently in progress.

**For further information:** Victoria.Banks@nuh.nhs.uk

**Critical Care Outreach Team (CCOT):**

The main objectives of the service are to:

- Improve the recognition and management of the deteriorating adult patient within the ward setting.
- Reduce unscheduled ward sourced critical care admissions.
- Reduce readmission rates to critical care.
- Improve ward based Tracheostomy care and lead weaning to the point of decannulation.
- Improve the quality of care for ward based patients.

**Summary of work and results from 2015/16:**

- Successful roll out of Phase 1 service expansion, providing 24/7 CCOT coverage from Friday to Sunday inclusive.
- Successful completion and achievement of CQUIN “Increased access to Critical Care outside of defined Critical Care areas”.
- Service expansion has demonstrated a significant reduction in numbers of patients requiring admission to critical care seen by CCOT from an average of 42.3 patients per month to 28 since April 2015. In particular the benefits of a 24 hour service can be seen in the drop from an average of 12 patients per month to 4.8 requiring 3 organ support.
Despite a continued gradual increase in referrals the conversion rate from referrals to an unscheduled ward admissions has reduced from 6% (April 2014 to March 2015) to 4% (April to August 2015).

Demonstrated monthly savings of £121,624.89 against previous financial year’s performance to commissioners.

Priorities for 2016/17:

• Complete Phase 2 rollout to complete full 24/7 CCOT service.
• Continue with reducing unscheduled ward sourced admission to critical care with 1-3 organ support.

For further information: Sarah.Dow@nuh.nhs.uk

Resuscitation Department:

The overarching goal of the programme is to;

• Deliver resuscitation training to all NUH staff in-line with the National KSF.
• Produce quarterly NCAA reports which highlights learning and supports an overall reduction in adult cardiac arrest.
• Improve the quality of Adult DNACPR documentation in-line with CQC findings.
• Provide and deliver above the baseline CSF/Mandatory training requirements, in order to share learning within the organisation around key themes of the deteriorating patient on an annual basis.

Summary of work and results from 2015/16:

• Development of Moodle to capture training, upskilling of resuscitation officers to have both adult and paediatric resuscitation skills to ensure service provision meets the demand. Mapping of job roles for core group of staff to ensure all members of the organisation receive the appropriate level of training.
• Improvement of collation/capture of data in relation to cardiac arrest by the development of an NUH specific NCAA document which combined data from all areas of the organisation.
• Development of a DNACPR eLearning package with Derby Royal Infirmary. Review and revision of Adult DNACPR Policy and Adult DNACPR form. Begun providing face-to-face education to Doctors and ANP’s to improve the appropriate completion of DNACPR.
• Development Adult A-E, NUH specific course, working in collaboration with other clinical and educational teams (Adult CCOT, Adult Tracheostomy group and Acute care skills team).
• Development of MLS; a combined adult and paediatric medical training course.

Priorities for 2016/17:

• Review and scoping of Resuscitation departments roles, responsibilities and resources to ensure service provision is maximised.
• Further mapping of NUH staff job roles to ensure accurate training is delivered and received, in particular specialist groups of medical and nursing staff.
• Establish office and training space at QMC campus for resuscitation training to improve access to training and Resuscitation Officer presence on both NUH sites.
• RCA of NCAA and new audit form/system with Switchboard for more accurate data capture.
• Roll-out of Adult DNACPR form.
• Ensure compliance of completion of Adult DNACPR forms.
• Development, roll-out and evaluation of MLS and Adult A-E course.
• Continue to work with other teams to develop co-ordinate approach to training re: deteriorating patient.

For further information: Sarah.Dow@nuh.nhs.uk or Marijke.Vaneerd@nuh.nhs.uk

Reducing Harm from Inpatient Falls

NUH falls reduction targets for financial year 2015/16:

• 15% Reduction in all falls as expressed by a rate per 1000 bed days.
• 15% Reduction in falls associated with recordable harm as expressed by a rate per 1000 bed days.
• 15% Reduction in the ratio of falls per faller (zero tolerance to a second fall for any patient).

Summary of work and results from 2015/16 (data trends in figure 4C):

• Achieved target of reduction in falls per 1,000 bed days: 3.50 vs 4.30 in 2014/15 (19% reduction; target 3.67).
• Achieved target of reduction in falls resulting in harm per 1,000 bed days: 1.15 vs 1.48 in 2014/15 (22% reduction; target 1.26).
• Improved target of reduction of repeat fallers: 1.28 vs 1.42 in 2014/15 (10% reduction; target 1.16).
• Contributed to the first National Audit of Falls in Hospitals (Royal College of Physicians Clinical Effectiveness Unit) in March and April 2015.
• Reviewed and updated the Trust Falls policy.
• Reviewed and published Edition 3 of the Trust Falls Prevention toolkit.
• Trialled and introduced new adult nursing falls prevention algorithm and associated Falls Prevention Care Checklists for ward staff.
• Developed and delivered a new training package to update staff on current themes of falls with harm through Root Cause Analysis investigations.
• Reviewed and revised Root Cause Analysis investigation documentation to reflect new nursing paperwork.
Figure 4C: Data trends for falls since 2010
Priorities for 2016/17:

- Review targets and trajectories for falls reductions within the new Divisions.
- Through the Inpatient Falls Committee (IPFC), continue the rigorous scrutiny of Root Cause Analysis investigations following a fall with harm.
- Coordinate and deliver a falls training workshop to all Trust Falls Champions.
- Review and update the current delirium toolkit and develop associated care planning guidance and documentation.
- Develop a publishable learning database of Root Cause Analysis investigations to share learning, root cause themes and action plans.

For further information: IPFC@nuh.nhs.uk

Eliminating avoidable pressure ulcers

The overarching goal of the programme is to;

- Eliminate avoidable patient harm by reducing the incidence of hospital acquired avoidable pressure ulcers.
- NUH aims to reduce hospital acquired avoidable pressure ulcers by 50 % over three years.

**Table 4D: Actual versus Target results for avoidable pressure ulcers**

<table>
<thead>
<tr>
<th>Stage</th>
<th>Baseline</th>
<th>Actual v Target</th>
<th>Actual v Target YTD</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2013/14</td>
<td>2014/15</td>
<td>2015/16</td>
<td>2016/17</td>
</tr>
<tr>
<td>Avoidable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage 2</td>
<td>0.65</td>
<td>0.57</td>
<td>0.54</td>
<td>*0.45</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.41</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.33</td>
</tr>
<tr>
<td>Avoidable</td>
<td>0.13</td>
<td>0.05</td>
<td>0.10</td>
<td>**0.04</td>
</tr>
<tr>
<td>Stage 3</td>
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<td></td>
<td>0.08</td>
</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td>0.06</td>
</tr>
<tr>
<td>Avoidable</td>
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<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Stage 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*There remains 52 outstanding investigations that require validating and this figure may alter (worst case all avoidable would change to 0.54)

**There remains 13 outstanding investigations that require validation and this figure may alter (worst case all avoidable would change to 0.06)

Summary of work and results from 2015/16:

In 2015 we:

- Standardised all slide sheets across the Trust.
- Implemented a new pressure ulcer scorecard.
- Undertook improvement campaigns in high-reporting areas.
- Considered Moisture lesion Management with podcast training and patient information.
• Fully reviewed the RCA process following new SI guidance.
• Commenced a Health Care Assistant Practical skills workshop.

This resulted in:

• No Stage 4 hospital acquired pressure ulcers. The last incident was in April 2013.
• Remaining on target to achieve our ambitious aim of reducing Stage 3 avoidable pressure ulcers by 50% over three years.
• Continued improvement, but still behind target with improvements in stage 2 hospital acquired 'avoidable' pressure ulcers.

Priorities for 2016/17:

• Review targets and trajectories for Stage 2 pressure ulcers within the new Divisions.
• Continue monitoring moisture lesion management training.
• Continue identifying areas for project work.
• Practical training days initially focused on Health Care Assistants.
• RCA peer review.
• Bariatric training.
• ICT and camera use on new handheld device.
• Student Nurse education programme.
• Scope new beds/equipment and meet with manufacturers for the new bed contract.

For further information: Nicola.Lindley@nuh.nhs.uk

Venous Thromboembolism (VTE)

The Trust failed to meet the 95% performance target for undertaking a VTE risk assessment on all adult inpatients within 24 hours of admission during 2015-16 financial year (actual = 94.14%). Analysis of data indicates at 36 hours 97% of inpatients received a risk assessment.

The trust ‘Prevention of Hospital Acquired Deep Vein Thrombosis (DVT) and Pulmonary Embolism (PE)’ risk assessment was revised and update and submitted to the Clinical Risk Committee in August 2015 with a risk score of 15.

A new Trust-wide risk assessment defines the risks associated with the management of specific anticoagulant drugs at NUH (reviewed at Medicines Safety Group and Hospital Thrombosis Committee in April 2016) as a risk score of 15.

The identification of Hospital Acquired Thrombosis (HAT) remained a challenge in 2015/16 due to resourcing of this work. However, the Root Cause Analysis process has been revised and the tool used for reviewing HAT’s made electronic.

Priorities for 2016/17:

• Recruit to VTE nurse post.
• Implement robust process to identify HATs and report HAT rate as a Trust.
• Implement VTE risk assessment in Nerve Centre in support of achieving 95% VTE target.

For further information: VTE@nuh.nhs.uk
Safer Surgery

NUH is constantly striving to reduce avoidable harm, including Never Events during surgery and invasive procedures

Summary of work and results from 2015/16:

- **Development and initial roll-out of NUH TEAMS into theatres**
  - Four staff have completed TeamStepps ‘Master training’. A programme of education, coaching and resources has been developed to deliver high-level team skills across theatres. See the section on NUH TEAMS.

- **Sharing of Never Event investigation**
  - A mismatched implant was inserted and required reoperation despite staff undertaking all the procedural safety steps prior to insertion of the implant. There were latent errors in the system that aligned on that day to make the process fail. The contributing factors were:
    - The process of requesting → picking → checking → inserting implants has multiple steps any one of which can and will fail.
    - The transition to traceable implants meant that implants were potentially in two different locations.
    - More than one type of very similar implant system was being used.
    - Implant labelling is not adequate.
  - There were also many examples of good practice.
  - Recommendations included:
    - Processes to improve reliability of the requesting→inserting chain.
    - Ensuring that teams regularly review the depth and breadth of equipment / implants.
    - Highlighting the suboptimal labelling of implants at a national level.

Priorities for 2016/17:

- Roll-out of NUH TEAMS across theatres.
- Harmonisation of local ‘Safe Surgery’ policy with national standards.
- Sharing and embedding learning from Never Events and serious harm.

For further information: Iain.Moppett@nhs.net

Think Drink

Pre-operative fasting aims to increase patient safety by reducing the risk of adverse events during general anaesthesia. Although the wholesale practice of abstaining from food and drink (fasting) from the midnight before surgery has been outdated for many years it still continues even though evidence has revealed that prolonged fasting results in negative outcomes and delays. NUH Theatres has undertaken a considerable amount of work to introduce new ways of working to minimise the fasting time of pre-operative patients.
Summary of work and results from 2015/16:

Baseline work was undertaken to audit the pre-operative fasting of patients. Against the NUH Fasting Guideline of 6 hours for solids and 2 hours for liquids, the audit discovered that the mean fast time for solids was 15.5 hours and for liquids 9 hours. Excessive fasting times were also revealed through patient feedback. In response to the evidence a multidisciplinary patient safety project group was established, which encompassed expertise from areas including dietetics, anaesthesia and pre-operative assessment. The purpose was to minimise the fasting time for pre-operative patients using a Plan Do Study Act approach:

- **Plan**: Informal discussions were held with both nursing and medical staff concerning the implementation of the Trust Eating & Drinking Guidelines.
- **Do**: With support of our anaesthetic colleagues’ new guidance was developed in the form of algorithms and a ‘Think Drink’ moment incorporated into the theatre briefing which occurred prior to the commencement of every operating session.
- **Study**: The project has significantly reduced the time patients now wait without a drink before their operation. Although we still aim to further reduce this waiting time within the optimal time range of 2-4 hours within the next twelve months.

Priorities for 2016/17:

The project has seen a significant reduction in fluid fasting times for pre-operative patients over the last year and we are on the way to achieving our target over the next twelve months. The aim now is to build on the knowledge we have gained and continue to search for innovative ways to sustain and embed the Trust-wide culture change we have introduced. The Think Drink project is ongoing.

For further information: Maria.Shallow@nuh.nhs.uk or Katie.Hammond2@nuh.nhs.uk

Safe Nursing and Midwifery Staffing Programme

Ensuring our patients receive high quality care is always our priority at NUH. Since the Francis publication in 2013 and subsequent national guidance, ensuring patient safety through safe staffing levels at NUH has never been more important. It is crucial to balance finance with quality while delivering the right quality outcomes within available resources.

Recent national communication identifies the development of a ‘Safe Sustainable Staffing Guidance Programme’. This includes a refresh of the National Quality Board Safe Staffing Guidance and the development of eight staffing guidance documents. NUH looks forward to receiving national guidance on:

- Inpatient Care
- Maternity Services
- Children’s Services
- Urgent and Emergency Care

The Safer Staffing team continue to respond positively to meeting all internal and external expectations. The Trust continues to submit monthly mandatory nurse staffing level reports via UNIFY portal and monthly mandatory Nurse Staffing papers to QUAC and Trust Board.
Achievements 2015/16:

• Implementation of Red Flag System and monthly reporting.
• Ward Establishment Review in all adult inpatient areas.
• Implementation of Safe Staffing App and roll out to 82 wards.
• Participation in Lord Carter’s Workforce Efficiency Project.
• Ward Sister/Charge Nurses now undertaking 40% of their time on clinical shifts.
• Identified a Nursing and Midwifery Recovery plan.

Priorities 2016/17:

• Completion of establishment reviews in Children’s’ Hospital, Maternity and Emergency Services.
• Proactively manage recruitment and retention, reducing vacancies in all specialities.
• Meet TDA agency cap requirements.
• Non Ward Nursing review.
• Deliver key outcomes of Nursing and Midwifery Recovery Plan.

For further information: Carole.Brooks@nuh.nhs.uk

Infection Prevention and Control

C difficile

• We have reduced hospital-acquired C difficile infections substantially in recent years. We did not quite achieve our target of fewer than 92 cases this year (we had 95), but this was significantly fewer than the 113 cases in 2014/15.
• The majority of the C difficile infections were unconnected to each other. We had only 1 small cluster on a single ward during this time (3 cases of C difficile ribotype 023).
• Our prescribing of antibiotics remains very good. Inappropriate antibiotic prescribing was only identified as a possible contributory factor in 3 cases of C difficile.
• We have continued to maintain a strong emphasis on environmental cleaning and high level disinfection against C difficile spores using our hydrogen peroxide system.

MRSA bacteraemia

• The national target for all acute Trusts is no cases of MRSA bacteraemia (MRSA blood stream infection). We had 4 cases of bacteraemia in 2015/16 (along with 2 other cases identified as contaminants). Each of these cases was investigated and 2 cases were unavoidable.
• We have effective MRSA screening and decolonisation protocols. We are energetic in our management of invasive devices (such as intravenous lines and urinary catheters) to reduce the likelihood that such devices will cause bacteraemia. We have seen the overall numbers of MRSA patients fall over recent years, and whenever possible we try to ensure that these patients are placed in single rooms to minimise the risks of cross-infection.

For further information: Natalie.Vaughan@nuh.nhs.uk
Chapter 5: Children’s Hospital

Understanding Mortality Data

The family health division has a robust mortality surveillance and review process. In order to achieve this, the specialities’ governance groups need to understand mortality data. This includes:

- HED - HMSR, SHMI, PICAnet MBRRACE
- Process of how PAS data is transformed and selected to produce HMSR & SHMI and reported

The understanding will provide a context for the crude mortality data and individual case reviews.

Figure 5A: Crude mortality data (deaths of children at NUH by place of death over a 5 year period)

Summary of work and results from 2015/16:

The HED mortality methodologies do not take into account some key factors influencing mortality in childhood or for critical care patients and therefore predicted mortality is not accurate. HSMR uses a restricted set of data based on 56 out of a total of 259 CCS. SHMI based on all CCS, episodes of care and excludes stillbirth which can be used to check against child death database.

HED data depends on accurate recording of cause of death in discharge summaries as well as correct inputting on PAS. Data is resubmitted annually in May/June.

No single measure should be used in isolation. SMRs should not be directly compared between organisations, but each organisation can be compared against average and trends can be identified.
Priorities for 2016/17:

- Lead nurse to provide Divisional nurse with quarterly update for board including any outliers and action being taken.
- Family health business analyst to provide three monthly HED (SHMI & HSMR) reports on Family Health specialities separately and as whole as well as annual comparison with similar children’s hospitals and level 3 NICUs.
- Monthly child death report (including crude mortality data) to be provided within context of HED as well as including learning & actions from individual M&M and child death reviews. HED report to be explained.
- Accuracy of data to be checked prior to submission to HSCIC.
- In April of each year the under 18 deaths data to be checked prior to submission to HSCIC so that inaccuracies corrected.

For further information:  Joy.Moran@nuh.nhs.uk

Medicines Safety

Ongoing work is being undertaken to improve medicine safety by reducing prescribing errors. Following the CQC inspection in 2014 the Division was encouraged to set a reduction target of 25% of reported prescribing errors. Using a number of different sources we have established a more accurate measure to monitor prescribing errors in the Children’s Hospital.

Current measures in place to improve prescribing standards:

- Regular pharmacy and nursing audits.
- Regular agenda item at Patient Safety Improvement Group.
- Improved education during junior doctor induction.
- Prescribing quiz during doctor induction.

Summary of work and results from 2015/16:

- Monthly review of medicine related incidents.
- Shared learning from incidents through publication of ‘Lite Bites’.
- Completion of medicines safety audits and shared learning of results.
- Staff training on Situational Awareness.
- Pilot project on CAU for prescribing errors involving consultant review of all errors during trial.

Priorities for 2016/17:

- Increase Situational Awareness training for staff
- Roll out pilot project regarding reducing prescribing errors across the Children’s Hospital

For further information:  Andrew.Wignell@nuh.nhs.uk or Caroline.Brown@nuh.nhs.uk
Ensuring nurse staffing levels and skills meet Royal College of Nursing guidelines

Our goal is to ensure that nurse staffing is sufficient in number and skills to provide high quality care to patients and meet the RCN staffing guidelines (2013).

This includes:

- Improving recruitment.
- Supporting new starters.
- Improving retention of staff.
- Skills development.

Summary of work and results from 2015/16:

- **Improving recruitment:**
  - 6 monthly review of establishments and funding which resulted in an increase in funded establishment of 10 WTE staff in 2015.
  - Regular reviews of funded establishment.
  - Introduction of patient acuity tool, Safer Nursing Care Tool for Children in 2014 which is repeated three times a year and collects data on patient acuity. Some wards record acuity each shift to help in effective handovers.
  - Monthly job advertising.
  - Market place style recruitment days when all clinical areas and nurse specialists provide interactive displays to showcase their work, specialties and projects. Potential recruits are encouraged to walk around the Children’s Hospital viewing these and talking to staff.
  - One stop recruitment days which includes welcome talk, market place, interview and maths test on one day.

- **Supporting new starters:**
  - Trust and local induction programme.
  - Robust preceptorship programme.

- **Improving retention of staff:**
  - Rotation programme available for 18 months for new staff and opportunities for existing staff to try new areas through our unique ‘transfer window’.
  - Leadership development opportunities.
  - Team development programmes for ward teams.

- **Skills development:**
  - Acute Care Skills programme for registered and non-registered staff.
  - APLS and EPLS training.
  - Competency packages including Working in New Ways skills.

The recruitment day in March 2016 attracted 59 prospective staff. 48 staff were interviewed and 39 offered employment bringing us to establishment. We plan to open seven more beds in the next few months and are therefore recruiting 10 more posts.

We have recruited to all the vacant posts including the increase of establishments.

**Priorities for 2016/17:**

- Increasing APLS/EPLS training.
- Continue active recruitment and Market Place Style recruitment day.

For further information: [Rachel.Keay@nuh.nhs.uk](mailto:Rachel.Keay@nuh.nhs.uk)
**Safety of Mental Health Patients on Acute Children’s Wards**

There has been a 40% increase in Children’ and Young People with mental health problems being admitted to Acute Children’s wards in the last few years often with suicidal ideology or history of self-harm. These children are admitted for immediate management and when medical fit are reviewed by the Child and Adolescent Mental Health Service for ongoing management. Most will be discharged from hospital but some will be transferred to a mental health inpatient bed when one is available, or will need to wait for Social Care to address issues to enable a safe discharge. Following two High Level Investigations into young people attempting suicide while in hospital we identified a number of areas of work we needed to address to improve patient safety.

**Summary of work and results from 2015/16:**

- Review of patient pathway and medical guidelines.
- Development of nursing care plans.
- Development of Standard Operating Procedure for the nursing management of patients.
- Development of Safety Management Tool.
- Development of staff training programme.
- Introduction of ligature cutters on wards and Policy for use.

Much of this work has been completed in the last six months but two pieces are ongoing:

**Safety Management Tool:** This has been particularly challenging as we have not been able to find any existing validated tools. We have sought advice from other professionals and are working collaboratively with other services in the region to develop our own tool, which we have funding from the CCG in Nottingham to develop.

**Staff training:** The Practice Development Lead has worked with Nottingham University to introduce a drama based initiative into student nurse training called SHINE project. The Burdett trust has also funded a project titled: 'Our Care through our Eyes' which involved young people and staff in developing the staff education that would be helpful. This has resulted in the development of three e-learning modules which, when evaluated in April, will be available nationally. We will develop our staff training programme once the e-learning modules are evaluated.

**Priorities for 2016/17:**

- Develop Safety Management Tool
- Develop staff training programme: Introduce drama based training into induction programme to newly employed staff and develop a comprehensive staff training programme.

**For further information:** Miranda.Witchell@nuh.nhs.uk
Clinical Governance team for the Children's Renal and Urology Unit Nottingham and the EMEESY Children's Kidney Network

We aim to ensure safe and effective care of children and young people with kidney disease within our network.

Summary of work and results from 2015/16:

- Ongoing development of high risk drug monographs.
- Review of ward working and staffing levels in response to incidents.
- Development of automated estimated GFR reporting in children.

Priorities for 2016/17:

- Continuation of above work.
- Managing risks associated with safe staffing.
- Development of AKI alert reporting for children in Nottingham Children’s Hospital.

For further information: Andrew.Lunn@nuh.nhs.uk

Increase understanding of our Central Line Infection Rates

Our aim is to standardise central line management across all specialties in the Children’s Hospital whilst recognising variable specialty risks and monitor and report our infection rates as a Children’s Hospital with a view to reducing rates.

With many sub specialties across the Children’s Hospital, each with their own specific patient needs and risks e.g. oncology, intensive care, gastroenterology, surgery and renal, we have developed a number of different guidelines for the management of central lines. There have been pockets of activity and monitoring of infection rates in subspecialties but improvements have not been shared and we need to have alignment of policies, training and monitoring processes to fully understand or infection rates and therefore be able to focus patient safety improvement work in this area.

Summary of work and results from 2015/16:

At a quarterly audit meeting for the Children’s Hospital in March 2016, a number of professionals from a range of subspecialties met to look at the current data available on infection rates and discuss different practices. We had universal recognition of the need for some improvement work:

- Line insertion sticker for notes to standardise management and improve documentation.
- Establish a working group to;
  - Write a Single Central Line Management Guideline (which reflects subspecialty risks).
  - Develop a process to report CVL infections/complications.
  - Develop audit programme.
• Guideline will inform review of training programme ensuring consistent management for insertion and ongoing care.
• Engagement with national improvement groups such as MiST (Making it Safer Together) submitting data and sharing learning for CVL infections and reducing line days through data collection such as ‘Trash the Tubes’.

Priorities for 2016/17:

• Establish multi-professional working group.
• Develop single guideline for the Management of Central Lines in Children.
• Develop a process for reporting central line infections/complications.
• Audit of new CVL guideline.

For further information: Miranda.Witchell@nuh.nhs.uk or Pradip.Thakker@nuh.nhs.uk
Chapter 6: Education and Leadership in Safety

Shared Governance

The purpose of Shared Governance is to change the organisational culture, bring decision making to frontline clinical staff and offer career development, allowing the Trust to increase staff engagement and further develop an inclusive approach to talent development. At Nottingham University Hospitals we define Shared Governance as: staff having collective ownership to develop and improve practice; ensuring patients receive caring, safe and confident care. It is a process of devolved management which places staff councils at the centre of the decision making process and sees managers having a facilitative leadership role. Multi-disciplinary team members volunteer to be part of a Unit Practice Council (UPC) within a ward or speciality. We employ voluntary participation methods to engage and involve staff from the outset and ensure they do not feel obliged to participate. Experience is showing that many frontline nurses are really valuing this opportunity to influence and develop as UPC members. UPCs lead from the frontline, prioritise ideas and projects that are meaningful to improve patient care. It is about creating positive work environments and empowering clinician’s leadership from bedside to boardroom.

Summary of work and results from 2015/16:

From February 2015 to present day we have created approximately 27 councils. There is now a total of 30 councils throughout the organisation. These councils have had an impact on a vast array of service improvement such as: reduction in pressure ulcers, improving guidelines, reduction in complaints and medications safety.

Priorities for 2016/17:

The Shared Governance priorities for 2016/2017 are to begin a divisional wide roll out of councils within CAS. We also aim to support the NUH TEAMS Theatre Improvement Groups and to further focus on the interprofessional benefits of Shared Governance.

The first fully interprofessional council begins within the Stroke speciality in April 2016 and support for this will be ongoing throughout the year.

We will be continuing to sustain the councils that are currently up and running. In particular developing them to look further into the measureable and quantitative benefits of their service improvement projects and increased patient public involvement.

For further information, contact the team on extension 57392

Staff Improving Patient Safety (SIPS) at NUH

SIPS is a group of junior, frontline staff passionate about undertaking improvement in their local area. Supported by senior consultants and the patient safety programme lead, SIPS aims to support frontline staff in undertaking Quality Improvement Projects. 2015/16 has proved difficult to maintain the pace at which SIPS had previously worked with core members rotating on as part of their training.
However, a new sustainable model is now under development supported by the Junior Doctors Forum and Shared Governance.

**Priorities for 2016/17:**

- To create a sustainable model for SIPS to function at NUH.
- To continue to support frontline staff in undertaking Quality Improvement where they feel it is required.
- To offer a pathway for sharing of learning from incidents.

**For further information, contact** Nicholas.Woodier@nuh.nhs.uk

**Trent Simulation and Clinical Skills Centre (TSCSC)**

The TSCSC mission is to improve the safety and quality of patient care and enhance organisational learning at NUH and the wider health care system. Our strategic aims for 2015-20 will underpin success with this mission:

- Leading and demonstrating educational excellence to benefit all staff groups and teams.
- Applying Human Factors science to promote resilience, reliability and safety in practice.
- Improving staff and student learning experience and wellbeing in the workplace.
- Engaging patient and public members as active partners in our work.
- Promoting research, innovation and scholarship in patient safety and improvement science.
- Accessing and sharing expertise in communities of practice and collaborative networks.

**Summary of achievements during 2015/16:**

- Successful development and implementation of NUH TEAMS in the Theatres Division, an evidence-based programme that promotes expert team performance.
- Integration of Human Factors (HF) teaching into NUH staff development programmes.
- Implementing *in situ* patient safety simulation exercises (Labour Suite, Theatres, ED, Radiology) using a HF framework to identify and support systems improvement.
- Mentoring Fellowship posts that focus on educational excellence, patient safety improvement, team training, curriculum design and procedural and non-technical skills.
- Co-design & delivery of the national training programme for Specialist Nurses in Organ Donation commissioned by NHS Blood & Transplant Special Health Authority.
- Co-design of a new MSc in Quality & Patient Safety Improvement (QPSI) in collaboration with expert groups at the University of Nottingham and including specific recruitment of patient and public members to the programme Advisory Board.
- Dissemination of outcomes from educational and patient safety programmes at local, regional, national and international conferences.
Priorities for 2016/17:

- Promote NUH as a learning organisation by implementing & integrating our programmes addressing patient safety improvement, Human Factors and Team Training across the organisation and in conjunction with partners at Sherwood Forest Hospitals.
- Enhance current training opportunities for NUH staff in prioritised areas (e.g. procedural skills, communication skills such as speaking up, and critical team skills and behaviours).
- Help lead the development of a faculty of patient safety healthcare educators at NUH.
- Enhance new policy & product usability assessments prior to introduction into practice (e.g. IV medication policy, hospital beds, anaesthetic machines) working with Clinical Leads, Medical Engineering, Procurement and other key stakeholders.
- Continue to contribute actively to regional and national policy development and strategy groups and disseminate our work amongst national and international communities.

For further information: trentsim@nuh.nhs.uk

Working with the University of Nottingham, Patient Safety in the Undergraduate Medical Curriculum

NUH staff continue to work closely with the University of Nottingham in developing healthcare practitioners of the future. Work is orientated around the integration of Patient Safety, Human Factors and Quality Improvement into the School of Medicine Curriculum for future doctors.

Summary of work and results from 2015/16:

During the past year the following has been undertaken:

- Development and delivery of a structured “short course” in Patient Safety for third year medical students as part of their BMedSci award; contributed to by a large number of NUH clinicians and academics.
- Curriculum mapping and design for the integration of Patient Safety and Human Factors into the new early-years course in the School of Medicine.
- Design and delivery of a “Final Year Medical Student” Patient Safety Conference for all final-year medical students who had completed their final exams, preparing them for work as qualified doctors.

Priorities for 2016/17:

The focus is on improving integration of safety into the curriculum. This will include delivering and evaluating the early-years curriculum and looking at how the subjects can be integrated in a “spiral” format throughout the years of training.

For further information: Nicholas.Woodier@nuh.nhs.uk