

Infection Prevention and Control Annual Report

2017 - 2018



United Lincolnshire Hospitals NHS Trust

Version Control

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Section 1 Forward

I am delighted to present United Lincolnshire Hospitals NHS Trust's annual Infection Prevention and Control Report for the 2017–2018 financial year. United Lincolnshire Hospitals NHS Trust is committed to providing high quality, clean and safe patient centred care. Infection Prevention and Control supports all elements of care delivery in order to reduce the risks of preventable healthcare associated infections in patients/service users, staff and visitors.

The report shows that the Trust has made substantial progress towards improving patient safety through achieving many of the key priorities listed in the Trusts infection prevention and control action plan. This progress was made despite the additional pressures of being placed in to 'special measures' by the Care Quality Commission (CQC) and managing a significant financial deficit.

As a large rural multi-site and complex organisation, our teams have effectively worked together to provide strong leadership and support to all directorates to ensure that good progress was made towards compliance to the Code of Practice on the prevention and control of infections and related guidance (the Hygiene Code) as part of Regulation 12 of the Health and Social Care Act 2008 (Revised 2015)¹

This report follows the format of the Hygiene Code to demonstrate our progress with the requirements associated with the 10 criteria and will outline the priorities for future developments in 2018-19.



Michelle Rhodes
Director of Nursing and Director of Infection Prevention and Control
United Lincolnshire Hospitals NHS Trust

¹ <http://www.legislation.gov.uk/ukpga/2012/7/contents/enacted>

Section 2 Executive summary

In regard to Infection Prevention and Control (IP&C) performance in 2017/18, United Lincolnshire Hospitals NHS Trust has enjoyed a year of continuous improvements despite facing significant challenges both in terms of internal operational pressures and by external inspection and regulation.

The start of 2017 proved to be a difficult time for IP&C as following an assessment by NHS Improvement which rated the organisation as red for IP&C performance. Some key actions were identified and immediately put in to place including a fully comprehensive hygiene code gap analysis which measured the trusts compliance against all 135 compliance requirements. In less than 12 months however, ULHT moved from only 61% full compliance to 93% full compliance. Partial compliance (evidence of actions in place to achieve compliance but fully achieved) improved from 24% to 6% and no evidence of compliance decreased from 14% to 1%.

This level of achievement was largely due to a mix of strong and clear leadership, extraordinary effort by a number of individuals and teams and having a compliance format in place (hygiene code gap analysis) that served as the key action plan for activities to be built upon. A follow up assessment carried out by NHS Improvement rated ULHT as green for IP&C. It is clear that following a year of intense activity around IP&C, the organisation as a whole is providing a safer and higher quality service for patients.

An adjustment in the operational processes of the IP&C team and how they support their colleagues also meant that they were able to deliver a more effective and efficient service. This included working as a trust wide corporate function rather than focussing on a site based operating model. In addition to this, the IP&C team now attends daily bed meetings and provides daily updates to support inpatient areas and operations teams with a risk based side room availability chart which allows decisions to be made regarding priority of patients in isolation. This also helped with out of hours bed management decision making.

Even though the trust was rated as green by NHS Improvement, there is still much work to be done and the progress momentum will be maintained. Patient safety, quality and IP&C will remain a key priority for ULHT and every possible effort will be made to ensure clean, safe, high quality care becomes the standard.

Section 3 Introduction

United Lincolnshire Hospitals NHS Trust is one of the largest trusts in the country. We provide services from 3 acute hospitals in Lincolnshire - Lincoln County Hospital, Pilgrim Hospital, Boston, and Grantham and District Hospital. The Trust also provides a wide variety of outpatient, day case and inpatient services from a range of other community hospitals operated by Lincolnshire Community Health Services or local GP clusters. These include: Louth County Hospital, John Coupland Hospital (Gainsborough), Johnson Community Hospital (Spalding) and Skegness and District General Hospital.

We provide a wide range of healthcare services delivered by over 7,500 highly trained staff. Our services cost more than £390 million each year to provide. In an average year, we treat more than 180,000 accident and emergency patients, over 600,000 outpatients and almost 100,000 inpatients, and deliver over 5,000 babies,

The Trust primarily serves the 757,000 residents of Lincolnshire which is one of the fastest growing populations in England. The Trust also provides a wide variety of outpatient, day case and inpatient services from a range of other community hospitals operated by Lincolnshire Community Health Services or local GP clusters. These include: Louth County Hospital, John Coupland Hospital (Gainsborough), Johnson Community Hospital (Spalding) and Skegness and District General Hospital.

To ensure that we deliver the very quality best services in terms of quality and safety, good infection prevention and control practices are essential. Throughout 2017/18, this was a key trust improvement requirement and significant work was undertaken to ensure that progress could be demonstrated.

Infection prevention and control is everybody's responsibility and all members of staff, patients and visitors to ULHT are expected to take the necessary steps to reduce the risks of themselves or others acquiring or transmitting infections. The infection prevention and control team in ULHT primary purpose is to maintain patient safety by supporting and advising staff and patients as needed to ensure that those responsibilities are met.

This report will demonstrate the work undertaken during 2017/18 to monitor and manage infection prevention and control systems and processes. The main body of the report will follow the format of the Code of Practice on the prevention and control of infections and related guidance (the Hygiene Code) as part of Regulation 12 of the Health and Social Care Act 2008 (Revised 2015)² and the associated 10 criteria.

² <http://www.legislation.gov.uk/ukpga/2012/7/contents/enacted>

The hygiene code compliance criterion.

Compliance criterion	What the registered provider will need to demonstrate
1	Systems to manage and monitor the prevention and control of infection. These systems use risk assessments and consider the susceptibility of service users and any risks that their environment and other users may pose to them.
2	Provide and maintain a clean and appropriate environment in managed premises that facilitates the prevention and control of infections.
3	Ensure appropriate antimicrobial use to optimise patient outcomes and to reduce the risk of adverse events and antimicrobial resistance.
4	Provide suitable accurate information on infections to service users, their visitors and any person concerned with providing further support or nursing/ medical care in a timely fashion.
5	Ensure prompt identification of people who have or are at risk of developing an infection so that they receive timely and appropriate treatment to reduce the risk of transmitting infection to other people.
6	Systems to ensure that all care workers (including contractors and volunteers) are aware of and discharge their responsibilities in the process of preventing and controlling infection.
7	Provide or secure adequate isolation facilities.
8	Secure adequate access to laboratory support as appropriate.
9	Have and adhere to policies, designed for the individual's care and provider organisations that will help to prevent and control infections.
10	Providers have a system in place to manage the occupational health needs and obligations of staff in relation to infection.



Section 4 Key Achievements

Below is a list of key achievements relating to IP&C in ULHT in 2017/18.

- There has been a much improved management of suspected infectious patients with no significant outbreaks reported. This was a result of learning key lessons from previous outbreaks which caused severe operational pressures and led to many ward and bed closures. The organisation now has close multi-team working practices that reduce the risks of outbreaks which includes the IP&C team attending bed meetings and providing daily side room availability charts to assist the operations team in making decisions regarding bed management.
- Early in 2017 the trust was inspected by NHS Improvement and rated as 'red' for IP&C and throughout the year a significant amount of work was undertaken by the whole organisation to make improvements so that subsequent visits downgraded the trust first to amber and then green. There was clear leadership demonstrated which played a key part in driving the standards for quality and safety improvement. This is considered as a major achievement to make so much progress in a relatively short space of time.
- The trust IP&C function is now working to defined service plan and strategy which defines the expected standards and service delivery with milestones and indicators designed to further improve quality and safety. There are clear governance and escalation structures that allow the trust to have a consistent and high standard of service delivery. The service plan runs in line with the trusts 2021 strategy.
- ULHT achieved one of the highest frontline health care worker flu vaccination uptakes nationally with nearly 82% of its front line workers vaccinated. The occupational health teams across all sites worked extremely hard to ensure this was possible. This meant that a significant number of frontline health care workers would not carry those flu strains and therefore could not pass them on to patients, visitors or colleagues.
- The trust had fully prepared for a surge in flu cases over the winter and plans were in place to open escalation cohort areas if necessary. Throughout the flu season the IP&C team supported operational pressures by covering 7 day working. This allowed the operations team to have daily awareness of any increases in flu cases so early interventions with bed management could be implemented.

Section 5 Compliance with the Code of Practice on the prevention and control of infections and related guidance (the Hygiene Code)

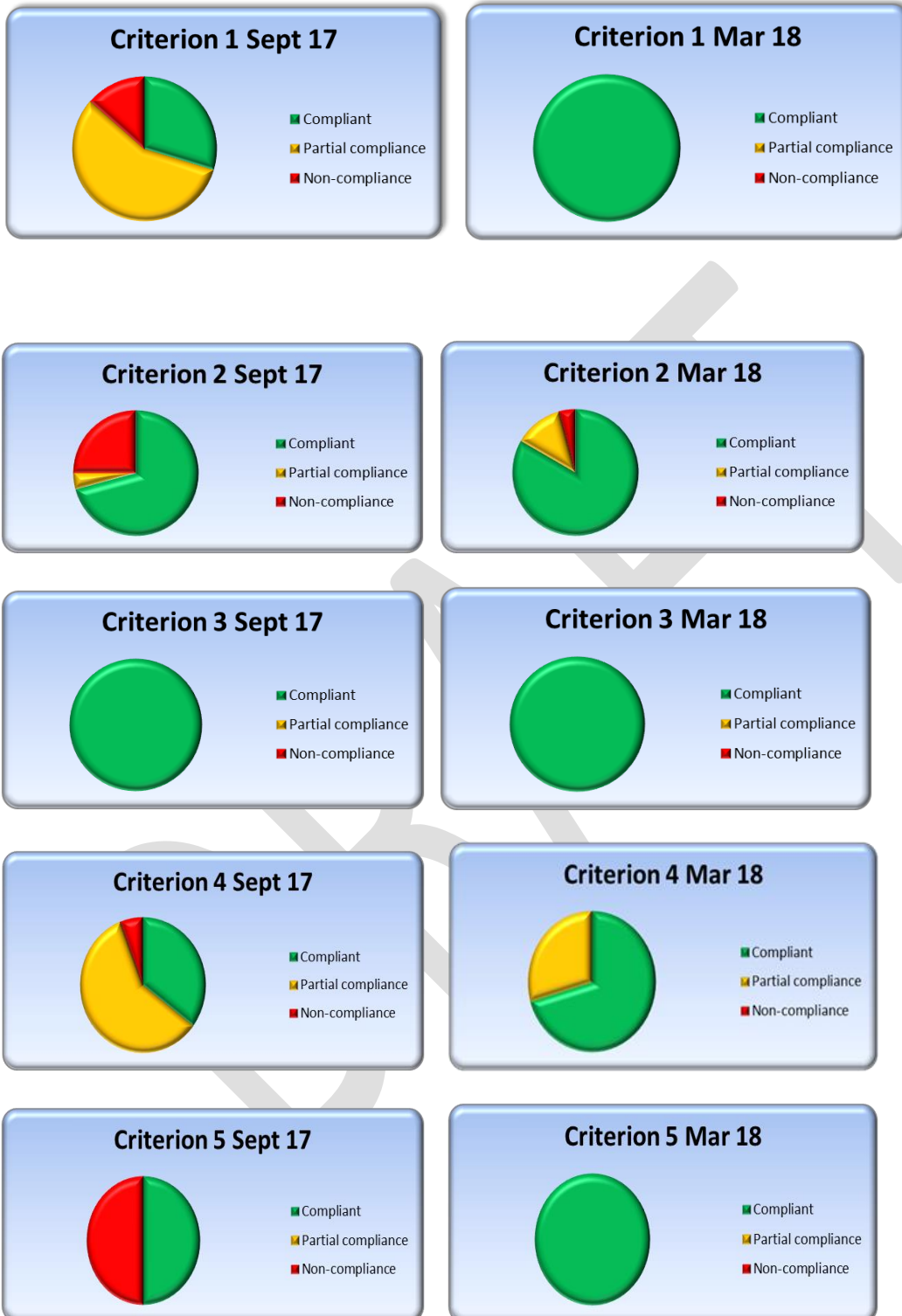
Criterion 1: Systems to manage and monitor the prevention and control of infection.

ULHT has an agreement within the organisation that outlines its collective responsibility for keeping to a minimum the risks of infection. This is supported by a clear governance structure and accountability that identifies a single lead for infection prevention (including cleanliness) accountable directly to the DIPC.

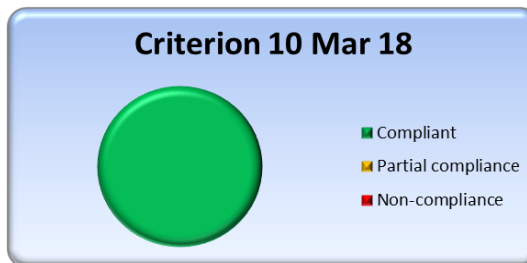
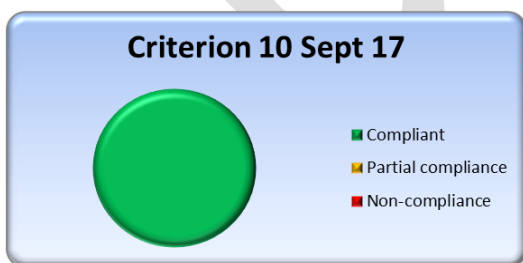
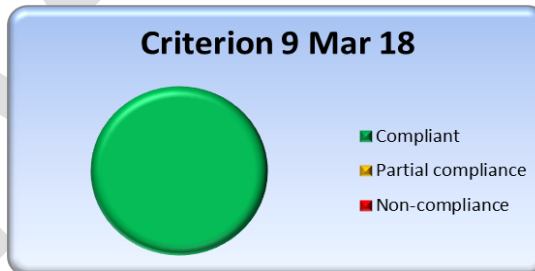
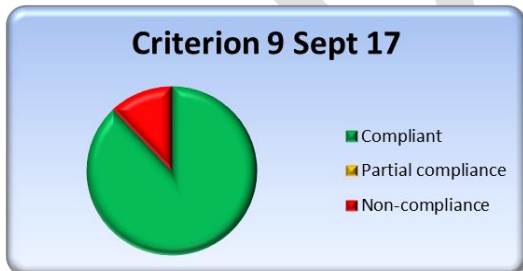
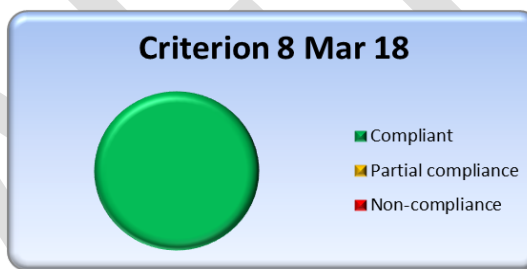
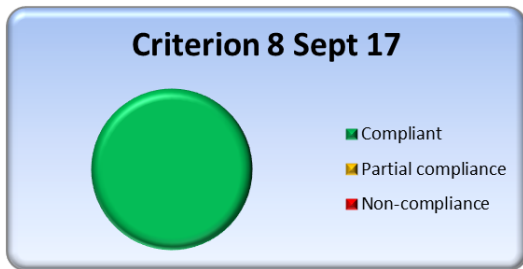
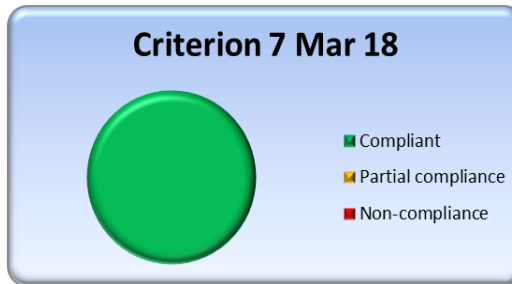
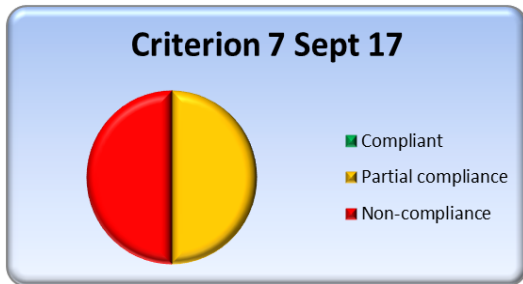
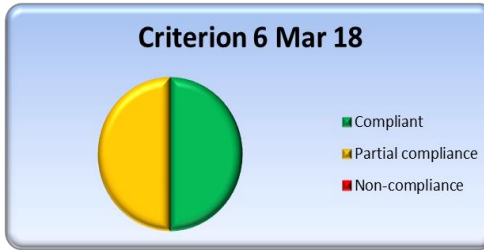
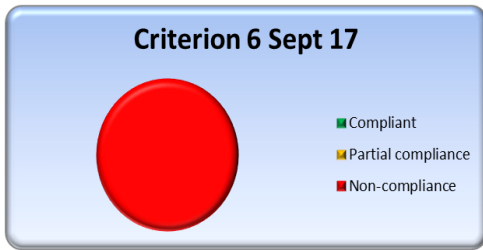
Throughout the 2017/18 financial year, there were issues that affected the operational capacity of the IP&C team. These included changes in management, sickness absence and vacancies. The trust did as much as was reasonably practicable to ensure that sufficient resources were available to secure the effective prevention of infection. This included a secondment/fixed term opportunity (6 months) for a Lead Nurse Patient Safety / Infection Prevention and Control and additional support from the Lincolnshire NHS Clinical Commissioning Groups Health Protection Team.

One of the most significant pieces of work undertaken during 2017/18 was a fully comprehensive review of the trust compliance against the hygiene code. This was undertaken in the form of a gap analysis and each of the 135 compliance line items of the code were assessed and RAG rated (green = evidence of compliance, amber = not fully compliant but actions underway to address and red = no evidence of compliance). This initial assessment highlighted that the trust was only 61% fully compliant with the hygiene code. Partial compliance was 24% and no evidence of compliance was identified in 14% of the code. The gap analysis showed a number of key areas that needed urgent attention and an action plan was developed following this assessment. By working to the hygiene code action plan, the trusts year end progress was significant and was able to demonstrate full compliance to 93%, partial compliance 6% and no evidence of compliance to 1%. The following charts show compliance improvements (by criteria) which highlights the progress made.

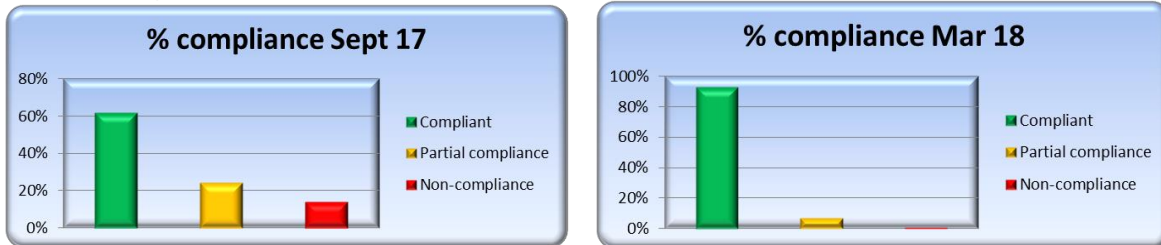
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Overall hygiene code % compliance improvement is shown in the charts below.

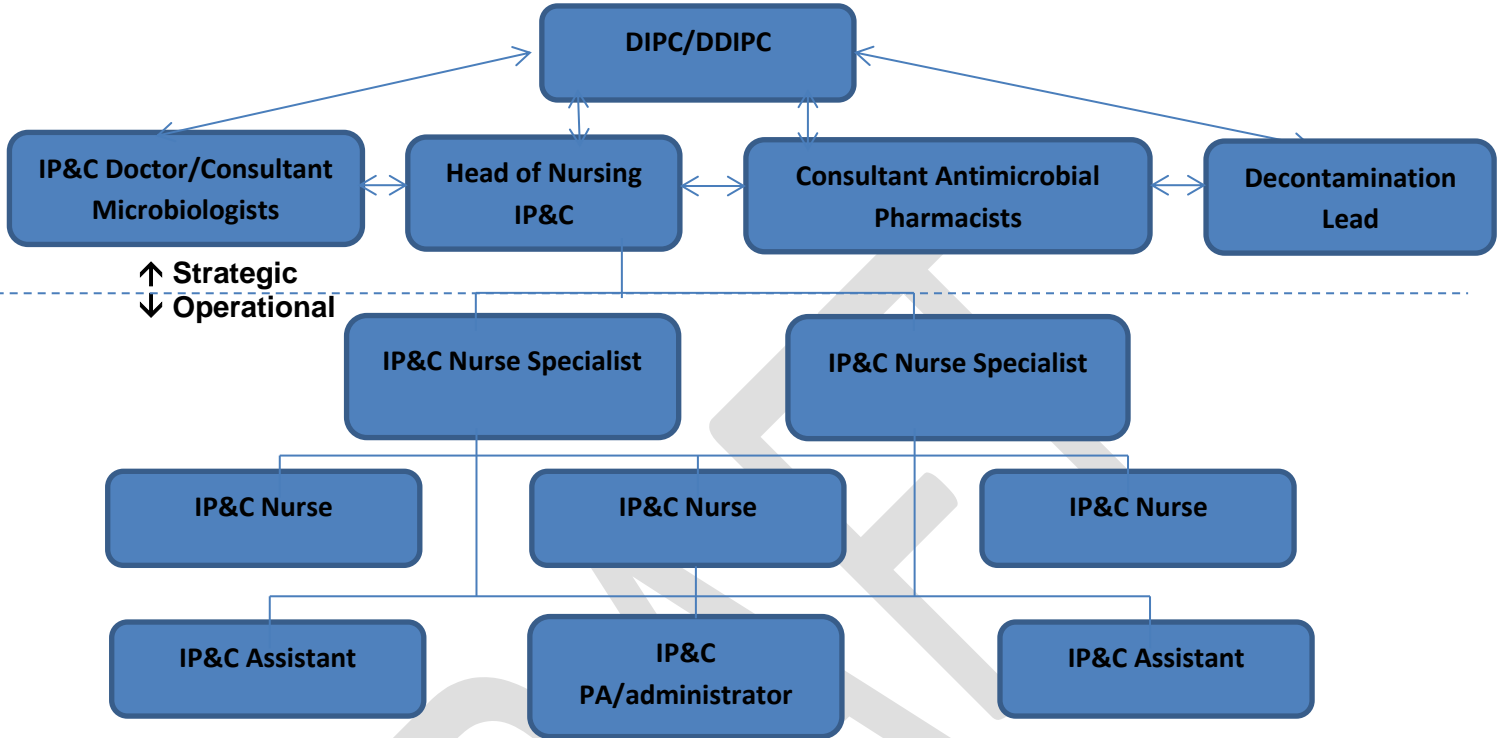


Another important piece of work produced was a service plan and strategy for IP&C that highlighted key aims, ambitions and responsibilities for the whole organisation over the next three years. This included having documented reporting, escalation and workforce structures so that systems and processes relating to IP&C in ULHT could be appropriately and consistently managed. This work was a key requirement for Criterion 1 and it was able to provide assurance that monitoring and management of IP&C performance was in place through an accountability framework. The service plan included a set of key performance indicators for the trust as a whole, the strategic element of IP&C for ULHT and an operational element. These are set up to be monitored on a quarterly basis through the trust IP&C committee.

Throughout 2017/18 there were key achievements in managing issues such as prevention of outbreaks, participation in the gram negative bloodstream infection reduction programme (with ULHT being one of the trusts achieving a greater than 10% reduction) and the development of effective inter-trust working relationship further enhancing the successful approaches to managing IP&C. These working relationships enabled better facilitation of operational bed management based on risk and an enhanced support to the estates and facilities directorate to enable works to be carried out with full IP&C risk assessments and controls in place.

The IP&C team was reorganised into a corporate model that could be utilised more effectively based on operational need. A strategic tier made up of senior leads managed trust wide organisational matters and reported directly to the DIPC/Deputy DIPC while an operational tier managed the day to day operational requirements for the clinical support role.

The Infection Prevention and Control structure is made up of the following:



The structure was specifically designed to be used in a flexible manner to meet the needs of the Trust. There will be a priority based approach to the deployment aspect to ensure that as a corporate function, the IP&C team can be placed according to greatest need. This structure will also facilitate better consistency across sites and allows for better business continuity.

Strategic IP&C support

The main focus of the strategic element of the IP&C function was to deliver the trust strategy. This included providing assurance evidence of compliance the hygiene code. The trust was expected to deliver and sustain improvements in quality and safety. This was achieved in 2017/18 and the sustained improvements also demonstrated the capacity and resilience to maintain safety despite the operational pressures.

Operational IP&C support

The core purpose of the operational element of the IP&C function was to provide an effective and efficient IP&C support service to the trust. This included (but not limited to):

- Audit support visits to clinical areas and areas where patients access services
- Daily contact with all wards to check side room availability
- Daily support to the operational hub to aid in bed management
- Running an IP&C Link Practitioner network
- Support for Root Cause Analysis investigations relating to HCAI incidents
- IP&C advice and support for routine and reactive issues (including outbreaks etc.)
- Support for trust wide training requirements (induction and core learning etc.)
- Alert organism surveillance
- Trust wide projects and initiatives
- Support to estates and facilities for IP&C specification relating to the physical decontamination of environments.
- Support to specialty services
- To link in with the strategic aims of the function and assist with the delivery of these.
- To support the work undertaken by the medical devices decontamination services.

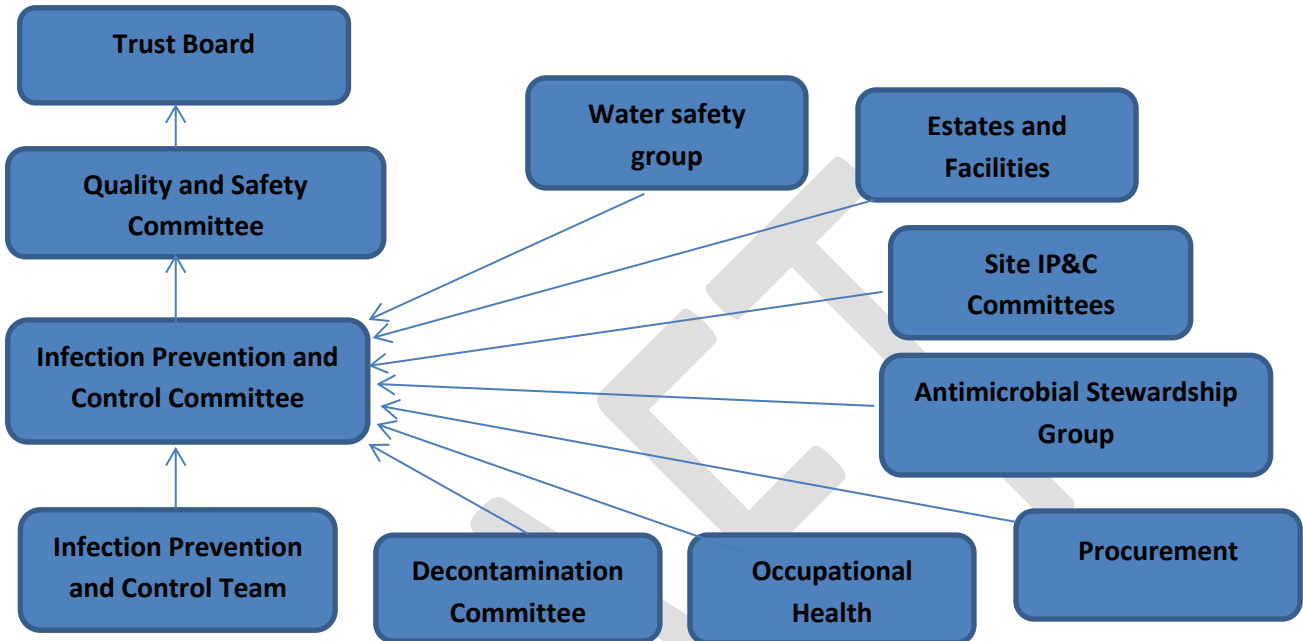
The IP&C team were highly visible and proactive within the trust and continued to develop strong working relationships aimed at improving safety and delivering a better patient experience in line with the trusts vision and ambitions. During the flu season (January to April) the IP&C team covered weekends to support clinical staff to ensure that safe care was maintained.

Governance

Throughout 2017/18 a number of reports were required by the trust to help inform the senior leadership as to the status of IP&C and the context in terms of risks. Some reports were routine (for IP&C committee and site meetings for example) while some were needed due to issues such as exception reporting, outbreaks and incidents (including serious incidents).

A standardised assurance reporting pathway was produced to ensure a robust process was maintained for the IP&C function.

Below is a diagram illustrating the routine reporting pathway that will be in use for all strategic assurance.



Since being placed in to special measures, the Chief Executive has supported the DIPC by chairing the trust IP&C committee. This has demonstrated the importance placed on IP&C for ULHT. Both the Chief Executive and DIPC have challenged performance over the year to continually push for quality and safety improvements and as a result significant gains have been achieved.

The trust IP&C committee brings together all key partners to provide assurance that effective systems and processes are in place to manage IP&C. Following each committee, an upward report was produced highlighting the key issues discussed to ensure that the trust board were made aware.

There were some key challenges noted throughout 2017/18 including a breach of the *Clostridium difficile* infection trajectory and high rates of blood culture contamination. Assurance was provided that demonstrated effective responses to the case rates and lessons learned that will have an impact on future rates. The following tables and narratives show the trust performance in relation to health care associated infections in 2017/18.

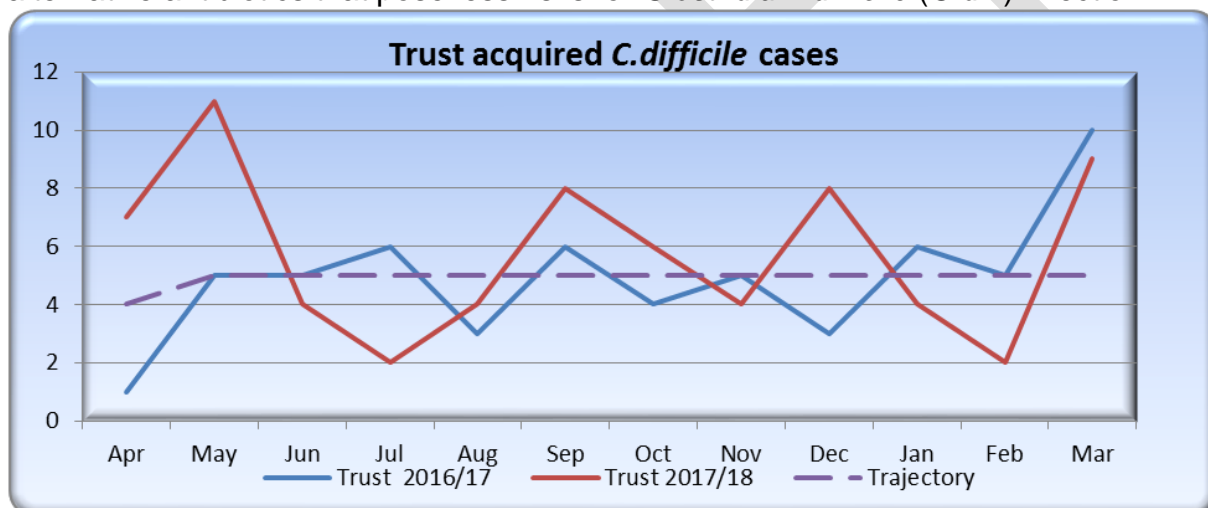
Surveillance

***Clostridium difficile* infections**

Clostridium difficile infections 2017/18

Month	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Total
Trajectory	4	5	5	5	5	5	5	5	5	5	5	5	59
Performance	7	11	4	2	4	8	6	4	8	4	2	9	69
Lincoln	3	4	3	1	3	3	0	2	5	2	0	4	30
Boston	3	6	0	1	1	4	4	2	1	2	1	5	30
Grantham	1	1	1	0	0	1	2	0	2	0	1	0	9

Each of the cases were investigated in detail and a key theme emerged relating to antibiotic prescribing. Although in most cases the antibiotics were justified and in line with the prescribing formulary, the key lesson is educating prescribers on possible alternative antibiotics that pose less risks for *Clostridium difficile* (*C.diff*) infection.



The chart shows the case spikes above expected trajectory for 2017/18 with the previous year included for comparison.

The Antimicrobial Stewardship Strategy Group (ASSG) is reviewing the antibiotic formulary with the Consultant Microbiologists to highlight high risk antibiotics for prescribers and to offer alternatives where available. This key action, aligned with the Consultant Microbiologists training for medical staff will help to address the issues relating to antibiotic prescribing habits within the trust.

There have been, on occasion, deep cleans undertaken where periods of increased incidence of *C.diff* have been reported. This is despite the acknowledgement that there was no suspicion of cross-infection as there was a difference in ribotypes, however it was noted that good practice was to thoroughly clean the environment to prevent further spread.

MRSA bloodstream infections

Over the past 12 months ULHT had reported 2 cases of MRSA bloodstream infections against a trajectory of zero. Both cases were fully investigated using Root Cause Analysis (RCA) and both were deemed to be unavoidable. Although the trust reported 2 cases throughout 2017/18, ULHT was identified as low incidence organisation and as such will no longer be required to report MRSA bloodstream infections through the Public Health England Post Infection Review (PIR) process. ULHT will continue to treat MRSA bloodstream infections as a serious matter and will continue to investigate each case accordingly using the RCA process and cases will be discussed at the trust infection prevention and control committee.

MSSA bloodstream infections

The Trust returns data on the number of cases of MSSA bloodstream infections to Public Health England. Cases are labelled as either Trust attributable or community acquired: there is no annual objective for MSSA bloodstream infection cases.

Hospital attributable MSSA bloodstream infections 2017/18

	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Louth	0	0	0	0	0	0	0	0	0	0	0	2
LCH	0	1	1	0	0	0	0	2	0	1	2	0
PHB	3	0	0	1	0	1	2	1	0	0	0	0
GDH	0	0	0	0	0	0	0	0	0	0	0	0
Total	3	1	1	1	0	1	2	3	0	1	2	2
Cumulative	3	4	5	6	6	7	9	12	12	13	15	17

Gram-negative bloodstream infections

The following tables of E coli, Klebsiella and Pseudomonas bloodstream infection cases demonstrate data collected as part of the mandatory HCAI reporting to PHE. The tables demonstrate the number of trust-attributed cases of Gram-negative bloodstream infection by individual organisms for 2017/18.

No thresholds for these organisms are currently in place for acute hospital trusts. Action planning to reduce Gram-negative bloodstream infection rates is being led by the CCG through the Whole Health Economy IP&C group work with the ambition of reducing Gram negative bloodstream infections by 50% by 2021.

The vast majority of Gram-negative bloodstream infections are caused by *E.coli* and therefore the primary piece of work was focussed on reducing the common types of infections such as Urinary Tract Infections (UTI), Catheter Associated UTI and hepatobiliary infections.

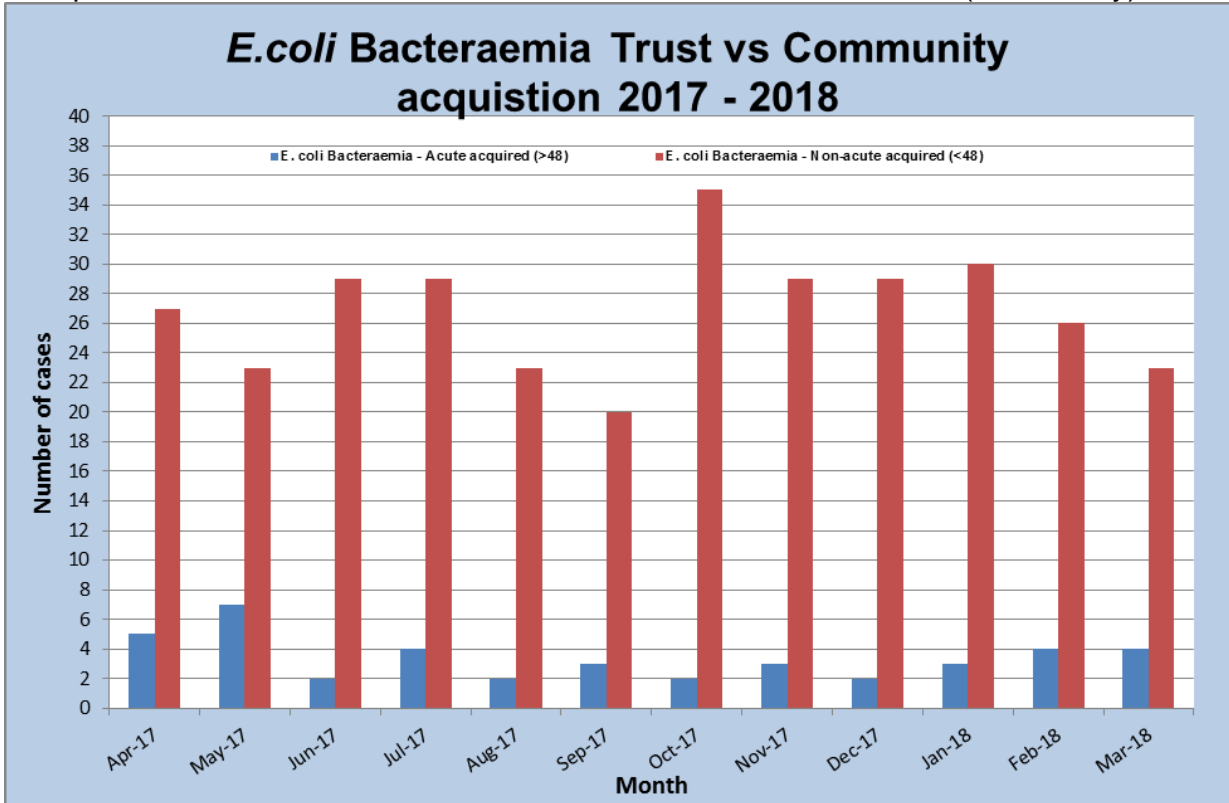
The 2017/18 ambition for all organisations was to achieve a 10% reduction in *E.coli* bloodstream infections and which ULHT was recognised as achieving. A whole health economy action plan has been produced with tasks linked to respective organisations. ULHT is a key member of the whole health economy and will deliver on all agreed actions.

E coli 2017/18

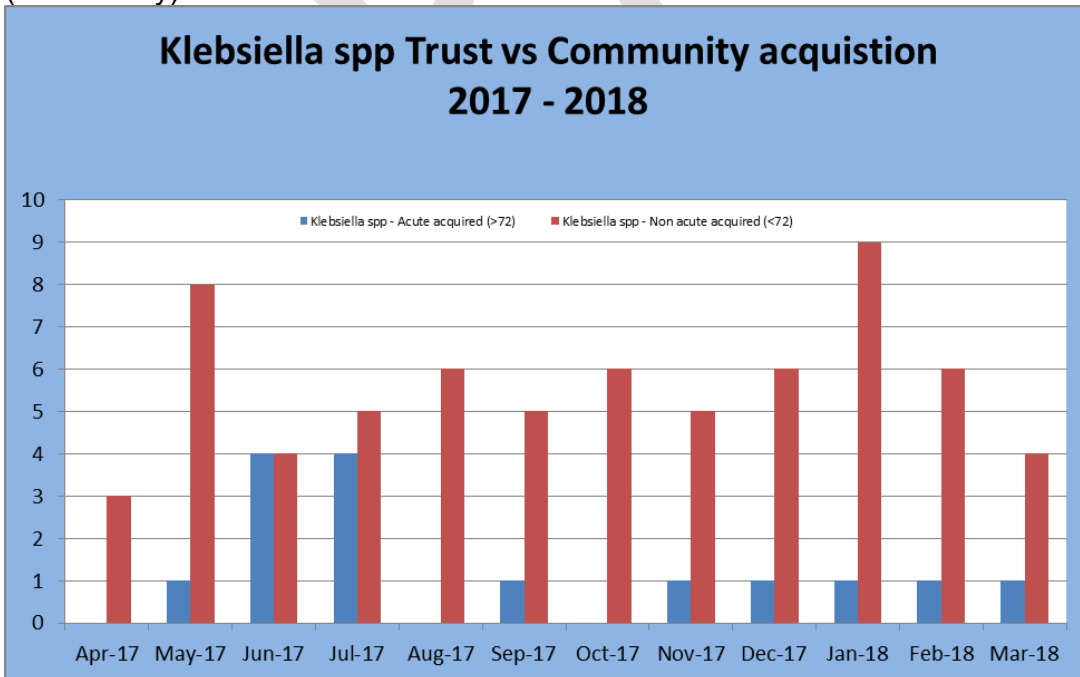
<i>E.coli</i> Bacteraemia					
Month	Pilgirm	Lincoln	Grantham	Louth	Total
April	0	3	2	0	5
May	4	3	0	0	7
June	1	1	0	0	2
July	1	3	0	0	4
August	1	1	0	0	2
September	2	1	0	0	3
October	0	1	1	0	2
November	0	2	1	0	3
December	2	0	0	0	2
January	1	2	0	0	3
February	1	2	1	0	4
March	2	2	0	0	4
Total	15	21	5	0	41

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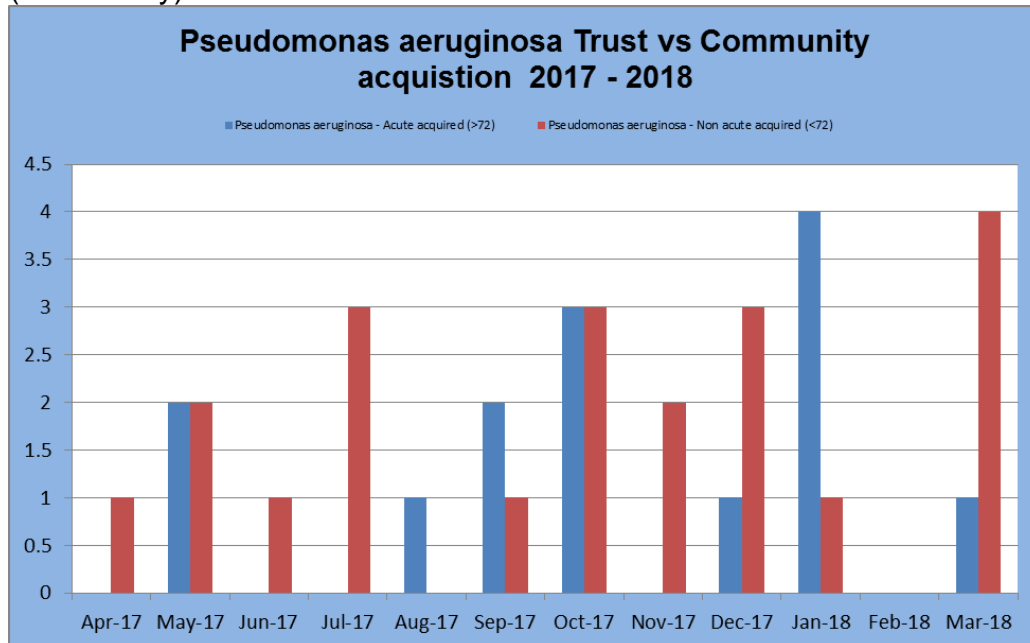
Comparison of *E.coli* rates between acute trust and non-acute trust (community)



Comparison of *Klebsiella spp.* rates between acute trust and non-acute trust (community)



Comparison of *Pseudomonas aeruginosa* rates between acute trust and non-acute trust (community)



Note the relatively small case numbers of *Klebsiella spp.* and *Pseudomonas aeruginosa* in comparison to *E.coli* bloodstream infections.

Criterion 2: Provide and maintain a clean and appropriate environment in managed premises that facilitates the prevention and control of infections.

Cleanliness

Continuous measurement and management of performance of Estates and Facility Services is fundamental in the control of hospital acquired infection. Cleanliness remains high on the Trust agenda and regular meetings have continued to be held at all levels of the organisation. The monitoring of clinical areas has been undertaken by the Facilities Department on a weekly and monthly basis following the National Standards of Cleanliness guidelines (2007) using “MiC4C”, which is a cleanliness monitoring software product. The results are then fed back to Ward and Department Leaders, Matrons, Heads of Nursing and the Infection Prevention Team (IPT). The scores and any actions required have been discussed at the site IP meetings as well as the Trust IP Committee meeting. Louth is in the process of being added to the system and with a view to commencing the audits in 2018/19.

Facilities have been involved with the management of outbreaks with the IPT. Disposable bed curtaining for clinical areas have been implemented across the Trust. These are changed in accordance with curtain changing regime or if they are contaminated with blood fluids, or following isolation care.

Housekeeping Review

A Housekeeping Review was carried out by Litmus Partnership. This focused on staff levels, supervision and management of ward based Housekeepers. Nursing and Facilities have jointly produced an Executive Team report identifying the additional resources outlined in the Litmus report. A trial of four wards was undertaken, transferring the direct management of Ward Housekeepers from nursing to Facilities. A Business Case has been supported and funding provided to support this transfer with additional Housekeeping Supervisor posts on all 3 sites.

Deep Clean Programme

The most efficient way to carry out a Deep Clean is to fully decant the ward. This is currently not an option on any site. The Deep Clean system is planned to clean a ward bay by bay, room by room. The Facilities Deep Clean Teams on the Pilgrim and Grantham sites started the year undertaking a Deep Clean programme. At Pilgrim this has not been maintained as MiC4C scores indicated that additional support was required on some wards during 2017/18. The Pilgrim and Lincoln Deep Clean Teams have been acting as a “response team” targeting areas with low scores. Lincoln have agreed a Deep Clean programme to commence in July 2018.

Waste Management

The trust is required to complete a Pre Acceptance Audit for all sites annually to ensure it remains compliant with regard to Waste Segregation. The audit was completed in May and forwarded to SRCL, the Clinical Waste Contractor. The information was checked by the company’s compliance department, which is a mandatory requirement for the Environmental Agency. Initially, the Trust was required to undertake a full audit across all areas on each site. However, over the last 3 years the mandatory requirement has been to undertake audits on a third of each site in 2017/18. Ward and departmental areas undertook their own waste audit on a monthly basis to ensure correct segregation and disposal. A summary report was sent to each site’s IPC.

PLACE

PLACE assessments were introduced in April 2013 to replace the former Patient Environment Action Team (PEAT) assessments undertaken from 2000-2012.

Background

The PLACE assessments provide a ‘moment in time’ snapshot of performance against a range of non-clinical activities. A team of staff and Patient Assessors undertook all 4 PLACE audits to standardise the scoring across the Trust.

Considerations and Learning - Preparation for 2018

Retaining involvement of experienced Patient Assessors and broadening this resource is essential. A de-brief event for the 2018 PLACE Assessors – Patient and Staff is to be organised for October.

Water Safety Group

During the past twelve months the Trust has made considerable improvements in delivering its water hygiene programme, essentially operating robust schemes across a number of key compliance requirements. However, there remain a series of challenges, which if not resolved with urgency have the potential to degrade the good work completed over the past twelve months. The key areas for consideration in 2018/19 work programme are; data handling, record keeping and the interface between PPM and the ACOP L8 logbook system requires further improvement and a common approach across all sites. The MiCAD system needs to be expanded and greater resource provided to turn it into a better Estates management tool. Currently, records are stored in both hard copy 'S' drive and on MiCAD. A more structured approach consistent across all three sites is being developed. The AE (Water) has provided a template for an electronic logbook.

Accurate and up to date records and schematic drawings remain an issue for all sites and has continued to be monitored by a Sub-group of the Water Safety Group.

A programme of training for Estates personnel, Nursing, Housekeeping and Directorate Managers in Water Hygiene awareness has been undertaken. The Water Safety Group has trained and appointed responsible persons for water safety across each site and also has a Trust wide responsible person who chairs the Water Safety Group.

As required by the revised HTM 04-01 (March 2016), Parts A, B and C additional training for Estates personnel has been facilitated. A Pseudomonas Risk Assessment has been put in place and needs to be rolled out in 2018/19 to each augmented care discipline with the necessary risk factors being noted and acted upon. This has remained under review by the Water Safety group, with specialist advice from Trusts Water Authorised Engineer (AE). The Chlorine Dioxide regimes operating on all sites provided an essential secondary control measure on the cold water systems.

Given the susceptibility of the cold water systems to temperature gain across all sites there have been periods where this secondary measure has been a crucial element within the Water Hygiene Programme.

The Legionella & Pseudomonas surveillance programme on all 3 sites was widened. To optimise patient sinks, the use of 'point of use' filters has been expanded. This is viewed as a 'short-term' measure and has been kept under constant review. The failure to complete a range of Planned Maintenance tasks, due to lack of manpower and access issues and the presence of asbestos has remained a concern. It is essential that Planned Maintenance tasks are carried out as planned, as if not, it has the potential to seriously impact on water quality. During 17/18 a contractor carried out the annual PPM of TMVs. For 18/19 tendering for the full PPM of TMVs is proposed. Other typical factors which have influenced the water distribution system are:-

- Ageing infrastructure and assets
- water chemistry causing scaling of outlets and pipework

- mixture of materials utilised throughout the water distribution system (plastic/copper) which restrict the ability to provide effective disinfection.

A key factor in the control of waterborne pathogens has been the identification and management of “little used outlets” and the implementation of a “robust and effective” flushing programme. Where this has been successfully implemented, the water quality improved considerably.

A further issue has been the presence of outlets that are no longer used/required. In 2018/19 a survey to identify outlets that are no longer required will be carried out on all 3 sites. The water sampling (Microbiology) programme has played a key role throughout this year in the identification of water hygiene issues that when acted upon have the resultant effect of improving water quality across the Trust. This programme provided key supportive evidence of the Trust’s effectiveness in managing water quality.

During the past twelve months the Trust has made considerable improvements in delivering its water hygiene programme, essentially operating robust schemes across a number of key compliance requirements, however, there remain a series of challenges. The key areas for consideration are:-

A structured training programme to promote the greater understanding of water hygiene is an essential element and needs to be addressed at all levels and all disciplines within the Trust. Estates personnel need the necessary training to bring them into line with the new ACOP L8 (fourth edition 2013) and HSG 274 – Parts 2 and 3. Whilst the basis of a Pseudomonas Risk Assessment is in place this needs to be rolled out to each augmented care discipline with the necessary risk factors being noted and acted upon. This is under review by the Water Safety Group.

Legionella and other pathogens identified which present potential risks to patients and the trust have been reviewed and (POU) filters applied to provide immediate control measures and protect patients. This is reviewed regularly by the Consultant Microbiologist (Water) and the Water Safety Group.

A key factor within the control of Legionella is “identification and management of “little used outlets” and a “robust and effective flushing programme”. Where this has been successfully implemented the results have improved considerably. A less time consuming and paper biased regime for recording flushing of outlets needs to be established in 2018/19 as a priority. Little used outlets and indeed no use outlets, are a serious threat to the Trust and patients. Legionella can move through the water systems, so to not use it is no protection, it heightens the potential risk, therefore removal of unwanted outlets is essential. Lincoln County Hospital completed a scheme to remove unwanted outlets 18 months ago.

Design, construction, renovation and refurbishment programme

The IPT has continued to contribute to the design, construction and renovation projects across the Trust as requested by Estates. As part of ward/department refurbishments and the fire improvement works the opportunity has been taken to upgrade wash hand basins/taps and other water related items to assist with the provision of safe water services.

Theatre ventilation

The Trust, through its Facilities Management Estates Team is required to undertake validation/ PPM of all operating theatres across the Trust. This is to ensure that all theatres are validated under the HTM 03-01 regulations (where applicable). During 2017/18 the operating theatres across the Trust have been maintained, tested and validated to the relevant standards (Health Technical Memorandum and Design Notes). During the validation several issues were raised i.e. damaged theatre doors, which have been addressed. The programme for the validation of all critical ventilation systems has continued to be undertaken throughout the year and all reports have been formally shared with the Trust Infection Control Doctor and Lead Nurse for Patient Safety/Infection Control. It was recommended that the reports are also shared with the Consultant Microbiologist at each hospital site, and to be tabled at the IP Committee.

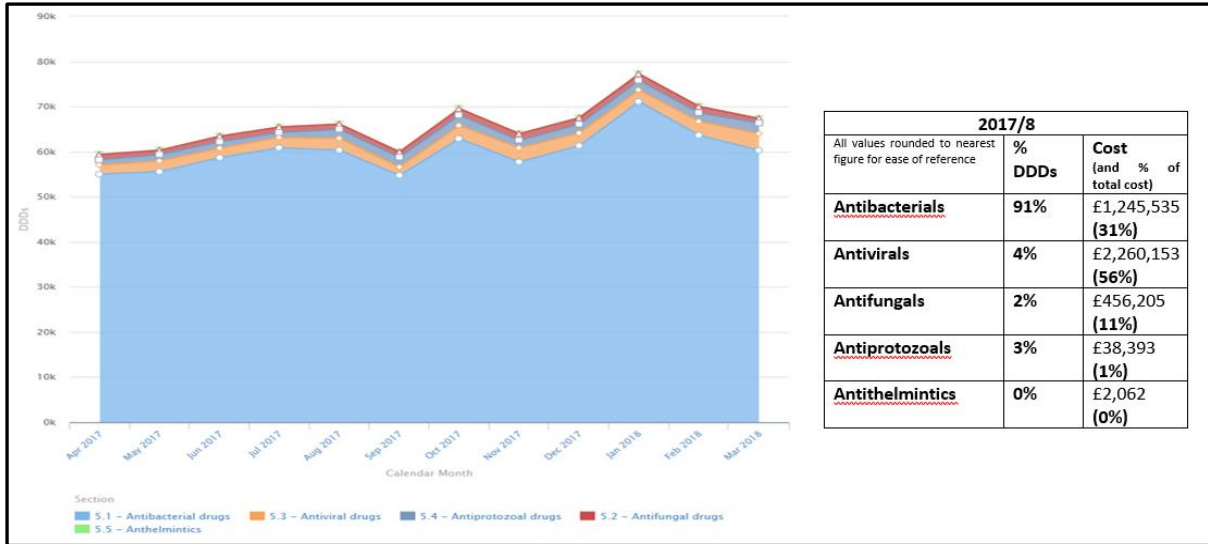
Criterion 3: Ensure appropriate antimicrobial use to optimise patient outcomes and to reduce the risk of adverse events and antimicrobial resistance

A coordinated approach to using antimicrobials in a responsible manner has been vital in delivering safe and effective patient care. Antimicrobial Stewardship promotes selection of optimal drug regimens to treat or prevent infections and reduce emergence of resistance. A multifaceted strategy have underlined the work plan for the year.

The year 2017/8 has presented many challenges at ULHT on the antimicrobial stewardship front. From the drug shortages encountered to further gaps in availability of Antimicrobial Pharmacists, there have been significant disruptions to work undertaken. The report for this year is based on handover of progress and events to the Consultant Antimicrobial Pharmacist, who returned to post in April 2018, after a year of maternity leave, and is structured around the expectations of Criterion 3 of the Hygiene Code.

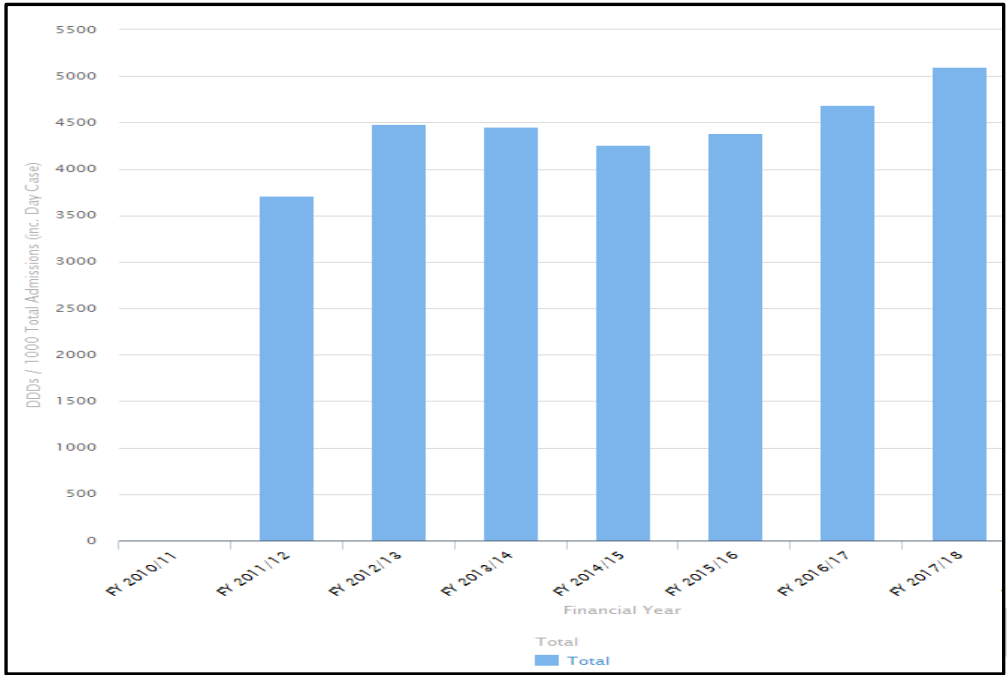
Overview of antimicrobial use is shown in the graph below (Fig 9.1). This is a summary of Trust wide Antimicrobial use over 2017/8.

Fig 9.1 – Understanding Trust wide trend in use of different antimicrobials (as per BNF category), and expenditure attributed to each for the financial year.



As expected, antibacterial agents are the most commonly used class of antimicrobials at ULHT and much of the work outlined within this section of the report is focused on this class. Antibacterials have also become the main focus of National CQUINs, developed in response to the growing threat of antibacterial resistance. Consumption of antibacterials is being monitored at PHE level for each NHS organisation. It is understood that antibacterials are widely over-used, and in an attempt to tackle this, all NHS Trusts are expected to intensify efforts to monitor and manage these agents, and should be able to reduce their total antimicrobial consumption (measured in defined daily doses (DDD) per 1000 admissions). See Fig 9.2, for an overview of ULHT position compared to previous years. Note, this information is taken from Rx-info, which provides a useful forecast, but official verification and position for 2017/18 will only be available from PHE, mid-July 2018.

Fig 9.2 – Annual Antimicrobial Consumption. ULHT trend in DDDs per 1000 Admissions



It is worth noting that according to Fingertips database (managed by Public Health England), ULHT antimicrobial consumption is below average (See fig 9.3). Again, please note that final position will be verified by mid-July 2018, but this still provides a useful picture. The colour coding indicates that when compared to other Trusts in England, ULHT Total antimicrobial consumption per 1000 occupied bed days (8th indicator down) is lower than the 25th Percentile (the shaded area starts at 25th percentile and ends at 75th percentile). However, on other indicators, namely consumption of piperacillin-tazobactam and carbapenem usage, ULHT are closer to (or approximating) average for NHS Acute Trusts in England, and proportion of 'Access' group antimicrobials is just above average. There is definitely further work to do within the Trust, and efforts are already underway, in anticipation of a successful business case for an additional team member.

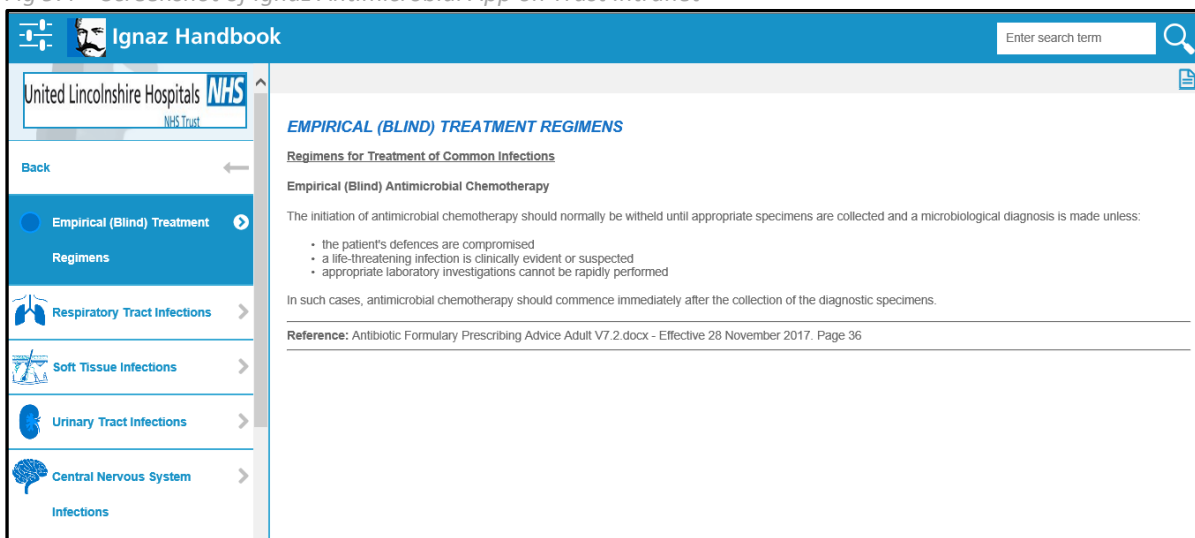
Fig 9.3 – Data taken from Fingertips (PHE), Benchmarking ULHT on key antimicrobial indicators, compared to other NHS Trusts in England.



Antimicrobial guidelines are in place for ULHT and the pharmacy teams at each site play a significant part in making recommendations and interventions based on the guidelines, where possible. The main Trust Antimicrobial guidelines for Adults and Paediatrics are devised by PathLinks, and based on a Start Smart Then Focus Approach. PathLinks microbiologists have been responsible for regular review and updating of the advice and recommendations within, based on local sensitivity patterns of the most likely organisms to be causing infections, and regional, national and international guidelines and standards. The Trust Antimicrobial Pharmacists supported this review process, as part of the Trust Antimicrobial Stewardship Strategy Group (ASSG), which also provided an avenue for clinicians to voice their concerns, comment and opinions. Specialist areas that developed their own antimicrobial guidelines for specific indications (such as neutropenic sepsis) or dosing guidance for specific scenarios (renal impairment, obesity) have also been supported by the Antimicrobial Pharmacists, with screening to ensure this fitted with local Trust guidance, before sign off at Drug and Therapeutics Committee. Plans for 2018/19 include supporting a thorough review of the PathLinks guidelines, and making content of such guidance more accessible via the Ignaz Antimicrobial Smartphone Application, for which a 5 year term of use which was purchased by ULHT as part of the 2015-17 local Antimicrobial Stewardship CQUIN.

It is worth noting that there have been several obstacles with the design of this App which has hindered progress and taken significant efforts to overcome. Some issues remain, including making this available on Trust devices. For now, the basic WebApp form has been made available to ULHT staff via the Antimicrobial Pages on the Trust intranet (see Fig 9.4 for screenshot) and there is also a user guide on the same page which shows staff how to download to personal devices.

Fig 9.4 – Screenshot of Ignaz Antimicrobial App on Trust Intranet



Content published to Ignaz is limited to ULHT DTC approved documents only and restricted to the Antimicrobials until the Trust has a governance structure in place to assure material is current and valid. There are several ongoing issues faced by the Antimicrobial Pharmacists and colleagues in IT department with the process of adding/displaying content from an administrative perspective, and making the App accessible on Trust devices. However, uptake of the WebApp by ULHT Pharmacists and junior doctors, albeit gradual, has been positive and enthusiastic so far. This suggests that the efforts to upload material are not going to waste and the use of the App for antimicrobial guidance will be developed further.

Outside of the Trust guidelines there it is worth noting that PGDs at ULHT are limited for antimicrobials, with exception of use in Sepsis. The PGD for neutropenic sepsis is well established as haematology/oncology specialist nurses are trained to use this and confident of the process. However, uptake of the general Sepsis PGD (for wider use outside of haematology/oncology areas) is thought to be poor. Educational work in collaboration with the Sepsis practitioners and critical care outreach team is planned going forward in order to help address some of the underlying issues with management of sick patients.

Antimicrobial stocks have been made ‘freely available’ or ‘restricted’ based on formulary status and anticipation of frequent use in specific areas. This has been guided by indications and order of preference within the Trust guidelines. Ward stocks allow drugs to be administered in a timely manner, but do rely on ward staff following the ordering process in a timely manner too. Ward stocks also provide opportunity for a drug to be administered without the relevant pharmacy safety checks for contraindications, interactions, etc., and thus it becomes very difficult to police and audit use due to lack of data trail for who has received the drug. Therefore, antibiotics with serious safety implications which are not used very often (such as chloramphenicol and linezolid) have been limited to pharmacy and the emergency cupboard, whereas restricted antimicrobials that may be required more often (as a drug of choice in sepsis) have been made available on selected areas where such cases are most likely to present in an emergency. Electronic prescribing would possibly offer a better balance between the risks posed to patient safety on both sides of the argument, but for now this is the most practical approach available at ULHT. Simplifying information on availability status of antimicrobials in PathLinks guidance for Adults (see Fig 9.5) has been highly successful at ULHT, with pharmacy challenging prescriptions and limiting supplies accordingly, but there is still some way to go to improve this further, mainly through educational initiatives for multidisciplinary benefit.

Fig 9.5 – Excerpt from PathLinks Guidelines for Adults. Section 3.1 show permitted indications all antimicrobials.

3 <u>Notes on Specific Compounds</u>	
3.1 List of Antimicrobials	
Freely available agents do not require Consultant Microbiologist approval.	
All other agents will require the name of the Microbiologist consulted to be endorsed on the prescription unless prescribed for a permitted indication as per the table below.	
Agent (and route)	Permitted Indications
Aciclovir (iv/po)	Freely available
Amikacin (im/iv)	Intravitreal use permitted for endophthalmitis, as per guidelines Microbiologist approval required for iv treatment
Amoxicillin (iv/po)	Freely available
Ampicillin (iv)	Not on formulary and NOT stocked
Anidulafungin (iv)	Microbiologist approval required in all cases
Anti-mycobacterial Agents	TB. Consultant Respiratory Physician input advised
Azithromycin (po)	Antibody deficiency syndromes Bronchiectasis Sexual Health use (chlamydia, gonorrhoea) Surgical prophylaxis in Obs & Gynae as per guidelines
Azithromycin (iv)	Not on formulary and NOT stocked

There have been several antimicrobial drug shortages over the 2017/18, the most crucial being national shortage of piperacillin-tazobactam, which led to urgent review of key indications in the antimicrobial guidelines for adults and high level alert communications being disseminated throughout the Trust over the year (see Fig 9.6).

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Despite summarising this obstacle in a few lines for the purposes of this report, the time and efforts and collaboration between PathLinks microbiologists and Antimicrobial pharmacists, going into tackling such a big problem in a timely manner, to minimise risk to patient safety, cannot be emphasised enough.

Fig 9.6 – Example of actions taken to address the national Piperacillin-tazobactam shortage

The figure consists of three documents:

- Left Document:** A letter titled "Severe shortage of piperacillin/tazobactam (Tazocin) injection". It explains the shortage and provides instructions for alternative regimens, including a list of regimens and a table of alternative regimens. It also includes a section for "NOT TO BE USED" and a "NOT TO BE USED" section.
- Middle Document:** A guideline titled "Management of Infections in Adult Patients First Line Antimicrobial Guidelines". It provides a comprehensive overview of first-line antimicrobial treatments for various infections, including respiratory, urinary tract, skin, and soft tissue infections. It includes a central diagram of a human body with arrows pointing to different infection sites.
- Right Document:** A table titled "Alternative regimens in adults to replace piperacillin/tazobactam first line indications". It lists various infections and provides the corresponding alternative regimens, including drug names, dosages, and frequencies.

Several security threats on a national scale (terror attacks and a cyber-attack) also put NHS organisations, including ULHT on high alert, with information being cascaded and disseminated nationally, and locally (see Fig 9.7), to front line staff and services on what to do in the event of a major incident. An example is deep penetrating injury, with antimicrobial advice adopted from Birmingham as this is not a commonly encountered scenario and evidence base is limited.

Fig 9.7 – Examples of additional information on antimicrobial choices and considerations. These were sent out to key areas of ULHT as a precautionary measure, following a string of terror attacks in the UK.

The figure consists of two documents:

- Left Document:** A document titled "Antimicrobial prophylaxis after mass casualty event based on Birmingham military experience". It provides antimicrobial advice for various injury types:
 - Soft tissue:** Co-amoxiclav (or cefuroxime/metronidazole). Duration: until first surgical debridement/washout. (not evidence based, but pragmatic duration)
 - Open fracture limb/hands:** Co-amoxiclav (or cefuroxime/metronidazole) and gentamicin. Duration: until soft tissue cover or for 72 hours whichever is soonest (BOAST 4 guidelines for open tibial fracture extrapolated to other sites)
 - Penetrating CNS injury:** Ceftriaxone and metronidazole. Duration: for 2 weeks (not evidence based, but pragmatic duration)
 - CSF leak post skull fracture:** No antibiotics, give pneumovax
 - Penetrating eye injury:** Ciprofloxacin plus clindamycin. Duration: 2 weeks after removal of any foreign body, or for 2 weeks (not evidence based, but pragmatic duration) note clindamycin is specifically for bacillus cover
- Right Document:** A document titled "PHE advice on viral exposure following blast injuries". It provides advice for anyone seen with a penetrating wound that may have been caused by a projectile body matter that may be from another victim:
 - Provide Hepatitis B vaccination within 48 hours of injury to provide maximal benefit (although can be provided up to 7 days)
 - Take serum blood sample for Hepatitis B, C and HIV. Please also consider this advice in patients who have had contact with blood on their mucous membranes/non-intact skin
 - For follow-up care:
 - Complete accelerated course of hepatitis B vaccine (0.1, 2 months or 0, 7, 21 days and 12 months)
 - Test for hepatitis B, hepatitis C and HIV at 3 and 6 months
 - For anyone who has been transferred to another NHS Trust, please ensure that this information is sent to the receiving team.
 - For anyone who has been seen and discharged from care, please either call the patient back for follow-up as advised, or contact the patient's GP urgently for timely follow-up.
 - PHE expert: Nick Gent: <mailto:Nick.gent@phe.gov.uk>

The ULHT pharmacy teams have escalated cases or areas of concern to the antimicrobial pharmacists (for example, high use of restricted antimicrobials with poor evidence of rationale). This allowed effective management of problem areas, but there are limitations to this approach as not all clinical areas have pharmacy input on a regular basis, and in particular, out-patient areas are not covered by ULHT pharmacy. Introduction of electronic prescribing would greatly improve antimicrobial stewardship on many fronts for intervention for in-patient areas, including monitoring and feedback to individual prescribing teams on a scale that is not possible at present within current staffing resource. The need to consider functions of an electronic prescribing system when scoping the options has been highlighted at several Trust wide forums over recent years by the antimicrobial pharmacists (forums include Antimicrobial stewardship Strategy Group, Infection Prevention and Control, Sepsis Working Group, Medicines Optimisation and Safety Committee, Senior Pharmacy Management Meeting). In the meantime, current resource and organisational structural is being utilised, and the efforts continue in looking for more and innovative ways to expand on this.

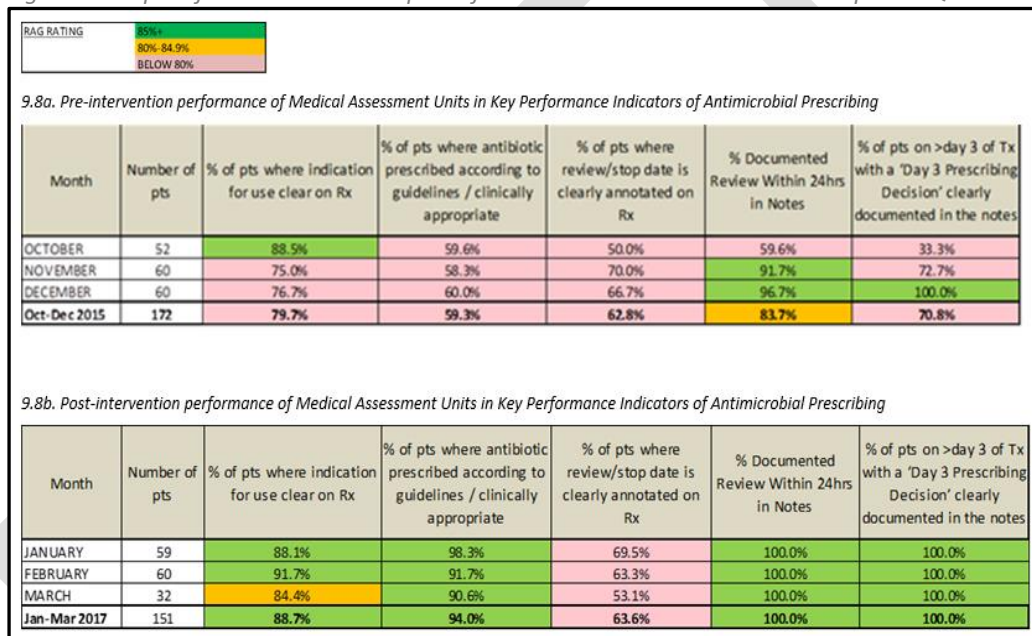
There has been collaboration with partners in primary care to undertake annual review of the locally adapted TARGET toolkit (for antimicrobial guidance for common conditions seen in primary care), with input from both antimicrobial pharmacists and PathLinks microbiologists. This work fits well with recommendations of NICE Guideline NG15. Progress has been slower than anticipated, due to staffing constraints and availability of key personnel on both sides of the interface, but is near completion and will be published in 2018/19.

Monitoring use of antimicrobials has mainly been undertaken via audit, with an audit plan for the year. The Audit plan for 2016/17 was continued for 2017/18 as it was seen as fit for purpose. Formal review and update was not possible as the Consultant Antimicrobial Pharmacist went on maternity leave earlier than planned. The Audit Plan for antimicrobials will be reviewed and re-published in 2018/19. Main changes will be to incorporate the audit elements of the SEPSIS AMR CQUIN of 2018/19. Over the year 2017/18, audit reports have included:

- Final summary of the local Antimicrobial Stewardship KPI CQUIN audit – see Fig 9.8 – Report was fed back to individual prescribing teams and escalated throughout the Trust via key forums including IPCC. Main findings - This project was a great success and demonstrated the value of weekly ward visits to high risk areas with several benefits. There was collaboration and contribution from clinicians across all areas covered and feedback was provided verbally at the point of auditing, with monthly written reports send to all involved. The Antimicrobial Pharmacists undertook the audit and assessment of appropriateness themselves, offering practical advice and guidance and increasing awareness of the resource available to ward teams when seeking antimicrobial advice or guidance on infection management. The uptake and utilisation of antimicrobial pharmacist advice by doctors and nurses was significant and led to positive changes.

However, due to staff turnaround on the wards, it was quickly realised that ongoing efforts were required to maintain the improvements made. Despite good intention, the project came to an end when the CQUIN was completed, as the staffing level was down to 0.5wte from March 2017. The heavy workload of such a project has many advantages to offer, and there is a real need to increase to all clinical areas as found from PII audits over the year and national drives to manage use of broad spectrum antimicrobials more efficiently. Consultant clinicians from various specialities are keen to have this work re-initiated or extended to their areas. A business case has been submitted for administrative support within the Antimicrobial Team, in order to release specialist time to provide their expertise on the wards and clinical areas such as A&E. The outcome of this business case is expected by mid-2018/19.

Fig 9.8 Example of outcomes seen as part of the local Antimicrobial Stewardship KPI CQUIN



- Sepsis AMR audit over 2017/18 – see Fig 9.9 – Report escalated throughout the Trust via key forums including IPCC. Main findings - The report shows that the good work from the 2016/17 CQUIN initiative on promoting a day 3 review is becoming embedded in prescribing culture. The key principles were incorporated into prescribing policy, educational drives and pharmacy interventions. Going forward into 2018/19, the national SEPSIS AMR CQUIN is elaborating on the level of detail required to focus on the follow up of decisions made (by insisting on a stop or review date for antimicrobial plan of action), and insisting on appropriate rationale being documented where IV antibiotics are to continue beyond the day 3 review. These are welcome changes to improve patient safety and quality of care, but do present a challenge once again in ensuring the practice is embedded into culture.

Fig 9.9 – Performance Summary for 2017/18 for Sepsis 72hour review audit, as part of National CQUIN.

Quarter	Number of prescriptions audited	Number of prescriptions with evidence of review within 72 hours	Quarterly milestone	Milestone achieved?
1	44	43 (97%)	25%	Yes
2	38	36 (94%)	50%	Yes
3	50	50 (100%)	75%	Yes
4	65	62 (95%)	90%	Yes

- Trust Annual Audit – see Fig 9.10 - Report escalated throughout the Trust via key forums including IPCC. Main findings - the results of this audit, compared to the previous year continuation of the local Antimicrobial Stewardship KPI audit mentioned above, and also supported the need to roll out further within ULHT. Comparison to the same audit from the previous year (2016) revealed good progress in tackling issues with making appropriate choices, and the understanding of ward pharmacists when screening prescriptions. Over the year, the support of the antimicrobial pharmacists diminished to 0.5wte across the Trust, therefore it is likely that 2018 audit will show some decline in performance, rather than improvement. However, with the team back to 1.5wte from April 2018 onwards, and anticipation of a support worker to be recruited mid 2018/19, this should be addressed swiftly.

Fig 9.10 – Summary of results for Annual Antimicrobial Audit 2017

Audit & Quality Indicators	Medical Admissions Units n = 15	General Medical & Healthcare of Elderly n = 102	Respiratory n = 17	General Surgical – gastro/vascular n = 24	Urology n = 5	Trauma & Orthopaedic n = 26	Haematology & Oncology n = 11	Surgical Admissions n = 7	Trust Average n = 207
	RAG RATING 85%+ 80%-84.9% BELOW 80%								
Prescribing Practices									
% of Antimicrobial Prescriptions Clinically Reasonable* * Indicated / consistent with guidelines (including with respect to allergy status) * C&S results (lab results supersede the guidelines. Tx should be changed if pathogen resistant or de-escalated to narrower spectrum agent if sensitive) * Microbiologist advice * Reasonable / rational explanation of why deviated from the guidelines documented in notes. (Choice only – not length of course)	100%	96%	100%	92%	100%	92%	100%	88%	95%
% of Antimicrobial Prescriptions with an Indication Documented on the Prescription Chart	93%	93%	94%	83%	100%	88%	100%	57%	91%
% Antimicrobial Prescriptions with a Stop / RV date / Duration on prescription (where appropriate)	73%	87%	65%	71%	80%	77%	63%	57%	74%
% of patients on active systemic Antimicrobial therapy that has been clinically screened by a Pharmacist since being commenced.	33%	87%	71%	75%	60%	62%	55%	71%	79%
* % of patients on antimicrobial therapy that is considered NOT clinically reasonable that have been clinically screened by a Pharmacist	0%	3%	0%	11%	0%	6%	0%	20%	4%
% of patients on active systemic Antimicrobial therapy that have received a Consultant review since being commenced.	93%	100%	100%	88%	100%	92%	91%	100%	97%

NICE Guideline NG15: Antimicrobial stewardship: systems and processes for effective antimicrobial medicine use – is used to undertake annual baseline assessments and helps to identify areas where improvement is required. The baseline assessment undertaken in February 2017 showed significant improvement from when it was first done in September 2015, showing 82% compliance with the national recommendations compared to 55% (Trust position just before Antimicrobial Pharmacist Team recruited into post). Shortages in the team from 2.5wte in 2016, to 0.5wte over 2017/18 have meant that work streams have been limited severely to priorities and urgent actions. Reassessment in June 2018, reveals position at end of 2017/18 to be around 67% compliance. Return of the Consultant Antimicrobial Pharmacist takes staffing back up to 1.5 wte, and anticipated recruitment of a support worker should help in progressing work streams that will put ULHT in a stronger position. Again, electronic prescribing would go a long way in increasing efficiencies and output, but as it is a far reaching and wider issue for the Trust, work streams and plans at present are focussed on more practical options. These include:

- Re-instating a more manageable and wider-reaching version of the Antimicrobial Stewardship KPI Audit as undertaken for the local CQUIN in 2016/17, once support worker for Antimicrobial Pharmacy Team is in post. We had made several adjustments to the project to execute / utilise it in the most efficient way, so that several NG15 recommendations were met simultaneously. However, this did present a very heavy workload, with a lot of administrative tasks involved.
- Re-instating monthly Antimicrobial Stewardship Trust wide Reports (ASTR). The reports within this monthly bundle cover numerous aspects of stewardship and although disseminated separately to relevant areas, there is a need to keep them easily accessible and visible at Key Forums of the Trust.
- Working to improve discharge information sent out around antimicrobial use during hospital stay. Currently scoping the possibility of adding a compulsory section to the eDD.
- Introducing a structured and robust surveillance system for antimicrobial use across the Trust. Surveillance systems for antimicrobial use are not adequate at present. Although consumption data is being sent to PHE quarterly, this does not give much insight to the practices between sites, within specialties, or groups of prescribers within the Trust. The Rx-info system that ULHT Pharmacy has subscribed to is able to extract valuable information and dissect trends in various ways and formats, down to consultant led prescribing teams, but time constraints for the 1.5wte antimicrobial pharmacists have meant that only ad-hoc reports or snapshots of surveillance have been possible to date. Going forward, snapshot data extracted from the Rxinfo database will provide direction for ASSG interrogation and intervention. Pharmacy site leads at Boston, Grantham and Lincoln Sites are being empowered with surveillance intelligence and key messages to take to site based IPC meetings. This work is heavily admin based, and there is a need to release specialist pharmacist time in order to deal with queries arising, or support areas requesting assistance in tackling issues related to antimicrobial use.

- The introduction of a support worker for the team will enable progress of this work stream, giving structure to reporting and dissemination of surveillance to individual clinical areas, with support from pharmacy colleagues via their input at governance meetings for specialties and key areas.
- Re-instating monthly Medication incident reports. These formed part of the ASTR previously, but have not been available for most of 2017/18 due to staff vacancy in pharmacy (a role that sits under medication safety). This post has been filled in June 2018 and a report will be available for interrogation, analysis, awareness and actions once again.

As per recommendations in national guidance and the drive from National Antimicrobial CQUINs running up to the current year, there had been an tremendous amount of effort put into development of a service delivery plan for Out Patient Antimicrobial Therapy over 2017/18. This is recognised nationally as a desired option for treating patients who need to continue on IV antimicrobial treatment beyond 3 days, but are well enough to be treated outside of the hospital premises. This option is shown to improve patient outcomes and increase bed availability for new patients who need to be treated in hospital. The OPAT working group had proposed a business model which drew on local resources in an attempt to increase cost efficiencies and utilisation of staff. Trust infrastructure formed part of the proposal as a dedicated team would be required to ensure suitability of patient cases and adequate follow up, patient safety, etc. However, the proposed model was not accepted and there was no outcome. The work done will be revisited in 2018/19, aiming to progress this work stream with a new service delivery model proposed, if necessary.

The Trust Antimicrobial Stewardship Strategy Group (ASSG) is set up in line with recommendations from criterion 3 of the Hygiene code, and NICE NG15, since 2016. The forum allows dialogue with clinicians, PathLinks, primary care around antimicrobials specifically. This forum has gained recognition within the Trust for its function in setting and overseeing the Antimicrobial Stewardship Programme for ULHT. Existing committees within the Trust are unable to provide the time required for focussing on details of stewardship, therefore this was set up as a new body, with VC access to the three main sites. The meetings are held once monthly, lasting approximately 1 hour, and minutes are disseminated to relevant forums including Drug and Therapeutics, Medicines Optimisation and Safety Committee. The ASSG reports to IPCC every month, and through this structure can escalate key issues to Trust Board level as a representative of the DIPC is in attendance and the Antimicrobial Pharmacy Team ensures attendance at IPCC (co-chaired by the DIPC). Attendance at ASSG has been poor over 2017/18, and therefore largely non-quorate, with limited opportunity for the senior Antimicrobial Pharmacist to tackle this as 0.5wte, in the absence of the Consultant Antimicrobial Pharmacist. This is something that is being addressed as a matter of priority with review of the Terms of reference as a starting point, and promoting the value of the forum to key staff groups who will have valuable contributions (i.e., sepsis practitioners, critical care outreach team).

There is regular attendance from the Lead Clinical Representative for Theatres and Intensive care at LCH site, and ASSG has recently welcomed a Lead Clinical Representative for Medical Specialties from GDH site. Further work to do on securing a Lead Clinical Representative from PHB site, preferably for Surgical Specialties as this is currently lacking at ASSG, and increasing engagement and support from clinical specialties in general. Over 2017/18 ASSG has also lost its Lead Clinical Representative for Paediatrics (they no longer work for the Trust). Current issues with staffing and service planning for Paediatrics at ULHT have meant this is not a good time to seek such commitment, but it is on the agenda for the year going forward, and will be pivotal in overseeing the process of guideline review for Paediatrics.

In addition to the Trust Antimicrobial Guidelines devised by PathLinks and the various local guidance on managing specific infections, there is a Trust Antimicrobial Prescribing Policy which covers the main aspects of prudent antimicrobial prescribing, with information and direction on penicillin allergy, documenting appropriate indication, documenting antimicrobial review, pharmacy supplies of restricted antimicrobials, how to obtain urgent antimicrobials during (and out of) pharmacy hours, etc. The policy directs prescribers to follow guidelines where they are seeking antimicrobial choices for management of infections, as they reflect national and local resistance patterns. The policy has been developed taking into account national guidance, patient safety alerts from PHE, national legislation and toolkits, local guidelines and policies. Whilst it is unlikely that the policy is read with enthusiasm on induction, it has certainly been utilised by pharmacy in enforcing key decisions (only supplying 24 hours of a restricted antimicrobial where outside of guidelines and microbiologist approval not documented). The policy is due for review mid-2018, at which point further elaborations will be made with regards to what should go into the Day 3 antimicrobial prescribing review, incorporating the expectations of the SEPSIS AMR CQUIN. There will also be more advice around use of restricted antimicrobials and some insight into surveillance across the Trust. Adherence to prescribing guidance was audited as part of the annual antimicrobial audit 2017 (as detailed given earlier), which also includes compliance with hospital post prescribing review at 48-72 hours. This review is commonly referred to as the Day 3 prescribing decision at ULHT, mainly due to this being how it was promoted, with the idea of being undertaken within 3 days of initiating antibiotics for an infection. There have also been quarterly audits undertaken to assess compliance for sepsis management including 72 hour review. These have all been escalated via IPCC at least and back to commissioners as part of national CQUIN requirements, but feedback to prescribers has been severely limited due to lack of staffing resource over the year. This will be much improved now that the team is back to 1.5wte and anticipating a successful business case for support. Benchmarking has been used to demonstrate progress in antimicrobial stewardship, but this has been mainly for interrogation at ASSG, for the same reason. This includes benchmarking against other Trusts and within ULHT. Commissioners are also able to access information relating to markers of antimicrobial stewardship via the Fingertips website, managed by PHE.

This data source feeds off the consumption data submitted for each quarter which is standardised by a denominator of 1000 admissions. Plans to widen the surveillance programme (outlined earlier) will include benchmarking between similar areas of the Trust.

Over this year, there has been a shortage of suitably qualified individuals who can advise on appropriate choice of antimicrobial therapy. The microbiologists have had consultant vacancies and ULHT Consultant Antimicrobial Pharmacist has been on maternity leave. The microbiologists operate an 'on call' system where a duty microbiologist is assigned to cover calls from ST3 doctors and above. The 0.5 wte antimicrobial pharmacist has remained open to taking queries and providing advice to junior doctors, but limited capacity has led to diminished ward presence and reduced awareness of the options available to prescribers. Going forward, the outlook for 2018/19 is much better. Pathlinks Microbiology now have a consultant microbiologist assigned to each ULHT site and each NLaG site (important as the service covers both Acute NHS Trusts and primary care services). The Consultant Antimicrobial Pharmacist has returned from maternity leave and there is a drive to increase awareness of resources within the Trust. Part of the resources take form of the guidance and policies available, and timely review of these documents to support good decision making. The Antimicrobial Pharmacists are looking to increase their availability on wards pending recruitment of an Antimicrobial Support Worker. They have set up an account on Twitter (please follow @AbxULHT) giving out snippets of useful information on infection management and resistance, and key messages from incident reports and RCAs. Posters have been sent out to all Post Graduate Medical Education Centres of the Trust, to raise awareness of how juniors can get antimicrobial advice or reassurance, and pharmacy are also spreading the message as Antimicrobial Pharmacists re-establish and roll out weekly ward rounds.

With the Trust being over trajectory for C.difficile cases for 2017/18, weekly CDAD/GDH rounds have been set up on LCH site as a new initiative. This is a collaboration between Antimicrobial Pharmacy Team and the Infection prevention and Control Nurses, whereby all patients identified and CDAD toxin positive are visited on the site to review progress, management, adherence to guidelines and policy, offer advice etc. GDH positive patients are also visited where possible to ensure risk factors are reduced and there is good awareness of what to do if the patient becomes symptomatic. These rounds have led to many interventions and have been well received by the wards. See Fig 9.11. Plans to extend this initiative to PHB site from late June to improve access to advice on appropriate therapy in a timely manner.

Fig 9.11 – Summary of data collection on C.Diff/GDH ward rounds at LCH site over 1 month

Week commencing	No. of patients seen (LCH Site only)	Intervention				Total interventions by Antimicrobial Pharmacist
		Change of Antibiotic	Changes to Antibiotic route / dose / duration	Changes to medication to reduce risk factors	Constructive advice	
24/04/2018	3	1	2		1	4
02/05/2018	4			1	1	2
09/05/2018	5	1	2	3	1	7
16/05/2018	No Antimicrobial Pharmacist on round					
23/05/2018	6	2	4		3	9
TOTAL	18	4	8	4	6	22

Local antimicrobial susceptibility data (drug-bug combinations) sits within remit of PathLinks Microbiology Department and forms part of the considerations when reviewing antimicrobial guidelines. Information is not submitted directly from ULHT to the national surveillance body in this regard. Information on antimicrobial consumption is collated by the antimicrobial pharmacists and includes outpatient prescription data being received from the third party provider of outpatient pharmacy services (was Lloyds Pharmacy over 2017/18, but the new contract for 2018/19 is assigned to Rowlands Pharmacy). The data on consumption is submitted quarterly direct from ULHT to NHS England, who collaborate with PHE to analyse and publish to Fingertips Portal. Unfortunately, even 3 years into the initiative set up by NHSE/PHE, data analysis has a significant time lag. Antimicrobial pharmacists are therefore using information extracted from the Rx-info database (subscribed) to guide efforts in tackling inappropriate consumption. Going forward, work needs to be done to secure the sharing of local antimicrobial susceptibility and resistance data at ASSG, and also to look at meaningful ways to communicate this information back to prescribers across primary and secondary care in a timely manner to improve prescribing quality.

Induction sessions are provided by antimicrobial pharmacists to familiarise junior doctors with the Trust antimicrobial guidelines and resources available. Each of the three main ULHT sites has a programme of weekly educational sessions held for clinicians. This is not compulsory, but tends to have a good attendance. Sessions are reserved for antimicrobial pharmacy input at intervals throughout the year. Going forward, efforts will be made in providing more of these sessions in an electronic and self-learning format on key areas of confusion, such as gentamicin prescribing, management of UTI, management of Sepsis. This will be done in collaboration with relevant practitioners across the Trust.

Overall, from the above it is evident that it had been a tough year and the efforts of Sue Leo should be applauded as the 0.5wte Antimicrobial Pharmacist, not an easy feat given all the problems encountered. The forecast for 2018/19 is much brighter as the team is back to 1.5wte and looks forward to support within the team to build on the successes so far.

Criterion 4: Provide suitable and accurate information on infections to service users, their visitors and any person concerned with providing further support or nursing/medical care in a timely fashion

The ULHT IP&C team has developed a set of patient information leaflets, care documents and up to date information on the trust website that provides advice, support information and contact details for patients and visitors needing further support.

All patient information has been ratified through the relevant governance processes prior to being issued to ensure that it is user friendly and fit for purpose. A catheter passport was developed by the Lincolnshire Whole Health Economy IP&C group which has enables all patients and service users to hold their own catheter information so that whichever service they need to access, the care providers have an up to date record of details relating to the catheter management plan.

The trust website has a dedicated page for infection prevention giving advice on matters such as hand hygiene and the latest infections data. The annual reports can also be found on this page. This demonstrates the transparency of the organisation to provide 'live' information on a public facing platform.

There is a leaflet on the general principles on the prevention of infection which is available in other languages, large print, audio and braille formats via the Public Involvement Team. Other leaflets include information on reporting concerns relating to hygiene and cleanliness including hand hygiene, MRSA, Clostridium difficile. GDH, Isolation precautions and use of antibiotics.

advice or ask to speak to a member of the Infection Prevention Team

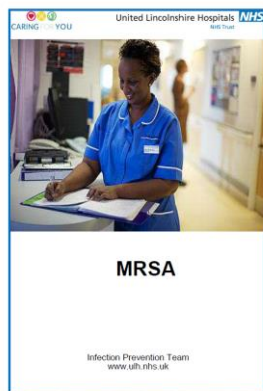
Patient Advice and Liaison Service (PALS)
PALS offers confidential information, support and advice on health related matters. Contact can be made either by telephone, email or in person and PALS staff can visit patients on wards.

The contact details are:
Lincoln County Hospital
Located near main reception
Telephone: (01522) 707071
Grantham and District Hospital
Located next to Ward 6
Telephone: (01476) 464861
Pilgrim Hospital, Boston
Located in main reception
Telephone: (01205) 446243
Email: pals@ulh.nhs.uk

References
If you require a full list of references for this leaflet please email patient.information@ulh.nhs.uk

The Trust endeavours to ensure that the information given here is accurate and impartial.

If you require this information in another language, large print, audio (CD or tape) or braille, please email the Patient Information team at patient.information@ulh.nhs.uk



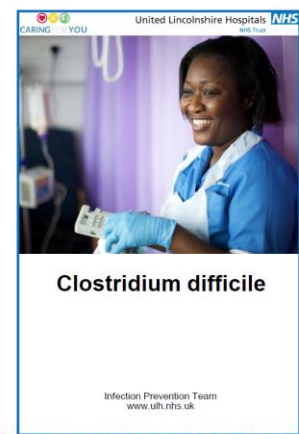
What the hospital is doing
The prevention of infection is a priority for United Lincolnshire Hospitals NHS Trust. To prevent Clostridium difficile infections, we:

- train staff to wash their hands and equipment correctly
- ensure staff are "bare below the elbows" and wash their hands before and after each time they touch a patient or the patient's environment
- screen patients for Clostridium difficile if they are admitted with or develop diarrhoea
- isolate patients who have been found to have Clostridium difficile in a side room and provide treatment if required
- monitor standards of hygiene in all wards and departments
- encourage visitors to wash their hands before and after visiting wards (hand hygiene stations (alcohol gel) are found outside every ward)

If you have any questions or concerns, please ask your nurse for advice or ask to speak to a member of the Infection Prevention Team.

Patient Advice and Liaison Service (PALS)
PALS offers confidential information, support and advice on health related matters. Contact can be made either by telephone, email or in person and PALS staff can visit patients on wards.
Lincoln County Hospital: (01522) 707071
Grantham and District Hospital: (01476) 464861
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The Trust endeavours to ensure that the information given here is accurate and impartial.

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Criterion 5: Ensure that people who have or develop an infection are identified promptly and receive the appropriate treatment and care to reduce the risk of passing infection to other people

The trust DIPC, Deputy DIPC and lead nurse for IP&C for ULHT recognised that having site based teams with specific areas of responsibility could leave the organisation vulnerable if the IP&C team had a period of reduced capacity (vacancies, long term sickness etc.) or if site pressures / incidents increased demand for the service. As part of the new service plan and strategy, the current structure of the IP&C team has been amended in a way that better serves the organisation. This means that more ‘corporate’ approach can be used to cover all sites as the situation demands. This has provided a degree of protection for clinical services no matter where they may be located.

Although the IP&C team are available during normal working hours to provide advice and support, ULHT has 24hr access to a microbiologist for out of hours IP&C advice. The IP&C team also support operational matters by attending daily bed meetings and by providing a daily side room availability assessment for use by the operations teams.

The trust is a key member of the whole health economy IP&C structure and works closely with external partners (such as PHE, CCG and NHS Improvement) to ensure they given up to date and relevant information on any outbreaks and incidents. Throughout 2017/18, all partners were kept informed of any events where needed and local working partners are members of the trusts IP&C committee.

Criterion 6: Ensure all staff and those employed to provide care in all settings are fully involved in the process of preventing and controlling infection

Training

As part of the quality and safety improvement programme being developed by the IP&C team in 2017/18, a review of the training standards was undertaken. The review showed that there were missed opportunities for engagement such as trust induction. Following discussions with the Organisational Development team it was decided to re-introduce IP&C as a face to face module on trust induction. In addition to this, the annual core learning packs were developed in to clinical and non-clinical with refreshed and updated information relevant to all staff.

Although the trust achieved the 85% compliance with IP&C training, it was also noted that core learning compliances were below the expected levels for the IP&C team (90%) and as such the team will be working closely with service leads to ensure that all of those staff members due to complete training are encouraged and given time to do so.

IP&C core learning compliances 2017/18

Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18
87%	85%	85%	85%	84%	83%	82%	86%	85%	85%	85%	84%

Aseptic Non-Touch Technique (ANTT)

As part of the overall hygiene code gap analysis work, it was identified that specific ANTT training had not been delivered to the trusts clinical staff for a number of years. It was therefore decided that the IP&C team would purchase the ANTT training packs for 2018/19 and lead on the delivery process to the clinical teams throughout the organisation to ensure that a robust and sustainable system of training and competency assessment is in place.

Infection Prevention Link practitioners

Infection Prevention Link’s (IPL’s) are registered nurses or healthcare support staff and multi-disciplinary team (MDT) members. All have an interest in infection prevention and work as a link between the infection prevention specialist service and their clinical area. Many areas have chosen to have more than one staff member sharing the role and they are nominated by the senior nurse or professional within the clinical area. The IPL’s come from a range of different clinical disciplines, and are fundamental to successfully implementing and embedding ownership at ward or department level. They play a key role in informing, educating and supporting their colleagues in the clinical area. They also undertake frequent audits of key aspects of clinical practice.

During 2017-18 IPL’s study days were held on a quarterly basis for the trust IPL’s, rotating the venue between hospital sites. These days provide focussed education, networking with colleagues and keeps the IPL’s updated with relevant issues internally, locally and nationally. They also provide a forum for exchanging ideas, sharing best practice and for discussion around key issues.

The IPL model will be further enhanced as part of the ongoing IP&C service improvements by developing an IPL ‘contract’. This will put in place a defined role for the IP&C IPL, building in protected time for support in their respective areas, opportunities for learning and development and is of enormous benefit to their respective areas. In return it is expected that the IPL will be able to demonstrate how they used their protected time and those areas with nominated IPL’s will be expected to send representatives to at least 3 out of the 4 quarterly meetings. The ILP role will be reviewed every 2 years to ensure that it remains effective.

Contracted workers

All contracted workers working in any of the trust sites are expected to complete an induction. This includes an IP&C element and the IP&C work closely with the Estates and Facilities teams to ensure that risk assessments and controls are in place prior to any works being undertaken in with the national standards (Health Building Note HBN 00-09 Infection Control in the built environment).

The IP&C team responds rapidly to any breaches in controls that may affect patient safety and works with managers, estates and facilities and contractors to resolve any IP&C related issues.

Criterion 7: Provide and secure adequate isolation facilities

It is widely recognised within ULHT that there is a lack of side room availability and the ability to cohort patients during outbreaks. This is largely due to the ageing estate and would have required a significant investment and refurbishment to overcome. In recent years this has had a direct impact on outbreak management decisions and as a result alternative plans were needed to address this problem.

In 2017/18 a revised plan was implemented that focussed on better management of the current facilities during outbreak management scenarios. Emphasis was placed on having a risk based approach to side room usage so that if isolation facilities were required urgently, lower risk patients could be safely transferred to other beds and managed appropriately.

In addition to the revised plan, the IP&C team now attend daily bed management meetings and provide a full side room availability sheet which is based on IP&C risk assessment so that operational teams can clearly see who can be moved out of side rooms at relatively short notice.

To further aid risk based decision making, colour coded door cards are available for side rooms depending on the type of infection. These cards are available to all inpatient areas.

DOOR MUST BE KEPT CLOSED AT ALL TIMES United Lincolnshire Hospitals NHS

RESPIRATORY ISOLATION

	Please speak to the Nurse In Charge before entering	
	Hands MUST be decontaminated before entering this room, using soap and water or alcohol hand rub	
	Disposable aprons MUST be worn by all staff on entry and removed before exiting	
	Surgical masks to be worn for providing direct care. Fit tested FFP3 masks to be worn when performing aerosol generating procedures and in situations as advised by the Infection Prevention Team	
	Put on disposable goggles/ eye shield when there is a risk of eyes being exposed to respiratory secretions. Remove before exiting the room	
	Disposable gloves MUST be worn by all staff on entry and removed before exiting. When a gown is worn the glove MUST extend to cover the wrist of the isolation gown	
	Hands MUST be decontaminated before leaving this room, using soap and water	

Safety Precautions

- Avoid adjusting PPE once you enter isolation area
- Avoid touching your face
- Minimise contact with environmental surfaces
- All cuts and lesions **MUST** be covered with a waterproof dressing

DO NOT TAKE MEDICAL NOTES INTO THE ROOM

DOOR MUST BE KEPT CLOSED AT ALL TIMES

DOOR MUST BE KEPT CLOSED AT ALL TIMES United Lincolnshire Hospitals NHS

PROTECTED ISOLATION

	Please speak to the Nurse In Charge before entering	
	Hands MUST be decontaminated before entering this room, using soap and water or alcohol hand rub	
	Disposable aprons MUST be worn by all staff on entry and removed before exiting	
	Disposable gloves MUST be worn by all staff on entry and removed before exiting. When a gown is worn the glove MUST extend to cover the wrist of the isolation gown	
	Hands MUST be decontaminated before leaving this room, using soap and water	

Safety Precautions

- Avoid adjusting PPE once you enter isolation area
- Avoid touching your face
- Minimise contact with environmental surfaces
- All cuts and lesions **MUST** be covered with a waterproof dressing

DO NOT TAKE MEDICAL NOTES INTO THE ROOM

DOOR MUST BE KEPT CLOSED AT ALL TIMES

DOOR MUST BE KEPT CLOSED AT ALL TIMES United Lincolnshire Hospitals NHS

CONTACT ISOLATION

	Please speak to the Nurse In Charge before entering	
	Hands MUST be decontaminated before entering this room, using soap and water or alcohol hand rub	
	Disposable aprons MUST be worn by all staff on entry and removed before exiting	
	Disposable gloves MUST be worn by all staff on entry and removed before exiting	
	Hands MUST be decontaminated before leaving this room, using soap and water	

Safety Precautions

- Avoid adjusting PPE once you enter isolation area
- Avoid touching your face
- Minimise contact with environmental surfaces
- All cuts and lesions **MUST** be covered with a waterproof dressing

DO NOT TAKE MEDICAL NOTES INTO THE ROOM

DOOR MUST BE KEPT CLOSED AT ALL TIMES

DOOR MUST BE KEPT CLOSED AT ALL TIMES United Lincolnshire Hospitals NHS

ENTERIC ISOLATION

	Please speak to the Nurse In Charge before entering	
	Hands MUST be decontaminated before entering this room, using soap and water or alcohol hand rub	
	Disposable aprons MUST be worn by all staff on entry and removed before exiting	
	Disposable gloves MUST be worn by all staff on entry and removed before exiting	
	Hands MUST be decontaminated before leaving this room, using soap and water	

Safety Precautions

- Avoid adjusting PPE once you enter isolation area
- Avoid touching your face
- Minimise contact with environmental surfaces
- All cuts and lesions **MUST** be covered with a waterproof dressing

DO NOT TAKE MEDICAL NOTES INTO THE ROOM

DOOR MUST BE KEPT CLOSED AT ALL TIMES

To further enhance the multi-disciplinary approach to better isolation management (especially out of hours), the lead nurse for IP&C delivered a 'time out day' training session to the trusts site duty managers so that a better understanding of the issues around isolation and how to use the colour coded door cards as a guide to risk assessments could be discussed and resolved.

Some of the most vulnerable areas for outbreaks in hospitals is in admissions units. These units tend to have large bed numbers and cannot be easily closed to admissions due to operational pressures. Many patients are admitted with infectious symptoms and the disease can spread before effective isolation can take place. In MEAU on Lincoln site, this has been acknowledged as particular problem. There are plans and funding in place to fit doors to the bays of the assessments area so that cohort nursing can take place without the need to close the entire unit.

Criterion 8: Secure adequate access to laboratory support as appropriate

Eliminating avoidable healthcare associated infection is a key priority for ULHT. This aim is supported by the Path Links microbiology service including the clinical microbiologists. Ongoing microbiologist involvement includes support for day to day and strategic IP&C activity.

The clinical microbiology service has met with significant challenges during the last few years with difficulties in recruiting staff and with long term absences through long term illness and maternity leave. These have been mitigated by close team working across both United Lincolnshire Hospitals and North Lincolnshire and Goole NHS Trusts. The duty rotas are now completely integrated, meaning that during office hours there were two consultant microbiologists entirely dedicated to providing urgent clinical advice and laboratory liaison. There continues to be 24/7 cover for clinical, laboratory and infection prevention advice.

During the past year Path Links have been successful in recruiting two consultant microbiologists, so including a long term locum, Path Links now employs six consultants making up five whole time equivalents. Path Links are continuing to advertise for a sixth consultant which would bring the team up to full establishment. Each WTE microbiology post has 1PA weekly dedicated to IP&C activity, split between NLaG and ULHT. The establishment has been reviewed in light of UKAS inspection findings, and Path Links has submitted a case for extra clinical microbiologist support. Path Links advertised and was successful in appointing a speciality doctor who will be starting work during the next financial year.

Sadly one of the loved consultant microbiologists, Dr Anthony Vicca died in March 2018 after a long illness.

The microbiology laboratory continues to support the requirements of the Health and Social Care Act Criterion 8. Developments during the year include a successful pilot of a cartridge based PCR system for norovirus and influenza detection, which has helped during the outbreak season. The main focus has been to develop the quality systems necessary for UKAS accreditation. Inspections took place throughout the autumn 2017, and we are optimistic about the outcome.

The principle objectives for the clinical microbiology department in support of IP&C for the coming year are:

- Implementation of a cartridge based PCR system for norovirus and influenza testing
- Introduction of MALDI-TOF and automated sensitivity testing
- Improve diagnostic techniques for orthopaedic infections
- Recruitment to the vacant consultant post
- Develop the speciality doctor role
- Introduce the 'Deep Sea' electronic data mining program for use in surveillance
- Undertake a full review of the Path Links antimicrobial formulary
- Support implementation of a smartphone application to support decision making in antibiotic prescribing

Criterion 9: Have and adhere to policies designated for the individual's care that will help to prevent and control infections

The ULHT IP&C team hold a number of separate policies that make up the trust IP&C manual. This is readily available in the trust intranet and the policies are updated as and when required using a policy management matrix. There are 5 sections of policy within the manual and all are listed in this report.

Section 1

<p>1.04 Infection Prevention Surveillance Policy</p> <p>Surveillance of healthcare acquired infections (part of the infection control manual). Formerly 2.19.</p>
<p>1.05 Infectious Outbreak / Incident Policy including Major Outbreak</p> <p>Contingency plan for the outbreak of infection (part of the infection control manual) Formerly 1.12.</p>
<p>1.06 Infection Prevention and Control Policy for Antimicrobial Prescribing</p> <p>To provide a framework for Trust staff to ensure the safe and appropriate prescribing of antimicrobials to reduce the risk of infection from MRSA, other resistant bacteria and Clostridium difficile and maintain the effectiveness of antimicrobial agents in the treatment of infections by reducing the risk of bacteria developing antimicrobial resistance. Formerly 3.16.</p>

1.07 Personal Protective Equipment for Infection Prevention and Control Policy

Universal standard infection control precautions (part of the infection control manual. Formerly 1.03.

1.08 Hand Hygiene Policy

Hand hygiene guidelines (part of the infection control manual. Formerly 1.05.

1.10 Aseptic Non-Touch Technique Policy

Aseptic non touch technique policy (part of the infection control manual). Formerly 1.06

1.13 Blood Culture Protocol

Protocol to reduce the risk of blood culture contamination and standardise practice in accordance with best practice recommendations.

Section 2

2.01 Guidelines for the control of Meticillin-Resistant Staphylococcus Aureus (MRSA)

Guidelines for the control of meticillin-resistant staphylococcus aureus (MRSA) (part of the infection control manual). Formerly 2.02.

2.02 Guidance on the Infection Prevention and Control Management of Carbapenemase Producing Enterobacteriaceae (CPE)

This guideline represents the ULHT response to the challenge of CPE. Formerly 2.23.

2.03 Policy for the Prevention and Control of Multi-Drug Resistant Gram-Negative Bacteria

Formerly 2.17 Control of multiply-resistant micro-organisms including Vancomycin-resistant enterococcus (VRE).

2.04 Guidelines for the prevention and control of group A streptococcal infection

Article from 2011 outlining the guidelines for the prevention and control of group A streptococcal infection. Formerly 3.22.

2.06 (GDH) Glutamate Dehydrogenase (GDH) Positive Nursing Guideline

The contents of this guide applies to all nurses and members of the multi-disciplinary team (MDT) involved in the management of patients whose stool sample is positive for Clostridium difficile Glutamate Dehydrogenase (GDH) but toxin has not been detected.

2.06 Guideline for the management of patients with Clostridium difficile Infection

The purpose of this guideline is to highlight the action that needs to be taken when a diagnosis of Clostridium difficile disease is suspected or proven. This guide should be used in conjunction with trust policies on infection prevention and control and the antibiotic formulary and prescribing advice. Formerly 1.14b.

2.07 Policy for the management of suspected and/or confirmed Norovirus cases

This document is part of the Infection Control Manual which details the management of suspected and/or confirmed Norovirus cases (formerly 1.15).

2.09 Suspected or Confirmed Respiratory Tract Infection Policy

This policy is intended to provide some general principles of isolation precautions required for patients with suspected or confirmed respiratory infection, why they are required and the rationale behind their use for the reduction and prevention of infections.

2.12 Post-Cataract Operation Endophthalmitis Protocol

Post-Cataract Operation Endophthalmitis Protocol (part of the infection control manual). Formerly 3.01.

2.13 Management & control of PVL associated staphylococcal infections

Management & control of PVL associated staphylococcal infections (part of the infection control manual). Formerly 2.21.

2.14 Management of Patients with Scabies

Scabies prevention and control (part of the infection control manual). Formerly 1.11.

2.15 Management of Patients with chickenpox and shingles

Infection control issues associated with chickenpox and shingles in patients and staff (part of the infection control manual). Formerly 2.09.

2.18 Guidelines on the management of patients with or at risk of Transmissible Spongiform Encephalopathies (e.g. Creutzfeldt-Jakob disease [CJD or vCJD]) with regard to Infection Control

Guidelines on the management of patients with or at risk of Transmissible Spongiform Encephalopathies (e.g. Creutzfeldt-Jakob disease [CJD and vCJD]) with regard to infection control. Formerly 2.07

2.19 Management of Patients with Hazard Group/Category 4 Pathogens in particular Viral Haemorrhagic Fevers and Hendra and Nipah Virus Infections

Viral haemorrhagic fevers (part of the infection control manual). Formerly 2.12.

Section 3

<p>3.01 Isolation methods of communicable infections</p> <p>Isolation methods of communicable infections. Formerly 1.08</p>
<p>3.03 Management of Elective Orthopaedic & Vascular Patients in Ring Fenced Beds</p> <p>The purpose of this guideline is to highlight the action that needs to be taken when patients are admitted to the elective Orthopaedic wards – Neustadt-Welton Lincoln and 3A Boston and Vascular 5B at Boston. This guide should be used in conjunction with Trust policies on infection prevention and control and the antibiotic formulary and prescribing advice.</p>
<p>3.07 Operating theatres - guidance for the prevention and control of surgical site infection</p> <p>Operating theatres - guidance for the management of infection control (part of the infection control manual). Formerly 3.03.</p>
<p>3.09 Organisational Policy for the Decontamination of Reusable Medical Devices</p> <p>This policy sets out the Trust’s arrangements for ensuring that appropriate management arrangements are in place for decontamination procedures and applies to all Trust and non-Trust staff who may be required to decontaminate Medical Devices and to staff who are required to manage or maintain equipment used to decontaminate Medical Devices. Formerly 3.17.</p>
<p>3.10 Single-use medical devices: implications and consequences of use</p> <p>This MRHA publication draws attention to the hazards and risks associated with reprocessing and reusing single-use medical devices. It covers the legal issues and regulatory requirements of such actions. It also considers the implications of damage to the materials or construction of the device and inadequate decontamination procedures.</p>
<p>3.11 Decontamination of endoscopes</p> <p>Decontamination of endoscopes (part of the infection control manual). Formerly 2.08.</p>
<p>3.18 Guidelines for Pets as Therapy and assistance dogs in hospitals</p> <p>Guidelines for animals on hospital premises (part of the infection control manual). Formerly 3.04.</p>

Section 4

Current Public Health England Guidance

For current guidance from Public Health England

Section 5

Inoculation Injury Report Form

This form is used to record an inoculation injury.

Occupational Health & Wellbeing Services (OH&WBS) Communicable Diseases Guidelines

This guidance is intended for use by all staff employed within United Lincolnshire Hospitals NHS Trust to provide advice for the management of staff who develop an illness or infection that can be transmitted to other staff members, patients or visitors to the Trust. It is to be used in conjunction with advice from the Occupational Health and Wellbeing Service (OH&WBS), Infection Prevention and Control (IPCT), Human Resources departments and Health Protection Agency (NHS England), as required.

Safe handling and disposal of sharps, management of sharps injuries and exposure to body fluids

This policy provides guidance on the management for the safe handling and disposal of sharps, management of sharps injuries and exposure to body fluids.

These sections comply with the requirements of the hygiene code.

Criterion 10: Ensure so far as reasonably practicable that care workers are free of and are protected from exposure to infections that caught at work and that all staff are suitably educated in the prevention and control of infection associated with the provision of health and social care

Seasonal Flu Vaccination

The Trust achieved a flu vaccination take up of 81% front line staff in ULHT for 2017/18. And achieved the NHS England Flu CQUIN of 70% of Frontline staff the value of the CQUIN is £230,000. The Trust flu plan for 2018/19 is now in place and in the process of been implemented following approval by NHS England.

The flu vaccine order for 2018/2019 is now in place NHS Improvement and NHS England have advised on the vaccine changes and have amended the flu vaccine order to a quadrivalent flu vaccine for healthcare workers all of our staff for 2018/2019. They state that it is clear that for the 2018-19 winter season, NHS providers should be planning to offer the quadrivalent vaccine (QIV) for healthcare worker. The trust normally uses the Trivalent vaccine.

Immunisations and Vaccinations

The issues of non-compliance with staff not being immunised this results from staff failing to attend their appointments has improved and continues to improve. For 2018 we have added a text reminder service to all OH appointments to reduce DNA's.

Hepatitis B Vaccine availability

The international shortage of Hepatitis vaccine restricted the number of vaccines and OH was not seen as a priority all staff who could not be vaccinated were recorded for recall. There remains a problem with the availability of Hep B vaccine internationally but this is improving and NHS England are allowing us to vaccinate Healthcare Workers in line with the guidance. As the supply of single vaccines is now beginning to increase and as this continues all staff we will have tracked and need vaccinating will be recalled for vaccination.

MMR compliance

Due to the number of outbreaks of measles internationally and locally, the trust is conducting a look back exercise to ensure staff in high risk areas are compliant with current guidance.

BCG vaccine availability.

BCG vaccination for occupational health reasons has remained the lowest priority during this period of constrained BCG vaccine supply. Occupational health departments and infection control teams reinforcing their local TB infection control precautions to all staff. The service have produced a leaflet which outlines TB information to all UHLT employees. Occupational health providers are now able to order InterVax BCG vaccine through ImmForm. There are restrictions in place for vaccine orders and this restriction will remain under review

Appointments and Immunisations and Serology for ULHT staff for 2017/2018

No. of appointments for immunisations and serology	
Course	Total
Hep B 1st (Standard)	152
Hep B 2nd (Standard)	163
Hep B 3rd (Standard)	405
Hep B 5 year Booster	194
Hep B Immediate Booster	136
Hep B 1st (Accelerated)	57
Hep B 2nd (Accelerated)	53
Hep B 1 year booster	3
Hep B 3rd (Accelerated)	54
Hep B Antibody Test	909
Hep BsAg	346
Hep B Antibody-HBc	97
Hep B Antibody Test (Accel/Immediate)	88
TB Check Site	945
TB Mantoux	8
TB Heaf test	8
TB - History of BCG vaccination	297
Varicella antibody test	211
Measles serology	541
Rubella serology	408
Mumps serology	172
Hep C Antibody test	335

Section 6 Forward planning

The trust is expected to deliver and sustain continual improvements in quality and safety. The focus of sustained improvement will be achieving full compliance to the hygiene code, ensuring that this achievement can be maintained in a robust manner. This sustained improvement must have the capacity and resilience to maintain safety despite any operational or incident issues that may arise.

In addition, there will be a working process of delivery towards more integrated Infection Prevention and Control practices across the whole health economy as part of the sustainability and transformation partnership (STP) programme and developing an accountable care system (ACS) that maximises patient centred care delivery.

The trust must first work towards protecting and securing quality and safety for IP&C internally prior to initiating wider engagement working programmes. Therefore, a set of key milestones have been developed to demonstrate a sustainable programme of improvements in quality and safety which will be achieved prior to work commencing on development of an ACS programme.

Key aspects of the sustainable planned improvements are as follows:

- Working with Antimicrobial Pharmacists and Microbiologists to support better management of antibiotic stewardship. This work will focus on reviewing the antibiotic formulary and training delivery to prescribers. The aim of this work is to prevent both increased rates of *Clostridium difficile* infections, antibiotic resistance and reducing Gram negative bloodstream infections.
- Purchasing and delivering the Aseptic Non-Touch Technique training packs and establishing a robust system of competency assessment for the relevant clinical teams.
- Multiple themed audits in ALL clinical areas to be undertaken throughout the year. This will provide invaluable information as to the status of practice in the trust so that target actions can be put in place to improve.
- Development of the Link Practitioner programme will include the establishment of a 'contract' that allows the practitioner to have protected time for improvement work, education and support. In return, the trust will expect that each clinical area will send a nominated person to 3 out of the 4 quarterly meetings and should be able to demonstrate how they used their protected time to support their clinical area. This role will be reviewed every 2 years to ensure it remains effective and supportive.

- The IP&C team will work with the Organisational Development team to improve compliances with IP&C mandatory learning. This will be aimed at all trust employees with a view to improving compliance rates to over 90%.

The timescales for this planned programme of work is over a three year period in line with the trust 2021 strategy and will see ULHT in a position to consistently deliver high quality and safe services and to take the lead in the development of an integrated Infection Prevention and Control service for the population it serves.

Other key pieces of work will include representing the IP&C function at the trust IP&C committee, progressing the trust wide IP&C action plans and creating effective matrix work streams involving leads from key areas within the trust and external partners. Internally this would be Tissue Viability, Dietetics, Sepsis Nurses, Acute Medicine, Surgical Specialties and Estates and Facilities to name but a few. Externally, working relationships with universities, social care commissioners, other NHS trusts especially community and mental health trusts is key to ensuring we can provide the best possible outcomes for our patients.

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Section 7 Conclusion

This report has shown that the past 12 months has seen some significant improvements in IP&C for the trust and performance continues to improve. Early in 2017 the trust was rated as red by NHS Improvement with many key actions urgently needed to improve performance. With strong leadership and clear direction, the trust as a whole took decisive steps to improve quality and safety. This led eventually to the trust being rated as green by NHS Improvement but despite this, ULHT continues to strive for ever better quality and safety.

The production of the comprehensive hygiene code gap analysis gave the trust a detailed list of both compliances and non-compliances that could be worked through in priority order. The comparison charts listed in the Criterion 1 section demonstrate the significant progress made towards compliance. In some areas the solutions are more long term and require investment however the monitoring through the trust IP&C committee will ensure that progress can be measured.

It was identified that not all areas were being audited for IP&C compliance. The themed audit programme visiting all clinical areas will help to inform the trust as to where targeted actions may be required and will form the basis for quality improvement monitoring which again can be managed through trust IP&C committee. The audit programme will also help to support the ward accreditation process currently being managed by the quality matrons.

The housekeeping provision over the past 12 months has presented challenges however with current move of housekeeping services returning to central facilities control, a more manageable service can be delivered. This will help significantly with both winter pressures and the proposed deep clean programme.

Overall, the organisation can be pleased with the progress whilst understanding that there is still some way to go before comprehensive assurance can be offered for full IP&C compliance. The strong leadership and efficient use of resources within the IP&C service will undoubtedly mean progress momentum can be maintained and performance continuing to improve despite future pressures on the organisation.

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