Royal Devon University Healthcare
NHS Foundation Trust

Infection Prevention and Control Annual Report 2022-2023

Royal Devon University Healthcare
NHS Foundation Trust

CONTENTS

EXECUTIVE SUMMARY

This is the first annual report of the Directors of Infection Prevention and Control (DIPC) for the Royal Devon University Healthcare NHS Foundation Trust (RDUH) which was established in April 2022, the publication of the DIPC Annual Report is a requirement to demonstrate good governance, adherence to Trust values and public accountability (Dept. of Health, 2004).

The purpose is to provide assurance that the Trust strives to achieve high levels of compliance with the Health and Social Care Act 2008: code of practice on the prevention and control of infections and related guidance (Department of Health, 2015) and that where gaps exist these are highlighted.

The full report is mapped to the ten criteria associated with the Code and takes the opportunity to celebrate successes and highlight the increasing challenges going forward:

1. COVID-19 has remained a significant issue within healthcare. COVID control measures remained in place for the NHS for much of the year although the success of the COVID-19 vaccination programme, availability of effective COVID treatments and the current prevalence of less virulent strains of COVID-19; allowed small but incremental reductions to control measures. The national direction has been to change the emphasis from 'COVID control' back to a much broader approach of infection prevention and control (IPC) in recognition that all healthcare associated infection must be minimised and this is welcomed. As national guidance has been amended and in response to local prevalence, changes have also been implemented within the Trust.

2. Work commenced during 2022-23 to align arrangements for managing and monitoring the prevention and control of infection within the newly integrated Trust. In particular a Trust wide assurance group, Infection Prevention and Decontamination Assurance Group (IPDAG), has been established and replaces the two separate groups associated with the previous organisations. This is chaired by the Executive lead for healthcare associated infections.

3. The Antimicrobial Stewardship Group, one of the sub groups which report to IPDAG, has also been established as a Trust wide group. Water Safety and Ventilation Group and the Decontamination Operational Group will be merged in 2023.

4. From a clinical perspective, there is evidence of good practice and but also areas for improvement:

    - There have been only two healthcare associated MRSA bacteraemias in 2022-23, one was hospital onset and the other community onset. Both have been determined to be unavoidable via a multi-disciplinary post infection review.
    - The Trust reported seventy eight cases of healthcare associated *Clostridioides difficile* infection giving a rate of infection of 21.5 per 100,000 occupied bed days which is lower than the regional and national rates.
    - Low rates of orthopaedic surgical site infection have been reported for Princess Elizabeth Orthopaedic Centre, South West Ambulatory Orthopaedic Centre and North Devon District Hospital.
    - A voluntary Trust wide point prevalence survey of all healthcare associated infection and antimicrobial usage was undertaken at the end of 2022. The UKHSA protocol from the national survey in 2016 was used to allow comparison with local prevalence rates in 2016. The rate for Northern Services has improved considerably and is now much lower

than the 2016 national rate. The rate for Eastern Services has remained below the national rate and has not changed significantly since 2016.

5. The rate of E. coli blood stream infections which is significantly higher than both the South West and national rates and will be a focus for improvement work included within the 2023/24 IPC programme of work. Advice has already been sought from the Integrated Care Board Infection Prevention and Control Lead and NHSE South West IPC Lead.

6. In correlation with COVID-19 lockdowns and other restrictions in the community in 2020 and 2021 was the reduction in both other respiratory viral infections, in particular influenza, and gastrointestinal viruses such as norovirus. With a return to normality in work and social activities in the community, these viruses have once again taken their place in the population and consequently in our hospitals. This has resulted in outbreaks particularly on the Royal Devon and Exeter site and added to the significant pressures the Trust has experienced particularly over the winter months.

7. Trust Estates and Facilities services continue to work hard to maximise Trust compliance with Criterion 2 of the Code of Practice. The Trust has allocated resources in its 23/24 operating plan ensure meeting t new National Cleaning Standards (2021)

8. Processes for the decontamination of medical devices, reusable invasive instruments and hospital linen are all undertaken to national standards.

9. The Trust has safe water systems at the main sites and in premises administered by the Trust, including the Nightingale. The planned programme of work to ensure that any concerns are identified promptly has been effective and where issues have been identified, they have been resolved efficiently.

10. A review of the delivery of infection prevention and control training to all staff was completed in 2022. This concluded that the National Health Education e-learning programmes at level 1 for non-patient facing staff and level 2 for patient facing staff would be adopted. These have been designed to meet the relevant learning outcomes in the UK Core Skills Training Framework. Some key groups require face to face training in addition to e-learning and this is being addressed following the publication a new national framework for IPC education.

11. Lack of single room facilities is a recognised risk on both sites. This is partly mitigated from an IPC perspective through the use of cohort bays, wards and some portable isolation units for critical care areas.

12. The Trust Occupational Health service remains critical in the delivery of both routine staff health surveillance and vaccination services and has met the additional requirements placed on it in relation to the changes around COVID-19 management.

13. Uptake of influenza immunisation at 61.2% with 6,456 vaccinations administered is lower than last year; this aligns with the wider rate reflective across the NHS.

INTRODUCTION

This is the first annual report of the Directors of Infection Prevention and Control (DIPC) for the Royal Devon University Healthcare NHS Foundation Trust. The publication of the DIPC Annual Report is a requirement to demonstrate good governance, adherence to Trust values and public accountability (Dept of Health, 2004). The purpose is to provide assurance that the Trust maintains high levels of compliance with the Health and Social Care Act 2008: code of practice on the prevention and control of infections and related guidance (Department of Health, 2015) therefore the report is mapped to the ten criteria associated with the Code (refer Table 1).

The establishment of the Royal Devon University Healthcare NHS Foundation Trust in April 2022 brought together the expertise of both the Royal Devon and Exeter NHS Foundation Trust (hereafter referred to as Eastern Services) and Northern Devon Healthcare NHS Trust (hereafter referred to as Northern Services). Both Eastern and Northern Services have separate and experienced Infection Prevention and Control Teams (IPCTs) but they have worked collaboratively, insuring an aligned approach where this has been appropriate. Integration of governance arrangements, training and policies started during 2022-23 and will continue going forward through the 2023-24 Royal Devon IPC programme of work.

COVID-19 has remained a significant feature within healthcare, particularly for in-patient settings. Although COVID restrictions were removed for the general population, COVID control measures remained place for both patients and staff, including testing, for much of the year. As the year progressed with the success of the COVID-19 vaccination programme, availability of effective COVID treatments and the current prevalence of less virulent strains of COVID-19, multiple small but incremental reductions to control measures were made. Indeed, the national steer has been to change the emphasis from 'COVID control' back to a much broader approach of infection prevention and control (IPC) in recognition that all healthcare associated infection must be minimised.

To that end the first National Infection Prevention and Control Manual in England has been published (NHSE 2022a) and now replaces COVID specific infection prevention guidance. This has been routinely updated since its first publication in April 2022. Similarly, a broader Board Assurance Framework has replaced the COVID specific Board Assurance Framework (NHSE, 2022b).

At the same time as implementation of local changes associated with integration and adopting new national guidance, the Royal Devon has been challenged to restore and recover elective services and reduce backlogs for treatments in line with both system-wide and national NHS expectations. This combination has placed considerable pressure on bed capacity, patient flow and staffing. Increased workload and pressurised staffing is known to impact negatively on infection prevention and control practices and is associated with increased infection rates. Therefore, this report acknowledges the hard work and diligence of all grades of staff, clinical and non-clinical who play a vital role in responding to such unprecedented challenges and to minimise infection risk to patients through a difficult year.

The authors would like to express their appreciation and thanks to all those that helped the Trust meet the demands of the last year as well as acknowledging the contribution of other colleagues to this report.

Table 1. The Hygiene Code Compliance Criteria and Trust compliance summary

Fully compliant	Partial compliance	Non-compliant (NC)

No	Criterion	
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	The provision and maintenance of a clean and appropriate environment in managed premises that facilitates the prevention and control of infections	
3	Appropriate antimicrobial use and stewardship to optimise outcomes and to reduce the risk of adverse events and antimicrobial resistance	
4	The provision of suitable accurate information on infections to service users, their visitors and any person concerned with providing further social care support or nursing/medical care in a timely fashion..	
5	That there is a policy for ensuring that people who have or are at risk of developing an infection are identified promptly and receive the appropriate treatment and care to reduce the risk of transmission of infection to other people	
6	Systems are in place 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	The provision or ability to secure adequate isolation facilities due to limited side room capacity (known risk) *which will only be mitigated by future estates work/New Hospital Programme (North)*	
8	The ability to secure adequate access to laboratory support as appropriate	
9	Registered provider has and adhere to policies designed for the individual's care, and provider organisations that will help to prevent and control infection	
10	Service providers will have a system or process in place to manage staff health and wellbeing, and organisational obligation to manage infection, prevention and control..	

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

The Trust has ensured that management and monitoring arrangements are in place following the Trust being established in April 2022, full integration of all aspects of IPC will be delivered through a post transaction implementation plan

1.1 Governance arrangements

1.1.1 The Trust wide Infection Prevention and Decontamination Assurance Group (IPDAG) was established in November 2022; prior to which pre-merger arrangements remained in place with separate assurance groups for Northern and Eastern Services. IPDAG is chaired by the Executive Lead for Healthcare Associated Infection. Membership ensures representation from support services and senior clinical colleagues. The group meets quarterly and reports to the Board of Directors through the Governance Committee via the Safety and Risk Committee sub-group report highlighting concerns, risks and gaps in assurance.

The Trust currently a historical differential arrangement for DIPC across North and East services, this will move to one arrangement in 2023**.**

1.2 Risk assessment

1.2.1 The Trust has in place suitable and sufficient assessment of risks to patients receiving healthcare with respect of healthcare associated infection (HCAI). These are benchmarked against national best practice, clinical judgment and local risk assessment. The Trust monitors risks of infection through data collection, audit and review of clinical incident reporting. These findings and a review of current risk assessments are reported to the IPDAG and the findings are used to inform future actions and strategy.

1.2.2 Corporate and local HCAI risk assessments are available on the Trust's Corporate Risk Register and the risk rating report for high risks is reviewed on a quarterly basis by the Safety and Risk Committee. Existing control measures and further preventative measures are identified for action and monitored through divisional governance meetings. A Trust wide risk assessment for healthcare associated infection has been completed towards the end of 2022-23 and was approved at IPDAG in April 2023; allowing the closure of historical COVID risk assessments.

1.2.3 The Trust has a robust incident reporting system through which staff can report adverse incidents such as deviation from a clinical guideline or poor practice that may be detrimental to patient care. The IPC teams have oversight of infection prevention incidents reported and provide expert guidance and advice as required to mitigate any further risk or patient harm. Ownership of clinical incidents reported usually remain with the Divisions in which they have occurred and the Divisions provide assurance to IPDAG about significant investigations and share key learning.

1.2.4 Outbreaks are also reported on the incident reporting system. This does not necessarily mean that the outbreak could have been prevented but they are reported in this way because of the impact that outbreak control measures have on bed availability and patient flow. Outbreaks recorded in 2022-23 are summarised in section 1.5.

1.3 Infection Prevention and Control Teams (IPCTs)

1.3.1 Both Northern and Eastern Services have established Infection Prevention and Control Teams with experienced leadership. Since Trust integration, teams have worked collaboratively and will be fully merged in 2023.

1.3.2 Through commissioned arrangements and service level agreements, the IPCTs also deliver services to Devon Partnership Trust and through the Community Infection Management Service to care homes and primary care services. The IPCTs also provide advice and guidance to the Exeter Nightingale Hospital, Sexual Assault Services and the DCC Public Health Nursing Team.

1.3.3 Three of the medical microbiologists work collaboratively to fulfil the role of Infection Control Doctors (ICD) with one based at the North Devon District Hospital site and two at the Royal Devon and Exeter Hospital site. One of the Eastern Services ICDs also provides an ICD role under the service level agreement with DPT.

1.3.4 The antimicrobial stewardship team is led by a Consultant Medical Microbiologist with PAs identified for antimicrobial stewardship activities. Working collaboratively, the Consultant Medical Microbiologist and Antimicrobial Pharmacists provide leadership to influence and promote the safe and effective use of antimicrobials across the Trust, in accordance with local and national guidelines.

1.3.5 The Antimicrobial Stewardship Group (ASG) is tasked with ensuring that antimicrobial drugs are utilised throughout the Trust in a way which results in optimal treatment of infections while minimising the risk of adverse effects, including healthcare associated infections. The group is chaired by a Consultant Medical Microbiologist and reports to Infection Prevention and Decontamination Assurance Group (IPDAG).

1.3.6 Annual programmes of work for 2022-23 were prepared by the IPCTs, and ratified by the Board of Directors. The programmes of work are mapped to the duties of the Code of Practice thus demonstrating the Trust's continued work to maintain compliance with the Code. Programmes included all planned aspects of IPC, including provision of clinical advice, policy development and review, training and audit and surveillance, monitored through a quarterly report to IPDAG.

1.4 Surveillance of Healthcare Associated Infections

1.4.1 Surveillance of infection is more than just monitoring and reporting of infections. The component of surveillance to affect improvement is feedback to clinicians. Surveillance, together with clinical audit, provides invaluable data which highlight good practice and areas for improvement and is a vital component of the IPC programme.

1.4.2 Some surveillance data is only reported internally and other data are reported externally, either as part of mandatory or voluntary surveillance schemes and provides opportunities for benchmarking. Mandatory surveillance data is reported through IPDAG to the Safety and Risk Committee and also directly to the Board of Directors, through the monthly Integrated Performance Report. However, the most important element of surveillance is feedback to clinicians. Feedback prompts review of, and where necessary, planned improvements to clinical practice.

1.4.3 Key components of the surveillance programme are identified in the following sections 1.6-1.8.

1.5. Mandatory Surveillance of Blood stream infections and *Clostridioides difficile*

1.5.1 Mandatory reports on the following are made to the UK Health Security Agency (UKHSA) utilising web-based surveillance data capture systems:

- *Staphylococcus aureus* blood stream infections
  - Methicillin Resistant *Staphylococcus aureus* (MRSA)
  - Methicillin Sensitive *Staphylococcus aureus* (MSSA)
- *Escherichia coli, Klebsiella and Pseudomonas* blood stream infections (collectively known as Gram negative bloodstream infections (GNBs))
- *Clostridioides difficile* infection

1.5.2 For each type of blood stream infection and *Clostridium difficile* infection, cases are defined as to whether they are healthcare associated or not. For those that are health care associated they may be further defined as being:

Hospital onset healthcare associated (HOHA) - if identified on or after 3 days of admission where day 1 is the day of admission.

Community onset healthcare associated (COHA - not categorised as HOHA but discharged from hospital in the previous 28 days (including day case and Emergency Department visits).

Infections identified that are not healthcare associated are defined as **Community onset community associated** (COCA)

1.5.3 Under the NHS Standard Contract, requirements are set to minimise *C. difficile* infection and gram negative blood stream infections to threshold levels set by NHS England. Thresholds are based on the number of infections reported not rates of infection. For 2022/23, trust-level thresholds comprise total healthcare-associated cases (i.e. HOHA and COHA). Table 2 shows the threshold counts for this Trust, number of actual cases and rates per 100,000 occupied bed days and comparisons to regional and national rates.

Table 2: Summary of Trust, South West & National cumulative GNB and *C.difficile* data

	Threshold count	**No. of cases HOHA + COHA**	**Royal Devon rate**	**South West rate**	**National rate**
Clostridioides difficile	65	78	21.05	26.99	23.47
Escherichia coli	172	201	53.97	33.92	31.82
Klebsiella spp.	46	63	16.89	11.09	13.45
Pseudomonas	18	23	6.16	5.05	5.89

Source: Field Epidemiology South West, Public Health England (2023)

1.5.4 Although above the threshold count, it should be noted that the rate of *C. difficile* infection is below the regional and national rate. Of concern is the rate of *E. coli* blood stream infections which is significantly higher than both the South West and national rates and will be a focus for improvement work in 2023/24 monitored through the 2023-24 IPC programme of work, via IPDAG. The IPCTs have already sought advice from the Integrated Care Board IPC lead and NHSE South West IPC lead.

1.5.5 Whilst MSSA surveillance is mandatory, threshold levels are not set by NHS England. Performance and comparison with regional and national rates is shown in Table 3. A zero tolerance approach to MRSA blood stream infections continues and Trust rates are below the regional and national average. However, the MSSA rate is higher than regional and national rates. This requires focused work to achieve improvements and is included in the 2023-24 programme of work.

Table 3: Summary of Trust and South West Staphylococcus aureus data

	2022/23 Threshold count	No. of cases HOHA + COHA	Royal Devon rate	South West rate	National rate
MRSA	Zero	2	0.56	1.0	0.94
MSSA	No nationally set threshold	97	26.12	16.61	13.22

Source: Field Epidemiology South West, Public Health England (2023)

1.6 Orthopaedic Surgical Site Infection (SSI)

1.6.1 It is also a mandatory requirement to conduct surveillance of orthopaedic surgical site infections (SSI), utilising the UK HSA Surgical Site Infection Surveillance Service (SSISS). Surveillance data submitted to SSISS for analysis and reporting is validated against strict protocol to facilitate meaningful comparison between centres within England. Surveillance of implant surgeries requires follow up of patients for 12 months post-surgery. SSI surveillance undertaken within the Trust during 2022-23 is initially reported quarterly by hospital site. However, at the end of 2023 it will be published as a whole Trust by UK HSA. This will resolve any unavoidable increase in hospital site infection rates wholly caused as a result of surgical denominator dilution rather than actual SSI case rise.

1.6.2 The mandatory minimum requirement is to report one quarter of orthopaedic surveillance from one of the following categories:

- Reduction of long bone fracture
- Repair of neck of femur
- Hip replacement
- Knee replacement

1.6.3 This minimum requirement is met in Northern Services, with surveillance following knee replacement surgery undertaken at North Devon in the July to Sept quarter. To date there have been no infections associated with surgeries undertaken in this period.

1.6.4 The minimum requirement is exceeded in Eastern Services in the Princess Elizabeth Orthopaedic Centre (PEOC) and the Southwest Ambulatory Orthopaedic Centre (SWAOC) at the Nightingale Hospital where continuous surveillance is undertaken for both hip and knee surgery.

1.6.5 Since orthopaedic surgery has been undertaken at SWAOC, the case mix in PEOC has changed and includes mainly complex knee and hip cases. This results in a higher accepted risk for infection and lower numbers within the denominator for the PEOC site. Nevertheless, despite complexity, high risk factors and a smaller denominator infection rates remain low.

1.6.6 Continuous surveillance allows local trend analysis from which to draw comparison. Clinicians have engaged well in receiving surveillance feedback resulting from in depth case analysis for all suspected SSI which enables them to make informed changes to practice within a collectively shared desire to lower rates of infection.

1.6.7 Orthopaedic surgery commenced at the newly opened South West Ambulatory Orthopaedic Centre (SWAOC), at the start of 2022/23. The SWAOC site is utilised by orthopaedic surgeons from other hospitals as well as Royal Devon. The IPC audit & surveillance team work collaboratively with hospital teams across Devon to ensure readmission SSI surveillance is maintained for the 12 months post-surgery in keeping with UK HSA SSI Surveillance Service requirements. To date there have been no SSI reported for the SWAOC site.

1.7 Voluntary Surveillance Point Prevalence Survey

1.7.1 A point prevalence survey utilising UKHSA protocols was undertaken in Eastern and Northern Services at the end of 2022. This was to enable a comparison with results of a national survey in which both Northern and Eastern Services participated as separate organisations in 2016.

1.7.2 Point prevalence surveys are useful in providing data on the proportions of HCAIs and proportions of antimicrobial use at any one point (or period) in time. It gives an understanding of burden of both HCAI and community-acquired infection (CAI) treated with antimicrobials.

1.7.3 In 2016 the national point prevalence rate for HCAI was 6.6%.

1.7.4 It is important to note that in 2016 COVID had not been identified and therefore the point prevalence rate is expressed with COVID excluded to allow comparison with 2016 and also with COVID infections included.

1.7.5 The results for 2016 and 2022 are shown in the tables below:

Eastern Services (inc. Community Hospitals)	**2016**	**2022**
Total number of patients reviewed	848 (of which community hospital pts =133)	826 (of which community hospital pts = 44)
Total number of HCAIs	26	34 (incl 9 COVID)
Total percentage of HCAIs	3.1%	4.1% (incl. COVID) 3.1% (excl. COVID)

Northern Services (inc. South Molton)	**2016**	**2022**
Total number of patients reviewed	269	298 (Of which community hospital pts = 18)

Total number of HCAIs	23	11 (incl. 2 COVID)
Total percentage of HCAIs	8.2%	3.7% (incl.COVID) 3% (excl. COVID)

1.7.6 The prevalence rate in Northern Services has decreased significantly since 2016.

1.7.7 The prevalence rate in Eastern Services has increased slightly since 2016 with COVID infections included but remains the same with COVID excluded.

1.7.8 Trust wide rates are 3.1% (COVID excluded) and 4.1% (COVID included) both below the national rate of 6.6% in 2016.

1.8 Outbreaks and Incidents

1.8.1 Early recognition of potential or actual outbreaks is important to reduce unnecessary exposure to patients, staff and visitors. An outbreak can be defined as two or more cases of the same infection related in time and place. However, when a particular infection is very common in the community i.e. two cases in the same time period and place; in hospital does not necessarily mean that they are related and investigation does not always provide conclusive evidence either way.

1.8.2 There have been a large number of outbreaks in the last 12 months which increased when the hospitals were under immense pressure with the volume of patients requiring admission and challenges with delayed discharges.

1.8.3 Outbreak control measures were implemented in accordance with outbreak control policies and that included closing wards or bays to new admissions until the outbreak is at an end. When beds are vacated within a closed bay or ward but cannot be used this is referred to as ‘lost bed days’. Whilst this is the most appropriate action to take to minimise the number of patients exposed and the duration of an outbreak, this exacerbates the challenges of managing emergency admissions to hospital and the need to maintain elective services.

1.8.4 Therefore, wherever possible steps were taken to avoid lost bed days by transferring into empty beds patients identified with the same infections or those that had recently recovered from the same infection. This does, however, extend the closure of the ward and delays discharges from the ward to other institutions such as care homes.

1.8.5 Conversely, holding patients in emergency admission areas or in ambulances or postponing elective admissions when sufficient beds are not available also places patients at risk of harm. Senior Managers together with the Directors of Infection Prevention and Control & Infection Prevention and Control Leads approved, when absolutely necessary, deviation from the Outbreak Policy having considered the balance of risk. Decisions of this type were being taken during the Norovirus outbreaks experienced from February through to April 2023.

1.8.6 **COVID-19 outbreaks**

The requirement to test all patients admitted to hospital for COVID 19 has been significantly reduced during the last year. The revised approach was to mainly test symptomatic patients. Most patients were identified on admission and isolated in single rooms or in COVID cohort bays or a COVID cohort ward depending on prevalence. Some patients admitted to hospital for other reasons developed symptoms of COVID whilst in hospital and this resulted in a number of outbreaks; generally, infections remained mild.

In Eastern Services, 129 small outbreaks were recorded during the year, and in Northern Services, 40 were recorded. These outbreaks were reported internally and via the national outbreak reporting portal.

1.8.7 **Influenza outbreaks**

As anticipated, the 2022-2023 influenza (flu) season started early throughout the European region; mirroring the experience in the southern hemisphere. Combined with COVID and other respiratory viruses, this had a high impact on the Royal Devon health services. Despite the greatest number of cases identified in the hospital for several years, the number of outbreaks was minimised by establishing cohort bays in admission wards, prescribing prophylaxis for those patients exposed and having the availability of rapid testing at point of care.

In Eastern Services, there were eleven bay closures due to influenza outbreaks and one full ward closure. In Northern services, there were 9 bay closures due to influenza outbreaks

1.8.8 **Norovirus outbreaks**

Norovirus is predominantly a winter pathogen but can also cause outbreaks in summer months. Norovirus is extremely easily transmitted between people even with excellent infection control practice, and outbreaks are often seen in semi closed settings such as hospitals, schools, cruise ships, care homes and hotels.

UK Health Security Agency (UKHSA) surveillance data in February 2023 showed that laboratory reports of norovirus were 77% higher than the 5-season average for the same period prior to the coronavirus (COVID-19) pandemic (UKHSA, 2023).

Significant outbreaks were experienced in the acute hospital at Eastern Services. In total, 49 outbreaks were identified at the Royal Devon and Exeter Hospital resulting in whole ward closure on 30 occasions and bay closures on 19 occasions. The impact of norovirus outbreaks on the operational management of the hospital was much more significant than COVID or influenza.

Outbreaks in North Devon were much less significant with only 2 full ward closures and 4 bay closures.

Bed days lost due to ward and bay closures were reported on the Eastern Services dashboard to IPDAG.

1.9 Hospital Hand Hygiene Audit

1.9.1 Audits of compliance with the WHO 5 moments for hand hygiene and compliance with being ‘bare below the elbow’ are undertaken monthly in clinical areas by clinical staff. Generally, high compliance rates are reported by these auditors however, informal observations and formal validation audits by the IPCTs have identified that hand hygiene compliance has been negatively impacted. There are many causes for this, including increased workload and reduced staffing, but the over use of gloves is perhaps the most significant. This is not limited to just a local issue. Training will focus on improving hand hygiene compliance through emphasising a ‘gloves off’ approach in 2023-24. Ward based hand hygiene auditors are being retrained to audit with greater scrutiny as monthly audits undertaken at ward level are often not reflecting the observation of the specialist IPC teams.

1.10 Community Hand Hygiene Audit

1.10.1 Engagement of community teams has improved with an improved number of community teams submitting data each month. Compliance data is distributed monthly to designated managers with additional narrative content added to the spreadsheet to support interpretation and response. Compliance with the '5 Moments of Hand Hygiene' remains high, averaging 95.3% across the year from observations collected in home, community clinic settings and of Trust staff supporting patients in residential settings as does compliance with being 'bare below the elbows'.

1.10.2 Compliance data is presented at IPDAG as part of the Community Division Report and is also discussed through Cluster Governance Meetings, which are periodically attended by members of the IPCT to facilitate interpretation and allow questions to be asked.

1.11 Spot check audits

1.11.1 In Northern services a selection of inpatient and out-patient areas across the hospital and in other off-site locations are "spot check audited" each month by the IPCNs.

1.11.2 The audit tool has been developed by the IP&C team drawing on nationally available resources and designed to check key infection prevention practices, cleanliness standards and identify any common themes.

1.11.3 Any specific areas of non–compliance or good practice are challenged or discussed with staff on wards / in departments at the time. The results are sent to ward / department managers, senior and divisional nurses, Sodexo, Facilities and Estates with a covering email highlighting any issues or good practice.

1.11.4 Many areas of IP&C practice are checked within these audits and some examples are detailed below:

- Hand hygiene and Bare Below Elbows (BBE) compliance and availability of alcohol hand gel and accessibility of hand washing sinks
- On-going care of peripheral IV cannula and urinary catheters,
- Communication about patients on the ward with resistant organisms and MRSA suppression treatment.
- Isolation of patients for infection control reasons
- Storage and management of sharps bins
- Cleanliness of patient equipment some examples include hoists, tourniquets, trolleys, pillows, children's toys, bedpan shells, and commodes
- Linen and waste management
- Food hygiene and management of water coolers for patient use.

The findings were presented to the Infection Prevention and Decontamination Assurance Group, and there is a plan in place for these to be implemented in Eastern services, and both services will present findings to the Infection Prevention and Decontamination Assurance Group in 2023/24.

2. Provision and maintenance of a clean and appropriate environment in managed premises that facilitates the prevention and control of infection

2.1 Domestic Services (Eastern)

2.1.1 Cleaning services continue to be managed in-house with the management structure remaining unchanged. There have been no new additions to the management team over the last twelve months. The management team continually strive to maintain and deliver a quality service to the Trust.

2.1.2 The Domestic Services Department continues to work closely with Ward Housekeepers. The management team are in regular daily contact and attend a Ward Housekeeper Forum on a monthly basis. A structured plan of visits has been implemented with each ward now having a dedicated point of contact at Supervisory and Management level.

2.1.3 The most significant challenge for the domestic services team in 2022-2023 has been vacancies within the department and difficulties in recruiting to vacancies. It has been necessary at times of particularly high demand to redeploy domestic staff from all non-clinical areas to clinical areas in a bid to keep patient care areas up to standard.

2.1.4 In order to meet the environmental cleaning demands of an increasingly busy hospital during the COVID-19 pandemic and, more recently Norovirus and Influenza seasons, additional resources were added to the Specialist Cleaning Team in a bid to meet the increase in activity. This proved beneficial and helped improve patient flow in key areas such as the Acute Medical Unit and Emergency Department.

2.1.5 As the pandemic and other viral outbreaks have reduced, all domestics assistants have returned to their normal duties and, when there are no deep/outbreak cleans, the Specialist Cleaning Team are assigned to non-clinical areas to deep clean them and bring them back up to standard. Recruitment will be actively undertaken continually until all vacancies are filled.

2.1.6 The Audit Team continue to undertake and record technical monitoring on a weekly basis as required by the National Cleaning Standards (2021). The monitoring of waste streams is also included in their daily audits. The monitoring team are supported by the Ward Housekeepers (30 WTE) at ward level and in theatre areas (i.e. Main Theatres and PEOC Theatres), and they undertake technical monitoring of the environment and patient equipment cleaning.

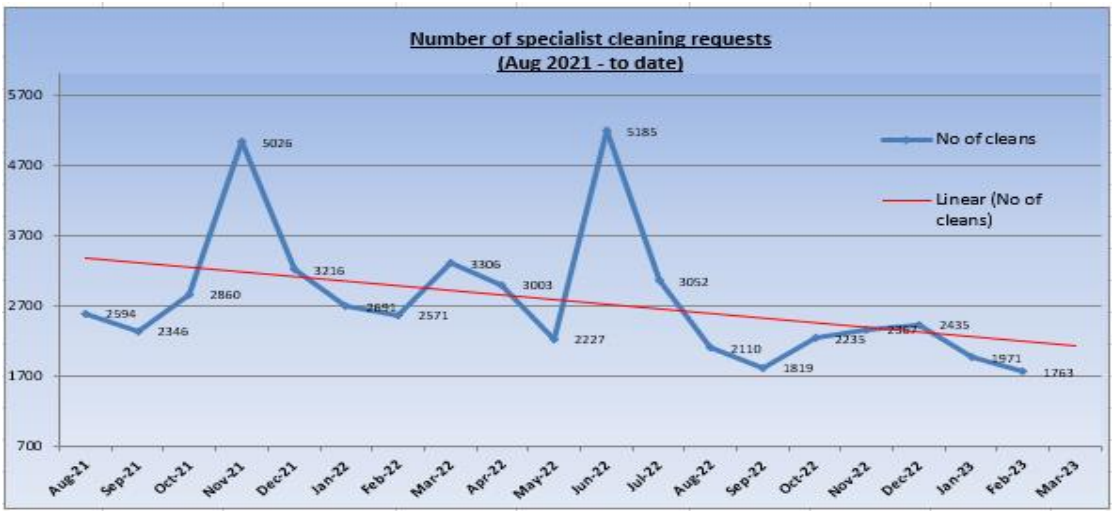
2.1.7 The micad programme is now being successfully utilised and significant amounts of data relating to current resources and the recommended minimum frequency of clean requirements have been recorded. The output data has been used in the re-design of Domestic Services and their delivery in order to meet the ever-changing needs of the Trust. During the course of the next 12 months a full re-evaluation and review of the Domestic Services Department will be undertaken by the Domestic Services Manager in order to ensure all areas are adequately staffed and the Department is in a robust position due to the ever changing size and utilization of areas within the Hospital.

2.1.8 A quarterly management audit is undertaken by a multi-disciplinary team, which includes a Monitoring Officer, a Matron or nominated nursing representative, a member of the Estates Department and an Infection Prevention and Control Nurse Specialist.

2.1.9 In addition to manual environmental cleaning and disinfection methods, the use of hydrogen peroxide vapour (HPV) continues to be used as an effective terminal cleaning regimen for certain types of infection as advised by the Infection Prevention and Control

Specialists e.g. spore forming microorganisms such as *Clostridium difficile*, some high consequence infectious diseases, highly significant antimicrobial resistant organisms such as CPE and *Candida auris.* Specialist Cleaning Teams are employed to use HPV decontamination in addition to manual environmental cleaning and disinfection following other types of infections and outbreaks.

2.1.10 The Specialist Cleaning Team has been temporarily increased to twenty-four hours, seven days per week, due to the number of deep/specialist cleans being received to be completed overnight. This will revert back to two dedicated Specialist Cleaning Team members during the night throughout the week within the next two months. The Site Management Team liaise with the temporary overnight Supervisor and this continues to be a positive example of collaborative working. Due to the demand for outbreak cleaning, extra specialist cleaners were recruited by way of agency staff in order to meet the increasing demands. The chart below shows the number of outbreak cleans performed:



2.1.11 The planned annual deep cleaning has not happened as a result of pressure on beds . This does not represent any IPC risk.

2.1.12 Implementation of the National Cleaning Standards (2021) is ongoing following allocation of resources to support implementation.

2.2 Domestic Services (Northern)

2.2.1 Cleaning services continue to be contracted out to Sodexo for the acute hospital site; this will be reviewed before the current contract expires in September 2025. The community sites hotel services are provided by an in-house team that is managed by Sodexo.

2.2.2 North Devon District Hospital is a flagship site for Sodexo due to the successful partnership working model. This was trialled at NDDH in 2001 and has subsequently been embedded in Sodexo's approach when providing their services to other Healthcare providers.

2.2.3 Sodexo maintain and deliver a quality service to the Trust, and continually strive to provide innovation and improvement to the contract. They have recently trialled "Robbie the Robot" – an automated floor cleaner.

2.2.4 Sodexo has performed well with regards to recruitment of staff, and was able to employ an additional 50 staff to support enhanced touch point cleaning in the organisation, and

also to support nursing by taking on additional duties. The enhanced touch point cleaning was reduced in September 2022 but the additional support to nursing continues.

2.2.5 At NDDH there is rarely the opportunity to decant wards to facilitate deep cleaning, maintenance or use of HPV decontamination. A deep clean and maintenance function is embedded into Sodexo's routine cleaning schedules (all wards receive this level of service which ensures a deep clean of all areas using a disinfectant over the course of a week)

2.2.6 In addition to the above cleaning, Sodexo provide a dedicated "bed washing team" to clean beds when they become vacant, whether this is a routine clean (including use of steam cleaners) or a "terminal clean" using a disinfectant. The team also check mattress integrity when they undertake this clean and replace damaged / contaminated mattresses as soon as they are identified.

2.2.7 Monitoring of cleaning is carried out by a Sodexo monitoring officer and there is in house auditing of this monitoring by the facilities department.

2.2.8 Sodexo employ an independent company (Safeguard) to monitor health and safety, training compliance, and food hygiene standards annually

2.2.9 There is also a programme of "aesthetics" monitoring which Sodexo carry out quarterly this identifies environmental issues such as damaged flooring, flaking / damaged paint and plaster, broken furniture / torn seat covers etc that require repair. This enhances the condition and appearance of the environment for visitors, patients and staff, facilitates good cleaning and is a theme that runs throughout the documentation required for the National Patient Led Assessment of the Care Environment (PLACE) inspections

2.3 Patient Led Assessment of the Care Environment (PLACE)

2.3.1 PLACE assessments provide motivation for improvement by providing a clear message, directly from patients, about how the environment or services might be enhanced. The results for cleanliness in 2022 was 97.75%. This is the first inspection since integration of the two previous organisations and therefore comparison cannot be made to previous Trust wide results. The results by site can be seen below:

Victoria Hospital (Sidmouth)	99.00%
Tiverton & District Hospital	98.63%
North Devon District Hospital	98.53%
Royal Devon & Exeter Hospital (Wonford)	97.39%
South Molton Hospital	96.99%

2.4 Hospital Sterilisation and Decontamination Unit (HSDU) (Eastern)

2.4.1 The HSDU has seen unprecedented demand for its services following the Covid-19 recovery phase. Theatre activity has risen to the highest rates since 2019 and continues to increase in a bid to tackle the growing patient waiting list. Staff retention and recruitment has proven to be a significant concern during this time for a variety of reasons and the HSDU has had to adapt in a bid to meet the service user demand. This has included expanding the provision of Estates & Facilities bank staff as well as approaching temporary agency cover. A review of the HSDU Technician job role has seen a welcome and much needed banding review, lifting the position up to Band 3.

2.4.2 The Trust has expanded its capabilities and continues to invest in cutting edge technologies, including the provision of an upgraded Xi 'Da Vinci' robot for Urology surgeries to replace the outdated Si model. A second robot was also recently purchased to expand the benefits into other disciplines including Colorectal, Head & Neck, Prostate surgery and Gynae surgeries. To support this and the growing demand for instrument reprocessing, the HSDU has replaced its aging washer/disinfectors with a suite of new Franke Dekomed D32 Excel machines, whilst increasing its capacity from four to six units. This has further been supported with a new Xi compatible Ultrasonic washer and the addition of a second Sterrad 100NX Hydrogen Peroxide low temperature steriliser, crucial for the reprocessing of robotic endoscopes and newly introduced ultrasound probes among others.

2.4.3 The Trust has effective arrangements for the appropriate decontamination of instruments and other equipment. The Trust is fully compliant with Health Building Note, HBN/13 – Sterile Services Department; operates a quality management system in accordance with ISO 13485:2016 and has registration under the UK Medical Devices Regulation 2002 (as amended). Decontamination processes are undertaken in line with Health Technical Memorandum HTM 01-01 – Decontamination of Surgical Instruments guidance, incorporating ISO 15883, ISO 17665 & ISO 22441 standards as appropriate.

2.4.4 There is a designated decontamination lead with responsibility for ensuring that the decontamination policy is implemented in relation to the organisation and takes account of national guidance. Quarterly meetings are held with the decontamination lead and key stakeholders to review current and best practice and reported via the Decontamination Operational Group & Medical Devices Steering Group.

2.4.5 Appropriate procedures are followed for acquisition and maintenance of decontamination equipment. This includes seeking expert advice from the Trust's appointed Authorised Engineer (Decontamination), AE(D) as well as appropriately skilled Authorised Persons (Decontamination), AP(D) appointed by the Trust.

2.4.6 A monitoring system is in place to ensure decontamination processes remain fit for purpose and meet all required standards:

- Comprehensive Divisional and Departmental Risk assessment to include COSHH review
- Full instrument 'Track & Trace' system in place for surgical instrument trays and supplementary instruments in circulation throughout the Trust and community sites.
- Regular review of NICE compliance (IPG666) in relation to reducing the risk of transmission of Creutzfeldt–Jakob disease (CJD) from surgical instruments used for interventional procedures on high-risk tissues.
- Environmental monitoring of Clean Room and associated processes to include quarterly bioburden testing and staff 'finger dabs' in line with ISO 14644 & BS EN 17141.
- Weekly water testing and feedback of results
- Machine checks, daily, weekly, quarterly & annual control tests and revalidation etc.
- Maintenance programme with available records
- Residual Protein Detection monitoring utilising ProReveal technology to accurately measure protein levels post decontamination to micro levels.
- Independent monitoring systems in place to assure parametric release of decontaminated and sterilised loads.
- External auditing of processes by an independent, approved body to include checks of all equipment and testing validation, staff training competencies etc.

2.5 Hospital Sterilisation and Decontamination Unit (Northern)

2.5.1 In Northern services, decontamination assurance and reporting was via the Infection Prevention and Decontamination Group. The regular monthly meetings were attended by the Facilities Clinical Services manager who also acted as the decontamination lead and provided updates for the designated agenda item on the IPDG meeting.

2.5.2 There is a plan in place to implement an integrated Trust wide Decontamination Group in 2023/24 that will report into IPDAG.

2.5.3 Decontamination of re-usable medical equipment in the Trust is carried out by the Central Sterile Services Department (CSSD). Staffing comprises; 1 manager, 4 senior technicians and 20 technicians. The CSSD is open 7 days a week with cover for Saturday and Sunday night via an on-call system.

2.5.4 The main unit for reusable instruments is based on level 3 and the flexible endoscope decontamination unit is based on level 0 of NDDH. Current decontamination is carried out utilising 3 instrument washer/disinfectors, 3 endoscope washer/disinfectors and four high-temperature porous load steam sterilisers.

2.5.5 There is a need to replace 2 of the steam sterilisers and 3 of the washer disinfectors which have been in use for some years and this is planned for early 2023/24.

2.5.6 External quality certification for the CSSD is held and is audited by British Standards Institute acting as a notified body for certification to the Medical Device Regulations. The CSSD holds production quality assurance certificate CE02164 and quality system registration certificate MD 78459 from British Standards Institute. The scope of registration covers the sterilisation of theatre trays, procedure packs and single instruments, supply of pre-sterilised devices to end users and high level disinfection of flexible endoscopes.

2.6 Linen Decontamination Unit (Decontamination of Healthcare Textiles)

2.6.1 The Linen Decontamination Unit (LDU) at the Royal Devon University Healthcare NHS Foundation Trust is one of the largest NHS Healthcare laundries in the country and currently boasts some of the most up to date, technological and efficient laundering equipment and monitoring systems used within the UK today.

2.6.2 Following the integration in April 2022, the LDU seamlessly took over the provision of the linen and laundering service to the Northern Devon units from their commercial supplier. This was done whilst continuing to provide the existing Eastern units with their linen service. This equated to an approximate increase of 12% in productivity.

2.6.3 The overriding regulatory documentation for the LDU continues to be the Health Technical Memorandum HTM 01-04 – 'Decontamination of Linen for Health and Social Care'. HTM 01-04 superseded earlier versions of laundry guidance including HSG (95) 18 and the Choice Framework for local Policy and Procedures (CFPP) series, which was a pilot initiative by the Department of Health.

2.6.4 The Health Act Code of Practice recommends that healthcare organisations comply with the guidance and also outlines the linen handling requirements for laundering establishments who provide linen to the Healthcare and Social Care sectors. These include working to one of two standard requirements, the Essential Quality Requirement (EQR) or Best Practice (BP). EQR is the minimum working standard required but all establishments must have plans in place to attain BP, if they don't already work to that

standard. BP is now the desired requirement for Acute Trusts and other healthcare providers when purchasing new laundering services.

2.6.5 The LDU first achieved the Best Practice standard in October 2017, after successfully being assessed by an external auditor against the requirements of the British Standard BS:EN:14065:2016 – 'Laundry Processed Textiles – Biocontamination Control System'. This assures the provision of the required standard of cleaned, decontaminated linen into the NHS, other public sector customers and the private sector. Registration lasts for 3 years and is maintained by two external annual surveillance visits. The LDU was successfully re-registered in October 2020 and has subsequently successfully passed two further surveillance audits, with the next re-registration audit taking place in October 2023.

2.6.6 In order to achieve and maintain registration, the LDU has implemented a Risk Analysis and Biocontamination Control (RABC) Management System. Part of the RABC system requires the risk assessment of any hazard within the laundering process which could affect the biocontamination quality of textiles. Control measures and process controls have been implemented with the main aim of decontaminating used textiles and controlling the risk of re-contamination, throughout the process until dispatch back to the customer. All control measures and processes are continually monitored and internally audited by in-house staff.

2.6.7 Decontamination of linen is achieved via Critical Control Points (CCP's) during the wash stage adopting the time and temperature standards of HTM 01-04, in order to neutralise the vast majority (99.99% log kill) of bio-contaminants, dangerous substances or germs.

2.6.8 HTM01-04 defines that thermal disinfection occurs with a time/temperature relationship of 65°c held for a minimum of 10 minutes. This is our chosen criteria, however a time/temperature of 71°c held for a minimum of 3 minutes can also suffice.

2.6.9 The CCP's are verified by a real time monitoring system, which will hold the wash process and prevent release of the textiles if the critical temperature is not achieved.

2.6.10 The monitoring system itself is validated using Data Loggers, which are added directly into the wash machines, recording the actual temperature at each stage of the wash process. The process is additionally verified via monthly service visits from the detergent supplier, who audit and correct all aspects of the washing process, including temperatures, water testing and chemical dosing.

2.6.11 The LDU now regularly arranges two further independent tests to validate what scientists say in terms of killing germs within the wash process and to what degree. These are;

- Precision Analysis – this is a destructive test that requires a sample of linen that has been through the decontamination process to be sent off site for testing.
- DES-Controller – the Des (Infection) controller is a simple to use bio indicator for determination and controlling the degree of bacterial reduction.

Both tests are sent off to an independent laboratory in Germany for testing and the results are provided to the LDU.

2.6.12 The RABC system is additionally verified throughout the LDU by a series of Control Points (CP's), where control processes are in place to minimise re-contamination. These are audited and verified by evidence-based systems and document control. These include physical measures such as hygiene controls, protective footwear, KanBan style linen handling systems at the Washer Extractors, dip slide testing and documented evidence such as cleaning schedules, cage sanitisation records and dip slide test results.

2.6.13 The RABC system has an overall main emphasis on the pre-requisites in place, to enable the LDU to implement these controls and systems. A pre-requisite programme identifies the physical attributes and measures what we already have in place and include such elements as having the correct type of building, having physical barriers between the used and clean linen areas, adequate ventilation systems, hand washing facilities and cleaning regimes. This, along with the biocontamination Risk Plan, helps us implement the control measures required to maintain the system.

2.6.14 The RABC system operates in tandem with the LDU's quality system currently in place, building upon overall standards and includes quality checks at all stages of the finishing section. The LDU has a detailed set of Standard Operating Procedures (SOP) and all staff are trained as per the SOP for the process they are carrying out. This includes carrying out inspection on finished linen, packing and loading in safe quantities and the covering of all cages prior to transit.

2.6.15 All of the above ensures that the LDU receives, decontaminates, cleans, folds and packs over 16.5 million articles per year, for the Royal Devon Eastern and Northern Services, including the Nightingale Hospital Exeter, plus other Acute NHS Trusts, Community Trusts, other Healthcare and Non-healthcare establishments throughout the Southwest Peninsula area.

2.6.16 The LDU led the way during the first COVID-19 pandemic in procuring and purchasing reusable fluid resistant PPE gowns, making the Royal Devon the first Trust in the UK to use reusable PPE gowns in the treatment procedures for COVID-19 infected patients. The use of reusable PPE gowns has continued and they are still in use today.

2.6.17 The LDU has also participated in a recent trial, with NHS England and NHS Impact, along with the Trusts IPCT, to assist in the development and testing of reusable type IIR facemasks for use in all Trusts throughout the country.

2.7 Water Safety

2.7.1 *Legionella* spp. and Pseudomonas *aeruginosa* (P*a*) are the two primary bacteria that are capable of living in hospital water systems, and indeed can be found in almost any water course or feature as they can be found commonly in the environment around us. They have the potential to cause clinically significant infections in patients, especially those with underlying health conditions or immune suppression.

2.7.2 The Water Safety and Ventilation Group (WSVG) meets monthly on a departmental (Estates) level, twice per year on Trust level and as required if an issue or risk with water or ventilation is identified. Among the attendees is an appointed external specialist engineer, known as an Authorising Engineer (AE) who helps to ensure that the Trust is able to follow best practice and ensure continued control of *Legionella* spp. and Pseudomonas *aeruginosa*. A similar role is appointed for the disciplines relating solely to ventilation.

2.7.3 The primary Microbiological control of *Legionella* and Pseudomonas *aeruginosa* is achieved by:

- Temperature; the Trust employs temperature control as the primary method of *Legionella* and P*a* control within the domestic water systems
- This is achieved by maintaining temperatures of:
    - o Cold water at temperatures of < 20°C
    - o Stored hot water at >60°C
    - o Distributed water at >55°C
- The avoidance of stagnation by:

o Removing any blind or dead ends on distribution pipework as far back to the origin of supply as possible
o Ensure all Dead-Legs e.g. low use taps, are either flushed twice weekly or removed including any associated pipework
o Minimising stored water volumes where possible
o Ensuring that both existing and new systems ensure a good turnover of any water stored within them, e.g. appropriate tank sizing

- Maintain cleanliness at outlets and follow prescribed cleaning routines to minimise cross contamination from plug holes etc.
- Cold water storage tanks are inspected annually and cleaned as required by specialist contractors

2.7.4 A secondary form of bacterial control is provided by the use of a Copper/Silver (Cu/Ag) Ionisation unit. There are currently four units fitted as below, and each is carefully monitored and regular samples taken to prove its efficacy:

1. Centre for Women's Health
2. Modular Wards Ashburn and Yealm
3. Heavitree Hospital
4. North Devon District Hospital

*2.*7.5 Historically *Legionella* bacterium have been found in very low numbers in water samples taken from outlets within the Trust. This is not entirely unexpected as the organisms can be found readily in most water supplies, and does clearly illustrate the need to effectively control the environment effectively.

Most recently the Nightingale hospital had issues with Legionella; following a major refurbishment, and after trying a number of chemical disinfection regimes, the decision was taken to install point of use filtration (POU) to every outlet.

This proved highly successful, and allowed the site to open for its intended purpose. A regular temperature monitoring and flushing regime was undertaken during the following months after and following an WSVG agreed process, a series of water samples, taken consecutively over an agreed period of time, indicated no further contamination present and the POU filters could be safely removed.

2.7.6 Pseudomonas *aeruginosa* sampling takes place as per the HTM recommendations; in Augmented Care areas (ICU, HDU, NNU etc.), on a 6 monthly rolling program. Historically positive results have been recorded from both Yarty and Yeo Wards. There was also a positive from a wash hand basin (WHB) near the NNU in CWH and subsequent remedial work and testing indicated that there was no further contamination present.

2.7.7 Remedial action for any outlet testing positive includes immediate isolation of the outlet and removal from use, an urgent review of cleaning processes, the implementation of a regular flushing and sampling regime; engineering works and chemical cleans as required and regular discussion with the WVSG and DIPC, followed by a prescribed sampling regime, which only allows the outlet to be put back into use when 3 consecutive sample results indicate the outlet is clear.

Further works to remove plastic flow straighteners, flexible hoses and corroded pipework or valves also reduces risk, and is undertaken as soon as is practicable.

2.8 Ventilation

2.8.1 Possible risks from ventilation are minimised by the use of contractors to clean the inside of each Air Handling Unit (AHU) on a 3 or 4-month rolling program. This includes disinfection of areas subject to moisture, such as cooling coils and fins, as well as regular filter changes.

2.8.2 Wall or ceiling mounted cooling units are also subject to regular maintenance and cleans by a specialist contractor, as are portable equipment, where the risk reduced as they are specifically excluded from use in clinical areas.

2.8.3 Other safety precautions include cleaning of ducting and ventilation grills as required and for key areas on a regular PPM program generated by MICAD, the computer aided facility management system.

2.9 Food Hygiene

2.9.1 Environmental Health Officers employed by Exeter City Council for Eastern Services and North Devon Council for Northern Services visit all catering areas on a regular basis to ensure that we are adhering to the required hygiene standards in accordance with Food Safety regulations – this includes cleanliness, completing temperature records for fridges and freezers, stock rotation of all stores, compliance with Hazard analysis and critical control plan. The Trust has been awarded full 5 star ratings for all of our catering areas in Northern and Eastern Services, including the main kitchens.

2.10 NHS Premises Assurance Model (NHS PAM)

2.10.1 The NHS PAM is a management tool that provides NHS organisations with a way of assessing how safely and efficiently they run their estates and facilities services. It is mandatory for all NHS trusts to complete annually from 2020/21. The NHS PAM collection for 2021/22 was submitted online on 9th September 2022.

2.10.2 The assessments are rated on a 5-point scale from Inadequate through Moderate or Minimal improvement to Good or Outstanding. From the applicable assessment criteria, the Trust rated;

- 64% Good & 27% Requiring Minimal Improvement for Eastern Services
- 68% Good & 31.5% Requiring Minimal Improvement for Northern Services

2.10.3 The Assessments are undertaken independently for Northern and Eastern sites. None of the criteria were deemed is inadequate. Areas of improvement identified through the PAM Assessment are recorded and reviewed through the Estates and Facilities Governance Groups.

3. Ensure appropriate antimicrobial use to optimize patient outcomes and reduce the risk of adverse events and antimicrobial resistance

3.1 Antimicrobial stewardship (AMS) optimises the treatment of infection and minimises the collateral damage associated with antimicrobial use such as the emergence of resistant organisms and CDI. It is recognised as one of the key components of IPC. AMS has remained a national priority throughout the COVID-19 pandemic and national targets set within the NHS contract continue to aim to drive down antimicrobial usage.

3.2 Stewardship activities were limited during the pandemic, but there has been a gradual re-introduction since April 2021 including:

- At Eastern sites; stewardship ward rounds scheduled three times a week with a multi-disciplinary team (MDT) including microbiologists, clinicians, infection prevention and control (IPC) nurses, antimicrobial pharmacists and clinical pharmacists. weekly virtual antimicrobial review round of all vascular speciality patients with MDT including microbiologists, clinician and antimicrobial pharmacists
- Trust wide: weekly antimicrobial review round of all paediatric and NNU patients. MDT includes microbiologists, clinicians, antimicrobial pharmacists, clinical pharmacists and Paediatric liaison and transition nurse.
- At Eastern and Northern sites; weekly *Clostridium difficile* review MDT meeting including microbiologists, clinicians, IPC nurses and antimicrobial pharmacists.
- Trust wide: Provision of educational sessions to junior medical staff and pharmacists.
- Antimicrobial usage between Feb 2022 – Jan 2023. Data pulled from Rx info which has not yet merged Northern and Eastern usage data.

Antimicrobial Agent	Eastern site usage	Northern site usage
Carbapenem	-49.1%	-34.6%
Tazocin	-18.7% (only Trust to reduce usage)	45.7%
Carbapenem sparing antibiotics	-37.6%	182%
Overall reduction, compared to 2018 baseline	-26.8%	10.6%

- A gap analysis has been completed for Eastern and Northern site antimicrobial guidelines, highlighting all areas that need aligning.
- In November 2022, Eastern and Northern AMS teams took part in the IPC point prevalence survey looking at rates of infections and antimicrobial prescribing
- The Outpatient Parenteral Antimicrobial Therapy (OPAT) Service continues to develop and expend. The OPAT service now includes patients in the Northern sites. There is now a daily review round lead by our OPAT specialist pharmacist and Microbiologist Registrar pro-actively looking for suitable candidates and reviewing all patients in our OPAT virtual ward (AHAH)
- The antimicrobial pharmacists supported the introduction and delivery of the COVID-19 Medicines Delivery Unit (CMDU) based on Torridge ward. Delivery of the service has now been taken on by rotational clinical pharmacists, releasing some work capacity for the antimicrobial specialist pharmacists.
- Continuation of a Quality Improvement Program to improve diagnosis and treatment of Urinary Tract infection with expansion of the program to our Eastern Acute Medical Unit.
- The Antimicrobial Stewardship Group (ASG), which oversees the development and implementation of the Trust annual AMS programme of work met four times over the year, and was quorate on each occasion. ASG now has representation from both Northern and Eastern services.

3.3 There remain a number of challenges which will be addressed through the IPC annual workplan 2023/34.

- Availability of reports from Epic to provide data measuring adherence to key performance indicators for antimicrobial stewardship in the Trust. AMS team are working with Business intelligence to develop.

- Provision of detailed data analysis of infection management, antimicrobial prescribing and breakdown of consumption figures.
- Antimicrobial stewardship activities to provide more frequent stewardship rounds with clinicians and clinical pharmacists.
- Logistical challenges with acquisition of antimicrobial pumps used for our OPAT patients.
- Merger and review of trust antimicrobial guidelines.

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

4.1 Information is provided in a variety of ways for patients, visitors and carers:

- Infection and infection control information is available on the Trust website. This includes information about visiting which has been aligned across Northern and Eastern Services. Visiting information was regularly reviewed by IPC leads in response to changes in prevalence of COVID, Influenza and Norovirus.
- During times of outbreak, a pre-recorded message about visiting restrictions is in place on the hospitals telephony systems.
- Outpatient letters advise patients about any requirements with regard to infection control prior to their visit, however with the frequent changes in relation to COVID management over the last 12 months this may sometimes have been out of date for some patients. Therefore, electronic screens in the hospital and posters were also utilised particularly in relation to the need to wear face protection.
- With regard to specific infectious conditions a range of patient information leaflets are available for patients and their carers.
- Annual reports are published on the external website and reports to the Public Board of Directors.

4.2 Information is also available for those providing further support or care through many of the same methods but also from the Community Infection Management Service (CIMS). The IPCTs are now in the third year of providing a Community Infection Management Service (CIMS), an ICB funded variation to contract. This enables the Trust IPCTs to provide a service to care homes and primary care further enhancing relationship and communication between providers.

4.3 This year CIMS was able pivot away from outbreak support, to a degree, as care home settings became more confident in their own precautions and the requirement for outbreak meetings abated.

4.4 More proactive contact was achieved with a number of educational products, including the following:

- An infection control training session addressing issues associated with antibiotic resistant organisms, antimicrobial stewardship and specimen collection. This was offered through the Eastern Care Services Team, providers of existing training for the social care sector.
- A further session was provided to nominated domiciliary providers including content regarding hand hygiene and the use of personal protective equipment in client homes.
- Working collaboratively with colleagues in Devon County Council, a half day educational event was held in Reed Hall, University of Exeter where topics including

oral hygiene, hydration, antimicrobial stewardship and sepsis awareness were taught.

- Workbooks funded by the Integrated Care Board were promoted and supplied to Care Homes which support best practice in infection prevention.
- Link networks were established through distribution lists of links, leads and champions both from care home and primary care settings. The first Primary Care Infection Control Link Network meeting was held through MS Teams in March with an agreement to meet on a quarterly basis.

4.5 Significant service development occurred within primary care with a number of fruitful visits achieved during the year to explore potential work streams and give on-site support to link professionals. The team engaged with regional partners in collaborations to develop support tools for GP practices to meet cleanliness standards and those required for minor procedures and surgery. A regional hydration project was also supported through NHS England.

4.6 The team has established itself in provider networking events where possible and continues to seek opportunities to support these sectors more effectively.

4.7 The team has continued to review toxigenic cases of *C. difficile* arising in the community with feedback, where necessary, being provided to prescribers by Microbiology colleagues. During the year, 43 patients with *C. difficile* infection who had either had an inpatient stay in the Trust longer than 4 weeks prior but within the 12 week period (Community Onset, Indeterminate Associated - COIA) or no inpatient stays within the prior 12 weeks (Community Onset, Community Associated- COCA). Requests for information regarding clinical history and antimicrobial treatments were sent out to GP practices and replies were obtained for 38 demonstrating a high level of engagement. Patients for whom information was not obtainable tended to be from out of the area.

4.8 A scoping process commenced so that further data is gained for cases of Gram-Negative Blood Stream Infections with a urinary source arising in people normally resident in residential settings. Whilst the numbers appear limited, proactive/preventative work is planned with providers in partnership with existing specialists.

4.9 The CIMS team has continued to act as an intermediary, where appropriate, between the RDUH and private providers through submitting content to the Provider Engagement Network Newsletter regarding discharges during outbreak, attending provider forums and relevant meetings and through support to the Single Point of Access Team.

5. Ensure that people who have or are at risk of developing an infection are identified properly and receive the appropriate treatment and care to reduce the risk of transmission of infection to other people.

5.1 Patients are assessed on admission for signs, symptoms and risk factors for infection. The electronic patient records prompt this assessment with inclusion of relevant questions including travel history.

5.2 Northern and Eastern Services had isolation policies in place which during the course of the year were aligned and integrated to provide a single Trust wide policy. This provides guidance on prioritisation for patient placement in single rooms either for their own or others protection.

5.3 The Patient Placement and Movement Policy has also been updated and integrated as a Trust wide policy and this further guides the appropriate placement of patients to reduce risk of infection.

5.4 The movement of patients within the Trust is also included in key policy documents such as the admission and discharge policies. The IPCTs works jointly with bed managers, operations centre staff and with estates and facilities services in planning patient admissions, transfers, discharges and movements between departments and other healthcare facilities.

5.5 Local Trust infection control policies identify the need for information on potential infection hazards to be forwarded to other institutions before patients are transferred out of the Trust. The IPCT liaises with the discharge planning team and infection control information is included in all documentation.

5.6 The use of electronic patient records introduced in October 2020 to Eastern Services and in July 2022 to Northern Services has also played a key role in ensuring that accurate information is available to those engaged in patient care.

6. Systems are in place to ensure that all care workers are aware of and discharge their responsibilities in the process of preventing and controlling infection

6.1 Responsibilities for infection prevention and control is included in job descriptions for all staff within the Trust.

6.2 A review the delivery of infection prevention and control training to all staff was completed in 2022. This concluded that the National Health Education e-learning programmes at level 1 for non-patient facing staff and level 2 for patient facing staff would be adopted. These have been designed to meet the relevant learning outcomes in the UK Core Skills Training Framework.

6.3 The Trust's decision for patient facing staff with certain key roles to also attend face to face training provided by infection prevention specialists remains under review and whilst some face to face training is being delivered; provision is not possible for all patient facing staff, particularly in Eastern Services. This is due to the large numbers of staff requiring training and the limited availability of training venues.

6.4 A new national framework has recently been published (NHSE, 2023) and this will be used to support decision making within the Trust regarding provision of training and will be included in the annual programme for 2023-24.

6.5 In addition to induction and update training, IPC is also included in relation to clinical skills in face-to-face sessions on venepuncture, cannulation and parenteral drug/nutrition administration, link practitioner courses.

6.6 Fit testing and training for use of FFP3 respiratory protective equipment is undertaken for all staff required to use it and this is provided by the fit testing team.

7. The provision or ability to secure adequate isolation facilities

7.1 The Trust recognises the need to maintain and expand facilities for patient isolation for infectious purposes, while recognising the need to provide single room facilities for patients requiring privacy for other reasons. It has been noted for several years that the number of single rooms available and the quality of those single rooms needs to be improved (most single rooms on older wards do not have *en-suite* toilet and shower

facilities and are very small; lobbies to negative pressure isolation rooms on Torridge Ward are too small to provide an adequate area for donning and doffing PPE). For this reason, the Trust is partially compliant with this criterion.

7.2 To assist staff, the Trust has an Isolation policy and organism specific policies detailing the need for isolation and the IPCT advise on prioritisation of patients requiring single rooms.

7.3 To mitigate the challenge of the low proportion of single rooms to total beds, when the number of infectious patients exceeds the number of single rooms available, cohorts bays for patients with the same infection are established.

7.4 A small number of portable isolation rooms, known as Redirooms, have also been purchased and are used in clinical settings for patients with infectious conditions where the patient cannot be moved into a cohort e.g. ITU and Respiratory HDU.

7.5 COVID-19 and seasonal viral infections, namely RSV, Norovirus and Influenza have placed tremendous strain on the isolation facilities of all the inpatient services within the Trust. In addition to cohorting patients, other mitigating factors include admission screening of individuals and a low threshold for rapid testing of patients who develop features that could indicate COVID-19 infection (e.g. fever, cough) were implemented.

8. Secure adequate access to laboratory support as appropriate

8.1 Laboratory services are located on both main acute sites and have full UKAS accreditation, which requires the provision of appropriate protocols and standard operating procedures.

8.2 There is provision of seven-day laboratory working and 24 hour access to medical microbiology advice.

8.3 There is a close working relationship with the IPCT; Microbiology Consultants attend weekly meetings between the IPCT, virology and microbiology teams to address on-going and new issues.

9. Have and adhere to policies designed for the individual's care and provider organisations that will help to prevent and control infections

9.1 A comprehensive range of documents are available, via the Trust's intranet. The IPCT is responsible for the maintenance and updating of the infection control policies, procedures and guidance documents. There are currently a number of infection control documents that are evidence based and reflect national guidance. Approval for such documents arises via IPDAG and ratification of new policies is via the Safety and Risk Committee.

9.2 Currently, two sets of policies remain in use i.e. those associated with the previous organisations prior to integration. Work has commenced to align policies with the aim of having one set only in the next two years; this is included in the 2023-24 IPC programme of work aiming to complete by March 2024.

9.3 Policy integration started with the overarching Infection Prevention and Control Policy. The plan has been to integrate policies at the point when they became due for review and/or when new evidence became available that meant significant changes were required.

9.4 Following the publication of the National Infection Prevention and Control Manual for England, it became clear that integrating two further key policies was necessary and therefore Standard Infection Prevention and Control Precautions Policy and the Source Isolation, Transmission based precautions and Staff Exclusion Policy were also developed for presentation and ratification at IPDAG in April 2023. As mentioned elsewhere in this report, the Patient Placement and Movement Policy has also been aligned.

9.5 The antimicrobial prescribing policy is the joint responsibility of the Consultant Microbiologist and antibiotic pharmacist and is approved by the Antimicrobial Stewardship Group, which reports to IPDAG.

9.6 The decontamination policies and procedures are the responsibility of the decontamination lead.

9.7 All infection control policies carry a three to five yearly review date, or sooner in the light of new evidence. The review schedule is monitored within the annual infection control programme and by the Trust documents administrator. Compliance with key policies is audited according to a schedule included in the annual programme.

9.8 The IPCT also collaborates with others such as the Vascular Access Team in developing guidelines such as the central venous access devices (CVAD) – criteria for referral to the vascular access team.

10. Have a system or process in place to manage staff health and wellbeing, and organisational obligation to manage infection, prevention and control

10.1 The Occupational Health Service is SEQOHS (Safe Effective Quality Occupational Health Service) accredited. It has been accredited since 2012 and was reaccredited Dec 2022

10.2 The SEQOHS standards are the benchmarks that occupational health services are required to demonstrate they meet to be awarded accreditation and to retain accreditation. Accreditation is a robust process involving self-assessment and external peer assessment against accreditation standards, to establish and promote a culture of continual improvement

10.3 Particularly in a healthcare settings, the occupational health services play a significant role in infection prevention and control. Some of the work they have undertaken in 2022-23 to support the protection of staff is identified below:

10.3.1 Occupational Health continue to undertake vaccination and blood screening where indicated to reduce the risk of infection in staff at high volumes to tackle the backlog caused by the pandemic and higher levels of recruitment. Table 3 summarises the work carried out in 2022/2023 in comparison to 2021/22.

Table 4: Vaccinations/Bloods

				Jan - Mar 23	Total Apr - Mar 23	Total Apr - Mar 22	Comparison
Type of Service	**J**	**F**	**M**				
Immunisations							

TB Screening	10	22	14	46	276	695	-60%
Hep B	126	140	180	446	1008	1192	-15%
MMR	146	148	195	489	799	570	40%
Varicella	10	11	17	38	57	46	24%
ACWY				0	14	24	-42%
Dip Tet Polio Booster	34	9	22	65	202	0	
Other vaccinations	2	3	0	5	33	37	-11%
Sub Totals	**328**	**333**	**428**	**1089**	**2389**	**2564**	**-7%**
Blood Test Screening							
Quantiferon	59	46	61	166	311	154	102%
Varicella	84	61	76	221	362	177	105%
Hep B	164	153	172	489	1068	824	30%
MMR	19	14	22	55	193	144	34%
Hep C	21	25	12	58	168	98	71%
Clinical Chemistry & Haematology	0	0	0	0	4	3	33%
Diphtheria	3	3	0	6	23	16	44%
Inoculation Injury follow up blood test	10	5	6	21	71	47	51%
Victim Inoculation Injury blood test	10	12	11	33	148	151	-2%
HIV	20	25	13	58	170	103	65%
Other/MRSA screening	3	2	10	15	46	49	-6%
Sub Totals	**393**	**346**	**383**	**1122**	**2564**	**1766**	**45%**
Vaccination Assessment	263	253	292	**808**	1452	938	55%
EPPs	25	38	24	**87**	281	269	4%
Total	**1009**	**970**	**1127**	**3106**	**6686**	**5537**	**21%**

10.3.2 Immunisation and blood test activity (excluding flu) was 21% higher compared to the previous year. Additional capacity was put in place in December with record numbers screened throughout the Jan - Mar quarter. There have been large increases in the number of varicella blood tests and QuantiFERON tests increasing by 105% and 102% respectively. Flu activity recorded on the National Immunisation and Vaccination Systems (NIVS) shows a reduction of 16% for Eastern Services compared with the previous year.

Table 5: COVID-19 Activity

				Jan - Mar 23	Total Apr - Mar 23	Total Apr - Mar 22	Comparison
Type of Service	J	F	M				
Coronavirus advice	141	201	246	588	5322	10862	-51%
Coronavirus risk assessment	33	30	12	75	385	185	108%
Coronavirus medical assessment	3	0	0	3	18	96	-81%
Coronavirus antibody result for storage				0	113	521	-78%
Coronavirus risk assessment for storage	38	18		56	597	7149	-92%
Coronavirus contact tracing				0	72	330	-78%
Total	215	249	258	722	6507	19143	-66%

10.3.3 Table 4 captures the additional COVID-19 activity logged onto the OH database. The overall total is 66% lower than the previous year with falls in all but one category. The number of positives recorded during the year was 4209 compared to 3227 in the previous year; a 30% increase. The COVID-19 work has largely been carried out by COVID-19 funded staff that are not able to be reallocated to other Occupational Health work.

10.3.4 Occupational Health continued to chair the COVID-19 alert status group. This group comprises Northern and Eastern services, DPT, Devon County Council public health and University of Exeter. This group examines the local COVID-19 situation in the various organisations and the Devon COVID-19 prevalence to recommend the relevant COVID-19 alert level. The alert level was used as a guide for PPE used initially (which was subsequently removed) and is still used to determine where staff of higher vulnerability to severe illness and mortality with COVID-19 are able to work.

10.3.5 A collaborative approach to the provision of COVID boosters and Seasonal Influenza vaccinations continued this year with the Infection Control Nursing Leads assigned as Flu Leads. The COVID vaccination working out of Greendale Vaccination Centre provided a roving service in the hospitals and some fixed clinics. They also supported the provision of vaccination for vulnerable patients for both COVID and flu vaccine. Peer vaccinators delivered the majority of flu vaccines to their patient facing colleagues whilst occupational health providing clinic for all staff both on acute and community hospital sites. In keeping with other NHS Trusts, flu vaccination uptake is lower than in previous years at 61.3% against a target of 75%. This is 6,456 vaccinations administered to our staff.

REFERENCES

Dept of Health (2004) *Competencies for Directors of Infection Prevention and Control*. Gateway Reference 3080 Available at: http://webarchive.nationalarchives.gov.uk/+/www.dh.gov.uk/en/publicationsandstatistics/lettersandcirculars/Dearcolleagueletters/DH_4083982 Accessed 09/06/2023

Dept of Health (2015) *Health and Social Care Act 2008. Code of practice on the prevention and control of infections, and related guidance (Updated December 2022)* Available at: Health and Social Care Act 2008: code of practice on the prevention and control of infections - GOV.UK (www.gov.uk) Accessed 09/06/2023

NHSE (2022) *NHS Standard Contract 2022-23 Healthcare associated infections Minimising Clostridioides and Gram-negative Blood stream infection* http://www.england.nhs.uk/patient/healthcare-associated-infections/

Dept of Health (2016) *Health Technical Memorandum 04-01 Safe water in healthcare premises.* Available at: https://www.gov.uk/government/publications/hot-and-cold-water-supply-storage-and-distribution-systems-for-healthcare-premises Accessed 01/07/2020.

Field Epidemiology South West, Public Health England (2023) Limited availability on request from the IPCT.

NHS E (2022a) *National Infection Prevention and Control Manual (NIPCM)* Available at: NHS England » National infection prevention and control manual (NIPCM) for England Accessed 9/6/2023

NHSE (2022b) *Infection prevention and control board assurance framework* Available at: http://www.england.nhs.uk/long-read/infection-prevention-and-control-boardassurance-framework/ Accessed 9/6/2023

UK Medical Devices Regulation 2002 (as amended) part II, annex V Available at https://www.legislation.gov.uk/uksi/2002/618/contents Accessed 9/6/2023

Dept of Health (2016) Health Technical Memorandum 01-01 Decontamination of surgical instruments. Available at: https://www.england.nhs.uk/publication/decontamination-of-surgical-instruments-htm-01-01/ Accessed 9/6/2023

UKHSA (2023) Norovirus cases increase significantly in England Available at Norovirus cases increase significantly in England - GOV.UK (www.gov.uk) Accessed 9/6/2023