

## **PUBLIC TRUST BOARD PAPER**

**HELD ON 7 OCTOBER 2021**

### **Infection Prevention and Control (IPC) Annual Report 2020-2021**

#### **1. INTRODUCTION**

The purpose of this report is to provide the Trust Board with assurance that the Trust is compliant with its statutory obligation under the Health and Social Care Act (2008) (DOH 2015) Code of Practice – governing infection prevention and control in healthcare settings.

Eliminating avoidable healthcare associated infection remains a priority for the Trust to ensure our patients, staff and the public are kept safe.

To meet this regulation; providers must have effective governance, including assurance and auditing systems or processes. These must assess, monitor and drive improvement in the quality and safety of the services provided, including the quality of the experience for people using the service. The systems and processes must also assess, monitor and mitigate any risks relating the health, safety and welfare of people using services and others. Registered providers must demonstrate compliance with the Code to ensure that the premises where care and treatment are delivered are clean, suitable for the intended purpose to deliver safe, effective care or treatment to prevent avoidable harm or risk of harm.

##### **1.1 COVID-19 Global Pandemic**

On 31st December 2019, health authorities in Wuhan, Hubei, China, reported a cluster of viral pneumonia cases of unknown cause. The first confirmed case at UHCW was the 6<sup>th</sup> March 2020.

The World Health Organization (WHO) on March 11th 2020 declared COVID-19 a pandemic. The United Kingdom government instigated a public lockdown and restriction in public movement in 23rd March 2020 as a measure to reduce possible population transmission.

In response to the COVID-19 global pandemic, multiple actions have been implemented by the Trust, following the established Emergency Planning, Resilience and Response incident strategy of bronze/ silver/ gold command, linked to the regional cell with national instruction.

In order to ensure that the guidance for preventing transmission of COVID-19 to both patients and staff was implemented effectively, understood in practice and high levels of compliance evident, the IPC team provided increased services (7 days a week) to support staff and patient safety from a 5 day service and on call provision at weekends.

##### **1.2 IPC Board Assurance Framework- COVID response (2020)**

NHS England developed an IPC Board Assurance framework (BAF) to support all healthcare providers to effectively self-assess their compliance with PHE and other COVID-19-related infection prevention and control guidance. The first version was published on 4 May 2020 and is structured around the existing 10 criteria within the Code of Practice on the prevention

and control of infection It links, in the main, to Regulations 12 and 15 of the Health and Social Care Act (2008), including: -

- Regulation 12h - assessing the risk of, and preventing, detecting and controlling the spread of infections, including those that are health care associated
- Regulation 15 1a - all premises and equipment used by the service provider must be clean

The Trust has reviewed and implemented the BAF for IPC, with the IPCT updating and reviewing the document regularly at IPC committee, and has presented it remotely to CQC in July 2020. Introduced in May 2020, the document has been revised on 3 occasions since. This is now scheduled as a quarterly report to IPC Committee, with escalations by exception to Patient Safety Effectiveness Committee.

The Infection Prevention and Control (IPC) Service endeavours to provide a wide-ranging, integrated and proactive service, which is responsive to the needs of staff and public alike, and is committed to the promotion of excellence within everyday practice of Infection Prevention and Control.

Reducing the risk of infection through robust infection control practice is a key priority for University Hospitals Coventry and Warwickshire Trust and supports the provision of high quality services for patients and a safe working environment for staff.

This report provides assurance of the continual commitment to the prevention and control of infection within all services to achieve positive outcomes, and compliance with the ten criterion as discussed in the Health and Social Care Act (2008) (DOH 2015) Code of Practice (appendix 1).

## **2. CONTENT**

### **2.1 Criterion 1: Systems to manage and monitor the prevention and control of infection. These systems use risk assessments and consider how susceptible service users are and any risks that their environment and other users may pose to them.**

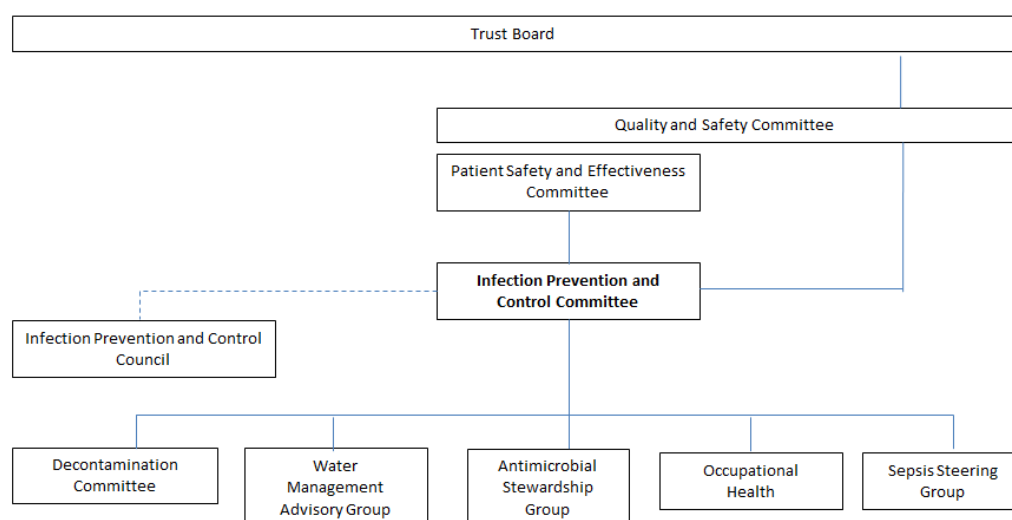
#### **Infection Prevention and Control Team Structure 2020-2021**

The Chief Nursing Officer is the Director of Infection Prevention and Control and is supported by the Deputy Chief Nursing Officer/ Deputy Director of Infection Prevention and Control.

During 2020/21 the IPC team has increased to a 7 day service to manage the demand of the COVID pandemic, and ensure continuous support for staff and operational leads. This has been facilitated through two secondment positions, and the dual role of infection Prevention and Sepsis Practitioner. In March 2021, the Lead Nurse for IPC retired after 35 years, this role has been successfully recruited to by the report author.

## Infection Prevention and Control Governance and Reporting Framework

The governance structure for IPC reporting is demonstrated below



The Infection Prevention Control Committee has been maintained throughout COVID-19 pandemic albeit with reduced core membership. This included DIPC, Deputy DIPC, Lead Nurse IPC, ISS, Clinical Commissioning Group and Public Health England (West Midlands) representation.

Throughout the COVID-19 pandemic, IPC operational/ tactical decision making was conducted through silver command as part of our emergency response, upwardly reporting to gold command (Chief Officers)

IPC Medical leads for each clinical group were introduced in July 2020. The position is allocated a 0.25 PAs to work alongside Group Directors of Nursing and Allied Health Professionals in order to strengthen IPC leadership at group level.

The IPC team produces an annual work plan to ensure key areas of focus and associated infrastructure requirements are identified. This year's work plan has been included with this report.

### Infection Prevention Control Council

As services began to reinstate after wave 1 of the pandemic, the IPC council was formed to ensure that IPC was a guiding principle of restoration, with core themes; clinical standards, quality improvement, patient experience, staff development and research.

During 2020-2021 the IPC council activities included development and review of:

- 110 IPC screening tools for standing up/ commencing clinical and non-clinical services post wave 1 of the pandemic
- 32 SOPs/ Clinical Standards
- Trust wide patient surveys (2) of 'confidence' in COVID prevention measures
- Trust wide PPE audits, with feedback given at group level promoting best practice and staff health and well-being

- Development of a COVID-19 dashboard with Performance and Informatics
- Contribution to research and study projects, including Dive Centre and long COVID, Adenosine Triphosphate measurement and staff engagement in cleaning, and perceptions of staff when offered influenza and COVID vaccinations

Throughout, national guidance has been followed, with clear and frequent communications and web page resources to support staff and patients.

Patient feedback indicated good to excellent levels of satisfaction in the COVID related changes in place, including signage, information leaflets and perception of being “COVID safe” (appendix 2). This survey is now completed quarterly.

### **Decontamination Steering Group**

The Decontamination Steering Group monitors all decontamination arrangements throughout the Trust reporting to IPC Committee. The Trust operates a Central Sterile Supply Department (CSSD). Centralisation of decontamination, wherever possible, ensures that staff are well trained and that processes remain controlled and are fully auditable.

During the early part of the COVID-19 Pandemic, the Trust had the opportunity to trial the newly developed, innovative Nanoclave technology, to be able to safely and quickly surface disinfect a range of items using very high levels of ultra-violet light. This was used in the decontamination of reusable respiratory hood equipment and reusable half face respirators.

CSSD played a key part in resilience planning for PPE provision during the first surge when national supply chains looked unstable, supporting storage, delivery and procurement of equipment.

### **Healthcare associated infections surveillance**

A central aspect of the work of the IPC team is managing the risk of patients acquiring infections whilst in hospital, also known as nosocomial infections. This report provides details of nosocomial infections that occurred at UHCW during 2020/21.

The following organisms are subject to mandatory reporting; MRSA, MSSA, Clostridioides difficile, and Gram negative bloodstream infections (Escherichia coli, Klebsiella species, Pseudomonas aeruginosa).

### **Benchmarking**

UHCW routinely benchmarks its performance for healthcare acquired infections against a group of 35 similar sized acute teaching trusts in England (Appendix 3). Rates of healthcare acquired infection per 100,000 occupied bed days are compared by analysis of infections National Statistics releases, based on the Public Health England mandatory surveillance of infections<sup>1</sup>. Occupied bed days are taken from the KH03 returns published by NHS England<sup>2</sup>.

---

<sup>1</sup> <https://www.gov.uk/health-and-social-care/health-protection-services-health-surveillance-and-reporting-programmes>

<sup>2</sup> <https://www.england.nhs.uk/statistics/statistical-work-areas/bed-availability-and-occupancy/bed-data-overnight>

For *Clostridioides difficile* figures are based on both Hospital Onset Healthcare Associated (HOHA) cases and Community Onset Healthcare Associated (COHA) cases. For bacteraemia (blood stream infections) only HOHA cases are included in the comparison. HOHA cases are those where the onset is two or more days after admission. COHA cases are those that commence either prior to admission, or within 48hrs, where the patient has been discharged from the Trust in the previous 28 days.

The results of benchmarking are summarised below. UHCW infection rates were below the overall group rate for all organisms, and performance was above median for all except *P. aeruginosa*.

Organism	2019/20 UHCW count	2020/21 UHCW count	Rank (of 35)*
MRSA	1	0	1 ↑
MSSA	34	31	9 ↑
<i>E. coli</i>	67	69	13 ↓
<i>Klebsiella</i>	30	39	13 ↓
<i>P. aeruginosa</i>	22	24	19 ↑
<i>C. diff</i>	70	68	9 ↓

Infection rates compared to 35 similar trusts. \* Arrow indicates position relevant to 2019/20 ranking against the same 35 comparable trusts.

UHCW's rank within the group has improved for MRSA, MSSA and *P. aeruginosa*, whilst dropping for *E. coli*, *Klebsiella* and *C. diff*.

### MRSA/ MRSA screening

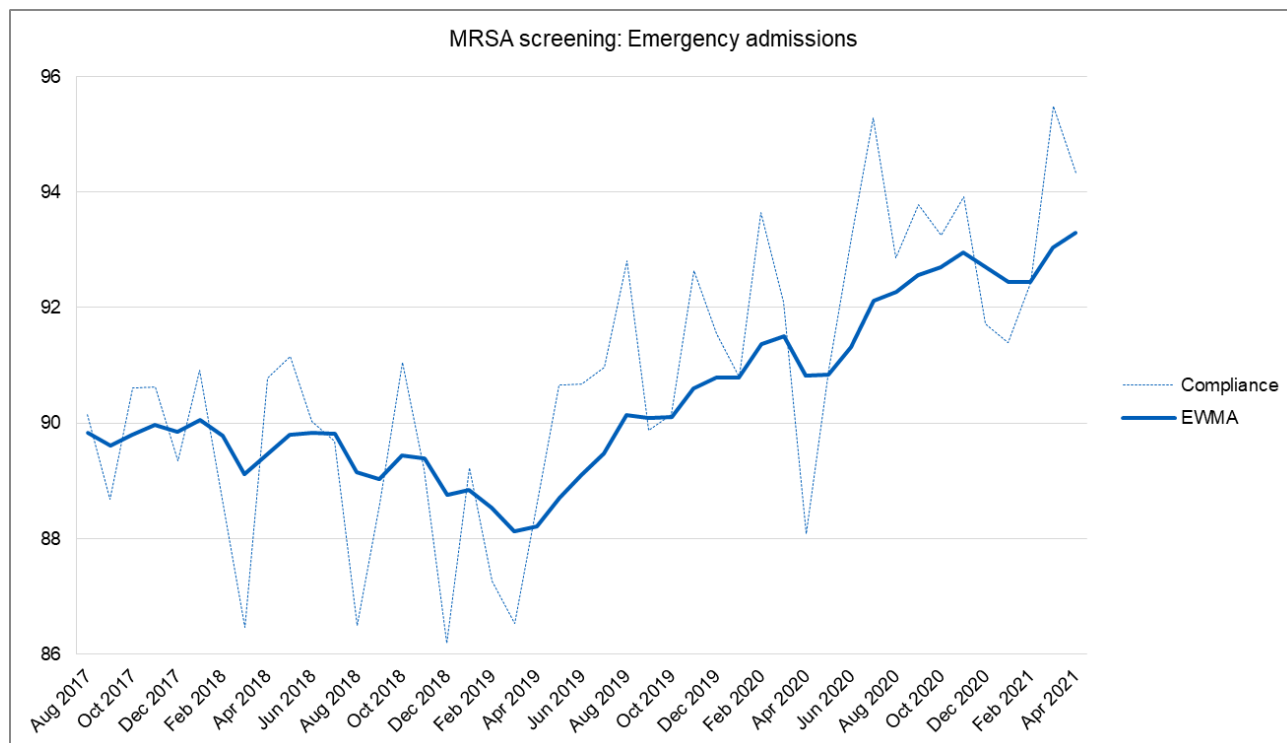
During 2020/21 UHCW had no hospital onset MRSA bacteraemias. UHCW was the best performing Trust in the comparator group.

National epidemiology data demonstrates a 76.7% increase in hospital onset cases in Q4 2020 compared with Q4 2019 which further highlights the excellence performance of UHCW for that year

UHCW employs a risk based approach to minimising the risk of MRSA bacteraemia, in line with national guidance. All admissions to areas considered high risk are routinely screened for colonisation with MRSA to ensure that appropriate action can be taken to prevent transmission.

The Trust continuously monitors compliance with this process. Compliance with screening for elective admissions has always been high and for 2020/21 was 98.4%. However, screening emergency admissions poses more challenges. Through a process of continual feedback, and areas sharing learning, significant improvements have been made in screening emergency admissions over the last two years. Monthly compliance since April 2017 is

shown in the chart below which evidences continued improvement since April 2019. Overall compliance for 2020/21 for emergency admissions was 93.0%.



#### MRSA Screening - emergency admissions

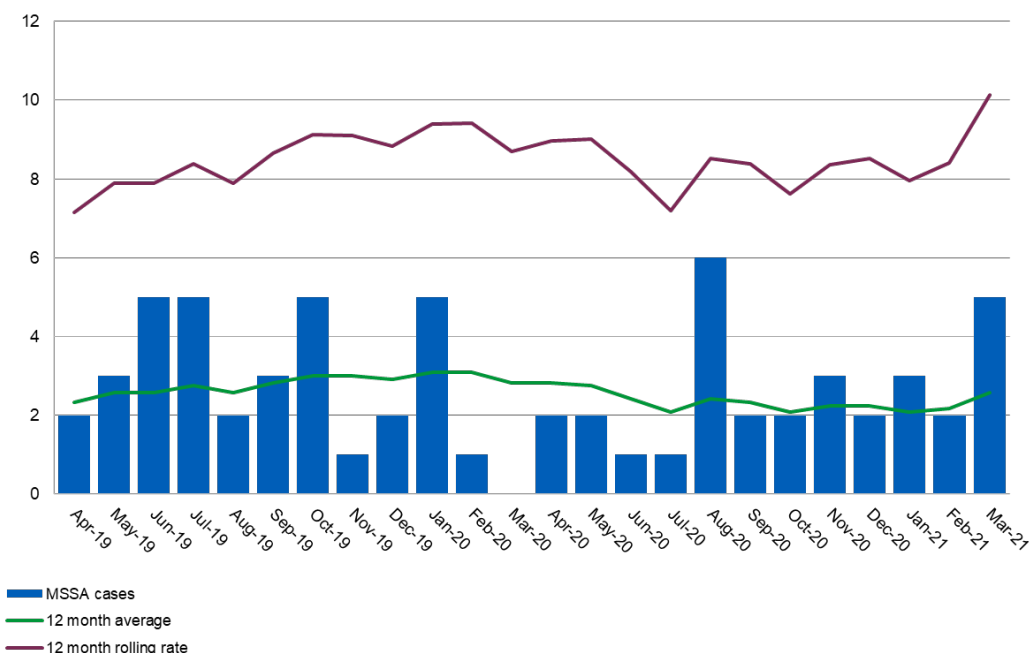
The IPC team continue to provide information and support to patients that are positive for MRSA by reporting the findings and by arranging decolonisation for elective patients where required.

#### MSSA

UHCW had 31 cases of hospital onset MSSA during 2020/21, against an internal target of 29 which although was higher was an improved position from the previous year's performance of 34. Rising patient acuity levels and complex patient risk factors have influenced this, a thematic review of the cases identifying multiple patients having COVID-19, complex medical history and multiple co-morbidities.

The national epidemiology shows an 18.0% increase in hospital onset cases in Q4 2020 compared with Q4 2019 demonstrating a positive performance for UHCW compared to the national picture

Healthcare associated MSSA cases with rolling averages



#### Monthly MSSA cases

### Gram negative blood stream infection (GNBSI)

GNBSI includes all blood cultures positive for *Escherichia coli*, *Klebsiella* species, and *Pseudomonas aeruginosa*. NHS Improvement announced an ambition to reduce GNBSI by 50% by March 2021. The target date has now been moved to 2023/24.

Reduction in GNBSI is included as an action in the IPC Annual plan, but achievement of this is not without challenge in the current climate. The impact of COVID-19 on GNBSI rates is also being acknowledged nationally as having increased. This remains under review and implications will be included in subsequent reports.

#### *E. coli*

UHCW had a total of 69 hospital onset *E. coli* bacteraemia in 2020/21, a rate of 22.54 per 100,000 bed days. Numbers of infection were up slightly from 67 in 2019/20. A noticeable spike of cases between October and January contributed significantly to the numbers.

10 of the *E. coli* cases occurred on GCC, compared to only 1 during 2019/20. 8 of these were during the second wave of COVID-19, at a time when GCC was taking significant numbers of patients from other hospitals under a mutual aid scheme. Assurance processes for monitoring of this are described in section 2.5 (Outbreaks)

#### *Klebsiella*

There were 39 hospital onset cases of *Klebsiella* bacteraemia in 2020/21, an increase of 9 of 2019/20. The rate increased from 7.67 (2019/20) to 12.74 (2020/21).

The increase was largely focused on GCC, which saw 18 of the 39 cases, compared to just 4 cases in the previous year. As with *E. coli*, this increase was focused in the second half of the year, with 14 of the 18 cases occurring after October.

## Pseudomonas aeruginosa

There were 24 hospital onset cases of *P. aeruginosa* bacteraemia in 2020/21, an increase from 22 in 2019/20. Of the 24 cases, 8 were on GCC, compared to just 1 case on GCC in 2019/20. Again, the cases on GCC were concentrated in the second half of the year, with 7 of the 8 occurring after October.

## Clostridioides difficile (C.diff)

There were 68 healthcare associated cases of *Clostridioides difficile* during 2020/21, down from 70 cases in 2019/20. Of the 68 cases, 45 were Hospital Onset Healthcare Associated (HOHA), and 23 Community Onset Healthcare Associated (COHA) – see Figure 5.

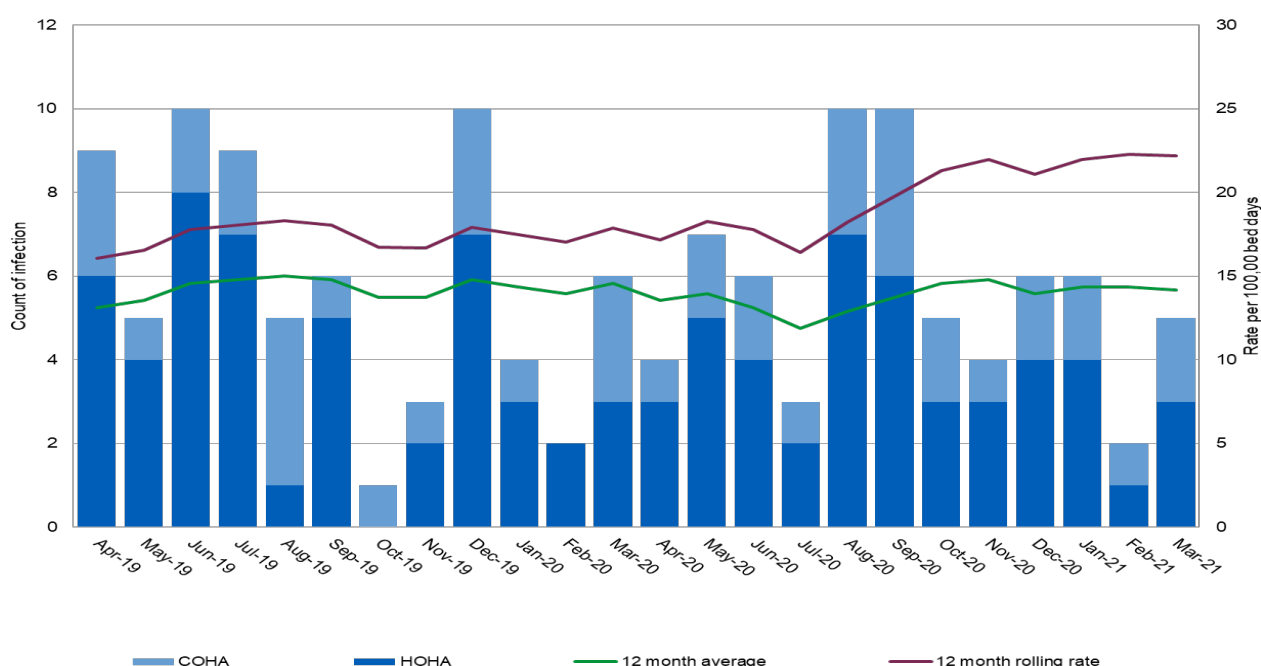
Cases of healthcare associated *C. diff* are reviewed with the CCG, and of the 67 reviewed cases 15 were considered to have involved a lapse of care. This provides a percentage of 22%, an increase of 8% from the previous year. This is likely due to the change in acuity of patients, but is also likely impacted by the improved review system with the CCG.

Themes within the lapses of care included; antimicrobial prescribing and cleanliness of commodes. Antimicrobial prescribing in community settings also found to be a contributory factor. This has been reflected back to the CCG for dissemination.

From this learning, commode educational resources in the Trust have been reinvigorated, and a commode decontamination video created for staff to watch. Focussed audits are undertaken of commodes when a Cdiff is found, and learning has been shared through the IPC safety huddle.

For antimicrobial prescribing innovation this year, please refer to section 2.3 of this report.

Healthcare associated *C. diff* cases with rolling averages



## Monthly healthcare associated C. diff



## Period of Increased Incidence

A Period of increased incidence (PII) is defined as two or more new cases of the same infection (occurring >48hours post admission, not relapses) in a 28-day period. When a PII is identified, it is recommended that a standard set of actions be put in place including ribotyping of isolates and ward audits. An outbreak is then defined as two or more cases caused by the same strain related in time and place over a defined period that is based on the date of onset of the first case.

During 2020-2021, 5 incidents of PII in *C. diff* were identified. No matching ribotypes were found, all areas had full ward terminal cleans performed and antibiotic prescribing audits performed as part of the associated action plan. There were no further cases associated in each instance and consequently, no wards then met outbreak criteria.

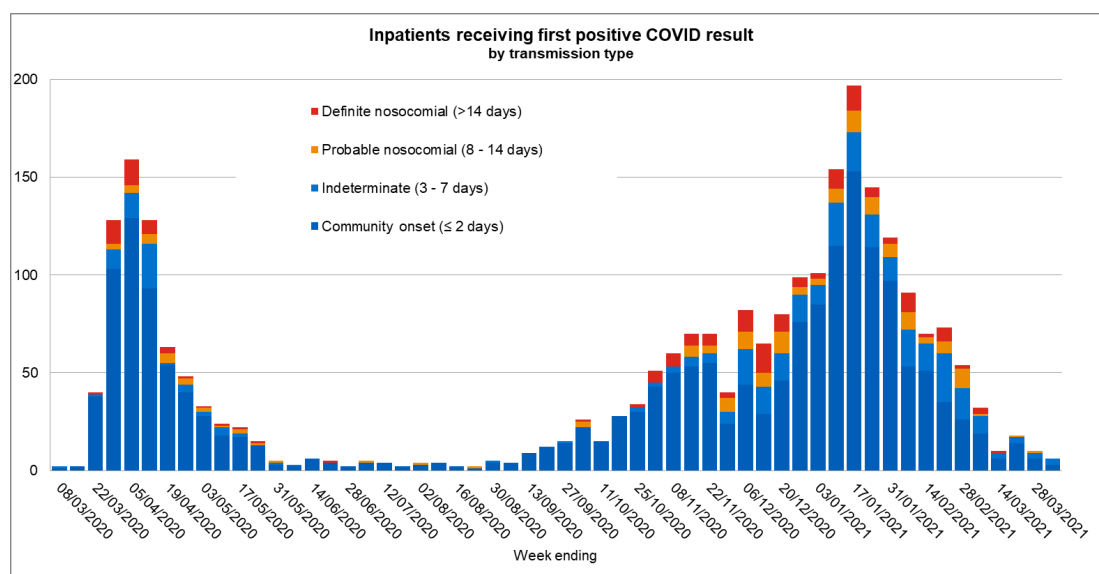
## COVID-19

During 2020/21 the activity of the Infection, Prevention and Control team was dominated by COVID-19. Through 2020/21, 2292 patients were admitted to UHCW who had tested positive for SARS-CoV-2.

Of these, 139 tested positive between days 8 and 14 days of their admission. These are considered to be probable healthcare acquired infections. A further 135 tested positive more than 14 days after admission, and these are considered definite healthcare acquired infections. A weekly breakdown is provided in the table below

Each probable or definite case has had a review to identify any potential learning opportunity, and findings shared at local level and regionally to NHSE. Reviews focussed on adherence to national guidance in the screening and management of patients which led to innovations and developments including additional screening and visual alerts for staff

The rate of healthcare acquired COVID-19 per 1000 bed days varied considerably throughout the year in line with local and national pictures, reaching a maximum of 3.85 in April 2020, and then rising again during the second wave.



## COVID diagnoses in admitted patients

### Risk Management

An IPC risk register is in place and has been maintained and monitored through IPC Committee and upwardly reports to Patient Safety and Effectiveness Committee. All datix reports are noted and monitored to identify themes and trends as well as key areas for learning and development.

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

All cleaning staff play an essential role in ensuring that the Trust reduces hospital acquired infections which promotes confidence in our care for patients and visitors.

### Environmental Cleaning

Cleaning services at UHCW in all clinical and non-clinical areas are managed by ISS, supporting the delivery of a safe environment to patients as well as monitoring the standards achieved against the National Specification for Cleanliness in the NHS (2004). This is done alongside the Soft Performances team in Estates, reporting compliance against expected cleaning standards.

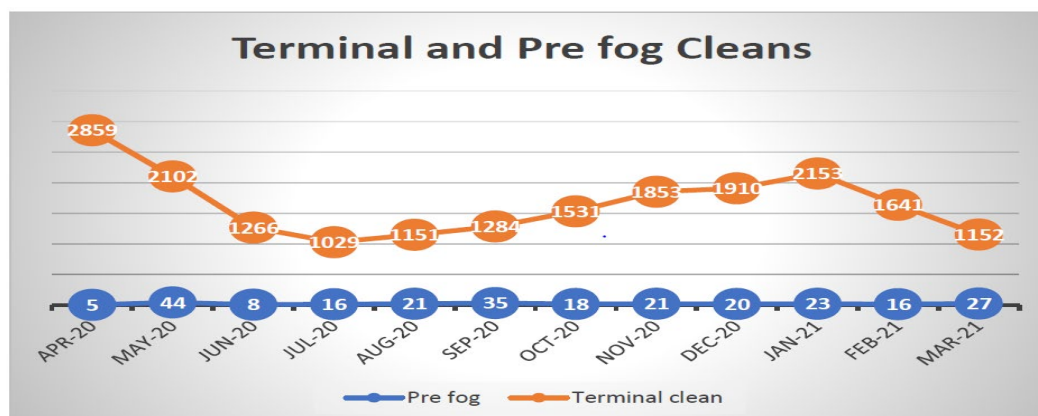
Reports are sent to the ISS management team, the Estates team, Ward Managers and Modern Matrons for escalation and action where required. Where performance is below expectations, a Root Cause Analysis (RCA) is performed with IPC team input and action plans developed. There have been 5 RCAs held for 2020/21, actions required for which have been achieved.

ISS Managers also participate in any outbreak or periods of increased incidents (PII) meetings, when issues are identified requiring input.

### Terminal Cleans

All terminal cleans at the Trust are requested via the helpdesk, and are available 24 hours a day, 7 days a week. Hydrogen Peroxide Vapour (fogging) decontamination of infected side rooms is requested as per IPC guidance, and is managed by the Soft Performance Team in partnership with ISS.

Terminal clean and pre-fogging cleans are shown in figure 7. Wave 2 of the pandemic is evident from September 2020, with the number of terminal cleans performed increasing. This was performed alongside the daily cleans and required ISS to employ extra staff to support. Additional meetings with ISS staff and the Clinical Site Managers commenced in September 2020 to support operational delivery by focussing on vacated rooms/ areas following patient discharges.



Number of terminal and pre-fog cleans performed across UH and St Cross sites, April 2020 – March 2021

## Cleaning for Confidence Campaign

The Cleaning for Confidence campaign was developed by NHS England and NHS Improvement (Midlands) with the intention that it was adopted and adapted by NHS organisations across the region. This campaign was designed for organisations to adapt the materials and messaging to suit their own organisation 'voice' and to encourage their staff to become 'cleaning champions'.

ISS led this campaign at UHCW, using multi-modal strategies to engage and motivate staff. The innovative methods were demonstrated and shared with representatives from NHSE and national leads from ISS in August 2020.

## Waste Management including Sharps

The overall responsibility for correct processing of waste in the Trust sits with the Estates team. The Trust Waste Management Policy is in place and available for staff via the Trust intranet.

Monitoring and auditing of process is done in partnership with ISS facilities in accordance with DoH requirements. Clinical waste is monitored on a daily basis by ISS to ensure it has been placed in the correct stream before leaving site, including a visual check of bin content.

The Trust employs an external provider to collect and dispose of sharps via their reusable bins. Reports of their audit findings are provided to the Sustainable Development Manager and IPC on a monthly basis.

Compliance with process is monitored via Datix incident reports and Sharpsmart audit findings, with reports received by the Waste Management Group annually.

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

### Antimicrobial Stewardship Group

The Trust antimicrobial stewardship group is chaired by the Consultant Microbiologist, and includes representatives from pharmacy, microbiology, Infectious Diseases, nursing and medical staff. This group monitors activity with regard to antimicrobial stewardship, formulating policy/guidance where applicable

Challenges continue for attendees from clinical areas due to service demands which can affect quorate status and subsequent allocation and monitoring of required actions.

### **Point Prevalence**

A Trust wide quarterly point prevalence audit is completed by the pharmacy department. During 2020/ 21, the audit was not completed during Quarter's 1 and 4 due to COVID pressures. The findings from Quarters 2 and 3 were shared at IPC Committee, with IPC Medical Leads and GDNA's and at the Nursing and Midwifery Care and Quality Forum for sharing lessons learnt and highlighting improvements. Key areas of focus remain prescribing practices and documentation.

The Antimicrobial Pharmacist supports areas with a Period of Increased incidence of infection. These findings are shared with clinical leads, medical and nursing teams, and group QUIPS meetings for discussion and review.

A documentation of allergy status audit was completed during 2020/21, the findings of which were shared at the Clinical Leadership forum to highlight key themes for learning including confirmation of allergy status

### **Antimicrobial Ward Rounds**

Clinical ward rounds and multi-disciplinary team meetings include antimicrobial reviews by a microbiologist and IPC practitioner to support clinical decision making in areas such as Critical Care, Haematology, OPAT, endocarditis and *C.diff* cases

A quality improvement project was undertaken and led by the Microbiology department with the aim of improving documentation using the Trust CRRS system. Evaluation of the project is ongoing but has been well-received by clinical teams to date. Information will be shared in subsequent reports as required.

### **Microguide**

The Trust was successfully launched the Antimicrobial Guideline app, Microguide. Developed for mobile devices such as ward computers, iPads or mobile phones, the app facilitates easy access to antimicrobial guidelines at the point of prescribing, enabling efficiency and ease in receiving the most up-to-date information and has been well received by clinical teams.

### **COVID-19 impact on Antimicrobial Stock**

In line with the national picture, UHCW faced challenges as a result of ongoing shortages of various antimicrobials due to manufacturer's supply problems. The Microbiology and Pharmacy Departments worked collectively to ensure alternative agents were available.

- Antimicrobial guidelines were reviewed, and alternative agents chosen considering factors such as antimicrobial stewardship and local resistance patterns, risks and benefits including cost analysis.

## **CQUINs**

The CQUIN program has been paused in 2020/2021 due to the COVID-19 pandemic with no submissions required. However, antimicrobial consumption continues to be monitored.

## **SEPSIS**

The Sepsis team was temporarily redeployed to Critical Care during 2020 to assist with the COVID-19 pandemic surge which affected activity, so on return a retrospective review of patient presentations was carried out in order to meet audit requirements as set by the NHS standard contract.

To maintain the service, the Infection Prevention and Sepsis team members have undertaken additional training to enable them to act in a dual role.

Audit results for 2020-2021 demonstrate a reduced performance so is a key focus of 2021-2022, with the development of comprehensive action plans at speciality/ group level which will be monitored via the re-instated sepsis steering group reporting to IPC committee.

Work is underway to utilise Vitalpac functionality for electronic support with the sepsis 6, for introduction by Quarter 3 2021/22 which it is hoped will further support compliance

### **2.4 Criterion 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.**

## **COVID-19 COMMUNICATIONS**

Since the onset of the pandemic, national and regional guidance has changed rapidly necessitating a robust reactive service from the IPC team. The Trust's communications team have been instrumental in supporting distribution of these updates in guidance for staff.

The operational brief was one example of this, providing a summary of information for staff including updates to policies/procedures, information regarding PPE supply/COVID numbers within the Trust and general wellbeing and advice.

Signage in the hospital was reviewed and amended to support staff and patient safety.

The communications team also assisted during the restoration phase, producing a visitor video explaining the Green Pathway for elective surgery, working in collaboration with IPC to produce COVID-19 patient information leaflets and to promote key messages on social media.

The IPC team supported external communication teams attending site, educating visiting media on safe practice at UHCW, and fit testing those individuals entering high risk areas.

### **Information for service users, visitors and carers**

The IPC team have developed a number of patient information leaflets for service users, visitors and carers for specific infections. These are made available on the Trust internet site for patients, visitors and carers where required. During 2020/21 all information leaflet updates have been completed, with service user feedback incorporated into the changes. These leaflets are approved at IPC committee before uploading to e-library.

During 2020/21, the IPC team met with patient partners to discuss hand hygiene facilities in the Trust and identify improvements to signage. The feedback provided gave useful insight

into visitor perceptions and was incorporated when placing new gel dispensers and posters around the organisation.

**2.5 Criterion 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.**

The Infection Prevention and Control team utilise CRRS to highlight infections as well as engagement with clinical teams where required. The team support the management of outbreaks, periods of increased incidence and clinical incidents including the monitoring of all alert organisms to identify trends and potential links between cases based on their location.

**CRRS AND ALERTS**

The IPC Nurses receive daily alerts from the Microbiology team. During 2020, a quality improvement initiative was led by IPC and the IT department to automatically place the “red flag” alert onto the patients notes. This streamlines the process and removes “waste” from ensuring the alert is visible promptly for clinical teams

During 2020, further icons were added to the CRRS opening screen to support COVID-19 management. These included visual aids to indicate a positive COVID-19 result, flags to indicate COVID-19 screening is required, and an icon to indicate a patient is considered Clinically Extremely Vulnerable (CEV).

Using the CEV data source, CRRS has developed a ward summary list of all CEV inpatients on site, enabling decisions regarding bed placement in an outbreak scenario to be made to ensure patient safety and reduce risk of transmission.

**COVID-19 Database**

The IPC Data Analyst in collaboration with the Performance and Informatics team has produced a COVID database for alerting IPC nurses to the most recent results, which works in conjunction with the IPM and Vitalpac systems utilised by Trust staff, to contact trace any patients who have a contact of a positive COVID patient. The database has been further developed to allow thorough record keeping of clusters and outbreaks of COVID, with simple visual prompts such as a contact returning positive at a future date changing colour automatically. This is a development initiative unique to UHCW and worthy of celebration.

**OUTBREAKS AND LEARNING FROM INCIDENTS**

**COVID-19 Outbreaks**

In May 2020, NHS England released guidance for COVID-19 outbreaks and required actions. In a healthcare setting, the definition is two or more test-confirmed or clinically suspected cases of COVID-19 among individuals (for example patients, health care workers, other hospital staff and regular visitors, for example volunteers and chaplains) associated with a specific setting (for example bay, ward or shared space), where at least one case (if a patient) has been identified as having illness onset after 8 days of admission to hospital.

All outbreaks are investigated in a standardised way with further testing of contacts, if required, within the outbreak area, a focus on IPC standard precautions and a review of the environment, patient and staff factors and latterly the vaccination status of staff. Each COVID-19 outbreak is reported nationally, and entered onto a regularly updated database.

From May 2020 – end of March 2021, 31 outbreaks had been declared by UHCW. Key stakeholders were involved in each incident with outbreak meetings convened and chaired by the Deputy Chief Nursing Officer/ Deputy Director of Infection Prevention and Control and/or Lead Nurse IPC. Updates were shared and escalated through the Senior Receiving Officer (Chief Nursing Officer).

IPC focus was to limit spread, limit harms and increase learning and evolution of practices wherever possible. Key themes from the investigations included breaches in social distancing in break rooms, inadequate PPE use and asymptomatic transmission. Changes to practice, signage, increased screening and education were all areas of focus, with a promotion on COVID-19 vaccination uptake in line with JCVI guidance.

### **ESBL in General Critical Care**

From January 2021 to April 2021 a total of 6 patients had a matching *Klebsiella pneumoniae* (ESBL) typing result from the Critical Care unit. An outbreak was declared to facilitate a structured investigation and develop an action plan.

Findings from the investigation recognised that mutual aid for COVID-19 care in the critical unit was associated with the index case and patient 2, both of whom were cared for together in a bay prior to arrival at UHCW.

Regular outbreak meetings were held, which included the local health protection team, CCG and NHS England, and an action log maintained. Reviews of decontamination processes took place and PPE was reviewed, with a risk assessment of long sleeve gowns and PPE use being undertaken, with continuing focus on hand hygiene and the World Health Organisation 5 moments of hand hygiene. The outbreak was closed in May 2021 when the required period of 28 days was reached with no new cases.

### **Norovirus**

There were no outbreaks or incidents of Norovirus during 2020-2021 compared to 4 incidents in 2019-2020.

### **Influenza**

As seen nationally, cases of influenza during 2020-2021 were minimal, with one Influenza case reported only (Flu B). The paediatric patient involved presented to UHCW following foreign travel and was diagnosed on admission.

### **TB: Staff**

The IPC team were notified by PHE about a TB infected health care worker (HCW) who had been employed as an agency worker in the Trust for a short period of time. A TB risk assessment was undertaken for all patients and staff the HCW could have been in contact with. With the support of the TB team, advice and inform letters were sent and where appropriate, screening performed. We have not been made aware of any associated positive cases with the case, with PHE closing the case in September 2020.

### **Bacillus cereus in Laundry**

The Trust was informed by Public Health England that the offsite laundry that provides the Trust with linen had reported an increase in *B. cereus* levels which is a Gram-positive bacterium that is commonly found in soil and food and has been reported to contaminate linen particularly in hot weather. This contamination is thought to result from replicating

Bacillus species to high numbers on soiled linen and the incomplete removal of heat-resistant bacterial spores by water-economic processes such as continuous tunnel washers used for hospital laundry.

A number of actions were taken including changing the supplier of linen to vulnerable patients (neonates, theatres, and haem-oncology services) and laboratory surveillance for B. cereus infections. No infections in our patients were identified.

The Trust was informed in mid-September 2020 by PHE that following 4 clear results from the laundry, normal service could be resumed

**2.6 Criterion 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.**

At the Trust infection prevention is included in all job descriptions for all staff groups.

## **EDUCATION AND TRAINING**

Mandatory training in IPC is a requirement for all Trust staff including clinical, non-clinical staff and contractors. All clinical staff receive training in IPC annually via electronic learning and a Hand Hygiene Assessment. The electronic package is incorporated into ESR and accountability is monitored through group accountability and quarterly meetings with Chief Officers.

During the pandemic IPC provided further ad-hoc training sessions for staff in topics such as donning and doffing of Personal Protective Equipment (PPE). A variety of educational resources were made available including posters, information and videos. Warwick Medical School supported medical staff training.

Hand hygiene training is supported by link staff trained in assessing the competence. During 2020/21 a 144% increase in cascade trainers was recorded, with IPC team members training 151 staff to support this vital requirement.

Fit test training for staff was a significant training requirement of 2020/21. The IPC team supported fit testing, focussing on a cascade training model. The Practice Development Team supported this activity, with a total of 100 staff trained as cascade trainers, and over 8000 staff recorded as being fit tested.

Nationally, learning from the pandemic has identified a requirement to record fit testing and donning and doffing competency on ESR. This is in process of retrospective recording.

## **Competency and Education Packages**

A full review of all teaching packages was undertaken and shared with appropriate stakeholders. A total of 7 educational packages have been developed. The packages enable focussed training on organisms and infection and prevention key practices.

**2.7 Criterion 7: Provide or secure adequate isolation facilities.**

## **ISOLATION FACILITIES/ BED BASE**

The Trust has 1100 beds across both University Hospital and Rugby, St Cross sites. Of these approximately 220 are side rooms, with 25 having negative and positive pressure



facilities. These rooms are monitored by estates through the PFI contract. An annual programme for monitoring of ventilation and air exchanges is in place across both sites in line with national requirements.

National guidance from NHSE and PHE initially indicated the use of clinical pathways using a Red-Amber-Green colour coding system of risk. This has now been developed into high-Medium-Low risk categories. IPC and communications created signage and educational information relevant to the risk rating of the areas, based on national guidance, using side rooms as necessary for positive COVID patient management, whilst ensuring other infectious diseases were managed appropriately.

Direct Access Pathways were pivotal to COVID management in ED in wave 1, with the Medical Assessment Unit and Surgical Assessment Unit accepting patients with non-respiratory presentations. This prevented over-crowding and minimised risk of transmission of infection.

The Trust was required to review the estate including all wards and departments to ensure social distancing requirements were met. UHCW were able to demonstrate 2m or more distancing in inpatient settings

The General Critical Care bed base during 2020/21 increased from 33 to 79 beds to accommodate the impact of COVID-19. From September 2020 – March 2021, an additional 70 patients were transferred into UHCW through mutual aid, a extraordinary effort by all teams involved.

## **2.8 Criterion 8: Secure adequate access to laboratory support as appropriate**

### **LABORATORY SERVICES**

The IPC Team work closely with the microbiology and virology departments who provide comprehensive bacteriology, virology, parasitology, and mycology services. Both departments provide support to the IPC Team through reporting of results, processing of clinical samples and provision of expert advice. Out of hours, the on call duty microbiologists will provide IPC advice for the Trust.

During the COVID-19 pandemic, the Virology laboratory team rapidly implemented a PCR swab testing system, enabling routine and emergency tests to be undertaken. The evolution of equipment in this field has been at pace, and the laboratory service have worked closely on implementation of alternative testing platforms, providing quicker response times to improve patient safety and operational pressures providing a system wide approach.

During 2020 the laboratory services have introduced:

- Rapid emergency testing for admissions to support safe patient flow (including setting up a COVID-19 testing lab in the Emergency Department (ED))
- Testing to support participation in the National SIREN study (with 254 staff recruited, all undergoing fortnightly PCR and serology surveillance testing)
- Postal self-swab PCR testing for the Endoscopy department

The laboratory has processed 273,041 COVID-19 samples during 2020/21 equating to around 800 per day in addition to existing activity

**2.9 Criterion 9: Have and adhere to policies, designed for the individual's care and provider organisations that help to prevent and control infections.**

**GUIDELINES AND POLICIES**

The IPC team have a range of policies and guidelines on the Trust e-library system to support staff in delivering safe effective care

The team have a monitoring process in place in order to ensure documents are updated in a timely manner. All documents are approved via the Infection Prevention and Control Committee. Additional reporting assurance is also provided to the Nursing and Midwifery Committee bi-monthly.

**2.10 Criterion 10: Providers have a system in place to manage the occupational health needs of staff in relation to infection.**

Preserving and protecting the health, safety and wellbeing of our staff is of paramount importance to the Trust. Throughout 2020/21, the Occupational Health team have undertaken

- New starter health assessment clinics
- Lifestyle and cholesterol assessments
- Immunisation and vaccinations
- Stress Management
- Smoking Cessation
- Counselling
- Blood contamination incident management

In collaboration with the Workforce team, the records of all staff are held in confidence on a centralised system.

**COVID-19 RISK ASSESSMENT**

An individual risk assessment tool has been devised based on COVID-19 risk factors. It is required to be completed by all staff members, with the management team utilising the information to ensure the safety of the employee is maintained. Consideration of ethnicity, age and health are included as described in national guidance, and advice offered regarding adaptations to role etc.

Health and well-being opportunities are available to staff, and have been offered throughout 2020 with wellbeing areas and "wobble rooms" created to allow staff a respite space during the pandemic.

**Personal Protective Equipment (PPE)**

PPE provision during wave 1 of the pandemic was recognised nationally as an area of concern. The Trust responded exceptionally well, with provision of PPE managed through a task and finish group, led by the Director of Finance and head of KPO, and inclusive representation from IPC, sterile services and procurement representation. Stock levels were monitored through a stock level dashboard.

In a 6 month period

- 6.75 million pieces of PPE were delivered
- 3 million additional pieces of PPE were delivered outside of business as usual
- 92 extra store rooms were established across the Trust
- 1300 reusable gowns were purchased, and through partnership with ISS were laundered onsite

The phenomenal efforts of the PPE work stream meant Trust staff had provision throughout the pandemic.

The report has demonstrated evidence of compliance to the criterion set by DoH. Additional activity related to IPC practices is also described in order to celebrate areas of performance in the organisation.

## LEARNING, IMPROVEMENT AND CELEBRATING

### COVID-19 VACCINATION

On December 8 2020, staff at UHCW delivered the world's first COVID-19 vaccination outside of a clinical trial. Margaret Keenan, aged 90, was the first person to receive the vaccine, manufactured by Pfizer and BioNTech, at the launch of the largest vaccine campaign in NHS history.

The delivery programme initially focussed on the over 80s patient population, NHS staff, care home staff and other health and social care frontline workers in line with JCVI priority groups and provided vaccinations 7 days a week. By March 31<sup>st</sup> 2021, this had further extended to patients under 70, and a total of 40,745 vaccines had successfully been administered as demonstrated below.

All Vaccinations									
Total Vaccinations	Patients Under 70	Patients 70-74	Patients 75-79	Patients Over 80	Care Home Staff	UHCW Staff	UHCW Other **	Other Trust Healthcare Staff	Unknown
40745	729	315	228	974	13707	12429	2854	6377	3132
	1.79%	0.77%	0.56%	2.39%	33.64%	30.50%	7.00%	15.65%	7.69%

\*\* includes data for ISS, Agency, Volunteers and staff with a group listed as Temporary Staff, Honorary Contracts and UHCW

### COVID-19 Vaccinations administered by UHCW up to 31/03/2021

#### IPC Week

As part of the restoration of services, the Infection Prevention and Control team held an extraordinary IPC week in June 2020 in addition to the international IPC week in October 2020.

Daily themes were communicated focussing on quality safe care whilst also acknowledging the challenge of COVID on staff. The aim was to refresh messaging and engage staff.

IPC held multimodal teaching sessions and engagement events including hand hygiene and environmental decontamination, and clinical groups held local training and promotional events. We saw puzzles, cake making competitions, bunting and more with a large social media interest!

Both weeks included daily infographics for staff to share at safety huddles including learning from outbreaks, safe practice and self-care. It was supported by specialities such as tissue viability, who focussed on skin care and condition for staff using masks, and the importance of Aseptic Non-Touch Technique in wound care. The Speech and Language Team developed a how to communicate when wearing a mask initiative, and the Resuscitation team provided infographics and training for staff related to PPE and COVID in a resus scenario.

We were proud to tweet about the events from the team twitter account, and shared images such as those featured below. This is demonstration of the impact of collaborative working in the organisation.



## **HCP weekly meeting**

A system wide Healthcare Professional meeting for IPC colleagues has been taking place since Quarter 2 of 2020/21. The Trust has been represented at all meetings, with attendance from the Lead IPC nurse or nominated representative.

The initial focus of the meeting was to understand the current position locally regarding COVID-19, however the group has extended further to include other infections. Opportunities for shared learning and discussion arise, and ideas are generated. It has also enabled IPC specialists to provide support to each other.

## **Other activities**

Over 200 staff were assessed and validated to undertake the 5 moments of hand hygiene audit, a best practice recommended by the World Health Organisation. The next area of focus is to review the process by which the audit is done and create an electronic version which is scheduled to go live Q4 2020/21

Sepsis training was provided to over 500 staff, with the development of sepsis screening tools in paediatrics and the community.

Fiona Wells, IPC Nurse was awarded UHCW Leader of the Year in 2020, and the IPC team were nominated for the team of the year award at the Trusts Outstanding Service and Care Awards (OSCAs).

## **3. IMPLICATIONS & CONCLUSIONS**

The report has provided an overview of the vast array of activity undertaken by the IPC team throughout the period including collaboration with other key services and teams. Any implications for activity, results or assurances have been provided throughout the body of the report. However, in summary:

- Health and Social Care Code of Practice 2008 (DOH 2015) statutory standards have been met.
- National COVID-19 pandemic has had significant impact on the Trust approach to managing IPC including significant changes to ward configuration and patient pathways.
- Support services (Laboratory / ISS cleaning services/ Estates etc.) were responsive to constantly changing demand to meet IPC standards.
- Methods of education evolved/ changed to meet pandemic demands
- HCAI (C.diff, MRSA, MSSA, GNBSI) remained within peer median throughout
- IPC leadership, engagement of staff has responded and been instrumental in promoting IPC principles as key in restoration of services/ patient and staff safety.
- Innovation and service developments have been described in the report including the database development, evidence of patient and service user engagement and collaborative working across professions and specialties

#### 4. **RECOMMENDATIONS**

The Board is asked to note the contents of the report and **RECEIVE ASSURANCE** that statutory obligations under the Health and Social Care Act 2008 (2015) have been met as well as additional non statutory quality innovations and improvements which should be celebrated.

Author Name: Fiona Wells Lead Nurse IPC and Dr Chris Hastie, IPC Data Analyst

Date report written: 07.09.2021



## Appendix 1

Department of Health: The Health and Social Care Act 2008: Code of Practice on the prevention and control of infections and related guidance (2015) Criterion

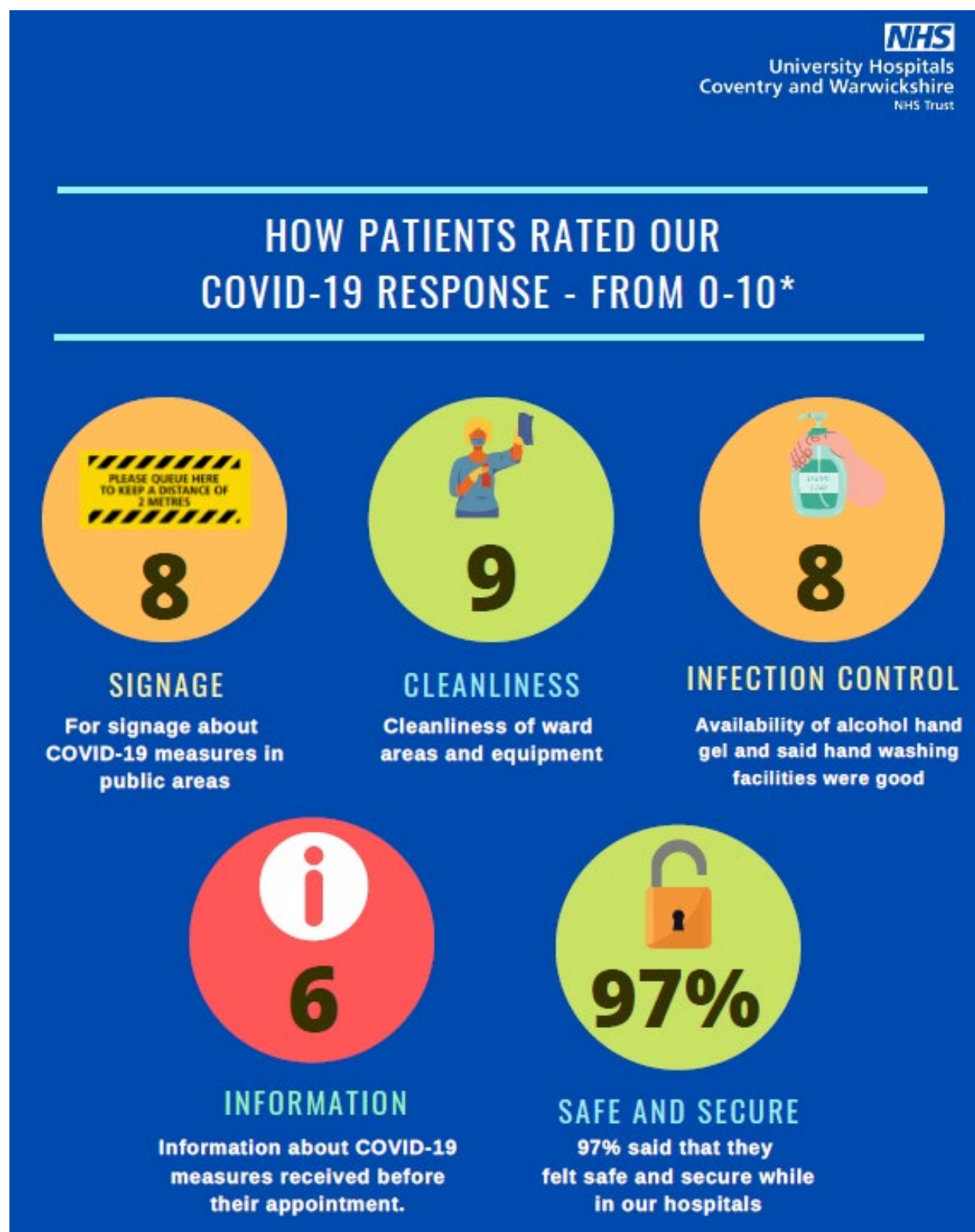
<https://www.gov.uk/government/publications/the-health-and-social-care-act-2008-code-of-practice-on-the-prevention-and-control-of-infections-and-related-guidance>

CRITERION	DESCRIPTION	EVIDENCE (Section Reference)
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.	Section 2.1
2	Provide and maintain a clean and appropriate environment in managed premises that facilitates the prevention and control of infection.	Section 2.2
3	Ensure appropriate antimicrobial use to optimise patient outcomes and to reduce the risk of adverse events and antimicrobial resistance	Section 2.3
4	Provide suitable accurate information on infections to service users, their visitors and any person concerned with providing further support of nursing/medical care in a timely fashion	Section 2.4
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	Section 2.5
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.	Section 2.6
7	Provide or secure adequate isolation facilities.	Section 2.7
8	Secure adequate access to laboratory support	Section 2.8
9	Have and adhere to policies designed for the individual's care and provider organisation that will help prevent and control infections.	Section 2.9
10	Providers have a system in place to manage the occupational health needs and obligations of staff in relation to infection.	Section 2.10



## Appendix 2

Patient Survey results July 2020



## Appendix 3

