Gloucestershire Hospitals
NHS Foundation Trust

Summary Investigation Report

GHNHSFT Nosocomial COVID-19 review

Preserve life, protect staff and prevent spread

Period of review: November 2020 to March 2021

Incident Ref No: W151938

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Contents **Page number**

Background to review 3
Scope and level of review 4
Acknowledgements 7
Duty of Candour 7
Pandemic Plan for COVID-19 7
Operational Management 8
Infection Prevention and Control Team 9
Management of Outbreaks 10
Movement within wards 11
Vaccination Programme 12
Covid Assurance Framework 13
Key Actions 13
Staff support 29
CQC Inspection 31
Conclusion 32
Recommendations and arrangements for Shared Learning 33
Distribution list 33
References 33

The reader is encouraged to contact the Family Liaison Officer from the Patient Safety Investigations Team with any questions relating to this report or to the review process.

1.0 Background to Review

Gloucestershire Hospitals NHS Foundation Trust (GHNHSFT), hereafter referred to as the Trust, provides acute hospital services from two large district general hospitals, Cheltenham General Hospital (CGH) and Gloucestershire Royal Hospital (GRH). Maternity Services are also provided at Stroud Maternity Hospital. Outpatient clinics and some surgical services are provided by Trust staff from community hospitals throughout Gloucestershire.

In January 2020 an outbreak of a novel coronavirus was reported. Coronaviruses are a large family of viruses with some causing less severe disease such as the common cold and others causing more severe disease such as Middle Eastern Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). This current virus is referred to as SARS CoV-2 and the associated disease is COVID-19. For ease of reference this report refers to COVID-19 throughout, as encompassing both terms.

As a new virus, the lack of immunity in the population and the absence of an effective vaccine meant that at the start of the pandemic, COVID-19 had the potential to spread extensively. Initial data suggested that all were susceptible, with the risk of severe disease and death increasing in the elderly and in those with underlying health risk conditions.

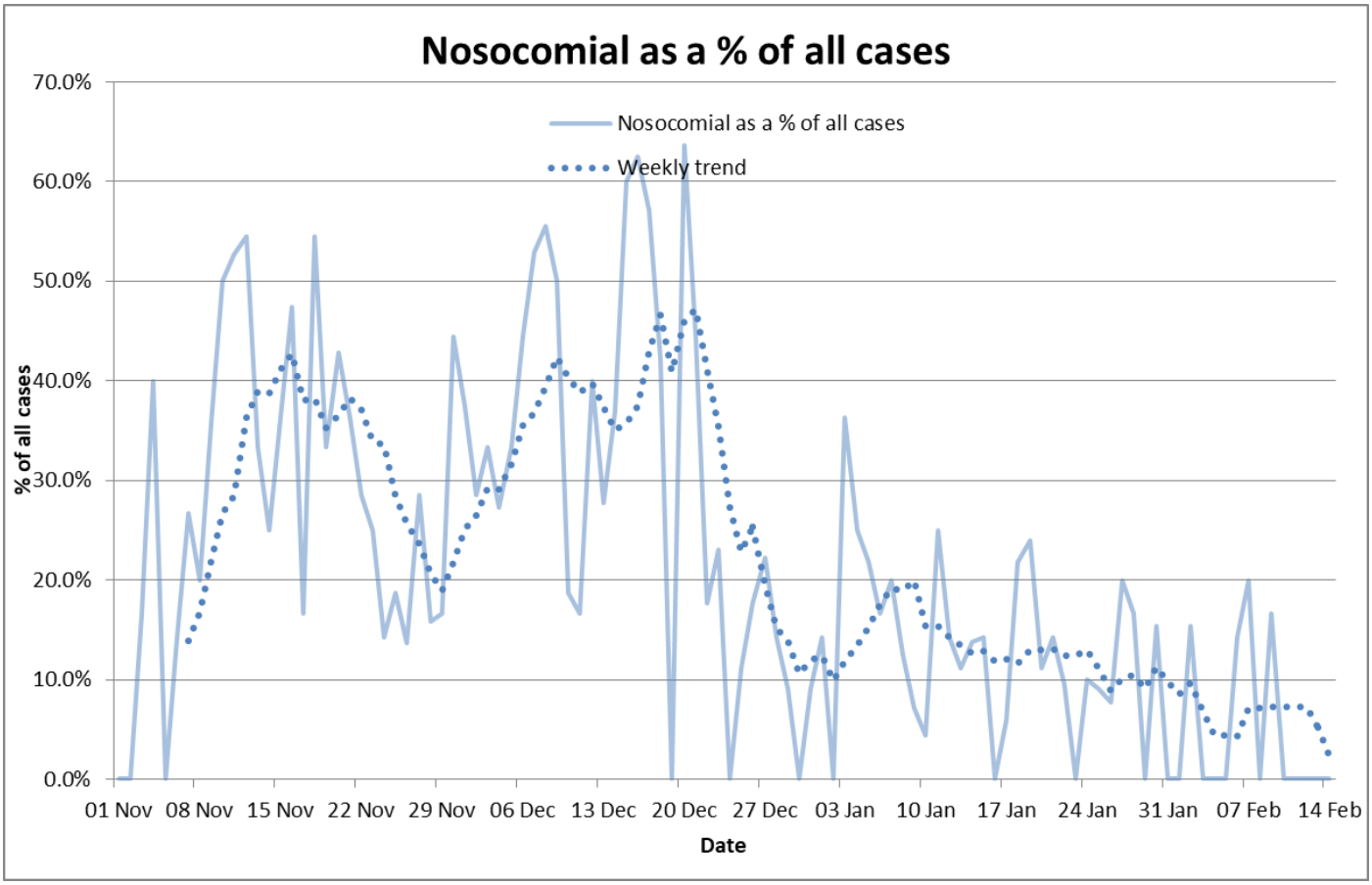
The first cases of COVID-19 in the UK were confirmed on 31 January 2020 and the first death was reported on 5 February 2020. On 11 March 2020 The World Health Organization (WHO) declared a COVID-19 Pandemic, with the first cases in Gloucestershire being confirmed earlier on 28 February 2020. The first case identified in a patient admitted to the Trust was on 14 March 2020.

The Trust recognised COVID-19 as a significant challenge, which would require a different operating model to that which was in place. The Trust agreed three overarching principles to guide all decisions and actions throughout the pandemic, which were to preserve life, protect staff and prevent spread. This report summarises a retrospective review of measures taken by the Trust, to reduce the risk of hospital acquired (nosocomial) COVID-19 and manage outbreaks of COVID-19 infection. The period of review is from November 2020 as this is the point in time in which nosocomial transmission was noted to increase across the Trust, staff and patient testing was widely available and initial guidance was issued by NHS England and Improvement (NHSE/I) in respect of infection prevention and control. The review period concluded at 31 March 2021. For ease of reference this period is referred to as the second wave.

The Office of National Statistics advises that the first wave of COVID-19 is estimated to have started in March 2020 and ended at the close of May 2020. The second wave of COVID-19 is estimated to have started at the beginning of September 2020. There was an initial peak in mid-November after which infection levels decreased before rising again in December, following the emergence of the Alpha variant. The wave peaked in early January 2021 and ended at the close of April 2021. There is no strict definition for when a wave starts and ends. However, estimates are based on the reproduction rate (R), growth rate and positivity rate.

By 1 November 2020 the reported total number of confirmed deaths in the United Kingdom was 46,717. The 2nd national Lockdown came into force in England between 5 November and 2 December 2020. At the end of the 2nd Lockdown Gloucestershire went into Tier 2 (High Alert). On 6 January 2021 the 3rd national Lockdown came into force. On 8 March 2021 the step down to a full lifting of restrictions commenced.

The following graph denotes the numbers of nosocomial cases as a percentage of all cases of COVID-19.



2.0 Scope and level of review

In October 2020 the Healthcare Safety Investigation Branch (HSIB) published their findings following a prospective patient safety investigation which examined how the healthcare system operates to minimise the likelihood of patients catching COVID-19 on acute hospitals wards. The intention was to assist the NHS as it prepared for the coming autumn/winter period and longer-term implications of responding to COVID-19. A key recommendation was that the Department of Health and Social Care, working with NHS England and NHS Improvement (NHSE&I), Public Health England (replaced by the UK Health Security Agency, October 2021) and other partners as appropriate, should develop a transparent process to co-ordinate the development, dissemination and implementation of national guidance across the healthcare system to minimise the risk of nosocomial transmission of COVID-19.

On 23 December 2020 NHSE&I published Key Actions which Trust Boards should ensure are taken in relation to infection prevention, control and testing (see below).

Patient Safety Investigation/Quality Leads from Gloucestershire Hospitals NHS Foundation Trust (GHNHSFT), Gloucestershire Health and Care NHS Foundation Trust (GHCFT) and Gloucestershire Clinical Commissioning Group (GCCG) met during January 2021 to discuss regional guidance received via GCCG from NHSE&I on 4 January 2021 and updated in May and June 2021. The guidance outlined a proposed minimum response to reporting and responding to hospital-onset COVID-19 and COVID-19 deaths during a period of exceptional pressure on the health service.

This regional guidance confirms that both probable and definite categories of nosocomial transmission are to be classified as patient safety incidents.

Classification	**Date of positive specimen**
Community onset	Less than or equal to 2 days after hospital admission or hospital attendance
Hospital onset-indeterminate	3-7 days after hospital admission

healthcare associated	
Hospital onset-probable healthcare associated	8-14 days after hospital admission
Hospital onset-definite healthcare associated	15 or more days after hospital admission

Hospital-onset COVID-19 deaths are defined as deaths that have occurred within 28 days of a positive test, where COVID-19 is cited as the cause of death on Part 1 or 2 of the death certificate (with no period of recovery in between) AND where the death falls into the probable or definitive categories.

The death would not be considered to have been due to COVID-19 if there is another and alternative cause of death that is not related to COVID-19 and as such COVID-19 is not recorded on the death certificate.

Regardless of harm, where a probable or definite hospital-onset healthcare associated COVID-19 infection occurs, the care that was provided should be reviewed to identify any aspects of care or treatment that could be improved. Actions to address issues identified through this process should be subject to a clearly documented action plan

Where the outcome for the patient of a probable or definite hospital-onset healthcare associated COVID-19 infection is thought to be severe harm (permanent or long-term harm, or requires life-saving intervention such as cardiopulmonary resuscitation-CPR or admission to the Department of Critical Care), or death, then that incident meets the definition of a serious incident and should be investigated under the Serious Incident Framework (consideration should be given to linking incidents rather than individually investigating).

There is no expectation that providers undertake a look-back exercise to review and report cases that pre-date the clarification of relevant definitions within the regional guidance of June 2021.

Where the result of a probable or definite hospital-onset healthcare associated COVID-19 infection is thought to be moderate harm or worse, Duty of Candour is triggered.

Following their review of the guidance, the countywide group noted that although the guidance did not recommend a retrospective review of outbreaks this had been completed prospectively within the individual organisations represented (see Appendix A). Furthermore, the countywide group concluded that a retrospective review of measures taken to lower the risk of nosocomial spread of COVID-19 and the management of outbreaks provided a valuable opportunity for learning.

Therefore, the countywide group agreed a framework for investigation which allows individual organisations to complete their reviews under one declared serious incident. Given that each organisation is a separate legal entity, individual investigation reports, with a countywide action plan/improvement programme was recommended.

The following areas have formed the standards for review and are based on the Key Actions from NHSE/I 23 December 2020;

1. Staff consistently practise good hand hygiene and all high touch surfaces and items are decontaminated multiple times every day, with systems in place to monitor adherence.

2. Staff maintain social distancing (2m+) in the workplace, when travelling to work (including avoiding car sharing) and remind staff to follow public health guidance outside of the workplace.

3. Staff wear the right level of PPE when in clinical settings, including use of face masks in non-clinical settings, with systems in place to monitor adherence. Movement of staff between COVID-19 and non-COVID-19 areas is minimised.

4. Moving patients increases their risk of transmission of infection. For urgent and emergency care, hospitals should adopt pathways that support minimal or avoid patient bed/ward transfers for the duration of their admission (unless clinically imperative). The exception will be patients who need a period of care in a side room or other safe bed while waiting for their COVID-19 test results. On

occasions when it is necessary to cohort COVID-19 or non-COVID-19 patients because of bed occupancy, then reliable application of infection prevention and control (IPC) measures must be implemented. It is also imperative that any vacated areas are cleaned as per guidance.

5. Daily data submissions have been signed off by the Chief Executive, the Medical Director or the Chief Nurse, and the Board Assurance Framework is reviewed and evidence of assessments is available.

6. Where bays with high numbers of beds are in use, they must be risk assessed and where 2 metres cannot be achieved, means of physical segregation of patients are strongly considered. The concept of 'bed, chair, locker should be implemented. All wards should be effectively ventilated.

7. Staff are tested:

a. Implementation of twice weekly lateral flow antigen testing for NHS patient facing staff. Whilst lateral flow technology is the main mechanism for staff testing, this can continue to be used alongside COVID-19 PCR (polymerase chain reaction and LAMP (loop-mediated isothermal amplification) testing.

b. If your trust has a high nosocomial rate you should undertake additional targeted testing of all NHS staff, as recommended by your local and regional infection prevention and control/Public Health team. Such cases must be recorded, managed and reported using agreed regional/national escalation systems.

8. Patients are tested:

a. All emergency patients must be tested at admission, whether or not they have symptoms.

b. Those who go on to develop symptoms of COVID-19 after admission must be retested at the point symptoms arise.

c. Those who test negative on admission must have a retest on day 3 of admission, and again between 5-7 days post admission.

d. Sites with high nosocomial rates should consider testing COVID negative patients daily.

e. Patients being discharged to a care home must be tested 48 hours prior to discharge and must only be discharged when their test result is available. Care homes must not accept discharged patients unless they have that person's test result and can safely care for them.

f. Elective patients must be tested within 3 days before admission and must be asked to self-isolate from the day of their test until the day of admission

Please see section 12.0 for a summary of measures put in place to comply with these key actions.

In addition to the above key actions this review has considered other significant elements of the Trust's response to the COVID-19 pandemic and provides an overview of each. This includes a review of learning from formal complaints relating to COVID-19, received by the Trust during the period of the review.

Acknowledging the possible impact each case of nosocomial acquired COVID-19 had on the patient and their family; this report does not include a review of individual cases.

The Trust's weekly Serious Incident Panel was updated during ongoing discussions between the countywide group and on 16 November 2021 formally approved the proposal for review. An overarching incident was logged on the Trust's internal incident recording tool, Datix (reference W151938).

3.0 A note of acknowledgement

The Review Team acknowledges the contribution from multiple individuals and teams throughout the Trust. Most significantly, their comprehensive and contemporaneous record keeping during the pandemic has made it possible to retrospectively report on this period with accuracy.

4.0 Duty of Candour

In order to comply with Regulation 20, of The Health and Social Care Act 2008 (Regulated Activities) Regulations 2014 and having consideration to regional guidance, as set above, the Trust has taken steps to identify all patients, testing positive for COVID-19 at day 8 + (probable and definitive categories). An individual, records based review of harm by a suitably qualified clinician, has been undertaken for each of those patients.

Patients or their listed Next of Kin (NOK) whom;

a. have died within 28 days of a positive test and/or have COVID 19 recorded on their death certificate
b. have developed symptoms requiring short or long term treatment
c. have required an extended hospital admission or transfer to specialty care

-have received or will shortly receive a letter from the Trust's Medical Director (see Appendix B). This letter provides an apology for the patient having contracted COVID-19 whilst in hospital, explains the countywide approach to reviewing the circumstances leading to in-hospital transmission and confirms that the findings of the Trust's review will be published on the Trust's website in December 2021. Patients/NOK have been offered support through the investigation process from the Trust's Family Liaison Officer.

Patients whom have not, (following review of their medical records by a clinician), been assessed as having suffered harm, have not received a letter. Patients/NOK who have approached the Trust in the complaint or SI investigation process, have not received a letter. However those patients/NOK have been informed of the investigation and the intended publication date.

At the time of writing, 75% of patients/NOK meeting the criteria for discharge of Duty of Candour have received letters (see Appendix B). The remaining 25% are awaiting confirmation of NOK names/addresses, clarification on cause of death and or review of harm. Duty of Candour will have been discharged to all patients/NOK affected by December 2021.

5.0 Pandemic Plan for COVID-19

In recognition that the COVID-19 pandemic was a significant risk to the population of the United Kingdom, the Trust developed an overarching operational plan to respond to local outbreaks, as part of the wider response in Gloucestershire. The plan was developed with the oversight of the Trust Emergency Planning Resilience and Response (EPRR) Team. All aspects of the plan were designed to ensure that patient, staff and public safety remained paramount at all times.

The Operational Pandemic Plan COVID-19 (Novel Coronavirus) was initially drafted in March 2020 and based on the Trust's existing contingency plan for the management of an outbreak of influenza. The overarching aim of the plan was to ensure that the Trust was able to respond to an outbreak of pandemic COVID-19, by having agreed clinical and nonclinical procedures with robust command, control, communication and coordination structures to support staff during what was likely to be a prolonged period of intense pressure on services and staff. This plan was located in the wider system and regional Pandemic Plan and associated incident command structures.

The Operational Pandemic Plan recognises the waves of escalation required to manage the response with staged prioritisation and triage of service delivery. The aim was for essential services to be maintained throughout, with as much business as usual as is possible, depending on the wave. Community transmission rates and inpatient cases remained under review with escalation and de-escalation of response measures as required.

The plan gave staff a structure within which to work in the event of service disruption. All wards and departments were responsible for developing specific contingency plans to maintain their essential services, manage staff shortages and support the workforce during what was likely to be unprecedented and extraordinary working conditions. The plan was updated in response to receipt of rapidly changing guidance from the national teams.

The plan was prepared as a series of 106 action cards which outline the roles, accountabilities and responsibilities of those functions required to deliver services, treatment and care during each wave of COVID-19 pandemic. Actions cards were circulated by the Trust Communications team and made available to all staff via the Trust's intranet. Action cards were formally reviewed in August 2020 and updated in accordance with lessons learnt during the initial wave of the pandemic.

6.0 Operational management

With the oversight of the EPRR Team, the Incident Management Team (IMT) was set up in March 2020 to supervise the delivery of the Operational Delivery Plan. It was compiled of a team of volunteers from different divisions across the Trust and was re-established at the beginning of the second wave in November 2020 with a new set of volunteers.

Staff were trained and briefed on the role. The main roles and responsibilities were as follows;

- Initially, ensure the Trust is ready to respond to an outbreak
- Take command and control of impact on the service
- When established, respond to directions from the Strategic Health Gold at Gold Command
- Ensure that wards/departments have invoked their Business Continuity Management plans
- Prioritise the work of the teams according to need
- Provide tactical management for the Trust
- Ensure that a log of all occurrences/issues, actions and decisions is maintained
- Ensure requirements to conduct the daily briefings are maintained
- Ensure requests for support are expediently responded to
- Maintain a robust decision making process
- Consider Business Continuity Management issues
- Establishing a framework for restoration to normality
- Conducting a full outbreak debrief to identify lessons learned and prepare for further waves.

This review has confirmed that in line with the Trust's Operational Pandemic Plan, COVID-19 incident management channels were put in place to communicate and receive situation updates from local, regional and national incident co-ordination centres. Existing communication channels with local healthcare partners were expanded and centralised, with the oversight of the Incident Management Team. A "policy tracker" was maintained for ease of reference to communication, policy and advice from the Department of Health and Social Care and partner organisations.

Prior to the pandemic the Trust had an established Gold (strategic) Silver (tactical) Bronze (operational) command structure as a framework for managing operational demands. Existing command and control structures were expanded to manage unprecedented levels of demand, communicate and receive internal situation updates and co-ordinate actions. This included the introduction of a Platinum Command to provide a second level of more senior support to Gold Command, in light of the unique nature of many of the challenges. Divisional and Operational Teams provided situation updates using a standard template, at 08.00 and 16.30 "SitRep" calls, 7 days per week. A member of the IPCT provided updates on PHE guidance. Structures were in place to ensure that information such as supply of oxygen, numbers of positive cases, deaths, DCC capacity and PPE stock levels were available to the SitRep calls. The SitRep calls provided a real-time update on issues of concern, potential risks and proposed actions to mitigate risk. The IMT maintained a log of all Service Changes and Decisions.

A data dashboard was established to monitor operational data across the Trust. This was overseen by the IMT and maintained by the Business Intelligence Team (BI). Processes were devised for data submissions nationally. The IMT managed any discrepancies.

A centralised electronic mailbox was designated to receive information and guidance from National and Regional teams. This was cascaded to the relevant managers and recorded on the Service Change and Decision log.

The IMT collaborated with the Trust Communications Team to maintain the Trust's online spaces. Change logs were maintained, including updates to Action cards. All key messages and updates were communicated via social media platforms as well as daily Chief Executive global communications emails.

The Head of Corporate Risk, Health and Safety presented a weekly report for review, to the operational meeting of the Executive Leadership Team, which summarised risks associated with COVID-19 which compromised the Board Assurance Framework (available on request).

The Trust undertook prospective hazard analysis, using nationally and locally produced predictive models to identify, address and evaluate emerging risks. Elective theatre lists were mapped out weeks in advance to ensure requirements for post-operative intensive care met capacity.

Learning: During the initial wave of the pandemic the IMT adopted a 'pod' style of working. Each pod comprised of a small group of people who were each allocated tasks according to their skill set and competencies. Although this pod system promoted adaptability and a flexible approach to problem solving, the communication between pods was not always robust as each pod worked independently and in a "silo". Therefore as a result of this learning, this model was not utilised during the second wave.

In line with the Operational Pandemic Plan the IMT oversaw a 'lessons learned' exercise at the end of the initial wave of the pandemic. The resulting presentation incorporated direct feedback from teams within all divisions on measures taken during the initial wave. Many teams reported changes in practice, taken as a direct result of the pandemic, which have led to improvements in services and therefore will remain in place during the recovery wave of the pandemic. There were reports of the value of collaborative working, with the development of new links outside of the Trust to multiple organisations and within the Trust between teams and departments.

The Trust Medical Director praised the collaborative approach to problem solving between operational teams and the IPCT in their approach to, what regularly appeared to be the competing priorities of demand on inpatient beds and the requirement to social distance.

The Deputy Chief Operating Officer advised that despite pre-planning on the basis of national and local modelling, factors such as the onset of cold weather and the influenza A season ("winter pressures") in addition to the double peak of wave 2 placed significant demands on inpatient beds and services, leading to the temporary reassignment of areas not normally utilised for inpatients.

7.0 Infection Prevention and Control Team

The Trust has a specialised Infection Prevention and Control Team (IPCT) that works across the three main hospital sites; Gloucestershire Royal Hospital, Cheltenham General Hospital and Stroud Maternity Unit. The multi-disciplinary team comprises of Consultants in Microbiology, Specialist IPC nurses and Antimicrobial Pharmacists and is supported by a senior secretary. The structure of the team remained unchanged from 2018/19 until March 2020 when additional IP&C resources were funded (1 whole time equivalent band 6 Infection Prevention & Control Nurse) to support the challenges presented by the COVID-19 pandemic and to facilitate a 7 day IPC service (support was also provided by a bank IPC Nurse during subsequent months of the pandemic).

In November 2020 the Director of Infection Prevention and Control (DIPC) was appointed Senior Responsible Officer for the COVID-19 vaccination programme in the county and the Deputy DIPC appointed to the role of DIPC.

The Infection Prevention & Control team (IPCT) monitored PHE guidance daily for updates and during the second wave took part in weekly calls led by the national incident commander and NHSE/I. At the time of this review, meetings are held bimonthly. Updates are communicated to staff through trust wide global communications email, PPE Safety Officers (described in section 12.2 below) and IPCT who during the second wave undertook ward visits daily (an IPC Nurse is allocated per hospital site to visit all wards daily

for COVID-19 purposes). Guidance updates were also presented at Silver calls. The Infection Control Committee (ICC) meets monthly, is chaired by the DIPC and includes representation from the Trust Board.

Throughout the pandemic the IPCT maintained a strong working relationship with Gloucestershire Clinical Commissioning Group (GCCG), Gloucestershire County Council, Gloucestershire Health and Care NHS Trust, Public Health England (PHE) and NHS England/Improvement to ensure measures taken within the Trust were consistent with a healthcare system-wide approach. A system wide IPC Cell met weekly to ensure;

- a shared decision making approach to issues of concern
- guidance is reviewed to ensure consistency across the whole system
- an opportunity to share opinion and advice
- actions taken are evaluated against incidents of nosocomial transmission
- community transmission rates and care home outbreaks are monitored

This group is now the Infection Prevention and Control, Integrated Care System Group and meets twice monthly.

Internally the IPCT has always worked closely with the clinical microbiology department which provides comprehensive bacteriology, virology, parasitology, and mycology services. The department is accredited by the United Kingdom Accreditation Service (UKAS) and participates fully in external quality assurance schemes for the full repertoire of tests. The department is based at Gloucestershire Royal Hospital. Staff offer a 24-hour diagnostic and monitoring service for routine and urgent detection of patient infection.

The Trust developed an effective communication system to ensure staff received IPCT updates and feedback on performance;

- The daily Chief Executive global communications email reported a daily SitRep in relation to positive patients as well as communicating any key messages, changes to practice or procedures and promotion of new (or revised) Action Cards.
- CEO weekly Vlog.
- Webinars.
- IPCT representation at meetings. For example, senior nurse meetings and individual ward meetings.
- ICC meetings include representation from each Division.
- Data dashboards accessible to ward staff (COVID-19 assurance framework, hand hygiene and high impact interventions).
- All key messages and updates were communicated via social media platforms.

Learning: The demand on IPCT resources was significant during 2020-21 with the result that the team took the collective decision to cancel all leave. The DIPC advised this review that there are plans to increase capacity and restructure the team. As well as enabling team members to take contracted leave this will provide an opportunity to lead on non-COVID-19 related projects in addition to managing the ongoing challenges of the pandemic.

8.0 Management of outbreaks

Where there are two or more cases of the same organism identified that are linked in time and location an outbreak is declared. NHSE/I also define a COVID-19 outbreak as 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 within a 14 day period.

The IPCT provided assurance, via the Board Assurance Framework for Infection Prevention and Control report, in March 2021 to provide evidence that the Trust had robust processes and procedures in place to identify and manage outbreaks of infection in line with the NHSE/I South Western Regional COVID-19 Hospital Outbreak Framework. An IPCT action flow chart describes the steps which are taken following;

- Positive or suspected COVID-19 in a patient
- If the patient has not been isolated since admission
- Positive or suspected COVID-19 in a staff member
- Positive COVID-19 in a patient or staff member where breaches in PPE have been confirmed.

Daily outbreak review/ update meetings were held with the site team, divisional representative's, GMS facilities, PHE, CQC and the IPCT to support the management of COVID-19 outbreaks. Review of the minutes demonstrates consideration of possible risk factors and actions to mitigate the risk. For example two distinct staff outbreaks in November and December 2020 in the Department of Critical Care (GRH) led to concerns about COVID-19 security in shared spaces. This prompted daily inspections by the Health and Safety Team until there was assurance that the areas were COVID-19 secure. The IPCT sent daily update emails across the Trust to communicate current information about outbreaks and resulting closures of wards or bays.

Outbreaks were reported to NHSE/I via the national COVID-19 outbreak reporting portal.

Please see the Appendix A for a table of outbreaks which occurred during the period of this review.

In September 2021 the Trust received updated guidance from NHSE/I national patient safety team in consultation with NHSEI nursing directorate and regional teams. The guidance outlines a framework for learning from hospital-onset COVID-19 cases and COVID-19 deaths during the ongoing COVID-19 pandemic. It is an update to the guidance note (''Reporting and responding to hospital onset COVID-19 cases'') that was issued in March 2021. In addition to guidance on the process of learning and making effective and sustainable improvements, there is advice on recording cases and ensuring patients and families are kept informed including fulfilment of the Duty of Candour.

Following receipt of this guidance the Trust are designing an internal process for reviewing all cases of hospital acquired COVID-19 infection, including outbreaks (as defined by the guidance), with consideration of harm, with a view to learning and improvement and discharge of Duty of Candour.

9.0 Movement within wards

The Trust adopted a number of measures to reduce the amount of movement within the wards. Wards have access to computers on wheels and computer stations in every bay. These provide access to the staff intranet/ internet. The Microsoft Teams app is available for installation as part of the Trust wide license to enable virtual meetings, including Multidisciplinary Team meetings, ward rounds and handovers.

Strategies were reinforced by the Trust Medical Director, via the Chiefs of Service at the COVID-19 Task and Finish group and measures were put in place to monitor compliance.

The Trust implemented restrictions on visiting in accordance with national guidance on visiting patients in a care setting and statutory requirements of lockdown. The purpose of the restrictions was to protect patients, staff and their visitors from the transmission of COVID-19. The Patient Experience Team collaborated with Voluntary Services and the Department of Spiritual Care to support a substantial range of measures to maintain the flow of communication to relatives and friends of patients.

Learning from Complaints: The review identified the following themes from formal complaints received by the Trust during the period of review;

- Inconsistent advice regarding visiting arrangements
- Difficulty getting updates about patients

The Trust investigates all complaints in order to resolve areas of concern and to identify how it can improve the quality of services. Following the investigation a response is returned in writing, to the complainant from the Chief Executive Officer. The Trust recognises the impact that visiting restrictions had on families, especially in situations where their loved one was receiving end of life care and subsequently died in hospital. Investigations identified that during the peak surge of wave 2 clinical staff were under extreme pressure and their focus was on delivery of care and treatment. This meant that at times it was difficult for them to answer the ward telephones.

However, as a result of feedback received by the Trust the following improvement measures were adopted;

- During both waves compassionate visiting was in place for patients receiving end of life care. During the second wave additional measures were in place to support visiting of patients with COVID-19 who were receiving end of life care and to broaden the definition of "compassionate visiting" beyond those at end of life. For example, for patients living with a Learning Disability.
- Increased staff awareness on the use of iPad on the ward for families and relatives to be able to communicate with their loved one whilst in the hospital.
- Added information of the use of the iPad to the daily safety briefing to improve staff awareness and have delivered a ward micro teaching session on how to use the iPad. Laminated instruction sheets have also been produced.
- The Patient Advice and Liaison team (PALS) call the ward each morning to check if there are any iPad/telephone/virtual bookings from family members and if so PALS staff will attend the ward between 2.00pm and 4.00pm Monday to Fridays to assist with these.
- Informed and increased awareness to all staff members on the daily safety briefing of the importance of answering the phones on the ward and to direct calls to the nurse looking after the patient. If the nurse is not available, the nurse in charge should be asked for an update or answer the call directly.
- The nursing staff will hand over to the next team if they have not managed to update any family members during the day and to make it clear at the bedside hand over.
- Hospital volunteers working at weekends will help to answer the ward phone and conveying messages to nursing staff is currently being trialled.

10.0 Vaccination programme

The Trust collaborated with NHS and social care partners in Gloucestershire to roll out the COVID-19 vaccination programme to nationally agreed priority and eligible groups, including people over the age of 80, care home staff and NHS workers across Gloucestershire. The Trust acted as Management and Co-ordination Organisation (MCO) leading the programme for the county and managing the vaccination programme, as well as being responsible for the recruitment and training of all staff required to implement the campaign. GRH was one of 50 vaccination hubs across the country and vaccination began on 8 December 2020. The GRH hub closed on 15 May 2021.

The following table denotes uptake of the vaccine by staff by 21 September 2021.

Staff Totals	**1st dose value**	**2nd dose value**
All Staff	10351	10351
Total Vaccinated	8947	7547
% Vaccinated	86%	73%
Frontline	7027	
Vaccinated	6331	
% Vaccinated	90%	
Substantive	9585	9585
Vaccinated	8448	7138
% Vaccinated	88%	74%
BAME Staff	1643	1643
Vaccinated	1341	1060
% Vaccinated	82%	65%
Clinically Extremely Vulnerable	153	153
Vaccinated	148	124
% Vaccinated	97%	81%

Reasons (where provided) for a decline of offer of 2nd dose include pregnancy, left Trust, or personal decision not to proceed with 2nd dose.

11.0 Covid Assurance Framework

During the period covered by this review the Trust launched a ward based COVID-19 Assurance Framework (CAF) which is a simple list of standard prevention measures/strategies, based on national guidance, which must be adopted to reduce the risk of spread of infection. The CAF review was conducted by each ward in collaboration with the IPCT and Health and Safety Team. It provided rapid feedback on gaps in assurance and resulted in a responsive action plan. Matrons repeated reviews daily-weekly against the CAF, depending on the closure of planned actions. Ongoing matters of concern were escalated rapidly to senior nurse managers via snapshot CAF audits and the IPCT provided monthly assurance to the ICC of compliance with the CAF process.

An inventory displaying scaled down versions of all posters/floor marking prompts was easily accessible via the staff intranet for reference and ordering.

The Trust induction for new staff video and all mandatory training e-Learning programmes were re-recorded to support the strategies of CAF and include reference to COVID-19 specific PPE, cleaning and hand hygiene.

The CAF was completed thrice weekly across wards to ensure ongoing review of standards and ensure a sustained culture of COVID-19 safety.

12.0 Key Actions (see section 2.0)

12.1 Staff consistently practise good hand hygiene and all high touch surfaces and items are decontaminated multiple times every day, with systems in place to monitor adherence.

The Trust promotes **good hand hygiene** in accordance with the *Standard infection control precautions: national hand hygiene and personal protective equipment policy* as the most effective way of preventing the spread of infection from contact and reducing the risk of healthcare associated infection to patients, staff and others. Good hand hygiene is mandated in all areas of patient care and provision, irrespective of the COVID-19 pathway (see section 7.4.4).

To ensure compliance the Trust has focused on informing and educating staff on the principles and practice required for effective hand hygiene and the provision of hand washing facilities and alcohol-based hand sanitizer gel at the point of care.

This review has identified that there was a significant escalation of measures to promote good hand hygiene during the pandemic. All communication channels, including global emails and social media were utilised to educate and inform. The IPCT pages on the staff intranet include a designated section on hand hygiene which includes expected actions to ensure best practice in the “Five Moments of Hand Hygiene”;

1. Clean hands before touching a patient to protect against harmful germs carried on your hands
2. Clean your hands immediately before any clean/aseptic procedures to stop germs from entering the patient’s body
3. Clean your hands immediately after an exposure risk to bodily fluids(and after glove removal) to protect yourself and the environment from harmful patient germs
4. Clean your hands after touching a patient and his/her surroundings when leaving the patients side to protect yourself and the healthcare environment from harmful patient germs
5. Clean your hands when touching any object or furniture in the patient’s immediate surroundings even if the patient has not been touched.

Alcohol-based hand sanitiser gel was provided at the entry and exit of each ward, the entrance to the bays and the end of every patient’s bed. Education and promotion posters were hung as visible reminders, at vantage points around the ward. Hand hygiene prompts, including hand hygiene technique posters, were hung in all staff/patient/public toilets across the sites. Sani-stations for no-touch hand gel dispensers and

surgical face mask supply were installed at every entrance to both hospital sites. They are accessible to wheelchair users and are restocked and cleaned throughout the day. At entrances where volunteer team members are stationed, they provide verbal prompts and advice to use hand gel dispensers and face masks. The review identified the benefit of collaboration between the IPCT and Health and Safety Teams for the procurement of sani-stations to ensure the equipment design and installation met statutory requirements for health and safety.

There are no hand air dryers in clinical areas. Paper hand towels are available in clinical areas at hand wash basins and at bathroom/ toilet sinks for both staff and patients.

Assurance: Wards conduct a monthly hand hygiene observation audit for Moment 1 and availability of alcohol hand foam at the point of care. Audit data is submitted and reported monthly at ICC. The Trust promotes a culture of mutual encouragement and challenging poor compliance irrespective of seniority.

This review identified a step up in measures to promote good hygiene during the pandemic. However, there is evidence that prior to this, Trust policy mandated good hand hygiene as a standard infection control precaution to reduce the risk of hospital acquired infection.

Decontamination of high touch surfaces and items: Sources of (potential) infection include blood and other body fluids secretions or excretions (excluding sweat), non-intact skin or mucous membranes. During the initial wave of the pandemic existing systems and processes were risk assessed to ensure safe management of the care environment. The premise was that any equipment or items could have become contaminated.

The Trust operates in-house cleaning and domestic services under Gloucestershire Managed Services (GMS), who are responsible for cleaning all wards and departments. Throughout the pandemic GMS in collaboration with the IPCT, took the opportunity to conduct enhanced cleaing and disinfection of wards (Fuse chlorine releasing agent or ultra-violet disinfection) which were temporarily empty as a result of pathway changes from a COVID-19 cohort ward to a low risk pathway ward. This initiative significantly contributed to high standards of environmental cleanliness, therefore reducing the risk of contact transmission of bacteria such as *Clostridioides difficile*.

In addition to step-up decontamination practices, ward based PPE Safety Officers initiated the “bell for Clinell™”. At the sound of a bell all staff reach for a Clinell™ disinfectant wipe and clean high touch areas.

Education and promotion posters relating to the cleaning tasks (e.g. bed frames, commodes) which fall under the responsibility of nurses are hung as visible reminders, at vantage points around the ward.

Areas such as DCC, theatres and laboratory entrances have automated doors/ touch free opening mechanisms.

Trust Action Card 10 relates to “Cleaning and decontamination” and provides guidance for the decontamination of patient areas and equipment.

Assurance: Joint audits are undertaken by the IPCT and GMS domestic services to review cleaning standards on the wards in accordance with the CAF and National Standards of Healthcare Cleanliness. Wards and departments are visited daily by the IPCT for spot checks of IPC practices. The IPCT provided monthly assurance to ICC of observed PPE practices by way of audit via CAF process.

The Divisional learning exercise from wave 1 identified the benefit of greater communication and embedment of GMS with Trust decision making. Therefore, in Wave 2 GMS was invited and involved in the COVID-19 Task and Finish Group.

The “bell for Clinell™” initiative was recognised nationally and adopted by other Trusts.

Learning from complaints: Inspections and reinforcement of strategies were targeted in areas where concerns were raised regarding adherence to high standards of hand hygiene and cleaning.

12.2 Staff maintain social distancing (2m+) in the workplace, when travelling to work (including avoiding care sharing) and remind staff to follow public health guidance outside of the workplace.

During the first wave of the COVID-19 pandemic the Trust Health and Safety Team conducted COVID-19 secure risk assessments of all communal areas and oversaw completion of COVID-19 secure risk assessments in all wards and departments. Significant changes were made to the design and layout of staff break areas to enable social distancing and therefore reduce the risk of transmission from droplet or aerosol.

All risk assessments were uploaded to a central electronic library. Action plans were drawn up to manage any issues identified and monitored through to completion. COVID-19 inspections were conducted against the risk assessments and any outstanding issues escalated through Divisional management structures.

A COVID-19 Secure multidisciplinary group met weekly during the initial wave of the pandemic to support the COVID-19 Secure programme. The Trust Health and Safety Committee monitored progress of the COVID-19 Secure programme.

The following strategies formed part of the ward-based CAF;

- All staff offices and communal area doors have maximum occupancy notice on the door
- All staff in break rooms are socially distanced (2 metres)-chairs are placed and removed and to meet this criteria
- There is a clear process for the number of staff attending breaks to prevent overcrowding
- Rooms should be well ventilated i.e. open windows where possible
- No car sharing unless following government guidelines

In accordance with national guidance, tables were removed in Trust restaurants to facilitate social distancing whilst providing an area for staff to have access to food and beverages. Social distancing markers were applied to floors and stairs and posters hung as visible reminders, at vantage points around all sites.

The digital team has developed a number of secure solutions to support clinical and corporate teams to work remotely during the COVID-19 response.

Strategies were reinforced via global emails and social media.

Assurance: The Trust Health and Safety Team collaborated with the IPCT in providing ongoing guidance and completion of CAF audits. The Board Assurance report (available on request) documented that all staff were regularly reminded of the importance of wearing face masks, hand hygiene and maintaining physical distance both in and out of work and there were no gaps in assurance.

12.3 Staff wear the right level of PPE when in clinical settings, including use of face masks in non-clinical settings, with systems in place to monitor adherence. Movement of staff between COVID and non-COVID areas is minimised.

Personal Protective Equipment (PPE) is specially designed equipment which protects the user against health or safety risks at work.

On 28 September 2021 the government published a new PPE strategy for England to 'stabilise and build resilience' from September 2020 to March 2021. Following an 'emergency response' approach to PPE during the early period of the COVID-19 pandemic, the strategy set out 'how government is preparing for a second wave of COVID-19'.

Training in IPC measures was expanded and provided to all staff, including: the correct use of PPE (including a face fit test if wearing a filtering face piece (FFP3), respirator, and the correct technique for putting on and removing (donning/doffing) safely. Application of PPE was mandated in all instances where social distancing cannot be achieved.

Trust Action card no.13 applies to PPE. The mandatory actions described in the action plan are based on national advice and are supported by the following strategies of the ward-based CAF;

- All staff are wearing their masks correctly. This means that it is covering their nose and mouth, not soiled or damp and has been applied with clean hands
- Ensure the most up to date PPE posters are in use and remove any other posters
- PPE is being ordered every morning before 10am
- Single use PPE is not being reused or shared such as eye protection
- All clinical area entrances have a designated PPE station with hand gel, orange waste bin, fluid resistant surgical face masks and eye protection. This station must be clean, well maintained and restocked regularly
- Masks are changed before leaving a clinical area
- All staff have watched donning and doffing videos and webinars (or have been trained by an individual who is competent on the ward. There should also be a local list available of names staff who are train (IPC to email staff training spreadsheet)
- Staff have identified PPE Safety officers to support the area with donning and doffing. These staff are visible by a lanyard or high vis jacket
- All staff are donning all types of PPE correctly, performing fit checks and doffing safely
- All staff aware of which FFP3 mask they have been successfully fit tested on and the department has kept a local record of this
- Each area should have at least two designated and competent fit testers and access to fit testing equipment.

Early into wave 1 (March 2020) of the pandemic the Personal Protective Equipment (PPE) Safety Officer (PPE SO's) role was developed by the Trust Chief Nurse. It was inspired by the Breathing Apparatus Entry Control Officer role used in the Fire Service. Recognising that both fatigue and speed of doffing can have an impact on staff safety and potential exposure to infection, the PPE SO role was introduced to support with staff anxiety around PPE use and facilitate safe application and removal (donning and doffing of PPE).

The PPE SO is a trained member of staff who is competent and confident to support clinical and non-clinical health care workers to safely use PPE required for contact with patients with suspected or confirmed COVID-19. They are highly visible and accessible at the point of care to provide PPE specific information to maintain staff safety in a COVID-19 clinical work area. They ensure staff are safe and feel safe in a COVID-19 clinical work area. They answer questions and provide factual reassurance to staff. Compared to the picture captured in the national Staff Survey in Autumn 2020, very few staff expressed concern about access to PPE or quality of PPE in circulation.

The PPE SO's role is to ensure staff are trained and supervised to wear the correct PPE to provide adequate protection against the risks associated with a procedure or task being undertaken in a COVID-19 clinical work area. The PPE safety officer also provides staff training (including fit test training) and supervision so that PPE is removed in an order that minimises the risk of self-contamination.

PPE Distribution officers worked 7 days daily ordering of PPE stocks, daily delivery to wards and monitoring of stock levels at daily SitRep briefings. Sessional use of PPE was promoted in accordance with national guidance with advice on how to clean visors to support sessional use. The Trust did not have to authorise the re-use of PPE. In the event of an unexpected dip in availability of PPE to the Trust there are processes in place to assess the risk of re-use of PPE and monitor safety in accordance with national guidance.

All wards trolleys at the point of entry, have surgical masks, eye protection, alcohol hand rub and Clinell universal wipes. Areas which utilise enhanced PPE such as 8A, DCC and endoscopy all have dedicated PPE donning and doffing areas which are arranged so PPE can be applied in the correct manner and remove in a safe area. Powered respirator hoods were provided to staff who failed fit testing or could not be fit tested.

Uniforms are provided to staff who would not routinely be provided with uniforms as part of their role. Scrub type uniforms and uniform bags to transport uniforms home, were donated and provided to staff.

Strategies were reinforced via global emails, social media, IPCT webinars, mandatory eLearning and Trust Induction for new staff.

The use of surgical facemasks is encouraged by all inpatients in all pathways when mobilising away from the immediate bed area, as tolerated and as long as they do not compromise their clinical care. Face coverings are used by all outpatients and visitors (unless in exempt category). Face covering reminder prompts are positioned at all entrances and surgical masks are available at site and ward entrances for those who require them.

Assurance: Formal audits of PPE compliance were conducted in accordance with guidance from PHE. Matrons were required to provide monthly assurance to the Divisional Directors of Quality and Nursing. Donning and doffing training records formed part of the CAF framework reviews and audit data was shared by the IPCT to the ICC to provide assurance of compliance.

The Board Assurance Framework report of March 2021 reported that ongoing monitoring of PPE compliance demonstrated a lack of compliance in the following areas;

- Lack of eye protection worn at all times in the clinical area
- Staff are not fully covering their nose with a surgical mask
- Surgical masks are pulled down to around the chin intermittently for speaking or to have a drink
- Single use visors are being cleaned and re-used (for multiple users)
- The front side of surgical masks are touched by staff as they manipulate their mask on their face
- Surgical masks are not always changed before leaving a clinical area after being worn for clinical patient contact
- Gloves are not always removed after patient contact and hand hygiene performed

Learning: Accepting the findings of observational audits as detailed above, the Deputy Director of Infection Prevention & Control advised this review that there were no outbreaks of Vancomycin Resistant Enterococcus (VRE) in the Trust during this period. This is indicative of overall compliance with good hand hygiene and appropriate glove change. However, engagement with staff identified the following contributory factors which affected behaviour and led to moments of poor compliance with PPE;

- Poor weather over the period of Wave 2 made it more difficult to go outside for breaks
- Heavy workload added to the challenge of taking a proper break. Employing the correct donning and doffing technique felt time consuming and it was tempting to take drinks/food without proper compliance
- Goggles were too tight and caused headaches.
- Staff who wear glasses reported fogging/misting which caused annoyance and restricted vision
- Gaps in knowledge caused by frequently changing advice
- Misconception about the value of complying with PPE

Alternative eye protection options which staff found fit for purpose and easier to wear were procured and made available to staff outside of national push stock supplies.

Senior Nurse Managers recognised the likely benefit to the expansion of the role of the PPE SO. In wave one of the Pandemic there were 30 PPE SO's who undertook the role alongside their current job. During wave 2 a further recruitment drive resulted in every ward having 2 PPE SO's. Working alongside staff and in collaboration with the IPC and Health and Safety Teams, they offered an opportunity to encourage compliance by immediate identification of any concerns and rapid provision of solutions to lower the risk of poor compliance.

The PPE SO model has now been used in 50 NHS Trusts in the UK and introduced in New York and Australia. The PPE SO's were shortlisted for the Nursing Times Awards in 2020 and the RCN awards 2021 for outstanding contribution to IP&C.

Learning from Complaints: The use of face masks significantly affected ability to lip read. Therefore, guidance was circulated via the global emails on measures to adopt to mitigate the risk of poor

communication when wearing a mask and a supply of clear masks was made available to both clinical and non-clinical areas.

Movement of staff:
Action card 58 relates to the movement of staff between areas of low risk of COVID-19 (GREEN pods) and areas of high risk of COVID-19 (RED pods). The expectation is that wherever possible staff remain attached to and work within one pod and movement between red and green areas is avoided. However, this review identified factors such as staff sickness and the requirement to provide specialist input, resulted in movement of staff to maintain patient care.

Action Card 58 gave advice regarding PPE and hand hygiene to mitigate the risk of transmission of COVID-19 when moving from a RED pod to a GREEN Pod. When the principles of compliance with appropriate PPE and good hand hygiene were maintained the risk of transmission of COVID-19 is considered to be low. There is no evidence to support the transmission of COVID-19 via staff uniforms.

The SafeCare digital system was utilised to monitor nurse staffing levels as well as reasons for movement of staff. Audits of staff movement across pathways were presented to the ICC. The Lead Nurse for SafeCare collaborated with the IPCT to provide the following advice (in addition to the Action Card) to Matrons and Ward Managers;

- As a priority try not to move staff from red (high risk) areas or closed outbreak areas to green (low risk) wards
- Do not move staff mid shift from high risk to low risk pathways
- Where wards are reporting more than 2 positive staff off with COVID within a 14 day period this is reported to the IPCT so outbreaks can be identified promptly and action taken to minimise further staff transmission. Ideally do not move staff off areas where there is a confirmed staff outbreak
- Staff are undertaking twice weekly LFDs
- Ensure all staff are self-isolating and getting a test with mild symptoms as well as the main symptoms
- Staff of shift symptom checks with staff
- Outbreak management control action: where we have outbreaks the IPCT will instigate asymptomatic staff testing for a period of 72hrs. The IPCT will also instigate in some of outbreak areas start of shift LFDs (or the night before shift) so that staff with asymptomatic COVID infection do not attend work

12.4 Moving patients increases their risk of transmission of infection. For urgent and emergency care, hospitals should adopt pathways that support minimal or avoid patient bed/ward transfers for the duration of their admission (unless clinically imperative). The exception will be patients who need a period of care in a side room or other safe bed while waiting for their COVID test results. On occasions when it is necessary to cohort COVID or non-COVID patients because of bed occupancy, then reliable application of IPC measures must be implemented. It is also imperative that any vacated areas are cleaned as per guidance.

Pathway streaming: All Patients arriving to the hospital as an emergency (or unplanned) undergo COVID-19 triage assessment on arrival by a member of staff trained and judged competent. This is documented using the *Unplanned admission Triage COVID-19 Assessment Form* which was either scanned onto the electronic TrakCare system or filed in the paper clinical records. Since the ED progressed to using electronic patient records the COVID-19 form is completed electronically.

A COVID-19 triage assessment was conducted at all points of direct admission to the hospital, including the Emergency Department, Trauma Assessment and Treatment Unit (TATU) Maternity Triage and Oncology. Each area submitted monthly audit results which demonstrated 100% compliance with completion of the assessment.

During the second wave the CGH Emergency Department was temporarily reassigned to a Minor Injuries Department. This streamed the majority of unplanned admissions through the GRH Emergency Department and therefore reduced the admission of suspected or confirmed positive community acquired COVID-19 cases to CGH. In combination with other measures, this reduced the risk of transmission of

COVID-19 to patients within CGH and enabled the continuation of planned care pathways within CGH, to vulnerable patient groups.

On arrival to the Emergency Department (ED) at Gloucestershire Royal Hospital patients were streamed to the red or green area of the ED depending on clinical assessment. They were not moved again until COVID-19 test results were available.

Action Card 76 describes measures which should be taken during periods when the ED is in escalation due to high demand on services. Action card 74 described measures which should be taken in the event of excessive demand within the RED cohort area of the GRH ED. Both action cards are designed to ensure that a 2 metre distance between patients, even in areas of overflow.

The Board Assurance report of March 2021 identified that pathway breaches can occur in corridors within the ED at GRH. For example, the green corridor is utilised when demand for the green pathway area exceeds capacity. However, the green corridor must be used by amber pathway patients when they are accessing x-ray, if they are to avoid red areas. To mitigate the risk of transmission all patients in the department are asked to wear surgical masks. Also, at times of heavy demand on green areas, beds are allocated to these patients as a priority to encourage the flow of patients into green pathways. In March 2021, the Trust changed practice to ensure no patient queued in the ED corridors at GRH.

Pathway streaming beyond ED was part of the agreed process and fully operational across the whole Trust, during the period covered by this review. Pathway plans were in place for all services which provided unscheduled care and presented to the Board for assurance. Patients across the Trust were cohorted into ward areas known as pods. The principle of cohorting was to keep both patients and staff as safe as possible, ensuring the correct precautions are taken when in a specific area, whilst not impacting the delivery or duration of care. Pathways were reviewed and adapted to reduce contact between COVID-19 positive and negative patients.

In line with national advice on COVID-19 care pathways, the Pods were designated as:

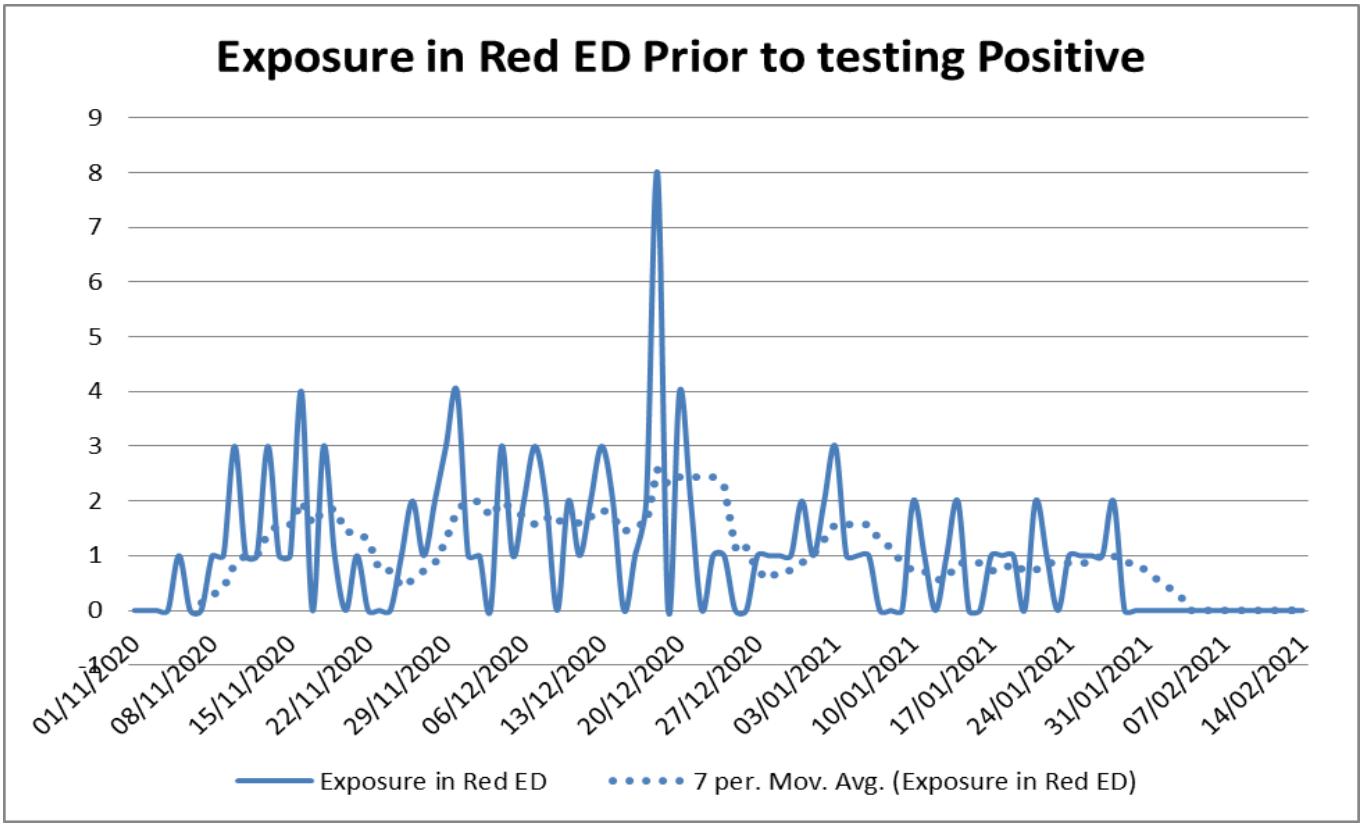
- GREEN‑ low risk of COVID-19 positive status patients
- AMBER- moderate risk of COVID-19 due to patient exposure to a confirmed case of COVID-19 in the previous 14 days. In Oncology, AMBER refer to areas where the patients COVID-19 status is unknown (awaiting swab results)
- RED ‑ high risk of COVID-19 status, as there are confirmed positive status patients

There were measures in place to ensure separation of patient pathways and staff flow to minimise contact between pathways. All RED areas were marked with red tape and “high risk pathway” posters to indicate a COVID-19 area. Entry was barred except for staff delivering direct care or cleaning/disinfecting. Entrance doors were operated by an ID pass only. Movement of patients between pods was based on infectious status, clinical need and availability of services. Wards were reallocated across the two sites and Cheltenham General Hospital was preserved as a mainly green pathway.

Irrespective of pods categorisation standard infection control precautions were mandated across all pathways to reduce the risk of transmission of infectious agents from both recognised and unrecognised sources of infection.

Based on clinical suspicion of COVID-19 some patients, who subsequently tested negative, were initially cohorted into a RED pathway within the ED and GP Assessment Unit. This led to those patients being inadvertently exposed to COVID-19.

Assignation	Cases	Percentage of cases who came through red ED/ GPAU
Day 3-7	57	21%
Day 8-14	55	22%
Day 15+	57	11%



The following improvements, which were standard practice in the second wave, mitigated the risk of exposure in the Red area of ED;

- Point of care testing-patients with a negative test could be moved out of the red area within 30 minutes.
- Review of triage criteria

Assurance: In March 2021 the IPCT reported 100% compliance with completed Triage Assessment forms via the Board Assurance report. The ED continued to provide monthly assurance via the ICC. The red area in ED now comprises of single occupancy cubicles only.

Learning: The amalgamation of amber (exposed) patients onto ward 7a, from multiple outbreak wards, in early November 2020 was in line with national guidance. The practice enabled the opening up of beds in areas which would have been closed (because of the outbreak) and had a positive impact on patient flow through the site. However, the practice led to a new outbreak with 29 patients testing positive. The DIPC explained that this was because the risk of re-exposure was inadvertently increased in these patients. Evolving knowledge about the virus has clarified that patients in the amber category are more likely to transmit virus (more infectious) than those in the red group, as people are most infectious at the onset of disease. As a result of this learning and experience the practice was never repeated and exposed patients are currently located on ward 9a which comprises of side rooms only.

Movement of patients: In November 2020 there were 865 beds across the Trust's sites (including General and Acute, Paediatric, Adult and Paediatric DCC and Neonatal Unit). Side room isolation facilities are available in all wards. However, during peak surge times the demand on side rooms exceeded capacity. Therefore, the IPCT collaborated with operational teams to create and utilise COVID-19 cohort wards. Whole or part wards were used for the admission of COVID-19 positive patients only. This negated the need to find single rooms for isolation of all patients with COVID-19. Ward moves or flips (between green and red) were communicated via the daily staff global email and recorded via decision/pathway change logs.

Wards which comprised single rooms only were used for the isolation of COVID-19 exposed individuals who are required to isolate for 14 days from exposure during their inpatient stay.

A review of 15 sets of medical notes, electronic patient records (EPR) and TrakCare (patient administration system), highlighted some common themes in the diagnosis, management, and pathway of COVID-19 patients in the first wave of the pandemic. General themes show a delay in swabbing, delay in isolation of suspected COVID-19 and very limited documentation in the medical notes and EPR around symptoms, timing of symptom onset, clinical details on microbiology request forms and rationale for patient bed/ward moves. The review notes that in the early stages of the pandemic, guidance was new and changed rapidly as knowledge about the virus and resulting infection grew. Therefore patient processes and pathways through the 15 reviews are not consistent and as such are incomparable.

During the second wave the following actions were implemented to address lapses identified;

- Enhanced testing/ screening programme
- COVID-19 triage form in use in ED to improve documentation and triage processes and patient risk specific pathways followed
- The use of Perspex screens and 2 metre distancing between patient bed and chair spaces to reduce the potential for significant contact and subsequent nosocomial infection.
- The wearing of surgical masks by all patients
- Webinars and communications to support messaging 'Don't watch and wait, test and isolate'. Site priority to move suspected patients to isolation rooms.

The Board Assurance report identified that the Trust was unable to provide assurance that urgent and emergency care patients are not transferred between beds/wards during their stay. This is due to a lack of green/low risk pathway in GRH which necessitated the transfer of a significant number of patients to CGH after admission. To mitigate the risk of transmission patients transferred from GRH to CGH required a negative test within 48hrs prior to transfer, as was required for patients being discharged to a care home or other hospital.

During Wave 1 the relocation of patients into single occupancy rooms was not universally successful in preventing transmission of COVID-19. The likely contributory factors to this were identified as follows;

- Poor compliance with IPC precautions-hand hygiene, cleaning or shared equipment
- Staff to patient transfer from mildly or asymptomatic staff who remained at work

During the "lessons learned' exercise at the end of the initial wave of the pandemic teams reported the value of better communication and consideration of the impact on wider services when Red areas were relocated. For example the decision to relocate the Red area in ED had an impact on imaging.

During the second wave, a more advanced COVID-19 antibody test that allows the detection of an immune response to vaccines as well as to previous infection was introduced for patient testing on admission 24/7. This novel approach maintained low nosocomial infection rates and helped manage patient flow through both hospital sites at the peak of the second wave. Patients were located safely within both hospitals, using their antibody status to reduce the risk as much as possible. To date all patients admitted to the Trust undergo COVID-19 Antibody testing. Where middle beds have been replaced to cope with demand, only patients who have an assay result of >250U/ml are located in that position. From the study of nosocomial infection the review can confirm that this practice has resulted in zero cases. The use of the antibody titre test has allowed the interpretation of positive tests. Antibody levels can be used to determine whether the patient is currently infected or whether there is low level remnant virus from historic infection. This also helps with patient placement.

The Trust weekly Preventing Falls Harm Hub reported an apparent correlation between inpatient falls which resulted in harm and multiple transfers between ward areas/wards. By way of audit the IPCT and Site Team were asked to review the number of moves a patient makes before reaching their final/ home ward. Data was presented to the ICC and COVID-19 Task and Finish groups to establish what flow changes can be made to reduce the number of patient moves.

Learning: The Trust incident reporting tool (Datix) is monitored for incidents of non-isolation following a positive COVID-19 in a patient who develops symptoms after admission. In one incident of outbreak of infection on a surgical ward, a patient was found to have been retained in a low risk pathway location (albeit in a side room) and was not isolated because they required specialist clinical management. As a direct

result of this incident the process was updated. In a scenario where a patient who has a positive test for COVID-19, requires specialist care they must receive joint review by the IPCT and clinical team to assess the most appropriate location. In the event that they must remain in a low risk pathway ward they must be cared for by an allocated Nurse who cannot provide care to the other patients.

Decontamination and terminal decontamination of isolation rooms or cohort areas is carried out in line with PHE national guidance. Toilets and bathrooms in areas of outbreak are cleaned every four hours. Action card 10 refers to standards for cleaning and decontamination.

Assurance: Assurance is received by the ICC monthly in the form of a report of cleanliness standards.

12.5 Daily data submissions have been signed off by the Chief Executive, the Medical Director or the Chief Nurse, and the Board Assurance Framework is reviewed and evidence of assessments is available.

NHSE/I introduced the COVID-19 Board Assurance Framework (CBAF) to support all healthcare providers to effectively self-assess their compliance with PHE and other COVID-19 related infection prevention and control guidance and to identify risks. Use of the framework was not mandatory but the Trust adopted it as a way of continually assessing whether measures are in line with current national guidance.

Audit results and dashboards were monitored and reported to the Trust Board. During the period covered by this review the DIPC reported directly to the Trust Board.

The Trust Infection Control Committee continues to review the evidence provided by the CBAF monthly to form an ongoing action plan for addressing gaps in assurance.

There were clear and effective processes to manage COVID-19 related risks and risk associated with healthcare associated infection. Risks relating to COVID-19 are recorded on the Trust risk register. The board has oversight of these through the Quality and Performance Committee and Risk Management Group. Risk assessment was conducted on the deployment of updates in PHE guidance and the Board briefed accordingly.

The review has confirmed that measures are in place for validation of cases of nosocomial infection by the Deputy DIPC and signed off by the CEO, Medical Director or Chief Nurse. The Board Assurance Framework is reviewed and updated at monthly ICC meetings which are chaired by the DIPC or Deputy DIPC. The updated Board Assurance Framework is presented to the Board via the Quality and Performance Committee which meets monthly.

12.6 Where bays with high numbers of beds are in use, they must be risk assessed and where 2 metres cannot be achieved, means of physical segregation of patients are strongly considered. The concept of 'bed, chair, locker should be implemented. All wards should be effectively ventilated.

During the initial wave of the pandemic, when the majority of elective admissions were cancelled, middle beds were removed from bays of six to lower the overall patient acuity, reduce staff workload and reduce the likelihood of transmission between patients. Retrospective review of outbreak data revealed a corresponding reduction in nosocomial rates of infection. However, there was a requirement to increase the bed base and replace beds as elective care was re-commenced.

In June 2020, in line with national guidance, the Trust installed plastic screens between beds where 2 metres distance could not be achieved. The review notes that knowledge about the virus was evolving rapidly. In the initial wave, national guidance about the efficacy of screens was driven by the impression that the virus was largely transmitted by droplets and that screens would provide a barrier where two metres distance could not be achieved. However, investigation into outbreaks within the Trust suggests that transmission occurred despite the placement of screens and was subsequently explained by evolving knowledge about the airborne properties of the virus.

Observational studies and incident logs identified the following;

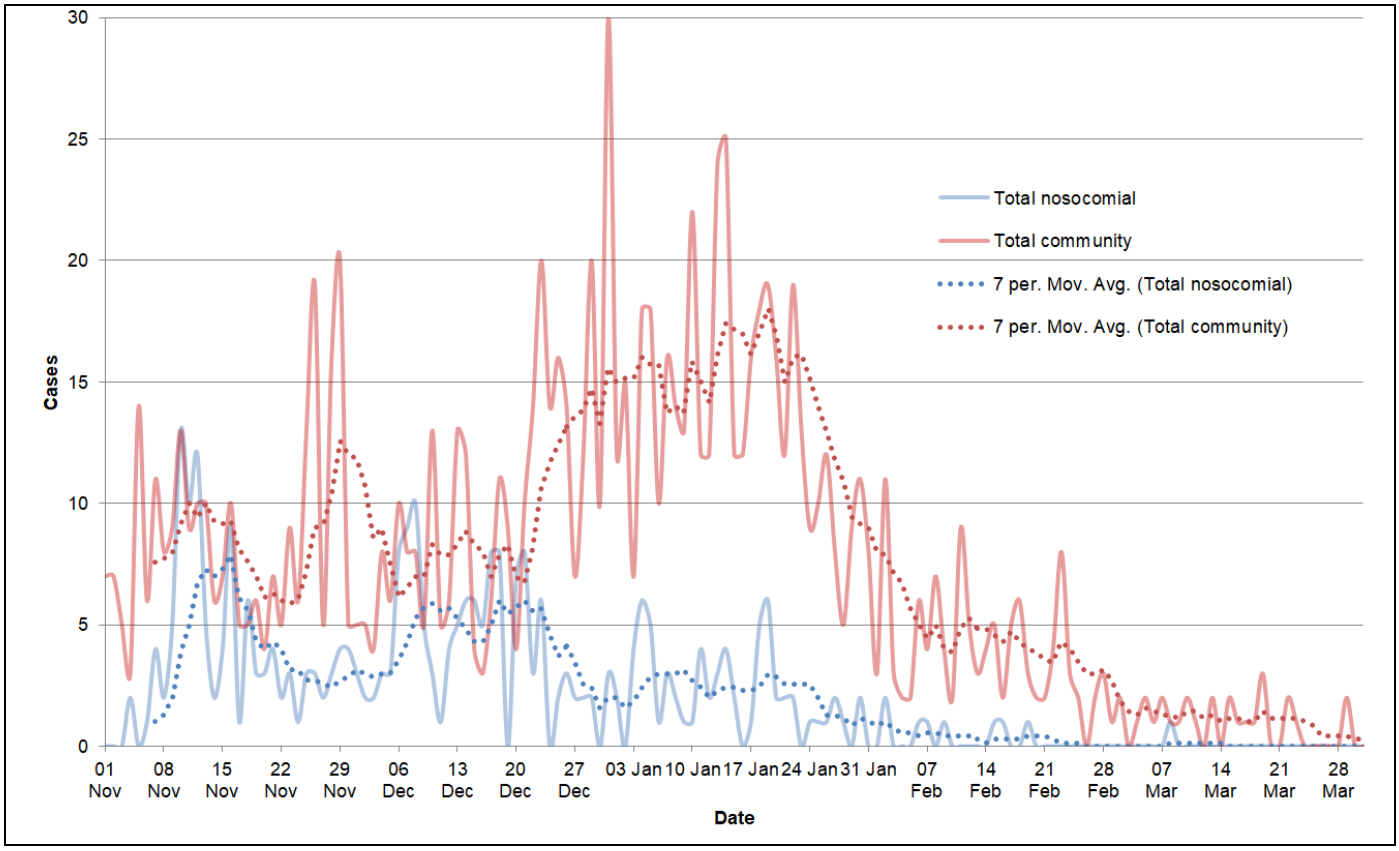
- Lapses in COVID-19 secure behaviour because screens offered a false sense of security

- Difficulty keeping screens clean
- Screens were a hazard, causing inpatient falls and resulting injury

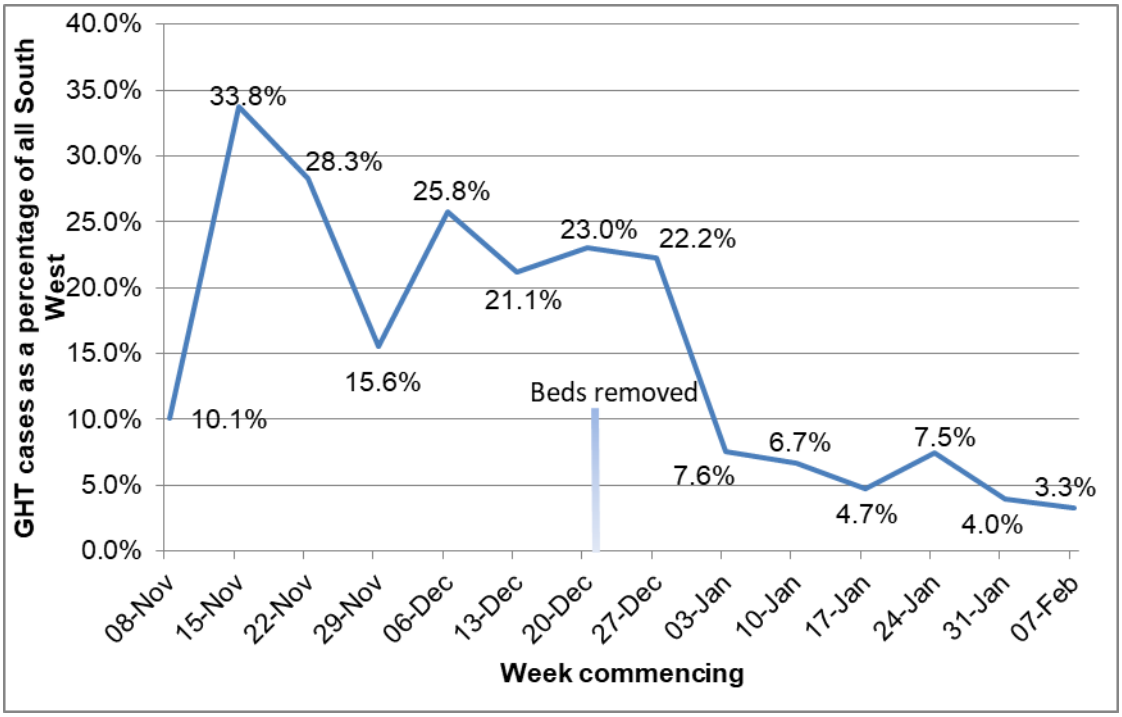
During quarter 4 the winter surge of COVID-19 increased through the county with a significant post-Christmas rise in hospitalised cases. Towards the end of December the trust took urgent action to disrupt the spread of COVID-19 on wards by removing around 150 beds to create social distancing. On 14 December 2020 this was achieved in 50% of the green areas and in all green wards, with the exception of Snowshill Ward at CGH, by 28 January 2021. On Snowshill ward the beds are already 2 metres apart although the bedside chairs are less than 2 metres apart because of the position of fixed lockers. To mitigate the risk the overall bed base on Snowshill Ward was reduced by 20% and by 50% by 11 February 2021.

The decision to reduce the bed base across the Trust led to a clear reduction in nosocomial rates of infection despite an increase in community cases nationally. The Trust's approach was presented to the Scientific Advisory Group for Emergencies (SAGE) as an exemplar of successful action taken at the height of the pandemic.

The following graph details the cases per day, comparing hospitalised community cases and nosocomial. The period in the middle of the graph demonstrates a significant reduction between community and nosocomial cases and corresponds to the timing of the removal of beds.



The effect of removing beds to create social distancing can be seen in the graph below. This details the Trust's nosocomial cases, which at the beginning of the second wave represented a third of all nosocomial cases in the South West rapidly decreasing on removal of the beds. It is estimated that if the beds were not removed and nosocomial cases continued to track along the community case rate there would have been around 100 additional deaths.



Learning: National guidance was followed with the installation of screens. However, with the benefit of retrospective review of outbreak data and the knowledge that there was a double peak to the surge of the virus in Wave 2, senior Trust clinical leaders judge that the removal of beds to reduce the risk of exposure, should have commenced on or around 27 October 2020, accepting that this would have introduced other risks and consequences associated with a reduced bed base.

12.7 Staff are tested:

a. **Implementation of twice weekly lateral flow antigen testing for NHS patient facing staff. Whilst lateral flow technology is the main mechanism for staff testing, this can continue to be used alongside PCR and LAMP testing.**

b. **If your trust has a high nosocomial rate you should undertake additional targeted testing of all NHS staff, as recommended by your local and regional infection prevention and control/Public Health team. Such cases must be recorded, managed and reported using agreed regional/national escalation systems.**

The Trust was selected as one of 3 pilot sites in the South West to commence twice weekly Lateral Flow Device Testing and this was available from 16 November 2021. Kits were available in patient facing, clinical areas such as wards, out-patient departments and theatres. Global communication emails reinforced the requirements for staff to report results whether they were negative or positive. Staff were advised that the Lateral Flow Device testing was for asymptomatic staff only. In the event of COVID-19 symptoms testing was arranged via the 2020 Hub.

From mid November 2021 the Trust utilised the skills of a team of staff who were isolating as contact tracers. The contact tracer contacted all staff who had returned a positive PCR test. They advised the member of staff of the positive test and reinforced the guidance that they should isolate for 10 full days before returning to work. They should speak to their manager before returning to work and confirm that they had not experienced a raised temperature in the previous 48 hours. The 2020 Hub provided support to staff who tested positive. Action card 69 relates to test and trace.

Strategies were reinforced via global emails, social media and staff information flyers and posters. Staff outbreaks were reported at the thrice weekly outbreak calls. Data relating to staff sickness and absence was collected and monitored for trends. Measures to reduce the risk of staff transmission were discussed within the Trust IPCT and South Western Regional IPC meeting.

Asymptomatic staff testing forms part of the procedure when an outbreak is declared in a ward or department. All staff groups on the ward undertake a PCR test (nose/throat).Those screened for symptoms on the day of the test and those who test positive are sent home for self-isolation. In May 2020 testing was introduced for all staff experiencing mild symptoms. During the second wave they were required to self-isolate and undergo PCR testing. This was evidenced by daily outbreak meeting minutes. Prior to roll out of the vaccination programme asymptomatic screening has found positive staff. This was attributed to mildly symptomatic staff remaining at work despite communication to stay home and book a test.

The Trust Medical Director reported the value of the availability of home testing for staff and a change in the guidance about self-isolating. During the initial wave of the pandemic, national guidance did not mandate self-isolation if a child or partner tested positive. Therefore, in that scenario many staff moved out of their own homes so that they could continue to come to work, as they were concerned about adding to the pressure their colleagues were under.

Assurance: In March 2021 the Board Assurance report reported no gaps in assurance that strategies were in place to ensure staff testing and self-isolation as appropriate. Staff reporting of self-testing results was monitored by the Business Intelligence Team and reported at daily sit-rep meetings.

The testing of asymptomatic staff continues as part of standard actions taken following declaration of an outbreak of infection. In addition a negative test is required for asymptomatic staff wishing to return to work, after being in contact with COVID-19.

Action card no.2 applies to actions which should be taken when healthcare workers are exposed or symptomatic of COVID-19.

The Deputy DIPC advised the review that at the time of this review, there are very few positive results in asymptomatic staff.

12.8 Patients are tested:

a. **All emergency patients must be tested at admission, whether or not they have symptoms.**

b. **Those who go on to develop symptoms of COVID-19 after admission must be retested at the point symptoms arise.**

c. **Those who test negative on admission must have a retest on day 3 of admission, and again between 5-7 days post admission.**

d. **Sites with high nosocomial rates should consider testing COVID negative patients daily.**

e. **Patients being discharged to a care home must be tested 48 hours prior to discharge and must only be discharged when their test result is available. Care homes must not accept discharged patients unless they have that person's test result and can safely care for them.**

f. **Elective patients must be tested within 3 days before admission and must be asked to self-isolate from the day of their test until the day of admission**

COVID-19 testing became available in Gloucestershire Royal Hospital from 14 March 2020. Over the following year the lab processed more than 54,000 COVID-19 antibody requests, 20,000 of which have been for patients tested on admission. At the peak of testing, the laboratory was processing in excess of 1,000 COVID-19 antibody requests per day.

The Microbiology laboratory is accredited to ISO 15189:2012; UKAS number 9576 which denotes appropriate training of laboratory staff with measures in place to assess and monitor competency. The laboratory applied for an extension of scope to include COVID-19 testing.

Rapid point of care testing was introduced in ED in December 2020 and is now in place across all direct admission/ assessment areas. Reliable results are available within 13 minutes (positive results in 4 minutes).

Action Card no.1 applies to COVID-19 testing of all planned and emergency inpatient admissions to the Trust. Testing for COVID-19 is to support clinical decision making and to ensure that the risk of transmission is reduced. This enhanced screening programme also allows for the early identification of patients who may have an asymptomatic COVID-19 infection.

All guidance is in accordance with national guidance from PHE. Clinicians that have a high degree of suspicion of viral pneumonia should interpret negative results with caution. Repeat testing may be warranted in these circumstances and should include a discussion with a microbiologist.

For patients who may not have mental capacity to understand why COVID-19 testing is required, (including the risks of not being tested), a mental capacity flowsheet was provided at the end of the action card.

Emergency patients: All emergency patients are tested whether they are symptomatic or not.

Assurance: The Board Assurance report of March 2021 reported 100% compliance with testing on the day of admission.

For emergency admissions with a positive point of care test (POCT) swab a repeat swab is sent to the laboratory for confirmation testing. These patients are not swabbed again, unless it is after day 15 for discharge purposes or it is required as part of the criteria for de-escalation of COVID positive patients in the Department of Critical Care and COVID positive immunocompromised patients

Patients who go on to develop symptoms: When an in-patient develops new onset of signs / symptoms of COVID-19, a COVID-19 swab is taken following clinical review. The patient is isolated at this time until result known.

Wards are responsible for checking results of their patients following routine swabbing (days 2, 3, 5, 7, 10 and every 5 days) and when patients develop new symptoms. ED and the site management team are responsible for checking swab results for new admissions.

Action Card no.3 describes the actions and responsibilities following a positive result for COVID-19.

Structures are in place to enable the Microbiology Lab to notify Site Management, Business Information and Infection Prevention and Control Teams of positive results. Inpatient positive and negative patient results are phoned to the appropriate wards.

IPCT follow the action flow chart for all patients with new onset symptoms or who test positive. These actions are completed on all 7 days of the week. Clinical surveillance software is used to support identification of exposed patients. Patients who have been discharged are contacted by contact tracers and informed of the need to isolate for 10 days from last exposure. From 15 December 2020 exposed patients are alerted on EPR Sunrise by a “live” countdown clock which runs until the patient’s isolation period finishes.

Patients who test negative on admission: For emergency admissions with the screening negative POCT swab the patient was swabbed on days 2, 3, 5, 7, 10 and then every 5 days until discharge. Staff monitor screening compliance electronically against the screening programme and a resulting bimonthly report is reviewed as part of the Infection Control Assurance Framework.

High nosocomial rates: All patients in a 14 day exposure period are tested daily. All patients in an area of outbreak are tested daily during their 14 day exposure period. This time period is re-set if a new patient tests positive for COVID-19 during the outbreak.

Patients identified for transfer to CGH from GRH have a negative test within 72 hours or be re-tested prior to transfer and be considered medium risk until the result is negative. Respiratory high care patients in the low risk pathway In addition to routine testing patients in the low risk (green) pathway should be retested daily whilst they remain on NIV, HFNO or other aerosol generating procedure in respiratory high care. Patients who tested positive are stepped down to low risk pathways if they improve clinically, have no raised temperature for 48 hours and have completed 14 days from testing positive. Patients who are immunocompromised or have previously been treated in the Department of Critical Care must have 2 consecutive negative swabs 24 hrs part and ideally a negative sputum sample, prior to step down.

Infection status was added to all transfer/handover sheets.

Discharge to a care home: In line with national guidance there were no restrictions on discharge unless the patient was entering a long term care facility. Also in line with national guidance, for patients being discharged to care/nursing home, or their own home with package of care, Trust policy mandated COVID-19 testing for patients who had previously tested negative. The test was conducted 48 hours before discharge with confirmed results before patient leaves the ward/department. If the patient is COVID-19 positive and a negative swab is required for discharge, once discharge plans are in place, this individual can be swabbed at day 15 and could be re-swabbed every 48-72 hours. In certain circumstances, this may happen more regularly after discussion with the clinical team and infection prevention control team. The Trust Onward Care Team (OCT) provided support to wards in facilitation of the agreed discharge process.

Assurance: The Board Assurance report of March 2021 reported that an audit of discharge screening to a social care setting in December to January 2021, demonstrated 100% compliance with the approved discharge process. There were plans in place for the OCT to support ongoing monitoring by review of every discharge to a social care setting.

Elective patients: From 15 April 2020 all non-urgent operations were cancelled with only cancer, life & limb & vascular surgery planned. Ahead of this step change, the volume of non-urgent elective activity was gradually reduced from 16 March 2020, to allow critical care & theatre teams to plan, train & simulate the Covid-19 ventilation & HDU contingency plans. The Deputy Chief Operating Officer advised that planned theatre lists were mapped out weeks in advance to avoid unmanageable numbers of patients who required post-operative care in DCC.

In August 2020, in line with the recovery wave of the Operational Pandemic Plan, the Trust set out a plan (with corresponding Action Card) to apply the current PHE and NICE guidance with regards to testing and isolation prior to reintroduction of cancelled planned (elective) procedures. The aim was to maximise the opportunity for patient attendance, recognising the impact of COVID-19 related delays to treatment and patient morbidity whilst applying measures to reduce the risk of contracting COVID-19 in the hospital-setting. The Trust recognised that whilst pausing a planned treatment pathway may seem the best way to do this, the impact of delaying care is not without risk, particularly as it is likely to be many months or longer before the threat of COVID-19 is eliminated.

All elective patients were swabbed no more than 72 hours in advance of their “to come in” date and reminded to self-isolate, along with the rest of their household during the period between their swab and their intended operation date.

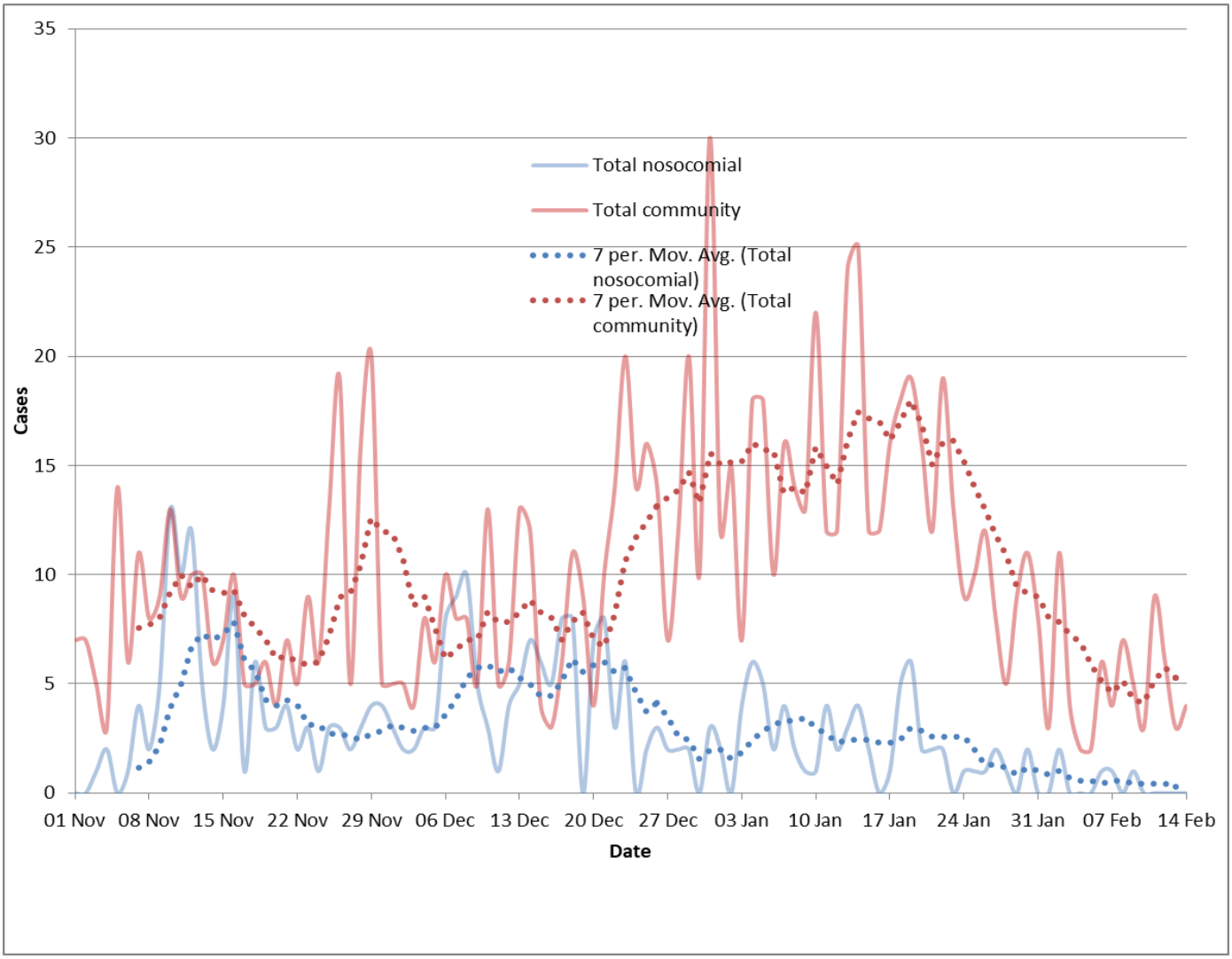
Assurance: The Board Assurance report of March 2021 reported 100% compliance with pre-elective swabbing procedures. There were plans in place to monitor and review a snap shot of patients to assess compliance with day 3 and day 5-7 screening. Results were submitted to the IPCT and monitored as part of the ongoing Board Assurance Framework.

25 patients selected at random, using the EPR

Results	January	February	March
Screened on admission	95%	96%	94%
Screened on day 2	41%	36%	54%
Screened on day 3	53.8%	84%	66%
Screened on day 5	74.3%	88%	92%

Screened on day 7	52.6%	84%	74%
Screened on day 10	Not reviewed	80%	63%

For all patients who require routine swabbing, a prompt in the form of an orange swab icon appears on the Electronic Patient Record (EPR) tracking board. The icon disappears once the order has been placed. A separate “Bee aware” icon was added to the individual’s EPR and the ward tracking board if they tested positive for COVID-19. Patients who have been exposed to COVID-19 and are isolating for 14 days, have a time of last exposure date on EPR.



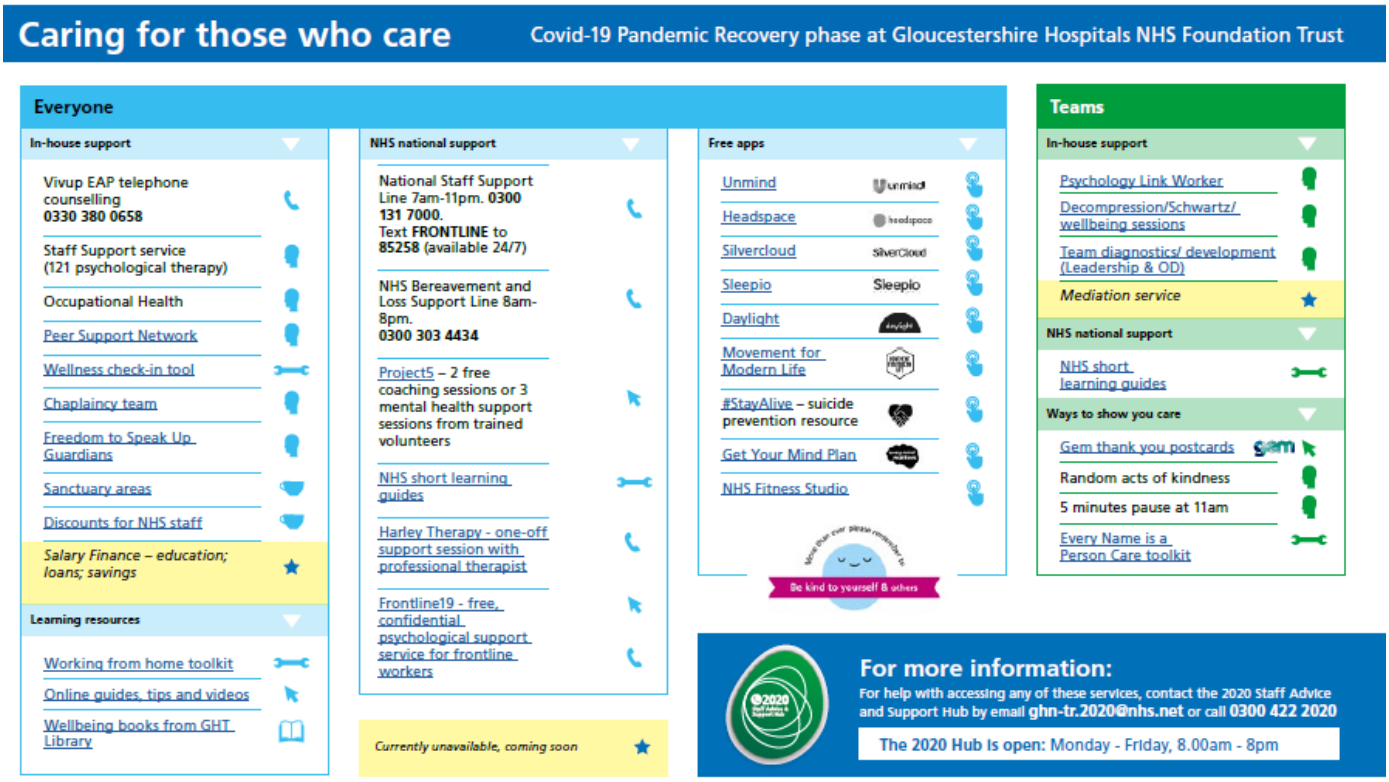
13.0 STAFF SUPPORT

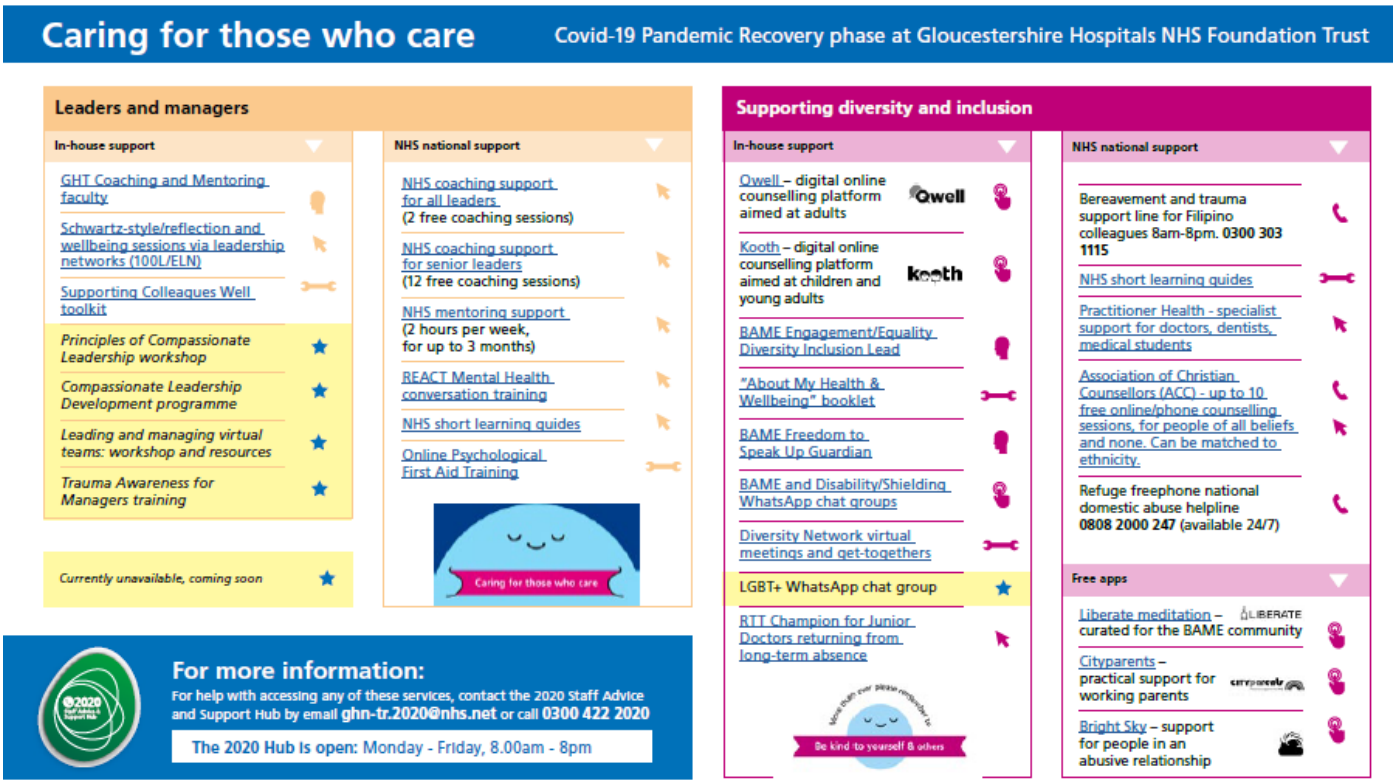
In May 2019 the Trust launched the **2020 Staff Advice and Support Hub**. Activity data demonstrates a significance spike in contacts by staff to the Hub at the start of the first and second waves of the pandemic, in April 2020 and November 2020. The 2020 Hub was the designated resource for staff and at the onset of the pandemic was “upskilled” to deal with queries and concerns relating to COVID-19 symptoms, isolation and testing.

These are the top 3 overall themes from April 20 - March 21 and account for **51.9%** of contacts into the Hub:

1. Medical condition/pregnancy/self-isolation/household concern	1687
2. Testing	1681
3. Symptoms	1452

In April 2020 an infographic was developed for staff to highlight the range of health-wellbeing services which were available. This was then updated and relaunched in October to reflect the latest offers available nationally and locally. The services support diversity and inclusion and have been categorised to identify what is available for individuals, leaders/managers, teams, as well as benefits which are targeted at people with particular protected characteristics.





Measures were in place to identify and manage staff in 'at-risk' groups to ensure their physical and psychological wellbeing was supported. Social media and online tools were utilised to keep in touch. Shielding staff were redeployed and continued to utilise their skills and experience via remote working.

During the second wave of the pandemic the Trust Executive Director for People and Organisational Development led a COVID Advisory Team which included representation from the Health and Safety Team, Staff-side representatives, Human Resources and 2020 Hub, to support the staff welfare and personal risk assessment programme. The Health and Safety Team supports a programme of personal risk assessment for all staff of Black and Asian ethnicity, following evidence from wave 1 which indicates that this group of staff are proportionately more likely to be adversely affected by the virus. This includes guidance, sample risk assessment templates and collaboration with the Trust Diversity Forum and the Occupational Health Team to answer questions and provide individuals with support. This programme was broadened to include Clinically Vulnerable (CV) and Extremely Clinically Vulnerable (ECV) staff as relevant information on risk emerged about these groups. A COVID-Age tool was adopted as a triage system for vulnerability of staff and templates were designed to support the assessment of CV and CEV staff.

During the pandemic the Library and Knowledge Service reconfigured and adapted services to support virtual training, remote working as well as maintaining 24/7 access to the physical library spaces in GRH and CGH, with IPC adaptations to ensure they remain safe for all users. In addition, the Service developed a weekly COVID-19 Evidence Bulletin to provide staff with easy access to quality research relating to COVID-19. It was distributed via the global emails and to individual inboxes on request. A systematic process was developed to ensure that only the best and most useful evidence was included.

In response to individual requests the Service conducted evidence searches on available research databases to provide a summary of current and quality evidence on the requested subject. This significantly minimised the time spent away from direct patient care and enabled the requester to utilise the evidence to develop best practice.

At the onset of the pandemic, the Trust identified a potential knowledge gap for the wide range of non-respiratory nurses and clinicians who were redeployed from their areas of expertise to caring for patients experiencing complex respiratory symptoms. Therefore, in preparation for the expected increase in respiratory patients the Trust Learning Technology Team collaborated with the Professional Education Team and Specialist Respiratory colleagues to create the ‘Respiratory Care and Assessment eLearning package.

The resource was available via the Trust’s eLearning platform. Global communications were released to request that every Registered Nurse, Midwife and Allied Health Practitioner complete the e-learning package. It was suggested that those with competent respiratory skills utilise the package to familiarise themselves with key messages.

In addition the Trust implemented yellow ‘Respiratory Skills’ lanyards which were worn by registered practitioners who have competence and skills in respiratory care and can be called upon for additional support if caring for a respiratory patient.

The digital team has developed a number of secure solutions to support clinical and corporate teams to work remotely during the COVID-19 response.

Staff survey results, published on 11 March 2021 demonstrated an improvement in responses about positive measures taken by the Trust to address health and wellbeing.

Following their inspection on 19th February 2021 the Care Quality Commission (CQC) concluded that “It was evident from speaking with staff, the challenges caused by the pandemic were both physically and mentally challenging, but they remained passionate about providing quality care to patients”.

The review found evidence that in support of the Trust’s recovery from the impact of the COVID-19 pandemic, a number of resources and support have been organised for colleagues. These recognise both the immediate and longer-term impact that the pandemic may have on both individual and collective wellbeing and resilience.

14.0 CQC inspection

On 19 February 2021 the Care Quality Commission carried out an unannounced focused inspection of acute services provided by the Trust to look at infection prevention and control. The trigger for the inspection being more than one outbreak of hospital acquired COVID-19 infection in the Trust between November 2020 and January 2021. Although the infections had reduced by the end of December 2020, ongoing outbreaks remained a matter for concern. Inspectors visited the Emergency Department, Acute Medical Unit, medical wards, surgical wards, Critical Care, wards caring for older patients, cardiology, Therapy areas, staff break areas, dining rooms and public spaces.

The following were identified as outstanding practice;

- Staff support systems were comprehensive and well used by staff. The central 2020 hub was well advertised and valued by staff. Support was provided to staff for a variety of reasons, including personal circumstances not relating to their work life. Staff told us they could easily access psychological support. Staff welfare was considered before any changes were made.

- There was an embedded culture of continual learning and reviewing of actions. Staff were encouraged to share new ideas and develop projects. Incident reporting was viewed as a learning opportunity. Assessment tools had been produced and specific roles created to support staff with IPC processes including the COVID-19 assurance framework. Other trusts had replicated these processes.

- Communication throughout the trust was effective; this included daily global emails and regular IPC update webinars. The CQC reported that there was a real feeling that staff in the trust were a whole team who actively supported each other across departments, particularly in their approach to IPC. Staff expressed how they appreciated open and honest communications from managers and executive leads. Staff told us how they were engaged and informed of potential changes early in the planning process and encouraged to provide their views.

- Role of personal protective equipment (PPE) safety officers (PPE SO's). The PPE SO model has now been used in 50 NHS Trusts in the UK and introduced in New York and Australia. The PPE SO's were shortlisted for the Nursing Times Awards in 2020 and the RCN awards 2021 for outstanding contribution to IP&C (award winners are still to be announced).

The following areas where identified for improvement;

- The Trust should consider how learning and outcomes from regular antimicrobial audits are used to improve antimicrobial stewardship

- The Trust should ensure that risk assessment processes are followed by staff and completed for areas newly opened for patient use and are safe for patient care.

- The Trust should consider how they promote patient privacy and dignity when using facilities in areas where both male and female patients are cared for.

15.0 CONCLUSION

This report summarises a retrospective review of measures taken by the Trust, to reduce the risk of hospital acquired (nosocomial) COVID-19 and manage outbreaks of COVID-19 infection from 1 November 2020 to 31 March 2021. The review has heard evidence of the significant organisational and personal impact of COVID-19 and the exceptional efforts that have been necessary to manage the Trust's response. The overarching focus was to preserve life, protect staff and prevent spread.

The review has identified that the Board Assurance Framework with COVID-19 Framework, provides structures to continually assess whether measures are in line with current national guidance.

The review has concluded that from experience and from the lessons learnt in the second wave of the pandemic, there should be strict adherence to COVID-19 patient pathways. If required specialist care is provided to a patient who has tested positive in a red area and not within a green pathway.

Also, the Trust Executive Team would support removal of beds (in older buildings) as a measure to reduce exposure in a scenario of increased hospital admissions from a vaccine escaped, emergent strain of COVID-19. The review notes the impact of lowering the bed base on partner health and social care organisations and acknowledges the joint escalation plans in place to facilitate this across the integrated care system.

16.0 RECOMMENDATIONS and ARRANGEMENTS FOR SHARED LEARNING

The Trust will monitor the completion of the following (in addition to recommendations made by the CQC) through the Trust Safety and Experience Group;

- Review of continued use of screens between beds

- A region wide learning event to consider the findings of the reviews completed by individual organisations;
  - To identify best practice and support the embedding of IPC practice for future waves.
  - Specific recognition of the benefit of reducing beds in response to increased hospital admissions.
  - To give an opportunity for wider comment from countywide representative and experts through experience (patients & family)
  - To share areas of innovation and excellence (including measures taken to support staff).

17.0 DISTRIBUTION LIST

- Trust Senior Leadership Team
- Director of Infection Prevention and Control
- Trust Safety and Experience Review Group
- Gloucestershire Clinical Commissioning Group
- Care Quality Commission
- Director of Public Health for Gloucestershire

18.0 REFERENCES

18.1 Internal

GHNHSFT Operational Pandemic Plan
https://www.gloshospitals.nhs.uk/media/documents/GHFT_Pandemic_COVID19_Plan_Working_v0.9_ofOe5SB.pdf

GHNHSFT Action Cards
https://intranet.gloshospitals.nhs.uk/departments/corporate-division/infection-control/coronavirus-covid-19-guidance/action-cards/action-cards-and-clinical-guidelines/

Infection Prevention and Control-Annual Report 2020/21

18.2 National

Policy paper: Coronavirus action plan, a guide to what you can expect across the UK.
https://www.gov.uk/government/publications/coronavirus-action-plan/coronavirus-action-plan-a-guide-to-what-you-can-expect-across-the-uk

Office of National Statistics: waves and lags of COVID-19 in England
https://www.ons.gov.uk/peoplepopulationandcommunity/healthandsocialcare/conditionsanddiseases/articles/coronaviruscovid19infectionsurveytechnicalarticle/wavesandlagsofcovid19inenglandjune2021

The Health and Social Care Act 2008 (Regulated Activities) Regulations 2014
https://www.legislation.gov.uk/ukdsi/2014/9780111117613/regulation/20

Infection prevention and control Board Assurance Framework
https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/04/C1337_IPC-Board-Assurance-Framework-V1.6-June2021.pdf

NHSE/I South Western Regional COVID-19 Hospital Outbreak Framework version 0.5, 15 June 2020
Standard infection control precautions: national hand hygiene and personal protective equipment policy
https://www.england.nhs.uk/patient-safety/standard-infection-control-precautions-national-hand-hygiene-and-personal-protective-equipment-policy/

Investigation and initial clinical management of possible cases
https://www.gov.uk/government/publications/wuhan-novel-coronavirus-initial-investigation-of-possible-cases/investigation-and-initial-clinical-management-of-possible-cases-of-wuhan-novel-coronavirus-wn-cov-infection

COVID-19: Guidance for maintaining services within health and care settings
Infection prevention and control recommendations
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/990923/20210602_Infection_Prevention_and_Control_Guidance_for_maintaining_services_with_H_and_C_settings__1_.pdf

Standard infection control precautions: national hand hygiene and personal protective equipment policy NHS England and NHS Improvement, March 2019
https://www.england.nhs.uk/wp-content/uploads/2019/03/national-policy-on-hand-hygiene-and-ppe.pdf

World Health Organization-Save Lives, Clean your Hands
https://www.who.int/gpsc/5may/Hand_Hygiene_Why_How_and_When_Brochure.pdf

National Standards of Healthcare Cleanliness 2021
https://www.england.nhs.uk/estates/national-standards-of-healthcare-cleanliness-2021/

Car sharing
https://www.gov.uk/guidance/coronavirus-covid-19-safer-travel-guidance-for-passengers

Government PPE strategy
https://www.gov.uk/government/publications/personal-protective-equipment-ppe-strategy-stabilise-and-build-resilience

PPE Safety Officers
https://www.nursingtimes.net/news/hospital/cqc-highlights-success-of-nursing-staff-in-role-of-ppe-safety-officers-23-04-2021/

Hospital discharge and community support
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/999443/hospital-discharge-and-community-support-policy-and-operating-model.pdf

COVID-19 policy tracker
https://www.health.org.uk/news-and-comment/charts-and-infographics/covid-19-policy-tracker

Timeline of UK COVID-19 Lockdowns
https://www.instituteforgovernment.org.uk/sites/default/files/timeline-lockdown-web.pdf

COVID-19 Response-Spring 2021
https://www.gov.uk/government/publications/covid-19-response-spring-2021/covid-19-response-spring-2021-summary

Mandatory lab reporting to PHE

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/926838/PHE_Laboratory_reporting_guidelines_October-2020-v3.pdf

From 6 November 2020 the National Institute of Clinical Excellence (NICE) completed the first wave of transfer of specialty guides on Covid-19 from NHS England and NHS Improvement to NICE Covid-19 rapid guidelines. The aim is to create a single point of access to national advice on the clinical management of Covid-19 in support of frontline health and care staff.

Appendix A-Table of outbreaks

Appendix B-Duty of Candour letters

STRICTLY PRIVATE AND CONFIDENTIAL

Prof Mark Pietroni
Director for Safety and Medical Director
2nd Floor, Alexandra House
Cheltenham General Hospital
Sandford Road
Cheltenham
Gloucestershire
GL53 7AN

Date:
REF: CV19/W151938

Dear XX

I am the Director of Safety and Medical Director of Gloucestershire Hospitals NHS Foundation Trust. I am writing to you about the death of your XX on XX. On my own behalf and that of Gloucestershire Hospitals NHS Foundation Trust I would like to offer my deepest sympathies and condolences for your loss.

We hope that you are aware that XX tested positive for COVID-19 prior to XX death and that COVID-19 was listed on their death certificate. Our records also show that XX first tested positive for COVID-19 more than 8 days after their admission to hospital.

Having tested positive for COVID-19 more than 8 days after admission to hospital, we recognise that XX may well have contracted the virus during his stay in hospital. We would like to say how sorry we are, that this was the case.

The COVID-19 virus has presented new challenges both in and outside our hospitals. Please be assured that we are committed to learning from our experience of the pandemic. We have recently taken part in a Care Quality Commission (CQC) inspection of our Infection Control Procedures. A copy of their report is enclosed with this letter which describes our commitment to learning and the improvements we made throughout the pandemic

We are also undertaking a Trust-wide review of our infection control practices and procedures. We aim to identify the factors contributing to hospital acquired transmission of the COVID-19 virus so that we can learn from these and reduce the risk for future patients. We hope that our review will be completed by November 2021.

Whilst I fully recognise that we were unable to prevent XX contracting COVID-19 during their hospital admission, for which I am very sorry, I do hope that you are reassured by the action we are taking.

Next Steps

If you have questions, or just want to talk to someone about this letter, please contact Tania Allen our Family Liaison Officer. You will be able to access the results of our review on our website in December 2021. You can also request a printed copy from Tania. Her contact details are below.

Ms Tania Allen
Family Liaison Officer
Safety Department
Robinswood House
Gloucestershire Royal Hospital
Great Western Road
Gloucester
GL1 3NN

Tel: 03004 225796

Email: **ghn-tr.dutyofcandour@nhs.net**

Yours sincerely

Prof Mark Pietroni
MA MBA FFPH FRCP DTM&H
Director for Safety and Medical Director
GHNHSFT

STRICTLY PRIVATE AND CONFIDENTIAL

Prof Mark Pietroni
Director for Safety and Medical Director
2nd Floor, Alexandra House
Cheltenham General Hospital
Sandford Road
Cheltenham
Gloucestershire
GL53 7AN

Date:
Ref:CV19/W151938

Dear XX

I am the Director of Safety and Medical Director of Gloucestershire Hospitals NHS Foundation Trust. I am writing to you following your (relationship and name), recent admission to Gloucestershire Hospitals NHS Foundation Trust, during which our records indicate that XX tested positive for COVID-19.

As XX tested positive for COVID-19 at least 8 days after XX admission to hospital, we recognise that XX may well have contracted the virus during his hospital admission, for which I am truly sorry.

It is my hope that XX has fully recovered from any symptoms XX may have experienced. We recognise that some people need to receive care and support for covid-related issues for some time after their initial illness and I have enclosed a copy of our leaflet, which provides a range of support information that may be helpful to you and XX.

The COVID-19 virus has presented new challenges both in and outside our hospitals. Please be assured that we are committed to learning from our experience of the pandemic. We have recently taken part in a Care Quality Commission (CQC) inspection of our Infection Control Procedures. A copy of their report is enclosed with this letter which describes our commitment to learning and the improvements we made throughout the pandemic.

We are also undertaking a Trust-wide review of our infection control practices and procedures. We aim to identify the factors contributing to hospital acquired transmission of the COVID-19 virus so that we can learn from these and reduce the risk for future patients. It is our hope that our review will be completed by November 2021.

Whilst I fully recognise that we were unable to prevent XX contracting COVID-19 during his hospital admission, for which I am very sorry, I do hope that you are reassured by the action we are taking.

Next Steps

If you have questions, or just want to talk to someone about this letter, please contact Tania Allen our Family Liaison Officer. You will be able to access the results of our review on our website in December 2021. You can also request a printed copy from Tania. Her contact details are below.

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Yours sincerely

Prof Mark Pietroni
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GHNHSFT

END