Paper Q – appendix 1

Leicestershire Partnership NHS Trust

Report to: Infection Prevention and Control Group

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Date:	27 April 2022
Subject:	Aggregated LPT SARS CoV-2 Outbreak Report

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1. INTRODUCTION

Guidance issued to all NHS Trusts from National Health Service England and Improvement (NHSE/I) on 9 June 2020 required all NHS organisations to instigate formal outbreak management processes where outbreaks of SARS-CoV-2 were identified.

In the event of a COVID-19 outbreak, NHS organisations were to follow existing Public Health England guidance on defining and managing communicable disease outbreaks https://www.gov.uk/government/publications/communicable-disease-outbreak-management- operational-guidance

The purpose of this report is to provide an aggregated review of outbreaks and nosocomial infections between 1st April 2021 and 31st January 2022 within Leicestershire Partnership NHS Trust (LPT). This has also supported interpretation of the data, lessons identified for learning across the Trust and maintaining patient safety.

2. LPT OUTBREAK MANAGEMENT PROCESS

UK Health Security Agency UK HAS (formally Public Health England) Guidance defines an outbreak as the following:
two or more cases in a single setting (for example, in a single ward or having shared a location) that have become symptomatic or detected on screening on or after day eight of hospital admission.

This report follows the same processes and references the following documents as previous document submissions:

- A comprehensive policy with guidance, process and systems for management and associated documents were developed by the Infection Prevention and Control Team (IPCT).
- A toolkit based on UKHSA guidance adapted by the IPCT.
- Senior Clinical Leadership presence at all outbreak meetings was provided by the Executive Director of Nursing, AHP's and Quality – Director for Infection Prevention and Control (DIPaC), Associate Director of Nursing and Professional Practice –

Deputy Director of Infection Prevention and Control or the Head of Infection Prevention and Control

- Meetings (Monday – Friday) were held for each directorate to review the outbreak, associated actions and items for escalation as required.
- A weekly meeting chaired by the DIPaC or DDIPaC took place, membership included colleagues from NHSEI, PHE and the CCG. The IIMarch sitrep was completed as per NHSE/I guidance.
- Minutes and action logs recorded.
- Development of learning boards to reflect the changes and learning from the outbreaks that incorporated local and national learning using a human factors approach. (Appendix 1).

3. MANAGING HEALTHCARE ASSOCIATED COVID-19 CASES

The Infection Prevention and Control Team created a reporting system that enabled a process by which COVID-19 patient infection numbers could be reviewed and analysed on a daily basis according to the nationally defined criteria.

The definitions of apportionment of COVID-19 in respect of patients diagnosed within hospitals are as follows (NHSEI CNO Letter (Ref No 001559) 19 May 2020):]

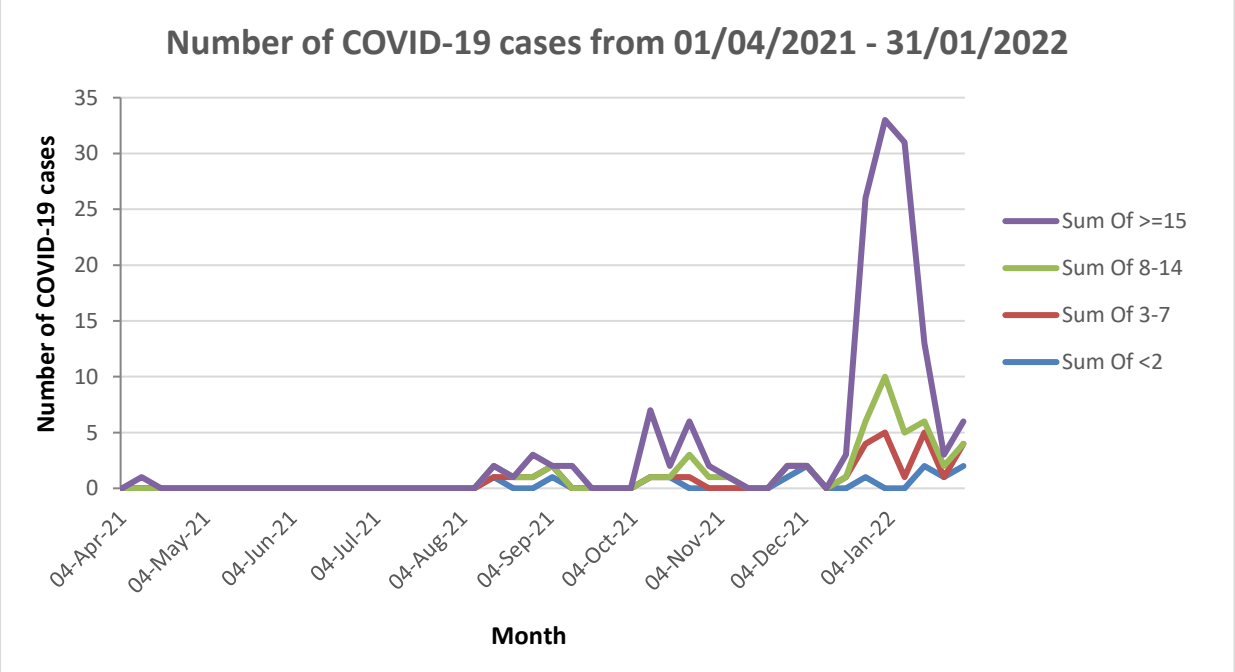
Community-Onset *(CO) - positive specimen date <=2 days after hospital admission or hospital attendance.*

Hospital-Onset Indeterminate Healthcare-Associated *(HO. iHA) - positive specimen date 3-7 days after hospital admission.*

Hospital-Onset Probable Healthcare-Associated *(HO. pHA) - positive specimen date 8-14 days after hospital admission.*

Hospital-Onset Definite Healthcare-Associated *(HO. dHA) - positive specimen date 15 or more days after hospital admission.*

The following chart identifies the number of cases in LPT inpatient services:



All Trusts were also requested to undertake root cause analyses (RCAs) for every 'definite' healthcare associated COVID-19 inpatient infection. LPT instigated a process and RCA tool the Infection Prevention and Control Team completed these to support the reporting process. Future reviews will require the support of the inpatient areas for completion.

Currently where enhanced surveillance reports are required for reviews into patient deaths associated with COVID-19, they form the starting point for further clinical and patient management investigation. A process map was developed to support this process. Appendix 2.

Across Leicester, Leicestershire and Rutland (LLR), all organisations providing NHS services met on a weekly basis to discuss the local infection status and share any key learning points. As of 1st March 2022, these meetings have been scheduled bi-weekly due to lower COVID-19 figures. During the end of March 2022, the infection rates for covid have increased significantly both in the wider community and within LPT inpatient areas. Outbreak meetings are held as required need which can result in daily meetings.

4. LPT OUTBREAKS

LPT provides a wide range of services across LLR which includes inpatient services for Adult Mental Health, Mental Health Services for Older People (MHSOP), Children and Adolescent Mental Health Services (CAMHS) and Community Health Services.

Between 1st April 2021 and 31st January 2022, LPT recorded 18 COVID -19 outbreaks, including incidents that occurred in non- clinical areas affecting staff only. 8 of the outbreaks occurred in Community Health Services and 10 occurred in the Mental Health Services.

<u>COVID-19 figures from 1st April 2021 – 31st January 2022:</u>

Total number of COVID-19 patient cases = 148

- Total number of COVID-19 cases 0-2 days = 13
- Total number of COVID-19 cases 3-7 days = 20
- Total number of COVID-19 probable nosocomial cases = 18
- Total number of COVID-19 definite nosocomial cases = 97

33 of the COVID-19 cases were attributed to community onset, picked up by screening. The remaining 115 cases are nosocomial.

Total number of COVID-19 staff cases = 996

Not all staff cases have been associated with outbreaks within the inpatient or community services. However, the impact on the workforce and the management of patients is reflected in these figures.

Community Health Services

Community Health Services reported 8 out of the 18 outbreaks identified, with reviews and learning identifying potential causes listed below:

- Lack of single rooms with ensuite facilities, resulting in cohorting patients.
- Patient placement – previous learning from the last aggregated review has

informed the process of admission and where patients are placed (i.e., where possible new admissions with potential infectious status unknown, would not be placed next to a patient who had been in the facility for a number of days, which supported the reduction in nosocomial reported infections,
- A number of the buildings are part of an old estate with fixtures and fittings that pre-date a number of the recent IPC requirements for a built environment in healthcare.
- PPE compliance with staff groups.
- Sharing break times and not adhering to social distancing.
- Delays in receiving patient swab results, either through delays from the laboratory or delays in staff reviewing results.
- Patients not being offered a Fluid Resistant Surgical Face Mask – not being documented within the patient record
- Staff socialising outside of work together over the Christmas period, which resulted in a significant outbreak on one ward, findings identified the Christmas party was the potential link.
- Admission swabbing protocol not being followed
- Lack of clear documentation of when patients are put into Source Isolation Precautions (SIPs)
- Lack of information around care planning for patients

Mental Health Services

Mental Health Services reported 10 of the 18 outbreaks identified, with reviews and learning identifying potential causes listed below:

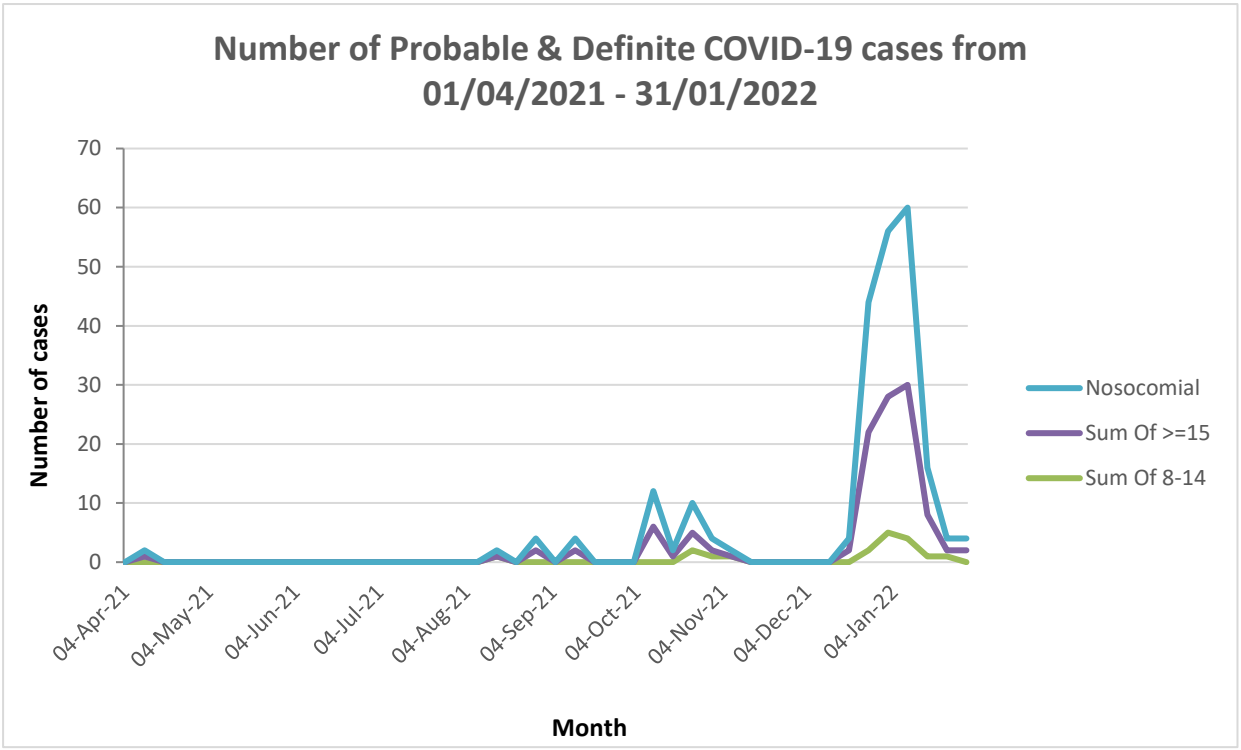
- Lack of single rooms for patients, noted significant number of dormitories with multi-occupancy room, and therefore socialising without the ability to distance was common.
- A number of the buildings are part of old estate with fixtures and fittings that pre-date a number of the recent IPC requirements for healthcare environments.
- A number of patients declined/refused to be swabbed for COVID-19 and also to isolate within their room.
- PPE compliance within some staff groups at various times.
- Sharing break times and not adhering to social distancing.
- Staff not being Bare Below the Elbows, which included the wearing or rings, watches, fitness trackers and long sleeves.
- Delays in receiving patient swab results.
- Staff not identifying patient swab results within a timely manner.
- Patients not being offered a Fluid Resistant Surgical Mask – not being documented within the patient record
- Staff not carrying out LFT prior to attending the workplace, with symptoms prior to starting work.
- Staff attending the workplace whilst awaiting a PCR result and did not inform their manager at the time.
- Development of new patient symptoms which were indicative of COVID-19 and not acted upon for a significant number of days i.e.) SIPs not put into place
- Decontamination of equipment not undertaken between patient use within a COVID red areas
- Admission swabbing protocol not being followed
- Lack of clear documentation of when patients are put into Source Isolation Precautions (SIPs)

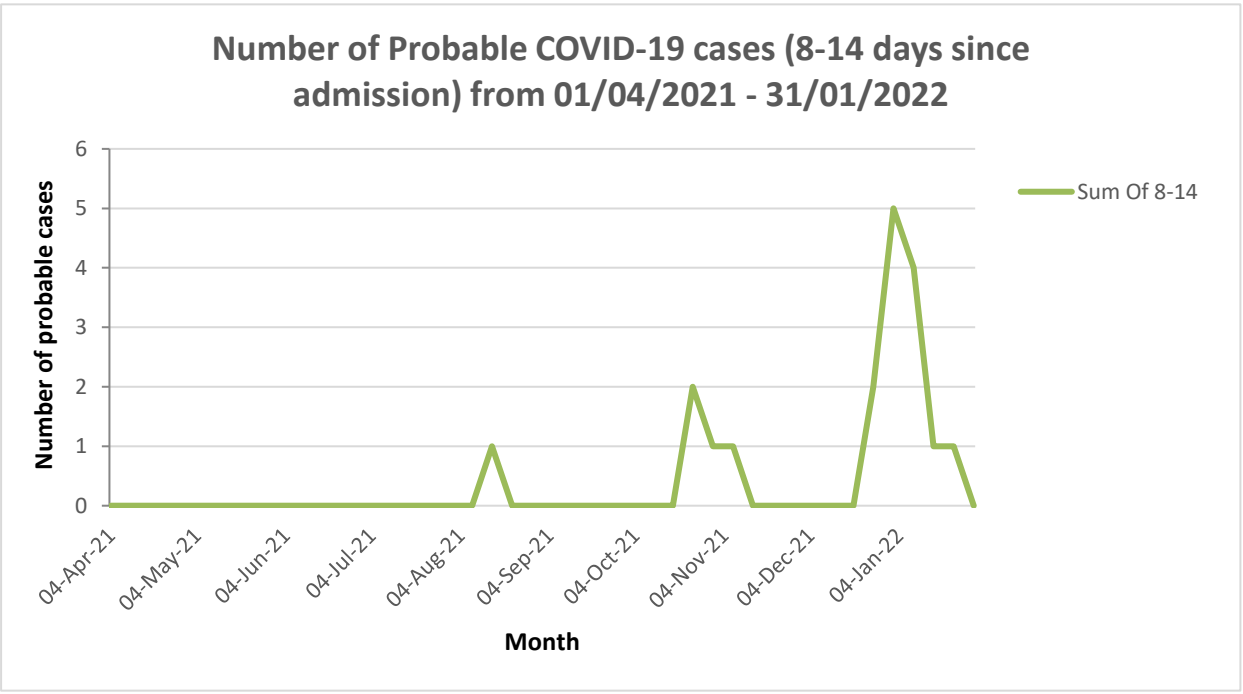
- Lack of information around care planning for patients
- Adherence to cleaning schedules and the appropriate documentation
- Large number of patients having unescorted leave – staff unable to know about PPE compliance

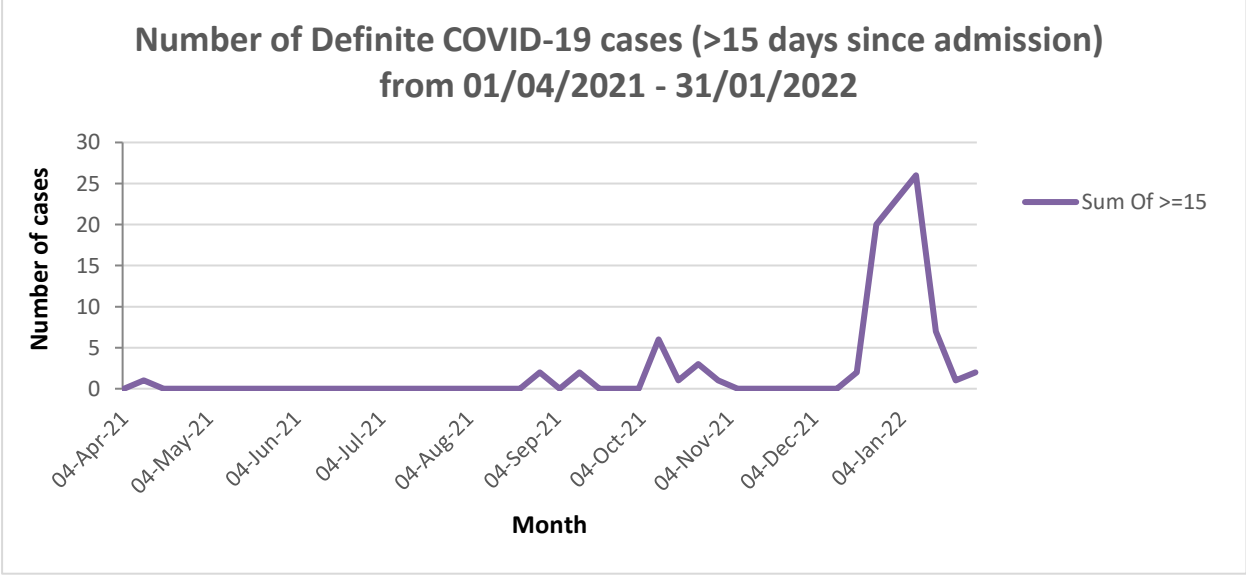
The following charts show the daily number of COVID-19 cases. Data was gathered for the earlier months using a look back exercise. The figures for the months of December, January and February reflect the second wave of COVID-19 infections and the cases of Covid-19 within the geographical areas across LLR. The majority of the nosocomial cases are linked to the increased incidences and outbreaks.

Generic learning across all areas

- Mask wearing by patients not documented, compliance or offer
- Testing of symptomatic patients delayed
- Extremely hard for some client groups to comply to isolation i.e., dementia patients documented evidence of this very good
- Social distancing between patients often difficult to achieve but staff have tried and documented this
- Equipment has not been dedicated to positive patients only when could have been
- Storage in ward areas often limited meaning some cross contamination may have occurred
- BBE breaches continue despite large amount of education around topic – further training to be ongoing Hand Hygiene audits continue
- Outbreaks have sometimes identified broken equipment e.g., dish washer, macerator that have been reported but long waits for repairs or replacement.
- Patient swabbing generally good but often delays in receiving or reporting results
- Access to lab results is a common delay
- Large amounts of asymptomatic cases.
- Facilities and domestics have responded quickly when asked for deep cleans and enhanced cleaning to outbreak area
- Therapy attendance at outbreak meetings has been low
- Staff break areas are often shared between areas which can lead to cross contamination
- LPT has a large number of old buildings not ideal for up-to-date IPC recommendations.
- A lot of therapy equipment is often around the ward leading to cross contamination. This includes activity IPC continue to work with therapist to help minimise risk.
- Care plan usage for positive patients very poorly used.
- Outbreak meetings have been very positively received and help to manage the areas through this stressful time, they have often sped up repairs and given the ward areas an area to ask for help.


Number of Probable & Definite COVID-19 cases from 01/04/2021 - 31/01/2022
Number of cases
70
60
50
40
30
20
10
0
04-Apr-21
04-May-21
04-Jun-21
04-Jul-21
04-Aug-21
04-Sep-21
04-Oct-21
04-Nov-21
04-Dec-21
04-Jan-22
Month
Nosocomial
Sum Of >=15
Sum Of 8-14


Number of Probable COVID-19 cases (8-14 days since admission) from 01/04/2021 - 31/01/2022
Number of probable cases
6
5
4
3
2
1
0
04-Apr-21
04-May-21
04-Jun-21
04-Jul-21
04-Aug-21
04-Sep-21
04-Oct-21
04-Nov-21
04-Dec-21
04-Jan-22
Month
Sum Of 8-14


Number of Definite COVID-19 cases (>15 days since admission) from 01/04/2021 - 31/01/2022
Number of cases
30
25
20
15
10
5
0
04-Apr-21
04-May-21
04-Jun-21
04-Jul-21
04-Aug-21
04-Sep-21
04-Oct-21
04-Nov-21
04-Dec-21
04-Jan-22
Month
Sum Of >=15

Asymptomatic carriage of COVID-19 continues to be a national priority to understand and investigate and the role this has for both patients and staff in the potential for cross infection. Where asymptomatic carriage was detected in either staff or patients in the identified outbreaks within LPT, immediate action was taken to either isolate patients and screen any contact patients or ensure staff did not come to work and isolated for the required time period. Where such instances were identified as part of an outbreak situation, this was documented, monitored and managed as part of the outbreak control process.

5. LEARNING FROM LPT OUTBREAKS

Aggregated learning from LPT outbreaks was disseminated across the Trust as part of shared learning using the platform of learning boards (Appendix 1 – Learning Board No 2 The key actions are set out below, listing both the concern and the advice from the Infection Prevention and Control team.

Action Cards have been reviewed as new guidance has been issued, with a governance process of agreement and sign off from the Clinical Reference Group (CRG), shared in the weekly Trust communications for all staff. A designated folder on the staff intranet was also developed for all COVID-19 processes and a sub-folder for action cards was included.

Car sharing

Concern: Car-sharing identified as potential risk for staff-to-staff transmission.

Findings – Staff had travelled together, who lived separately but were related. FRSM's not worn during the travel time

Administration/Office areas

Concern: Staff-to-staff transmission linked to close contact without PPE in non-clinical areas.

Findings

- The maximum occupancy posters developed as part of the covid secure risk assessment had been removed, and larger gatherings of staff occurred
- Staff were not following the COVID-19 secure risk assessments

Ventilation

Concern: The large majority of clinical areas in LPT rely on windows for ventilation, and in a number of areas, the use of fans for cooling of the environment. However, with a significant number of LPT services providing services for staff with mental health requirements as well as the national concerns raised by HSE prior to the pandemic around patient safety, window restrictors are in place throughout a number of the inpatient areas within LPT. This limits the volume of fresh air that can enter clinical areas and raises the concern that low numbers of air changes may lead to a build-up of infectious airborne viral load.

- The ventilation group has since been developed to identify any issues and actions within the trust

Response - If tolerated and safe to do so wards were asked to institute a programme of opening windows for short, sharp bursts of 10 to 15 minutes regularly throughout the day.

The SAGE - Environmental and Modelling Group describes that being in a room with fresh air can reduce the risk of infectionfrom COVID-19 particles by over 70%.

Work related group gatherings (including patient management reviews)
Concern: Some staff considered mask use to remove the need for social distancing. Staff attended a large Christmas celebration and gathering outside of work hours which was aligned to the cause of an outbreak

Response - Staff were reminded that breaches of social distancing during staff breaks and staff meetings have been linked to healthcare associated outbreaks and asked to reflect on practices to support future learning and understanding. Ensure distancing measures are maintained at all times as well as wearing a Fluid-Repellent (Type IIR) Surgical Mask (FRSM).

Breaks
Concern: Break times require staff to remove their mask in order to eat and drink. Break rooms are frequently small and limit options for social distancing.

Response - Advice was given to control access to break and rest rooms. Ensure robust hand hygiene pre and post access Ensure environmental cleaning is undertaken and a new Fluid-Repellent (Type IIR) Surgical Mask (FRSM) applied when break finished. Open windows for increased ventilation where possible.

Patient Screening
Concern – LPT policy is for all admissions to be screened for COVID-19 infection at or before admission and negative patients to be re-screened on days 0, 3, 5, 7, of admission and at 7-day intervals thereafter. Initially patients were not always screened in a timely manner to identify COVID-19, however through the course of the pandemic this improved significantly.

Response – An action card was developed and periodic reminders both at a local inpatient area level and via the trust communications process to carry out screening in line with policy were communicated.

Patient Placement
Concern – A review of the patients who developed Covid-19 a number of days after they had been admitted to an inpatient area identified a risk of cross contamination, from more recent admissions.

Response – A review of admissions and development of a safe operating procedure (SOP) was put into place to prevent new admissions (waiting for Covid-19 test results) being placed next to patients who have been an inpatient for a number of days. This was adhered to where possible, however bed capacity and a minimal number of single rooms to source isolate patients.

Compliance with national policy and guidelines
Concern – National policy and guidelines around infection prevention evolved during the pandemic and posed the risk that LPT was non-compliant.

Response – The LPT IPC team reviewed all national policy and guidance as soon as it was available and took all efforts to ensure LPT local guidance at last matched national guidancein terms of staff and patient safety. On many occasions, LPT practice exceeded national standards,for example, LPT supported and increased level of respiratory

protection (use of FFP3 respiratory face masks) for practices such as Nasogastric tube insertion and deep oral suctioning, supported by the specialist teams, but not advised within the national guidance at that beginning of the pandemic.

7. THE NATIONAL CONTEXT – underlying issues

The COVID-19 pandemic has been a challenge to infection prevention across the NHS. While there is still lack of clarity about the relative importance of droplet versus aerosol in thetransmission of SARS-CoV-2, it is clear that rapid identification and isolation of infectious patients is key to interrupting transmission in healthcare settings.

The problem faced by healthcare organisations was the lack of a plentiful supply of rapid, accurate diagnostic tests that could detect COVID-19 in emergency admission patients in Adult Mental Health Services and admissions within community services. The Cepheid SARS-CoV-2 polymerase chain reaction (PCR) test is the best test but was limited in the initial stages of the pandemic due to the provision of this service and limited number of tests across LLR.

If patients could be isolated in single rooms pending the results of investigations, longer turnaround time tests would have sufficed. However, the large majority of inpatient services in England do not have a sufficient number of single rooms in which to isolate patients, leading to the situation where patients with unknown Covid-19 status may be placed in a bay or open ward, leading to the significant risk of cross-infection.

Of the single occupancy rooms within LPT, very few have en-suite bathroom facilities. Some have a toilet and handwash basin but no shower. The impact of this is that patients who have been identified as being infectious have to leave their rooms to use communal toilet and shower facilities. During outbreaks, cleaning services did aim to provide a dedicated domestic to the ward each day to clean the communal shower and toilet facilities after each use. However, it was quickly identified that the Estates and Facilities Service was not resourced to enable this on all the wards at all required times

Single rooms within our Adult Mental Health Services in LPT are disproportionate, with the patient group potentially at significant associated risks of harm. The development of a high (red) pathway admission ward was implemented within the Mental Health Services for Adults, to try to reduce admissions to a large number of different areas (status unknown) and contain where possible the risk of cross contamination.

A further complication is the variable length of incubation time of Covid-19, ranging from 1- 14 days. This means that patients may be admitted with a non-Covid condition but be incubating infection that only emerges later on in the admission, again posing the risk of cross-infection. This was the reason for the repeated screening described above.

Concerns have been expressed nationally about the risk posed to patients by infected but asymptomatic staff. The level of risk posed by such staff is not known but is likely to be low, partly because few or no symptoms may correlate with a low viral load and infectivity and also because staff have been wearing respiratory protection that not only limits their infection risk but also acts as a barrier to transmission to patients. Additionally, LPT patient-facing staff are asked to carry out regular lateral flow testing in line with nationalguidance, thereby identifying infected staff with no or minimal symptoms.

8. CONCLUSION

LPT staff have followed and continue to practice well in order to maintain good Infection Prevention and Control practices.

Old retained estate can now be viewed as a potential factor in determining risk of cross infection for patients where a viral organism is the causative agent. Even when there are no lapses in care identified, it is impossible to prevent the spread of organisms in these types of environments.

Lack of sufficient numbers of accurate diagnostic tests contributed to the delays experiencedwith patient flow through the organisation.

Patient placement and the level of Covid-19 infection within the wider community were also thought to play a significant part in particularly in the 2nd wave of the spread of infection in the months of December 2020, January and February 2021.

Where there were compliance issues identified from a staff perspective with Covid-19 guidelines, senior leadership attention was paid to this via the Outbreak Committee at the planned meetings. Relevant communication was distributed across the organisation by the Communication Team at daily Covid-19 all staff briefings, Tactical and Strategic Command meetings and a weekly Infection Prevention and Control Outbreak meeting established as part of the Command-and-Control structure. All Clinical Management Groups were represented on the meetings.

NB: Data and graphs provided by Andy Knock – Infection Prevention and Control Nurse and Eden Miller – Infection Prevention and Control Administrator

Appendix 1

Learning from our Covid outbreaks

NHS
Leicestershire Partnership
NHS Trust

Covid StaffNet page: https://bit.ly/39A6O0W

Key learning findings	What we have done
Staff are not always maintaining social distancing of 2 metres during work time when able and appropriate to do so.	Development of a communications campaign linked with well known pop music including the messages don't stand so close to me.
Delays in accessing laboratory swabbing results has potentially increased the risk of patients becoming infected with Covid from another patient, due to the management of the infection being delayed.	Staff have been made aware of the importance of following up test results in a timely manner. Buddy systems developed with adjacent inpatient areas, to increase access to the laboratory system.
Patients are not always placed into source isolation in a timely manner, and thereby increases the potential risk of cross contamination and infection to others.	Patient placement and source isolation requirements were key agenda items on the daily outbreak meetings, and discussed as a learning action to promote Infection Prevention and Control requirements.
Reviewing potential causes of outbreaks has identified that a number of a number of staff had continued to take their breaks with staff from other ward areas. This included therapy staff. Learning from outbreaks is initially shared at the outbreak meetings, however it was noted that the meetings did not included attendance by a therapy lead or representative (to share that learning)	Therapy leads added to the membership of the outbreak meetings. This supported sharing of minutes, updates, and learning for the wider allied health professional teams. Designated break areas for staff working on a ward with an outbreak identified, to prevent shared areas with staff from non-outbreak wards.
On a number of occasions, the infection prevention and control team have not been informed of staff or patients who have tested positive for Covid as it occurred, and has been picked up once an apparent outbreak was being investigated.	Communications campaign included a number of ways in which staff could contact the Infection Prevention and Control team - Infection Prevention and Control generic email, telephone numbers, task allocation via SystmOne and incident reporting.
Through our audits and outbreak meetings we have learnt that assessment and documentation of patient mask use and risk is not consistently documented or embedded in practice.	Key processes included in the action card to support the process of providing and documenting masks for patient use. A poster for patient about wearing a mask. Communication campaign and auditing regularly, as well as a key indicator at every outbreak meeting.

Version 4 - 06.04.2022

Appendix 2

Reporting, reviewing, and investigating Hospital-Onset COVID-19 cases and COVID-19 deaths