

**LTHT Outbreak and Pandemic Preparedness:
Lessons from Exercise Pegasus, confirmed High Consequence Infectious
Disease (MPX) and Measles**

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Presented for:	Decision
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Previous Committees:	IPC Sub-committee, Quality Assurance Committee

Link to Strategic Objective	Focus on care quality, effectiveness and patient experience
Link to Provider Capability Assessment	Strategy, leadership and planning
Link to CQC Well-led Statement	Learning, Improvement and Innovation
Regulatory Impact	Regulation 12: Safe care and treatment

Key points	Purpose
This paper is a summary of reflection and learning points following the UKHSA Pegasus pandemic exercise in Autumn 2025, the LTHT experience of caring for a patient with confirmed MPX and the Leeds city measles outbreak in 2024-25	Information
The actions recommended in this paper require an integrated response which falls across multiple LTHT teams, it is recommended that a multi-disciplinary task and finish group is formed to deliver these actions to improve the readiness of the trust for future infection risks	Decision

<u>Risk Appetite Framework</u>			
Level 1 Risk	Level 2 Risks	(Risk Appetite Scale)	Impact
Workforce Risk	Choose an item.	Choose an item	Moving Towards
Operational Risk	Choose an item.	Choose an item	Moving Towards
Clinical Risk	Infection Prevention & Control Risk - We will manage the risks related to infection prevention and control to reduce the transmission of infection in our hospitals.	Cautious	Moving Towards
Financial Risk	Choose an item.	Choose an item	Moving Away
External Risk	Choose an item.	Choose an item	Moving Away

1. Summary

The COVID-19 pandemic demonstrated the scale of risk that infectious disease poses to all aspects of healthcare delivery, especially when uncontrolled transmission occurs. Any future outbreak response will likely need not only public health intervention but effective work across the city's organisational boundaries, including engagement with hard-to-reach communities, and adaptation of national policy frameworks to local realities.

UKHSA launched a pandemic exercise 'Pegasus' in Autumn 2025 to help the UK prepare for a future similar event and this paper provides a summary of the learning points and actions required to improve LTHT's preparedness for this scenario. Similarly, de-briefing exercises occurred both after LTHT managed a case of high consequence infectious disease (HCID) in November 2025, and after the Leeds measles outbreak. These exercises provided action points to better prepare LTHT for future infection risks and are also included in this paper.

These 'actions for a large-scale infection response' cannot be delivered solely by the infection prevention team as they require collaboration across multiple teams and departments, including working across traditional trust and organisational boundaries, for this reason, this paper recommends that a task and finish group is set up to lead a programme of improvement in order to deliver the actions effectively.

2. Update and Findings

LTHT is a large NHS trust and faces significant risks from infectious disease threats;

- 1) A single case of an infection such as measles can lead to rapid transmission among unvaccinated staff and patients, disrupting services and triggering costly outbreak control measures.
- 2) A single case of a high-consequence infectious disease (HCID) such as a imported Viral Haemorrhagic Fever poses significant operational challenges, requiring urgent isolation, specialist care, and public health coordination.
- 3) Local or hospital outbreaks of infections whether designated High Consequence or not can overwhelm capacity, strain resources, and impact routine patient care.
- 4) Emerging pathogens, which would likely be designed HCID, carry the potential to escalate into large-scale outbreaks or pandemics, challenging infection control systems, supply chains, and workforce resilience, and requiring a local, national and global response.

2.1 Measles outbreak

Leeds city experienced an outbreak of measles between September 2024 and March 2025, affecting at least 141 patients, of whom 67 attended LTHT. Most suspected and confirmed cases were children, with a epidemiology focus in Leeds LS8 and LS9 postcode districts. Measles is a highly infectious disease (R0 12 to 18) acquired by airborne transmission, and carries a risk of admission, severe illness and death. Emergency departments are a high-risk location for measles transmission in an outbreak setting, as demonstrated by outbreaks in other UK cities. The LTHT coordinated response was delivered by urgent care teams, paediatrics and infection teams round the clock and was

led by the Chief Operating Officer. A comprehensive city-wide approach was required to protect individuals from acquiring measles, including enhanced vaccination, education, early assessment and isolation and post-exposure prophylaxis. This was led by UKHSA and a post-outbreak review process was completed and information was provided back to the national team. LTHT was invited to attend this meeting and provided comprehensive information with the aim of providing learning for other trusts.

2.2 HCID case November 2024

A patient with Mpox was identified by and admitted to LTHT in November 2024. Diagnostic testing and early care was delivered safely and effectively prior to transfer to the regional HCID unit in Sheffield. No breaches in practice of contacts at LTHT were identified. A number of community Mpox contacts were identified and offered vaccination. A post-IMT review process identified a number of lessons learned, though few were for LTHT, a small number of recommendations are included in this paper. Overall, the high quality response from Leeds was praised at the UKHSA Incident Management Team meeting.

2.3 Pegasus

Exercise Pegasus, held in Autumn 2025, was the UK's largest pandemic response simulation, coordinated by the Department of Health and Social Care (DHSC) with support from the UK Health Security Agency (UKHSA). Its purpose was to test the UK's ability to respond to a rapidly evolving pandemic, involving participants from all regions and nations of the UK and engaging every government department, and activating COBRA (Cabinet Office Briefing Rooms). The exercise focused on the first few months of an emerging pandemic, across three structured phases: Emergence, Containment, and Mitigation. Each phase was anchored around a specific 'anchor day,' where the majority of cross-government decision-making activity took place, and the scenarios and impacts were adjusted between phases based on earlier decisions. Participants' experiences and the consequences they faced were designed to reflect the outcomes of prior decisions, highlighting not only health impacts but wider societal and operational effects. A fourth 'Recovery' phase is planned for Spring 2026.

The simulated outbreak involved a novel enterovirus, Envid-25, originating in Southeast Asia and spreading rapidly worldwide, causing respiratory illness and ascending flaccid paralysis, particularly affecting children and vulnerable adults. LTHT contributed to the exercise by completing workbooks and feeding into West Yorkshire Integrated Care Board (WYICB) responses and HCID network activation meetings. Staff from multiple departments, including Operations, Infection Prevention and Control, Emergency Preparedness, Virology, Emergency Department, Children's Hospital, Critical Care, Infectious Diseases, and Pharmacy, collaborated during a session in each phase to address the evolving pandemic scenario and feedback into the regional response. An Infectious Diseases consultant participated in the HCID Network Activation Call during each phase representing LTHT as a Specialist Regional Infectious Diseases Centre (SRIDC) providing surge capacity for cases across the UK and contributing to the Network's response to the pandemic.

2.4 Learning from Exercise Pegasus, Measles and HCID

a. Local Command and Control

In the event of a probable or confirmed presentation, or suspected outbreak of a high-risk infection, an LTHT Incident Management Meeting is convened. In the event of two or more linked cases an Outbreak Control Group (OCG) or Major OCG (MOCG) is convened.

Following the measles outbreak, it is recommended that there is an internal and external escalation mechanism to trigger an Emergency Preparedness and Resilience (EPR) response and IMT earlier in the outbreak.

At the Emergence phase of Exercise Pegasus, prior to any local cases there was debate about command level and frequency of meetings required. The Emergence phase of a wide spread outbreak of pandemic should be treated as a 'Rising Tide' event. This allows the Trust to formally declare a Business Continuity incident during the initial stages of an emerging threat. This will trigger the necessary Command and Control oversight to manage fit-testing, review of PPE stocks, screening protocols, work with city partners and consideration of staffing resilience to reduce the risk of operational failure. The admission of a patient with a confirmed HCID or identification of a significant non-HCID outbreak such as measles should trigger a similar tactical response. Consideration should be given for the triggers for an later step-up to 'Containment' and 'Mitigation' phases in the outbreak of pandemic scenario.

Infection Control Leadership Meetings (ICLM) were initiated during the COVID-19 pandemic and have continued on a fortnightly basis. These meetings are of subject matter experts in Microbiology, IPC, Infectious Diseases, Virology and Occupational Health. Their role during an outbreak of pandemic would be to review guidance in the context of LTHT staff, patient groups and estate, and recommend implementation of new guidance. This meeting would continue on a more frequent basis as required. Members of the group would need to meet and respond to new information on an urgent basis, particularly given NHS England and UKHSA guidance is often issued on a Friday afternoon.

Consideration should also be given to increasing the Operational IPC and HCID and Pandemic Preparedness Steering Groups as a response. Administrative and operational support would be required for these meetings. All group members should ensure they are able to deputise duties to avoid burn-out in the event of pandemic or prolonged outbreak.

Debriefing is carried out routinely following outbreaks and HCID cases with lessons learnt and actions generated. The activity should continue in the event of a pandemic, using a phased approach in protracted events, rather than waiting for the outbreak or pandemic to close.

2.4.1 Regional command and control

Leeds City Council have in place The Leeds Outbreak Plan and The Leeds Pandemic Plan. The Outbreak Plan would be activated in the event of two or more linked infectious diseases or a single case of HCID. Health Co-ordinating Groups, attended by hospitals, community, mental health, primary care, pharmacy services, report into WY Resilience Forum for Emergency Preparedness and during this exercise. Partnership working with the Leeds Community Health Trust, specifically the IPC team, has repeatedly been essential in

providing a safe response to infection risks. It was highlighted that organisations are keen for a single point of contact into other organisations for their regional partners, this 'leader on point' needs to be allocated from a group of suitable individuals with internal plans to provide 7 day a week cover. The current method is built on personal relationships built between LTHT and city partners, with a risk that changes in staff would lead to gaps. Once organisations have reflected on lessons from Pegasus, organisations will meet to update the Leeds Pandemic Plan around April 2026. The delay in national pandemic guidance due to the COVID enquiry was acknowledged as was the need for a Regional Pandemic Response Plan following this.

2.4.2 Infection Screening

Patients who are acutely unwell and attending LTHT should be asked screening questions on the risk of infection. Those attending the Emergency Departments and Same Day Emergency Care (SDEC) should be asked HCID screening questions. However, there are gaps within these screening protocols and with staff adherence to them. At several times in recent years LTHT has responded to risks of Mpox, Measles and COVID-19 by adding additional screening questions to various areas around the trust. A standard set of Infection Screening Questions are being developed to cover risk of significant infections (respiratory, gastrointestinal, HCID, carriage of antimicrobial resistance). It is envisaged that this question set can be adapted to role out universal screening to all admission areas. Once a robust screening process is in place it is hoped that only minor amendments would be required to identify potential cases in the event of a major outbreak or pandemic. It is recommended that emergency protocols are in place to amend screening (including electronically on symphony) at short notice to facilitate early detection and isolation of cases.

2.4.3 PPE training and fit testing

Env-25 was classified as an HCID throughout the exercise. Staff would be required to use the unified HCID PPE ensemble as per National IPC Manual recommendations (FFP3, visor, hood, scrubs, long-sleeved fluid resistant gown, long-sleeved gloves, 2 x short gloves, boots, heavy duty apron). Donning and doffing this PPE safely requires training. While the trust has successfully implemented a HCID PPE Training Programme in many areas including Critical Care, Children's, Infectious Diseases, General Medicine and nurses in Emergency Medicine, there are still gaps in provision. Current doctors in EM training numbers are very low. Therefore, the trust has not been able to implement recommended HCID PPD in airborne pathogens and using 'airborne PPE' (FFP3, visor, long-sleeved gown, gloves) in place since June 2024. Challenges in implementing this change has been nationally recognised and the recommendation on implementation has been deferred to August 2026.

HCID PPE training places have been offered to Urgent Care by SIM and ACC as mutual aid but uptake has been limited. The most significant barriers to training are doctors being required for clinical care and not released for training, difficulties accessing fit-testing and staff sickness and conflicting priorities for Clinical Educators. Trust support is as a priority required to train ED registrars and consultants. The Emergency Department does not currently have the capacity to reliably provide medical assessment and treatment for patients at risk of an imported HCID such as VHF, outside of a pandemic or outbreak.

Formal FFP3 fit testing is a statutory legal duty under COSHH and the Health and Safety at Work Act. Colleagues cannot safely care for patients with suspected or confirmed airborne pathogens such as measles or tuberculosis without having been fit-tested. Powered Air-Purifying Respirators can be used in certain instances for colleagues who are not able to use FFP3 masks due to facial hair or other reasons. They cannot however be used in patients with suspected HCID as they cannot be safely 'doffed' without contamination. Guidance is now in place to support conversations between colleagues who cannot use an FFP3 or HCID PPE and their line managers.

Similar challenges in fit-testing were described by community partners during the exercise. LTHT were not able to respond to a request to support partners with their fit-testing, given low rates within LTHT. Ongoing support for fit-testing from the trust is required.

CSUs are requested to provide data on fit-testing and HCID PPE numbers to OIPC and HCID Steering Group on an intermittent basis but this information is not immediately available when requested during the exercise. It is recommended that the IPC team explore options to access data from various CSUs, with an escalation plan if gaps are detected.

2.4.4 Isolation

In the event of an increased incidence of possible, probable or confirmed infectious disease, source isolation in the emergency department (from the moment of first attendance) may be required. Learning from the measles outbreak demonstrated gaps in our ability to prevent transmission when patients first attend, and then operational impact on all ED services if more than a low number of patients require isolation. Trust-wide source isolation pathways should be reviewed, with a focus on front-door source isolation strategies including signage, triage assessment and onward admission pathways for adults and children. Staff may only be able to work with patients following effective vaccination or PPE training/assurance, a model is required to minimise the risk to staff by providing assurance of fitness to work with specific infection patients.

Isolation rooms with positive pressure ventilation lobbies (PPVL) are required for respiratory pathogens including measles, highly pathogenic avian influenza and the exercise pathogen Env-25. Outside of haematology and oncology there are only 4 PPVL isolation rooms at SJUH (J20 Infectious Diseases). There are no beds in adult critical care or the Emergency Departments. At LGI the only PPVL beds outside of haematology and oncology are on PICU with no beds available to children or adults in admission areas. There are two adult beds on L07 in General HDU/ICU. There are too few PPVLs to safely provide the care required even for a single patient in many areas across the trust.

PPVL beds are urgently required in Adult Critical Care at SJUH and Children's at LGI. Consideration would need to be made to moving other patients and staff groups in the event of an HCID admission or pandemic. As an interim, there are plans in place to accommodate patients with suspected HCID in Critical Care by closing the whole of J53. Once PPVL rooms were filled, other side rooms would be needed, despite risk of airborne spread. There is a PPM+ tool in place to support decision making on isolation. In later stages of a pandemic, the trust would consider hot/cold working areas in admission areas as was used during COVID pandemic.

2.4.5 PPE Stocks

It was recognised that reporting stock levels once it has been distributed is challenging. Assurance is also required that PPE be accessed out of hours. It was acknowledged that PPE use is likely to differ from patterns seen in COVID. WY ICB would set up a central PPE board, using Dolly Lane as the main hub with four additional distribution hubs to various providers. Work with LTHT procurement is required to update the Pandemic Plan.

2.4.6 Staff and patient vaccination and post-exposure prophylaxis (PEP)

As part of a diverse response to infection threats, large-scale vaccination and PEP responses are likely to be led centrally. However, in the early stages of a pandemic, or in response to a smaller-scale outbreak, local upscaling may be required. This was part of the measles response, and required a coordinated operational response to provide a safe location for delivery and staff. Similarly, in the MPX incident, bed clearance was required for J20 to facilitate assessment and vaccination. Acquisition of vaccine and release was a significant challenge in this episode (see below).

2.4.7 Transfer of patients

Sporadic imported confirmed cases of HCID should be transferred to an HCID centre. The HCID network plan has been that initial cases of HCID during a significant outbreak or pandemic would also be transferred to an HCID unit until HCID beds within England are full. SRIDCs such as LTHT would then take patients from elsewhere in a surge capacity. However, there is no nationally commissioned transport system for suspected or confirmed HCID cases, meaning many patients stayed in their admitting hospitals longer than ideal. Further learning from Exercise Pegasus was that there were significant delays developing a confirmatory test for Env-25, meaning that suspected cases often remained at their admission location. The exercise also showed a national shortage of PICU beds and children's HCID beds were rapidly filled. While LTHT has previously understood that highly likely suspected or confirmed HCID in children, pregnant women or critically unwell patients would be transferred to an HCID unit, there is a risk that they would need to stay at LTHT for several days. Plans for all patient groups will need to be developed to enable safe care of suspected or confirmed HCID at LTHT.

2.4.8 Virology

Virology expertise is crucial to responses for measles outbreaks, COVID-19, and HCID cases. At LTHT, virology was not involved in the national plan to develop and scale up testing for EV-D68 during Pegasus. However, in the event of a novel pathogen, the LTHT laboratory would need to rapidly scale up testing, as demonstrated during the previous pandemic, while maintaining business continuity. It is hoped that national learning from Pegasus will be shared next year.

Currently, LTHT employs 1.7 WTE virology consultants, supported by 1 principal clinical scientist (0.33 WTE). This staffing level provides limited resilience for routine operations and very restricted capacity to expand in response to future outbreaks or epidemics.

A June 2024 survey of similar virology services in England (Manchester, Newcastle, Nottingham, Sheffield, Birmingham, Bristol, Cambridge, Liverpool, Southampton) showed an average of 4.2 virology consultants providing 3.6 WTE hours. To reach parity with peer centres, LTHT requires an additional 2 WTE virology consultants.

2.4.9 Contact Tracing

Contact tracing in the early phase of the pandemic would rely on UKHSA. Exposure of colleagues and patients within LTHT requires Occupational Health and IPC working alongside clinical teams to trace contacts, advise, isolate and test as required. Such contact tracing however is extremely time-consuming and currently under-resourced as demonstrated in the measles outbreak, additional resource and support was minimal and contact tracing was completed by a very small group of staff members. In the event of contact tracing being required at scale within the trust, additional resources should be reallocated so other aspects of IPC and OH can continue. Capability to apply a 'contact status' flag on patient records rapidly is recommended as part of an outbreak/pandemic response.

2.4.10 Staffing

It was predicted, as was the experience during COVID that childcare, other caring duties, isolation and sickness all affect staffing levels. Given the severity of illness in children, it was however highlighted that staff with children are likely to be less willing to work when there is exposure risk compared to COVID. Potential for psychological strain on staff, the increased load on specialist teams, and concerns that goodwill from the COVID era is now worn thin were also identified. The need for a surge staffing plan was identified to potentially include reallocation of flexible or dual-trained staff and daily a Trust-wide staffing meeting was suggested. Guidance on sick leave and shielding would be required from government and additional local resource may be required to administer sick leave and reallocation of roles.

2.4.11 Remote Working

Some colleagues at risk of infection, isolating or with caring responsibilities may be encouraged to work from home. Good IT support for home working was identified as important. It was noted however that remote working can cause social isolation, depends on good digital support, and isn't suitable for all roles. It may be that future infection responses would facilitate well-being support for those working remotely in real-time.

2.4.12 Communication

Messaging to colleagues and patient would follow national guidance. Local guidance would be developed and ratified as required through operational IPC, ICLM and a trust-wide quality group with support from the communications team to disseminate to staff. This would be required to provide clear reassurance and direction for colleagues and

patients. Accessible information for people with low literacy or limited English is essential. This should be centrally-led with administrative support to monitor and archive multiple versions of documents, and provide data monitoring including collateral data (i.e. date national guidance launched /updated, date of LTHT implementation, derogation log).

2.4.13 Research

LTHT research teams were not involved in the research cell of Exercise Pegasus. It is envisaged that teams should prioritise outbreak-related work so that findings can be applied quickly as was the experience during COVID. It is hoped learning from the research cell will be shared.

2.4.14 Pharmacy

LTHT Pharmacy were not involved in the therapeutic aspects of the exercise and it is hoped national learning will be shared. However, pharmacy services may need extended hours and capacity, especially if new therapeutics are introduced. Acquisition of vaccine and/or post-exposure prophylaxis products (antibiotics, IVIG) is an essential element to the response to infection and a recommendation is that a new leadership and escalation pathways is agreed, including connectivity with city-partners.

2.4.15 Excess Deaths

The Trust must have SOPs that can manage a rise in deaths, including the possibility of increased child deaths highlighted in the exercise.

3. Quality and Performance Implications

Summary of risks to quality and performance

High-risk infection transmission within LTHT Without appropriate protocols and training, healthcare workers may contaminate themselves during patient care or doffing, leading to transmission of infection to colleagues and other patients.

Hospital-based high-risk infection outbreak: Contamination of work areas, surfaces, and other people could occur, leading to an outbreak.

Staff exposure without infection transmission: Failure to identify a patient at risk, inadvertent exposure to an HCID /infection without sufficient PPE, or PPE breaches may lead to exclusion of staff from work and intensive, stressful periods of active follow up during the incubation period, even if there is no resulting transmission of infection.

Increased staff stress and anxiety: Staff who don't feel adequately prepared or protected are more likely to experience anxiety and stress, which can affect their mental health and job performance.

Delays or avoidance of patient care If a patient at risk of an HCID/infection presents to LTHT and staff who are PPE trained are not available within the relevant area, there is likely to be a delay or avoidance of patient care which may lead to significant morbidity or mortality for the individual patient.

Legal health and safety obligations: LTHT has a legal obligation to provide sufficient PPE and training to enable staff to safely carry out their duties.

Reputational Damage: In the event of an HCID transmission or high risk infection outbreak, there would be an impact on the trust's reputation particularly given the public health impact and media interest.

4. Financial Implications

No specific financial implications relate to this proposal, pandemic preparedness is provided by existing teams and is a planning exercise. Delivery of outbreak and pandemic responses have significant financial implications but are not covered in this paper.

5. Risk

A summary of clinical risks is stated above. A number of items included in this paper are listed in the trust risk-register, including fit-testing for staff and lack of PPVL isolation facilities in children's and adult critical care.

There is no change to risk appetite related to this paper.

6. Communication and Involvement

The IPCT feeds into the internal LTHT communications team through the HCAI Group, the IPC Sub-Committee and the OIPC. This report is developed by the Infection Prevention and Control Team. Review, assurance, and actions where agreed are undertaken at Trust and CSU level and where required and monitored through the various boards and committees outlined above. Additionally, HCID/infection preparedness is monitored and communicated through the emergency preparedness governance structure.

7. Improving Health Equity

The Pegasus exercise highlighted multiple inequality issues, including poor FFP3 fit for women and some ethnic groups, digital and language barriers, and the impact of remote care on people with mental health needs, learning disabilities, or hearing loss. Lower-income roles may face higher exposure, and risks such as domestic violence increase during isolation. Safeguarding processes must stay active, and vulnerable groups for the specific pathogen need early identification. The measles outbreak demonstrated the impact of transmission of infection in hard to reach communities, the cross-boundary working including third sector and community representatives is an essential element to any infection response.

8. Publication Under Freedom of Information Act

This paper is exempt from publication under Section 38 of the Freedom of Information Act 2000, as it contains information which is relevant to Matters in relation to the health and safety of staff members, service users, carers or other members of the public.

9. Recommendation

The committee is asked to note the following gaps and support next steps for action delivered through a pandemic/HCID/infection task and finish group with representatives from all relevant departments and staff groups.

	Gaps	Recommendations
Command and Control	Unclear escalation of command and control in event of significant local outbreak, regional/international outbreak or pandemic. Roles of ICLM, OIPC and HCID Steering Groups during major outbreak or pandemic not fully described Key individuals often required for decision-making in multiple areas Risk of burn-out	Develop an EPR-led phased LTHT Command and Control structure in response to outbreaks and 'Rising Tide' phase of outbreaks of national or international concern, including clear triggers. Utilise draft agenda and invitee list for meetings Strengthen plans for leadership meetings in event of outbreak or pandemic with administrative support. Consider wider Infection team roles, succession planning and ensure roles can be deputised Guidance related to a new infection threat should be centrally-led with administrative support to monitor and archive multiple versions of documents, and provide data monitoring including collateral data (i.e. date national guidance launched /updated, date of LTHT implementation, derogation log).
Regional Coordination	Demand for a single point of contact between organisations. Leeds Pandemic Plan requires update	'Leader on Point' to work with city partners with agreed communication pathways not dependent on single individuals Work with city partners to update the Leeds Pandemic Plan in 2026.

		Clarify links with the WY Resilience Forum and regional pathways
Infection Screening	Risk of delayed identification of HCID risk and hospital outbreak Inconsistent use of screening questions at admission points Frequent need for rapid changes to screening questions in response to new threats	Implement a standardised set of infection screening questions trust-wide Develop emergency protocols to amend electronic screening at short notice to respond to new threats with minor, less disruptive screening adjustments Capability to apply a 'contact status' flag on patient records rapidly is recommended.
PPE Training and Fit Testing	Significant gaps in HCID PPE training across clinical areas Inadequate fit-testing uptake; lack of capacity to support partners Some staff unable to wear FFP3 or HCID PPE No centralised data system	Prioritise HCID PPE training and fit-testing, especially in ED Improve access and scheduling for fit-testing Explore systems to hold up to date or real-time fit-testing and PPE competency data, with escalation and support plan if gaps are identified. Role out advice and support for colleagues unable to use FFP3 masks or HCID PPE Ensure that discussions on PPE are included in induction and supervision meetings Clinical models are required to provide assurance that nurses, doctors and other AHPs are aware of requirements to safely work with infection (e.g. vaccination or fit-testing status) inclusive of a proactive communication campaign
Isolation Facilities	Severe shortage of PPVL rooms across LTH, especially in Critical Care, ED, and Children's. Limited capacity to manage even a single HCID safely in many areas.	Support plans for PPVL capacity in Adult Critical Care at SJUH Urgently commission review of PPVL capacity within Children's at LGL. Use contingency plans until capacity improves. Trust-wide source isolation pathways should be reviewed, with a focus on front-door source isolation strategies including signage, triage assessment and onward admission pathways for adults and children

PPE Stocks	Hard to track stock levels once distributed. Concern about access out-of-hours	Work with Procurement to update the pandemic PPE plan. Link into WY ICB's central PPE board and hub model.
Patient Transfer and HCID Network	No national transport system for suspected/confirmed HCIDs Potential for prolonged hospital stay for suspected or confirmed patients at admission hospital Potential for rapid exhaustion of PICU/children's beds at HCID units No current LTHT provision for management of a woman or her child during the perinatal period.	Plan for LTHT to safely manage children, pregnant people, and critically unwell patients on site; - Progress Children's pathway - Develop PICU pathway - Develop Maternity and Neonatal Pathway
Virology	Round the clock Virology expertise is required to manage outbreaks. LTHT virology has limited capacity with 1.7 WTE consultants and 0.33 WTE support, restricting routine operations and ability to scale up for outbreaks.	Support case for additional 2 WTE Virology Consultant (Medical or Clinical Scientist) Ensure lab business continuity plans in place to respond to rapidly upscale testing in outbreak or pandemic scenario.
Pharmacy	No formal agreed pathways in place to respond to outbreak/emerging threat.	Pharmacy leadership and escalation pathways are agreed, including connectivity with city-partners, to facilitate rapid delivery of vaccine and post-exposure prophylaxis to sites as required.
Staffing	Potential for high levels of absence due to sickness, carer duties and shielding during a pandemic Increased pressure on small specialist teams.	Develop a Trust-wide staffing plan, including dual-trained staff. Identify a process for daily review of staffing levels during peak pressure. Ensure psychological health considered in pandemic plans
Contact Tracing	Contact tracing is time and resource intensive, relying on small teams	Explore options for contact tracing model in the event of a major outbreak or pandemic Ensure IPC and OH core activities can be covered by reallocation of resources and mutual aid.
Equality, Diversity and Inclusion	FFP3 fit issues for women and some ethnic groups.	Build EDI considerations into every stage of planning.

	Digital divide and language barriers Higher impact of remote care on vulnerable groups. Increased risks such as domestic violence during isolation. Disproportionate exposure in lower-income roles	Ensure colleagues are supported in fit testing and PPE discussions
Excess deaths	No confirmed surge plan for managing increased deaths including child deaths from high-risk infection.	Review SOPs for mortuary capacity, paediatric bereavement support, and community coordination to establish surge capacity.

10. Supporting Information

The following papers make up this report.

Appendix 1 Measles epi, risk and response

Appendix 2 LTHT Measles Outbreak Response