

Board of Directors

Item 5.6

Subject: National Risk Register Update
Date of meeting: 27th August 2023
Presented by: Karan Wheatcroft, Director of Risk and Improvement
Purpose: To note

BAF Reference	Impact on BAF
ALL	National risks cover all aspects of operation, and this paper provides a high level overview along with reference to the assurance of the Trust's EPRR arrangements.

Level of assurance (<i>please tick one</i>) <i>To be used when the content of the report provides evidence of assurance</i>					
x	Acceptable assurance Controls are suitably designed, with evidence of them being consistently applied and effective in practice	<input checked="" type="checkbox"/>	Partial assurance Controls are still maturing – evidence shows that further action is required to improve their effectiveness	<input type="checkbox"/>	Low assurance Evidence indicates poor effectiveness of controls

1. Executive Summary

This paper provides an overview of the National Risk Register 2023, published in August 2023. The register sets out a wide range of risks, the impact and likelihood of these risks occurring and the resilience, response and recovery mechanisms in place.

The LHCH emergency preparedness resilience and response arrangements are in place to ensure we are in a strong position to support should any of these risks occur. We would also form part of any multi-agency response led through the local resilience forum.

The executive team are asked to note the report and arrangements in place.

2. Background

The National Risk Register (NRR) is produced by HM Government and sets out the risks facing the UK. The register provides organisations with the information that should be used to inform local planning, preparation and response.

Risks are summarised under 9 themes:

- Terrorism
- Cyber

- State threats
- Geographical and diplomatic
- Accidents and system failures
- Natural and environment hazards
- Human, animal and plant health
- Societal
- Conflict and instability

The latest edition published in August 2023 is the first update since 2020. This version references the UK Government Resilience Framework (published in December 2022). The document also looks to incorporate the learning from the Covid-19 pandemic. There is also reference to the UK Government Emergency Alerts service which was introduced to get urgent messages to mobile phones.

Local resilience partners also produce Community Risk Registers which should be read on conjunction with the NRR.

3. National Risk Register

The NRR is an extensive document and the impact and likelihood of the risks is provided below.

IMPACT	Catastrophic 5	28, 29		9, 26a	54	
	Significant 4	21	24, 38, 56a	27, 49, 51a, 51b, 51c, 61	10, 47, 50, 55, 63	
	Moderate 3	17, 32, 33, 34, 35, 36, 56c	12, 22, 23, 52	25, 26b, 31a, 45, 53, 56b	4, 8, 11, 40, 43, 48, 60	3, 31b, 46, 62
	Limited 2	18, 19, 30, 37	5, 16, 41, 42	14, 20, 56d, 58, 59	7, 13, 57b	2, 6
	Minor 1	44	39		15	1, 57a
		1 <0.2%	2 0.2-1%	3 1-5%	4 5-25%	5 >25%
		LIKELIHOOD				

Figure 1 – NRR risk profile (refer key below)

KEY:

<p>Terrorism, cyber and state threats</p> <ol style="list-style-type: none"> 1. International terrorist attack 2. Northern Ireland related terrorism 3. Terrorist attacks in venues and public spaces 4. Terrorist attacks on transport 5. Strategic hostage taking 6. Assassination of a high-profile public figure 7. Smaller-scale CBRN attacks 8. Medium-scale CBRN attacks 9. Larger-scale CBRN attacks 10. Conventional attacks on infrastructure 11. Cyber attacks on infrastructure <p>Geographic and diplomatic</p> <ol style="list-style-type: none"> 12. Disruption to global oil trade routes <p>Accidents and systems failures</p> <ol style="list-style-type: none"> 13. Major adult social care provider failure 14. Insolvency of supplier(s) of critical services to the public sector 15. Insolvency affecting fuel supply 16. Rail accident 17. Large passenger vessel accident 18. Major maritime pollution incident 19. Incident (grounding/sinking) of a vessel blocking a major port 20. Accident involving high-consequence dangerous goods 21. Aviation collision 	<ol style="list-style-type: none"> 22. Malicious drone incident 23. Disruption of space-based services 24. Loss of Positioning, Navigation and Timing (PNT) services 25. Simultaneous loss of all fixed and mobile forms of communication 26a. Failure of the National Electricity Transmission System (NETS) 26b. Regional failure of the electricity network 27. Failure of gas supply infrastructure 28. Civil nuclear accident 29. Radiation release from overseas nuclear site 30. Radiation exposure from transported, stolen or lost goods 31a. Technological failure at a systemically important retail bank 31b. Technological failure at a UK critical financial market infrastructure 32. Accidental fire or explosion at an onshore major hazard (COMAH) site 33. Accidental large toxic chemical release from an onshore major hazard (COMAH) site 34. Accidental fire or explosion on an offshore oil or gas installation 35. Accidental fire or explosion at an onshore fuel pipeline 36. Accidental fire or explosion at an onshore major accident hazard pipeline 37. Accidental work-related (laboratory) release of a hazardous pathogen 38. Reservoir/dam collapse 	<ol style="list-style-type: none"> 39. Water infrastructure failure or loss of drinking water 40. Food supply contamination 41. Major fire <p>Natural and environmental hazards</p> <ol style="list-style-type: none"> 42. Wildfire 43. Volcanic eruption 44. Earthquake 45. Humanitarian crisis overseas – natural hazard event 46. Disaster response in the Overseas Territories 47. Severe space weather 48. Storms 49. High temperatures and heatwaves 50. Low temperatures and snow 51a. Coastal flooding 51b. Fluvial flooding 51c. Surface water flooding 52. Drought 53. Poor air quality <p>Human, animal and plant health</p> <ol style="list-style-type: none"> 54. Pandemic 55. Outbreak of an emerging infectious disease 56a. Animal disease – major outbreak of foot and mouth disease 56b. Animal disease – major outbreak of highly pathogenic avian influenza 56c. Animal disease – major outbreak of African horse sickness 56d. Animal disease – major outbreak of African swine fever 	<ol style="list-style-type: none"> 57a. Major outbreak of plant pest – <i>Xylella fastidiosa</i> 57b. Major outbreak of plant pest – <i>Agrilus planipennis</i> <p>Societal</p> <ol style="list-style-type: none"> 58. Public disorder 59. Industrial action 60. Reception and integration of British Nationals arriving from overseas Conflict and instability 61. Deliberate disruption of UK space systems and space-based services 62. Attack on a UK ally or partner outside NATO or a mutual security agreement requiring international assistance 63. Nuclear miscalculation not involving the UK
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A more detailed summary of the NRR is provided in Appendix A, including reference to health services involvement.

The multi agency response refers to the Joint Emergency Services Interoperability Principles (JESIP) as covered in the EPRR Strategic Command training. Significant reference is also made to multi-agency responses and Local Resilience Forums (LRFs).

4. Community Risk Registers

LHCH is a member of the Local Health Resilience Partnership (LHRP) meetings at both the Strategic and Operational levels. The membership spans the healthcare system and local government for Cheshire and Merseyside.

Community risk registers are reviewed with significant risks/controls to the locality discussed and added to the risk registers. The LHRP is currently reviewing and updating these risk registers following the publication of the NRR.

Significant events that affect the Cheshire and Merseyside region are highlighted on an online platform called Resilience Direct which is accessed by Trust EPRR leads. Policies and local risk registers can be viewed on this platform.

5. LHCH

As an NHS organisation, we have a wide range of measures in place to support our emergency preparedness, resilience and response (EPRR). This is set out in our core standards annual assessment, and includes a range of policies, training and response plans. We continue to ensure our business continuity plans are up to date across all areas.

We have strong cyber security controls, including cyber essentials accreditation. LHCH has also participated in Cheshire & Merseyside and local desktop business continuity exercises.

In early 2023 we participated in the Cheshire and Merseyside Cyber Groups crisis simulation event, and we conducted a separate inhouse desktop cyber incident exercise with our senior IT team. We are planning to continue with the clinical and non-clinical scenario testing during this year. A tabletop exercise to test adverse weather planning is scheduled to take place at the end of August 2023'

We also undertake local scenario based exercises which have included testing business continuity in clinical and non clinical areas throughout the organisation. In 2022 a tabletop exercise was conducted to test plans for mass evacuation. This exercise was attended by the Head of EPRR for NHSE (North) who provided positive evaluation. In early 2023 we participated in the Cheshire and Merseyside Cyber Groups crisis simulation event, and we conducted a separate inhouse desktop cyber incident exercise with our senior IT team. We are planning to continue with the clinical and non-clinical scenario testing during this year. A tabletop exercise to test adverse weather planning is scheduled to take place at the end of August 2023.

Assurance is provided through our EPRR group which reports to Quality and Safety Effectiveness Committee and Risk Management Committee. The Board receives an Annual EPRR report.

We have reviewed our major incident plan against the NRR to ensure consideration of the risks described, and will continue to liaise with local partners as information arises.

6. Conclusion

The NRR provides a comprehensive view of the national risks, along with information regarding resilience, response and recovery capabilities. From a local perspective these have been reviewed alongside the community risk registers in the context of our EPRR arrangements, major incident plans, cyber security and business continuity. Should these risks occur, our role as part of the local resilience forum and multi agency response would be critical.

7. Recommendations

The Executive Group is asked to note the National Risk Register and LHCH update.

Appendix A – National Risk Register Summary 2023

The table below summarises the scenarios set out in the National Risk Register 2023, and highlights specific reference to health sector involvement wither directly or through the local resilience forums.

Scenario	Resilience	Response	Recovery
TERRORISM			
International terror attack.	Communication, humanitarian support, military capability.	Counter terrorism programme, security, UK support.	Tourism, health service support for those sustaining long term injuries.
Northern Ireland related terrorism		NI police and emergency services.	Support for those involved, local community, infrastructure.
Terrorist attacks in venues and public spaces (explosive devices/ marauding attacks	Multi agency response arrangements.	Local Resilience Forums , specialist responders	Victim support, delays in health system following excessive demands , tourism, utility supply.
Malicious incident (maritime/ rail/ aviation)	Multi agency response arrangements.	Military intervention, HM coastguard, emergency services for casualties , victim support, mental health support, mutual aid .	Investigation, recovery of vehicle, enhanced security, repair and reconstruction.
Strategic hostage taking	Multi agency response arrangements.	Specialist responders, Local Resilience Forums .	Victim support, support for individuals with long lasting physical or psychological injuries .
Assassination of high profile public figure		Proportionate to the scenario.	Dependent on individual.
Chemical, Biological, Radiological and Nuclear (CBRN) attacks	Detection and monitoring methods in place to reduce vulnerability.	Emergency services for immediate life saving response, CBRN specialist response (e.g. Decontamination/ hazard management), public health, multi agency response .	Long term environmental hazard, physical effects, mental health impacts, economy.
Conventional attacks on infrastructure (chemicals, gas, electricity, civil nuclear, fuel supply)	Local incident management plans, national emergency plan for downstream gas and electricity, and fuel supply (including prioritisation and rationing of fuel under the Energy Act).	Local responders, local incident management, multi agency response, emergency response, communications.	Long lasting physical injuries , psychological support, decontamination, operational impact, repairs, supply restoration .

Scenario	Resilience	Response	Recovery
Cyber attacks on infrastructure (gas, electricity, civil nuclear, fuel supply)	National emergency plan for downstream gas and electricity, and fuel supply.	Fuel available to priority/ essential users, humanitarian support, local resilience forums managing disruption.	Supply restoration.
Attack on Government	Government security group, cyber security strategy.	Incident response capabilities.	Complexity, impact and response would determine recovery timeline.
CYBER			
Cyber attack: health and social care system	Cyber security (e.g. against ransomware)	Additional staff and paper records, communications, third party IT support.	Long recovery time for elective backlogs, phase return to normal service, NHS Trusts supporting each other.
Cyber attack: telecommunications	Communications risk assessments.	Notifications via Ofcom, cabinet office cyber incident management plan response.	Recovery of services.
STATE THREATS, GEOGRAPHIC AND DIPLOMATIC RISKS			
UK financial CNI, retail bank	Financial regulators operational resilience policy, cyber security.	UK Authority response framework.	Recovery, potential permanent data loss of corruption, system security (patching).
Disruption of Russian gas supplies to Europe, and global oil trade routes	Emergency powers within the Energy Act and emergency oil stocks.	Support with higher prices and support to vulnerable groups,	Impact on economy, market prices.
ACCIDENTS AND SYSTEM FAILURES			
Major adult social care provider failure	CQC market oversight scheme, DHSC sector wide contingency plans.	Local authority contingency plans, DHSC contingency plan (range of stakeholders including NHSE).	Recovery will depend on national and local market conditions.
Insolvency of suppliers to the public sector	Government guidance on insourcing and outsourcing decisions.	Specialist capability and back up plans, Government intervention.	Recovery timeframes will vary.
Rail accident, large passenger vessel accident, aviation collision		Rail accident investigation, local authorities, emergency services , search and rescue, civil aviation authority, medical assistance, casualty triage.	Infrastructure repairs/ recovery, victim support.
Maritime pollution, blocking of a port.	UK plans and procedures to deal	Maritime and coastguard response,	Significant clean up, extensive recover

Scenario	Resilience	Response	Recovery
	with pollution incidents	local authority, search and rescue.	timeframe, local economy.
Accident involving high consequence dangerous goods	Regulations,	Decontamination, communications.	Rebuild/ repair buildings and infrastructure.
Malicious drone incident	Civil Aviation Authority registration	Specialised police counter drones and investigation.	
Disruption of space based services, positioning navigation and timing (PNT) services	Back up systems, National Space Operations Centre.	Government response.	Recovery dependent on debris dispersal.
Simultaneous loss of all fixed and mobile forms of communication	Ofcom regulatory requirements.	Local resilience forums.	Equipment recovery, replacement and repair.
Failure of National Electricity Transmission System (NETS), regional electricity network, gas supply		Functioning telecoms, emergency services and fuel distribution, specialist equipment, additional staffing, generators, mutual aid.	Gradual reconnection, intermittent supply, full restoration.
Civil nuclear accident, radiation release from overseas nuclear site, radiation exposure from transported goods	UK regulatory requirements	Large scale multi agency response, radiation monitoring, decontamination, remediation, humanitarian support, communications.	Significant and prolonged long term health, environment and economic impact.
Technological failure at retail bank, critical financial market infrastructure		UK Authority response framework, surge in demand.	Recovery of systems and data.
Accidental Fire or explosion or chemical release at a Control of Major Accident Hazards (COMAH) site	HSE legislation and requirements, risk assessments	Temporary evacuation and shelter, specialist treatment, surge capacity and management of casualties/ fatalities, decontamination, PPE for responders.	Health effects, psychological support, environmental contamination.
Fire or explosion (offshore oil or gas; onshore fuel pipeline; accident hazard pipeline)	HSE legislation, monitoring and inspection.	Installation operator response, local authority, coastguard and emergency services response (including NHS), surge capacity and management of fatalities and casualties.	Longer term health impacts, psychological support, environmental damage and clean up, decommission/ dismantle rig, site clearance, local disruption.

Scenario	Resilience	Response	Recovery
Laboratory release of hazardous pathogen	UK regulatory systems.	Increased demand and disruption to local hospitals, contact tracing, decontamination.	Process of identifying, isolation and providing treatment for infected individuals, as well as longer term complications.
Reservoir/ dam collapse	Flood mapping and management plans by Local Resilience Forums, onsite emergency flood plans	Local Resilience Forums, National Flood Response Centre.	Major economic, environmental, infrastructure and humanitarian implications.
Water infrastructure failure or loss of drinking water, food supply contamination	Water sector contingency plans (incl. mutual aid), Food Standards Agency.	Mutual aid, prioritisation for vulnerable consumers and individuals, Local Resilience Forum, Dept. for Environment Food and Rural Affairs, Public Health agencies.	Supplies gradually restored and alternative supplies maintained, health effects, psychological support.
Major Fire		Fire and rescue led response, evacuation and temporary shelter, treatment and mental health services.	Rebuild, extended temporary accommodation, long lasting physical and mental health impact.
NATURAL AND ENVIRONMENTAL HAZARDS			
Wildfire	Home office working with National Fire Chiefs Council to understand changing risks and communicate key messages.	Fire and rescue services response, evacuation of residents, mutual aid.	Recovery dependent on location, vegetation and wildlife.
Volcanic eruption (e.g. Iceland / Europe)		Local Volcanic Ash Advisory Centre (met office), Consular support.	Eruptions can last for extended periods, air services and backlog to return to normal.
Earthquake	British Geological Survey (BGS) network of seismometers, Seismic Monitoring and Information Service.	Local Resilience Forums, restoration of services, infrastructure, specialist equipment and mutual aid.	Temp or permanent rehousing, temp relocation of commercial premises and other infrastructure (e.g. schools), mental health services and support.
Humanitarian crisis overseas, disaster response in overseas territories (OTs)		International search and rescue, operational infrastructure support and humanitarian assistance, government support in OTs.	Sustained financial support from donors and the UN system, short term support in OTs would need to transition to longer term support.

Scenario	Resilience	Response	Recovery
Severe space weather		Mobile back up generation, support for local emergency services and vulnerable people.	Recovery of power, disruption to satellite based services (incl. GPS), flight schedule disruption, satellite and debris tracking.
Storms	Met office severe weather warning service.	Met office advice to organisations and individuals to plan and mitigate storm impact.	Restoration of power and communications supplies, longer term environmental impact.
High temperatures and heatwaves, low temperatures and snow	Met office severe weather warning service.	UK Health Security Agency (UKHSA), Adverse Weather and Health Plan (AWHP), NHSE and local authority plans, new alerting system.	Generally a quick recovery expected although potential for longer term health conditions (e.g. skin cancer caused by sunburn), utility system failure.
Flooding: coastal, fluvial, surface water	Environment agency investments in defences, advanced flood forecasting via the Met Office.	Environment Agency led response, lead Local Flood Authorities (LFA), multi agency response, Local Resilience Forum , evacuation, mutual aid, military assistance.	Major recover of economic, environmental, infrastructure and humanitarian impacts. Damage to homes and businesses.
Droughts	Environment Agency and water companies monitor rainfall and water resources, National coordination plans with Dept. for Environment Food and Rural Affairs, National Drought Group.	Regulatory restrictions, communications, temp usage bans.	Recovery aligned to rainfall reaching normal levels.
Poor air quality	Environmental Improvement Plan.	Communications network to provide advice, access to healthcare professionals, emergency services and hospital care.	Long term health impacts, including cardiovascular and respiratory.
HUMAN, ANIMAL AND PLANT HEALTH			
Pandemic, outbreak of emerging infectious disease	UK flexible pandemic response capabilities, UK Health Security Agency, NHS responders.	Disease surveillance and early detection, isolation and contact tracking, diagnostics, PPE, managing excess deaths, tests, vaccines and therapeutics, border controls, decontamination, health and social care response.	Health and social care recovery (increased pressure on services during the pandemic). Impacts on society, education and economy.

Scenario	Resilience	Response	Recovery
Animal disease: foot and mouth, avian influenza, African horse sickness, African swine fever	Animal Plant and Health Agency monitors outbreaks and publishes risk assessments.	Specialist staff to conduct surveillance, local authority enforcement, PPE/RPE, vaccination, laboratory capacity, disinfectant.	Country-free/ regional disease-free status periods in operation. Impact on the environment, livestock, poultry, trade restrictions and rural economy.
Plant pest: xylella fastidiosa, agrilus planipennis	Animal Plant and Health Agency and Forestry Commission carry out annual surveillance.	Surveillance to monitor spread, diagnosis and reporting. Removal of plants and application of pesticide. Research and development.	Business recovery, replanting and regeneration.
SOCIETAL			
Public disorder	UK law and policing.	Police support units and response.	Long term economic consequences.
Industrial action	Civil Contingencies Act (2004) duties on certain organisations to have plans in place.	Organisation contingency plans enacted, business continuity , negotiation and mediation,	Recovery dependent on section, duration and extent of the action. Relationship implications for organisations, employees, striking and non-striking staff.
Reception and integration of British Nationals from overseas		Wide ranging support services, local authority response, support on arrival, temporary accommodation, government support and funding.	Long term integration package provided by local authorities. Employment, education and mental health services.
CONFLICT AND INSTABILITY			
Deliberate disruption of UK space systems and services	Cyber security, highly resilient space based services	Response requirements would depend on attack method and impact.	Recovery would depend on attack method and impact.
Attack on UK ally or partner		Military, diplomatic and economic (sanctions).	Economic disruption to global markets, supply chains, fuel and global economic instability.
Nuclear miscalculation not involving the UK	UK works within the Non-proliferation Treaty to stop the spread of nuclear weapons	Civilian staff monitor radiation levels, provision of humanitarian assistance and border staff.	Recovery in affected area may require large-scale investment.

The full national risk register can be accessed at the link below:

[2023 NATIONAL RISK REGISTER NRR.pdf \(publishing.service.gov.uk\)](https://www.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/672212/2023_NATIONAL_RISK_REGISTER_NRR.pdf)