

Independent Guide

What is the real risk of Bioterrorism?



Independent workplace compliance

What is the real risk from bioterrorism?

The risk that biological and chemical agents will be used deliberately to cause harm has historically been very low outside that of warfare. However, at times of international conflict and terrorist activity, it is easy to become very worried about biological and chemical agents being used in the UK. We have examined the advice from a number of sources concerning this issue, ranging from the World Health Organisation (WHO) to the UK Public Health Services. Without exception, the key piece of advice they offer is – don't panic.

In 2018 the UK Government publication "UK Biological Security Strategy" stated for deliberate threats that: *"While in the UK it is more likely that attacks will seek to use conventional or low sophistication methodologies (for example, bladed weapons, home-made explosives, vehicles, or firearms such as handguns or shotguns), it is plausible that a threat from crude biological weapons could become more likely in the future."*

Likewise the UK National Risk Register – 2020 edition identifies: "Malicious actors including terrorists, hostile states or criminals remain interested in chemical, biological, radiological and nuclear (CBRN) attack methods. In the UK, it is assessed that terrorists are more likely to use knives, vehicles or improvised explosive devices. However, the threat of CBRN attacks cannot be ruled out."

As part of the Biological Security Strategy, in June 2023 the Government announced the introduction of a new "Biothreats Radar" with the aim of defending "the UK from infectious disease outbreaks, antimicrobial resistance, and biological incidents and attacks."

[Dowden: world-class crisis capabilities deployed to defeat biological threats of tomorrow - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/news/dowden-world-class-crisis-capabilities-deployed-to-defeat-biological-threats-of-tomorrow)

If someone is determined to use a biological or chemical agent, particularly through a deliberate airborne release, there will be very little any organisations can do to stop them. If such an attack were to occur, it is unlikely to be preceded by a warning. Therefore, making sure that you have good security in and around your building and a structured business continuity plan is about the most you can do to prevent and deal with a bioterrorism event. The WHO has a global system of surveillance and response to help make sure that the world is not taken by surprise by a sudden outbreak. In addition, the British Government continuously monitor and assess the risk of a bioterrorism attack and will do everything in their power to prevent it.

What are biological agents?

Biological agents typically refer to viruses, bacteria, fungi and other organisms that cause harm. For people who deliberately work with biological agents (in clinical, research and other settings) the Health and Safety Executive (HSE) have published an "Approved List". This provides the approved classification of these agents and is relevant to risk assessment to work with them and the application of appropriate control measures. A number of these biological agents could theoretically be used in a bioterrorism attack. However, except for the deliberate release of anthrax through the postal system in the USA in 2001 (causing 5 fatalities and 17 casualties), there are no recorded cases of any of those biological agents listed being used as bioterrorism weapons.

What are chemical agents?

These include naturally occurring and man-made toxins, metals and other chemical compounds that have a range of effects (e.g. nerve/blister/choking agents, poisons and acids) that cause illness or death. Cases where chemical agents have been used to inflict injury or death are rare, but not unprecedented and include:

- In 1994 and 1995, sarin was used in two terrorist attacks on the Tokyo underground in Japan (the latter causing 13 fatalities and over 6,000 casualties).
- In 2018 Novichok (a Russian developed chemical warfare agent) was used in Salisbury, England, targeted against a former Russian military intelligence officer, and his daughter. While they recovered, it did cause the death of Dawn Sturgess, who was inadvertently exposed to the agent because of the attack.

What guidance is available on dealing with a bioterrorism attack?

In the UK the Biological Security Strategy identifies four pillars on which it's ongoing response is based, these are:

- A. Understand the biological risks that we face today and could face in the future;
- B. Prevent biological risks from emerging (where possible) or from threatening the UK and UK interests;
- C. Detect, characterise and report biological risks when they do emerge as early and reliably as possible; and



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D. Respond to biological risks that have reached the UK or UK interests to lessen their impact and allow the rapid return to business as usual.

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Following the anthrax attacks in 2001, mentioned above, the US Centre for Disease Control and Prevention (CDC) and the National Institute for Occupational Safety and Health jointly provided 'Guidance for protecting building environments from airborne chemical, biological or radiological attacks'.

What does this guidance say?

The specific guidance given by the US CDC on protecting building environments from airborne bioterrorism "identifies actions that a building owner or manager can implement without undue delay to enhance occupant protection from an airborne chemical, biological, or radiological attack." It includes information on:

- What you can do;
- Specific recommendations;
- Things not to do;
- Physical security;
- Ventilation and filtration; and
- Maintenance, administration, and training.

Examples of the advice/recommendations given in the document covers, for example:

1. Things not to do

- Do not permanently seal the outdoor intakes.
- Do not modify the HVAC Systems without first understanding the effects on the building systems or the occupants.
- Do not interfere with the fire protection and life safety systems.

2. Physical security

- Preventing access to outdoor fresh air intakes, by either relocating any ground level intakes to a higher level or, where they cannot be relocated, extending the outdoor intake to a higher level and by establishing a security zone around any outdoor intakes to make them inaccessible.
- Preventing public access to mechanical areas.
- Preventing public access to building roofs.
- Implementing security measures such as guards and/or alarms to protect vulnerable areas.
- Isolating lobbies, mail rooms, loading docks and storage areas from the rest of the building.
- Protecting exhaust air grilles to the outdoors.
- Restricting access to building operations systems by off-site personnel.
- Restricting access to any information on the building services.
- Upgrading the general building physical security.

3. Maintenance, Administration, and Training

- Develop emergency plans, policies and procedures.
- HVAC maintenance staff training.
- Preventative maintenance and procedures.

While the risk of a bioterrorism attack affecting your organisation is extremely low, it cannot be totally discounted so should form part of your emergency preparedness and business continuity planning. As with all such documents, it should also be reviewed on a regular basis and updated as needed to reflect any changing or emerging threats.

This guide is of a general nature; specific advice can be obtained from Assurity Consulting.

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