



1. Home (<https://www.gov.uk/>)
2. Health and social care (<https://www.gov.uk/health-and-social-care>)
3. Public health (<https://www.gov.uk/health-and-social-care/public-health>)
4. UK pandemic preparedness (<https://www.gov.uk/government/publications/uk-pandemic-preparedness>)

- Department of Health & Social Care (<https://www.gov.uk/government/organisations/department-of-health-and-social-care>)

Policy paper

UK pandemic preparedness

Updated 5 November 2020

Contents

Overview

UK pandemic preparedness plans

Exercise Cygnus key learnings

Going forward

Annexes

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Overview

Pandemics are a natural phenomenon; they are the result of a new pathogen emerging and spreading around the world and have occurred at infrequent and unpredictable intervals throughout human history. New and emerging diseases can affect humans anywhere and at any time, with zoonotic diseases (diseases that can spread from animals to humans), such as COVID-19, HIV, Ebola and avian influenza, a major cause of epidemics and pandemics. The acceleration of global mobility (for example, due to conflict or instability), population growth, urbanisation and poor sanitation, the ecological implications of climate change, and changes in food and agricultural systems (including intensification, biodiversity loss, trade in wildlife and livestock) all contribute to the risk of emergence of infectious diseases, and of antimicrobial resistance (AMR).

The National Risk Register of Civil Emergencies (<https://www.gov.uk/government/publications/national-risk-register-of-civil-emergencies-2017-edition>) (NRR) identifies that emerging infectious diseases could also cause large numbers of people to become ill. The UK has experience of managing cases of high consequence infectious diseases (<https://www.gov.uk/guidance/high-consequence-infectious-diseases-hcid>) (HCIDs) and in recent years has managed confirmed cases of Lassa fever, Ebola, MERS and monkeypox. HCIDs are very infectious diseases which typically have a high fatality rate, or the ability to spread rapidly and few, or no, treatment options. HCIDs are regularly monitored and are less likely to cause a pandemic but could lead to significant outbreaks.

The NRR assesses that pandemic influenza is one of the most severe natural challenges likely to affect the UK. As such, for many years the government has had robust plans in place to respond should an outbreak occur. These pandemic influenza preparedness plans were leveraged to form the basis of the government's initial response to COVID-19, which enabled swift action to be taken to protect the public. Both influenza and the virus that leads to COVID-19 cause respiratory disease and spread in a similar way, largely via small droplets of fluid from the nose and mouth of someone who is unwell. These similarities meant that certain elements of our pandemic preparedness plans were able to be quickly utilised and adapted in our response to COVID-19.

However, there are some important differences between the virus that causes COVID-19 and the virus that causes influenza. As such, not all aspects of the UK's plans for mitigating an influenza pandemic have been applied to respond to the COVID-19 outbreak.

UK pandemic preparedness plans

The UK Influenza Preparedness Strategy 2011 (<https://www.gov.uk/government/publications/responding-to-a-uk-flu-pandemic>) provided a UK-wide strategic approach to planning for and responding to the demands of an influenza pandemic. The approach set out in this strategy is multi-faceted and evidence based. It is referred to as 'defence in depth' and includes:

- surveillance and modelling – to detect and assess the impact of any new influenza virus, identify and quantify the groups most at risk of severe illness, hospitalisation and death
- reducing the risk of transmission – through good infection prevention and control practices, for example hand and respiratory hygiene advice (for example 'Catch it, bin it, kill it') and provision of pre-identified personal protective equipment for front-line health and social care staff which are held in stockpiles
- minimising serious illness and deaths – by holding stockpiles of antivirals to treat influenza and antibiotics to treat complications such as pneumonia

- reducing pressure on primary care services and hospitals – by activating the National Pandemic Flu Service (N.P.F.S), an automated system which enables antivirals to be rapidly authorised for patients without the need to see a doctor
- advanced purchase agreement (A.P.A) – to guarantee access to pandemic specific vaccines for influenza, estimated to be available 4 to 6 months after the pandemic has started using current technologies
- vaccination – when possible and appropriate to protect the public, and
- surge plans – to deal with increased demand on health and care services in hospitals and community settings

The UK strategy for responding to an influenza pandemic is split into 5 phases:

- detection – this phase starts when a pandemic is declared by the World Health Organization (W.H.O), or earlier on the basis of reliable evidence, or if an influenza-related Public Health Emergency of International Concern (P.H.E.I.C) is declared by W.H.O
- assessment – this phase starts when the first patient with the pandemic strain of flu is identified in the UK
- treatment – where it has not been possible to contain the spread of the pandemic strain upon arrival, the focus is on treating cases of influenza and responding to the increasing number of patients. The National Pandemic Flu Service (N.P.F.S) will be activated and consideration will be given to measures to slow the spread of the virus, including social distancing measures
- escalation – pressures on services and wider society may be extreme. The focus of the response at this stage of a pandemic is on adjustments to service delivery arrangements to meet increasing demand. All contingency measures will be implemented, and
- recovery – following the peak of the influenza pandemic, services will be scaled back as the number of new cases declines. After this, we will enter the recovery phase, where the focus is on returning services to normal, restoration of business, and planning for preventing and responding to a possible resurgence of the pandemic (a second ‘wave’)

These plans are regularly reviewed to reflect the latest expert advice. One way of ensuring our plans are fit for purpose is through exercises, which are run both locally and nationally across various parts of the health system to stress-test policies. Exercises are also useful in identifying good practice, sharing of new ideas and identifying potential gaps or issues within the planned response. Additionally, cross government meetings are regularly held at official level to discuss risks, preparedness and ensure a coordinated response. Pandemic response is high on community risk registers and therefore local resilience arrangements are routinely and regularly exercised at the local level with all multi-agency partners.

As well as these frequent local or sector-specific exercises, large-scale cross-government pandemic preparedness exercises are conducted at regular intervals to test the UK’s response. One such cross-government exercise to test the UK’s response to a serious influenza pandemic was Exercise Cygnus (<http://www.gov.uk/government/publications/uk-pandemic-preparedness/annex-a-about-exercise-cygnus>).

Exercise Cygnus took place over 3 days in October 2016 and involved more than 950 people. The Department of Health and Social Care (D.H.S.C) (known as the Department of Health at the time) and 12 other government departments, as well as NHS Wales, NHS England (N.H.S.E), Public Health England (P.H.E), local public services, several prisons, and staff from the Scottish, Welsh and Northern Ireland governments took part in the exercise. The aim was to test systems to the extreme, to identify strengths and weaknesses in the UK’s response plans, which would then inform improvements in our resilience.

Exercise Cygnus was not designed to consider other potential pandemics, or to identify what action could be taken to prevent widespread transmission.

Exercise Cygnus took place in the treatment and escalation phases (as described above). It was set in week 7 of the UK's response to a fictitious influenza pandemic. During the exercise, organisations assessed their ability to continue to operate, even if the peak of the pandemic meant that half of the UK's population was affected. The fictitious scenario for the exercise also included the possibility of 200,000 to 400,000 excess deaths in the UK if the government took no mitigating actions.

Exercise Cygnus key learnings

Exercise Cygnus identified 4 key learning outcomes:

1. The development of a pandemic 'concept of operations' would assist in managing a cross-government and multi-agency response, ie how government works with responders
2. The introduction of legislative easements would assist with the implementation of measures that might be employed during a pandemic
3. Public reactions in response to a reasonable worst-case pandemic influenza need to be better understood
4. An effective response would require capability and capacity to surge services to meet demand

Within the 4 key learning outcomes there were 22 recommendations from Exercise Cygnus.

The government accepted all the recommendations from Exercise Cygnus and actions on all 22 recommendations have been taken forward in our pandemic preparedness plans. These plans, informed by exercises, including Cygnus, along with expert scientific advice, have been used to inform the UK response to the current COVID-19 pandemic.

How the recommendations from Exercise Cygnus fed into pandemic preparedness plans and helped inform the COVID-19 response

It is important to note that there are distinct differences between a coronavirus pandemic and pandemic influenza. While Exercise Cygnus fed into pandemic preparedness plans that informed the UK COVID-19 response, not all recommendations from Exercise Cygnus can be applied to the current COVID-19 response.

Pandemic Influenza Draft Bill

Following Exercise Cygnus, the Civil Contingencies Secretariat (CCS) and DHSC, working across government and with stakeholders including the Devolved Administrations, developed a draft Pandemic Influenza Bill. This draft legislation, to be used in the event of a future influenza pandemic, set out the legislative easements required to support local and national response activities, as recommended in one of the 4 key learnings from Exercise Cygnus.

This pandemic influenza draft legislation was essential in forming the basis of the Coronavirus Act 2020 (<https://www.legislation.gov.uk/ukpga/2020/7/contents/enacted>). This meant that departments had already considered many of the implications a pandemic would have on their department and the legal powers they would need. As a result, government was able to draft the necessary legislation and pass it through parliament very rapidly.

Examples of legislative easements taken from the draft pandemic influenza bill that were then used for the Coronavirus Act included:

- emergency registration of healthcare professionals – in March, barriers were removed to bring back thousands of suitably experienced people to the health and social care workforce, such as recently retired NHS staff
- indemnity for healthcare workers – this enabled ministers to provide indemnity for clinical negligence liabilities arising from health service activities

Read more information on the Coronavirus Act (<https://www.gov.uk/government/publications/coronavirus-act-analysis/coronavirus-act-analysis>).

The Coronavirus Act has been vital in assisting the UK's ability to protect the public, surge resources, and protect key workers.

Development of response capabilities

Further development of our pandemic response capability was a key focus of work initiated following Exercise Cygnus. This included a focus on:

- acute care
- community care, and
- adult social care

Key areas of consideration were how services would be surged or reconfigured to respond to demand and where provision might be reduced. All this work has been informed by robust scientific, clinical and operational advice and has included engagement with the relevant professional bodies.

This work has been critical in aiding the government's response to the COVID-19 pandemic.

Moral and Ethical Advisory Group

In 2019 the Moral and Ethical Advisory Group (MEAG) was set up to provide independent advice to government on moral, ethical and faith considerations on health and social care related issues. MEAG has adopted the existing ethical framework for pandemic flu (<https://www.gov.uk/guidance/pandemic-flu#ethical-framework>) and is currently operating in response mode, providing advice to requests from government on moral and ethical aspects of the coronavirus (COVID-19) response. Similar advice would be provided in the event of a future influenza pandemic.

Coronavirus action plan

In March, the government published the coronavirus action plan (<https://www.gov.uk/government/publications/coronavirus-action-plan/coronavirus-action-plan-a-guide-to-what-you-can-expect-across-the-uk>). Pandemic influenza plans, strengthened following recommendations from Exercise Cygnus, and previous outbreaks, were able to be tailored rapidly to form the coronavirus action plan, taking into account the differences between the virus that causes influenza and the virus that causes COVID-19.

The phases of this plan included:

- contain: detect early cases, follow up close contacts, and prevent the disease taking hold in this country for as long as is reasonably possible
- delay: slow the spread in this country, if it does take hold, lowering the peak impact and pushing it away from the winter season
- research: better understand the virus and the actions that will lessen its effect on the UK population; innovate responses including diagnostics, drugs and vaccines; use the evidence to inform the development of the most effective models of care
- mitigate: provide the best care possible for people who become ill, support hospitals to maintain essential services and ensure ongoing support for people ill in the community to minimise the overall impact of the disease on society, public services and on the economy

System-wide response plans for pandemic influenza, focused on the continuity of public and critical services and the stability of the economy, were adapted for COVID-19, based on the best available scientific evidence and advice.

Read more information on the coronavirus action plan (<https://www.gov.uk/government/publications/coronavirus-action-plan>).

Going forward

Public safety is our top priority. The recommendations from Exercise Cygnus continue to be considered by the government and a range of stakeholders, including expert advisory groups and local emergency planners, as part of the pandemic flu work programme. Just as we have learned from previous outbreaks and exercises, we will also incorporate learning from the current COVID-19 pandemic to enhance our response to subsequent waves of COVID-19 and inform our ongoing planning for potential future pandemics.

Annexes

- Annex a: about Exercise Cygnus (<http://www.gov.uk/government/publications/uk-pandemic-preparedness/annex-a-about-exercise-cygnus>)

Further information:

- guidance on pandemic flu (<https://www.gov.uk/guidance/pandemic-flu>)
- guidance on high consequence infectious diseases (<https://www.gov.uk/guidance/high-consequence-infectious-diseases-hcid>)
- guidance and support on coronavirus (<https://www.gov.uk/coronavirus>)

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