National Audit Office

REPORT

Resilience to animal diseases

Department for Environment, Food & Rural Affairs

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National Audit Office

Resilience to animal diseases

Department for Environment, Food & Rural Affairs

Report by the Comptroller and Auditor General

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Gareth Davies
Comptroller and Auditor General
National Audit Office

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Key facts

Hundreds of millions to billions of pounds

the government's estimate, in the National Risk Register, of how much a major animal disease outbreak could cost the UK economy; the 2001 foot and mouth disease outbreak cost an estimated £13.8 billion, in 2023-24 prices

6

consecutive years that England has had an outbreak of highly pathogenic avian influenza (2020 to 2025)

Very high

Department for Environment, Food & Rural Affairs' (Defra's) current assessment of the risk of an outbreak to which it would be unable to respond effectively, a rating of 20 out of a possible 25, which compares to its stated tolerance level of 16 out of 25

7.2 million	number of birds culled because of highly pathogenic avian influenza outbreaks from November 2020 to mid-March 2025
2017	the most recent year that the Cabinet Office surveyed local authorities about their plans to respond to an animal disease outbreak
Around 5%	Defra's best estimate for the proportion of live animal imports currently undergoing physical checks; these are being done at final customer destination; the government's target was that 100% of these imports should undergo physical checks at a border control post by late 2024
£2.8 billion	estimated cost of Defra's programme to redevelop the Weybridge site between 2021-22 and 2036-37; Weybridge is the UK's primary science laboratory capability for managing threats from animal diseases
Very high	Defra's current assessment of the risk of site failure at Weybridge, the maximum rating of 25 out of 25
£563 million	estimated whole-life cost of Defra's Livestock Information Transformation Programme, intended to create a new digital livestock tracing system, of which £181 million has been spent up to March 2025
20%	Animal & Plant Health Agency's (APHA's) vacancy rate for vets in April 2025; the highest rate during 2023-24 was 24% compared with a sector-wide average rate of around 10% that year

Summary

1 Animal disease outbreaks are a significant threat to England's farming sector, to food security, to human health, to rural communities, to animal keepers and to the economy and trade. They can also have a negative impact on wildlife. Past outbreaks have had significant economic impacts. For example, the major foot and mouth disease outbreak of 2001 cost the public and private sectors an estimated £5.2 billion and £8.6 billion, respectively (in 2023-24 prices). Recent outbreaks of highly pathogenic avian influenza (HPAI) – commonly known as bird flu – have resulted in 7.2 million birds being culled between November 2020 and mid-March 2025.

2 Animal diseases are categorised as exotic (not normally present in the UK, such as foot and mouth disease) or endemic (already present in the UK, such as bovine tuberculosis (TB)). There is broad consensus within government and among experts that factors such as climate change, antimicrobial resistance and changing UK trading patterns are likely to increase the rates of endemic diseases and the frequency and variety of exotic disease outbreaks. The Department for Environment, Food & Rural Affairs (Defra) has reported outbreaks in 16 of the past 20 years. This includes the UK's largest HPAI outbreak to date, in winter 2022-23, and concurrent outbreaks of HPAI and bluetongue virus (BTV), which affects sheep, cattle and other ruminants, in 2024-25. Government and industry are also concerned about other exotic diseases such as African swine fever, which is spreading in parts of Europe, Asia and Africa. The government's 2025 National Risk Register (NRR) includes four exotic animal disease outbreaks that would have significant impacts, including economic impacts ranging from hundreds of millions to billions of pounds.

3 Defra is responsible for providing policy, guidance and funding to maintain and strengthen animal disease resilience (including the ability to anticipate, prevent, prepare for, respond to and recover from an outbreak) in England. The Animal & Plant Health Agency (APHA), an executive agency of Defra, has the lead operational role. Local authorities also have an important role, both in responding to outbreaks and by working with farms, abattoirs, markets and vets to reduce the risk of outbreaks happening. Animal diseases may spread between nations, but their management is a devolved issue in Northern Ireland, Scotland and Wales, although some aspects such as border controls are GB-wide.

4 Managing animal disease risks is important to Defra's wider environmental aims. The Environmental Improvement Plan 2023 sets out the government's plan for the environment and has a top-level objective of "enhancing biosecurity", including protection against animal diseases. Resilience to animal diseases is also a key enabler for other government priorities, as it supports growth, productivity and trade.

Scope of this report

5 This report forms part of our ongoing examination of the nation's resilience to risks in the NRR. It examines whether Defra, working with key public and private bodies, is taking effective action to ensure England is resilient to animal diseases. We have assessed whether:

- Defra has an effective strategic approach to managing animal diseases, both exotic and endemic (Part One);
- Defra, APHA and key public and private bodies are taking appropriate action to prepare for animal disease outbreaks (Part Two);
- Defra and APHA have responded efficiently and effectively to recent exotic disease outbreaks and are well-placed to respond to future outbreaks (Part Three); and
- Defra and APHA are taking effective action to strengthen long-term resilience to animal diseases (Part Four).

6 We do not assess the Cabinet Office's coordination role in managing risks across government, nor do we examine individual local authority plans related to animal disease, or the success of local interventions. We focus on managing disease in the livestock sector but recognise that diseases also affect other kept animals such as pets, and wildlife.

Key findings

The government's strategic approach to managing animal disease risks

7 Defra and APHA have a good understanding of new and emerging risks from animal diseases. Understanding risks is a core principle of resilience. Defra and APHA have robust arrangements in place to gather intelligence on animal disease risks through 'horizon scanning' and international disease monitoring. Despite losing access to some European Union (EU) intelligence since EU exit, the Government Internal Audit Agency (GIAA) reported in 2022 that Defra and APHA were able to effectively identify new and emerging risks from animal diseases. The information they gather is used to inform regular briefings, public surveillance reports as well as the Cabinet Office's risk assessments and published NRR (paragraphs 1.4 to 1.6 and 1.9).

8 **Defra has assessed that the risk of an outbreak to which it would be unable to respond effectively is "very high" and above the level it considers tolerable.** Defra assesses risks based on likelihood and impact. In December 2022, following increased frequency and severity of avian influenza outbreaks, Defra escalated the risk that it would be unable to respond effectively to a severe or concurrent animal disease outbreak to its principal risk register. It assessed this risk with a score of 20 out of a possible 25, which falls within its highest risk category. This is above the level that Defra considers tolerable (a target of 16 out of 25, which it increased from 12 out of 25 in 2024) (paragraph 1.7).

9 **Defra is not making full use of its understanding of risk to prioritise and allocate resources, and is hampered by a limited understanding of what it spends on animal diseases and what impact this has.** Government guidance highlights the importance of using an assessment of risk and risk tolerance (a 'risk appetite' approach) to make informed management decisions, including funding and resource prioritisation. Defra has started looking at risk management across its functions in a more coordinated way since introducing the Defra Group Resilience Strategy in 2024. Defra has also identified some priority investments for the 2025 Spending Review, including on animal diseases. However, Defra is in the early stages of integrating a risk appetite approach into resourcing decisions. Its assessment and escalation of animal disease risks have not resulted in clear prioritised actions to reduce the risk. Defra's decisions on allocating and prioritising funding for animal disease resilience are also hampered by limited information on what it currently spends on animal health and disease management, and by difficulties in assessing the benefits of this investment (paragraphs 1.11 to 1.13).

10 **Defra lacks a long-term strategy and action plan for improving resilience to animal disease.** Increasing resilience to animal disease is a core objective of the UK's Biological Security Strategy and supports the government's 2023 Environmental Improvement Plan. However, Defra lacks an up-to-date overarching strategy and action plan for animal disease resilience which would bring its ambitions and activities together under a coherent vision and set of objectives. We found that many of Defra and APHA's animal disease activities are reactive, rather than part of a proactive, coherent plan. By contrast, the government has up-to-date strategies for plant diseases and antimicrobial resistance (paragraphs 1.14 to 1.16).

Preparing for outbreaks

11 Defra and APHA have generic contingency plans for outbreaks that set clear roles and responsibilities, but there are significant gaps in their plans. The plans cover exotic and endemic zoonotic diseases (zoonotic diseases being those that can infect humans), and Defra has a legal obligation to update the exotic disease plan annually. Defra has also developed disease-specific strategies for controlling individual animal diseases but has not updated them to reflect lessons from recent outbreaks. For example, it has not updated its foot and mouth disease strategy since 2011. Local authorities are required to prepare plans for outbreak response at a local level; however, central government has limited oversight of these plans, and the Cabinet Office has not surveyed local authorities about their plans since 2017. In 2023, APHA found that current contingency plans do not cover how the government would respond to concurrent large exotic disease outbreaks, while a review by GIAA identified gaps in planning for a scenario where capacity is insufficient to respond as planned or may be quickly overwhelmed. Defra also has lead responsibility for recovery following an animal disease outbreak but told us it does not have the expertise or local intelligence to undertake some recovery activities (paragraphs 2.2, 2.3, 2.5 and 2.6).

12 Defra and APHA are not testing the adequacy of their plans effectively. Defra and APHA periodically test their contingency plans through exercises. However, the capacity to conduct and learn lessons from exercises has reduced as they respond to increasingly frequent outbreaks. For example, exercises are increasingly 'table-tops' rather than live-play scenarios that would better simulate a real outbreak, with some exercises not involving contractors or field participants (paragraph 2.4).

13 Key surveillance activities that help detect exotic disease incursions early are under pressure. Defra and APHA told us about the importance of 'eyes and ears on the ground' to identify infections quickly and stop their spread. While APHA has its Surveillance Intelligence Unit to collate available data and identity patterns and trends, some other key activities have reduced or are not taking place as planned. Examples include regional public sector laboratory testing, APHA inspections, and border checks. APHA told us that outdated data reporting systems limit its capacity to carry out surveillance. Despite clear responsibilities in contingency plans, Defra and APHA also told us there is a mixed picture at local level in how well local authorities are discharging their duties, most often because animal diseases are competing with other priorities and statutory responsibilities where there is limited capacity and financial resource (paragraphs 2.8 to 2.10).

The government's response during recent outbreaks

14 Defra and APHA have worked hard to manage recent medium-severity outbreaks of exotic diseases but do not have clear metrics to monitor how well they are coping. There has been an outbreak of HPAI in England in six consecutive years from 2020 to 2025. The UK is currently experiencing outbreaks of HPAI and BTV, affecting birds and ruminants, respectively. Our focus group with poultry farmers illustrated the significant impact the outbreaks had on their businesses and their physical and mental health. A range of stakeholders we interviewed praised the hard work and dedication of staff within Defra and APHA during these outbreaks. APHA tracks some metrics during outbreaks but does not have a comprehensive set of thresholds or benchmarks to determine how well it is coping and how close it is to not coping. We have seen evidence that APHA is learning lessons from the outbreaks and implementing changes to improve its approach (paragraphs 3.2 to 3.4 and Figure 5).

15 Defra and APHA would struggle to manage a more severe outbreak or concurrent serious outbreaks of exotic disease. Defra and APHA have repeatedly reported that they would struggle to respond effectively to severe or concurrent serious outbreaks of animal diseases. Their response would be limited by a lack of capacity (both in government and the private sector) and lack of skills and expertise in some areas, such as veterinary capacity for livestock. APHA's latest vet vacancy rate, in April 2025, was 20%. The highest rate reached during 2023-24 was 24%, compared with a sector-wide average rate of around 10% that year. Recent outbreaks have highlighted the government's reliance on external contractors to fill these gaps, but this approach has not always been effective. In 2023, the Cabinet Office assessed Defra's ability to respond to outbreaks of exotic disease as 'amber', defined as falling short of being able to respond with minimal disruption (paragraphs 3.6 to 3.7).

16 Defra and APHA need to do more to improve their systems, processes and workforce planning to enable a more efficient and effective response. APHA relies on some outdated and inefficient data collection and management processes during an outbreak. For example, its field teams complete paper-based forms, which are then manually added to a database, meaning additional work and delays to having the latest data. There is also scope to improve workforce planning, including surge capacity planning to enable a more rapid response. APHA has not deployed its new resource planning system consistently across the organisation and does not have a holistic view of staff deployments. We have seen some examples of APHA innovating to improve the efficiency and effectiveness of its response during an outbreak, such as sequencing techniques for tracking bovine TB and salmonella. But larger-scale changes that could have a transformative impact on APHA's operations, such as digital transformation, require a more strategic and focused approach. APHA aims for its Delivering Sustainable Futures programme to modernise and digitise its key processes to make them more efficient. APHA has made slower progress than planned due to continuing outbreaks. The programme's funding beyond 2025-26 is not yet confirmed (paragraphs 3.8 and 3.9).

17 Defra's major programme to redevelop the Weybridge site is on track, but the risk of site outage remains very high. Weybridge is the UK's primary science laboratory capability for managing threats from animal diseases. The site is in poor condition, with ageing buildings that need major repair and replacement, and a lack of capacity to carry out research and testing. Defra began a major programme to redevelop the site in 2017. Defra's central cost estimate for the programme is £2.8 billion between 2021-22 and 2036-37. We reported in June 2022 that Defra was acting to reduce cost and uncertainty and to learn lessons from other programmes. The Infrastructure and Projects Authority reviewed the programme in August 2024 and found it is now on track. However, the programme will not deliver the main new laboratory facilities at Weybridge for another 10 years. In June 2024, Defra increased its assessment of the risk of site failure to the highest rating (25 out of a possible 25, up from 20), and Defra's Outbreak Readiness Board lowered its rating for the site's capability to respond to a medium-severity outbreak. Contingency plans for a significant failure at Weybridge are limited due to the uniqueness of the site. Defra has a separate Critical Works Programme that aims to keep the site running as best it can, but this has faced problems, including a planned replacement incinerator that was cancelled because the supplier could not deliver the incinerator to the required specifications (paragraphs 3.10 to 3.13).

18 Defra and APHA lack a comprehensive livestock movement tracing system. Tracing animal movements quickly once an infection is detected is crucial to responding quickly and effectively to contain an outbreak. Current systems are fragmented, with different platforms for different species and in each of the devolved nations in the UK. Some also run on outdated legacy systems, such as the Cattle Tracing System which was set up in 1998 and has significant reliability issues. Defra's Livestock Information Transformation Programme is intended to deliver an upgraded, multi-species digital tracing system, but has suffered from delays and cost increases as the scope of the programme has changed substantially from the original Livestock Information Programme. The estimated whole-life cost of the programme is now £563 million. Defra currently rates deliverability as 'amber-red' due to increased costs and funding constraints, and it has fallen behind the timescales planned in its 2023 outline business case. Defra had spent £181 million on the programme up to March 2025 (paragraphs 3.14 to 3.16).

Strengthening resilience to animal disease over the longer term

19 Defra and APHA have introduced a range of initiatives and new approaches to strengthen resilience to animal disease. These include the following.

- Launching the Animal Health and Welfare Pathway in 2023, which provides funding to support continual improvement in animal health on farms.

- Supporting research and innovation to improve the tools available to detect and respond to disease incursion. Recent examples include a new test that significantly reduces the time to confirm bovine TB infection, and whole-house gassing of poultry on infected premises, which speeds up culling after disease is confirmed.

- Taking forward the bovine TB Eradication Programme, which launched in 2011. Defra has updated this Programme over time, including a set of new measures in 2021, and aims to eradicate bovine TB in cattle by 2038 (paragraphs 4.2 and Figure 8).

20 Defra does not have a long-term strategic approach to address the lack of availability of animal vaccines. Animal vaccination is an effective way to reduce disease and maintain animal health and welfare. Limited availability of animal vaccines is a global issue. Defra's Veterinary Medicines Directorate (VMD) manages short-term supply issues with animal vaccines in the UK. It told us the situation has become more acute in the last two years, in part due to structural market issues and limited incentives on the private sector to produce animal vaccines. While decisions on what vaccines to produce and supply are largely determined by the commercial considerations of manufacturers, VMD has convened two discussions with stakeholders to better understand the key issues. VMD told us that, given the structural issues, there now needs to be a long-term strategy to ensure animal vaccine availability (paragraphs 4.8 to 4.10).

21 The government's current failure to meet targets for checks on live animal and animal product imports, and a possible growth in illegally imported animal products, are significant threats to biosecurity at the border. Following EU exit, the government introduced its Border Target Operating Model (BTOM), a risk-based border control system for commercial imports from both the EU and the rest of the world. The level of checks at border control posts (BCPs), set out in the BTOM, have not been met by the target dates. For example, the government chose to delay changes to physical checks on live animals, which are still being carried out under the pre-EU exit regime. Defra's best estimate is that around 5% of animals are being checked, all at the final customer import destination, compared with the target of 100% at BCPs by late 2024. Defra does not know the level of checks currently being undertaken on imported animal products at BCPs. Uncertainty during negotiations of a new sanitary and phytosanitary agreement with the EU, announced on 19 May 2025, has added further delays. Illegally imported animal products intended for commercial use are entering England via commercial routes and under the guise of 'personal imports', which do not pass through BCPs. These pose a significant and potentially growing threat for introducing exotic animal diseases such as African swine fever or foot and mouth disease, particularly at Dover where there is a high volume of imports (paragraphs 4.11 to 4.13).

22 Defra and APHA are struggling to balance responding to increasingly frequent outbreaks with activities to strengthen long-term resilience. Defra and APHA's approach to managing disease outbreaks is through a 'surge capacity' resourcing model, where staff switch priority from business-as-usual activities to outbreak response. While APHA has had some increased resource for outbreak response, this has not included veterinary or technical staff, and its business-as-usual activities have been affected by almost continual outbreaks since the end of 2020. APHA's performance against its corporate key performance indicators has deteriorated, and it has deprioritised some business-as-usual activities. This has meant reduced capacity in Defra and APHA to undertake important work such as animal welfare inspections and enforcement; bovine TB disease follow-ups; disease surveillance activities; staff training; updating contingency plans; and simplifying the legislative framework covering animal diseases. Defra and APHA recognise that current resourcing models may need to be reviewed, including considering how responsibility and costs are shared between government and industry (paragraphs 4.3 to 4.7).

Conclusion on value for money

23 Managing animal diseases and the risks they pose is complex and involves different parts of the public and private sectors. Defra and APHA have led good work to assess these risks, identify new threats, and introduce new initiatives to strengthen long-term resilience, such as the Animal Health and Welfare Pathway. However, the context is changing, and their operating model is unlikely to be fit for purpose; outbreaks are more frequent, and livestock may become more vulnerable to disease due to factors such as climate change and antimicrobial resistance. APHA and the wider system – including local authorities, farms and vets – have coped with medium-sized outbreaks in the past six years, but their ability to respond to severe or more serious concurrent outbreaks has not been tested. APHA has struggled to balance being in almost constant outbreak mode with managing endemic diseases and putting sufficient priority towards building future resilience.

24 There is a clear need for Defra to take a more strategic approach to animal diseases. Without a focused strategy and action plan for how diseases should be managed, Defra, APHA and others lack a shared vision of what resilience looks like now and in the future and how this will be achieved, and have been unable to prioritise resources and investment to maximise value for money. With the current capacity constraints in government and key sectors, Defra and APHA need to make the most of opportunities to innovate and make their work more efficient and effective, speeding up their ability to respond and freeing resource to focus on other priorities that will help improve resilience.

Recommendations

25 Defra should, over the next year:

a fully integrate its understanding and assessment of risk into its process for prioritising and allocating resources across the Defra group; for animal disease resilience funding, it should support this by:

- improving its management information to give a more complete picture of what it spends on animal disease resilience; and
- ensuring a consistent approach across the Defra group for estimating the benefits of animal disease resilience investment;

b support APHA to improve its systems and processes in ways that will ensure more efficient and effective responses to outbreaks; this could include providing ongoing support for APHA's Delivering Sustainable Future programme; and

c work with the Veterinary Medicines Directorate to identify barriers to animal vaccine availability and develop a plan to address these barriers to ensure availability over the long-term.

26 Defra and APHA should, over the next 18 months:

d develop a coherent, time-bound strategy and plan that sets out how they will ensure resilience to animal disease within the context of increasing risk from factors such as climate change and antimicrobial resistance; this should specify outcomes for animal disease resilience to support the effective implementation, management and scrutiny of its various commitments in this area; it should include:

- endemic and exotic diseases to ensure an integrated approach and effective use of available resources;
- how APHA's resourcing model will evolve to cope with more frequent outbreaks;
- how digital transformation will improve efficiency and effectiveness, particularly within APHA;
- investigating alternative models of sharing responsibility and cost between government and industry; and
- dedicated resource to develop this strategy that is not diverted to disease outbreak response;

e work with stakeholders in the veterinary sector to develop a workforce strategy that addresses the challenges currently facing the veterinary workforce, particularly in government but also considering the private sector;

f update their approach to conducting exercises to test their contingency plans so that they fully examine all aspects of the plans, including resources available 'on the ground', and fully capture and implement lessons learned; and

g ensure their disease outbreak plans are comprehensive and up-to-date, including updating disease-specific plans where required, ensuring plans cover responding to concurrent large exotic disease outbreaks and a scenario where capacity is insufficient, and developing a contingency plan for an exotic zoonotic disease outbreak.

27 On border controls, and taking account of the new sanitary and phytosanitary (SPS) agreement with the EU, Defra should, as a matter of urgency:

h review whether current SPS controls are providing effective biosecurity at our borders;

i collate and publish regular data on volumes of SPS imports and checks for animal products in each category of risk; and

j work with Border Force and Port Health Authorities to ensure there are robust checks on illegally imported animal products coming through ports, both through personal and commercial import routes; this should include particular consideration of goods arriving via both these routes at Dover, due to the volume of traffic there.

Part One

The government's strategic approach to managing animal disease risks

1.1 This part considers the government's strategic approach to managing risk from animal diseases. We examine:

- the Department for Environment, Food & Rural Affairs' (Defra's) and the Animal & Plant Health Agency's (APHA's) understanding of new and emerging animal disease risks;
- the current risk level and Defra's risk tolerance;
- how Defra uses its understanding of risk to inform and prioritise resourcing decisions; and
- whether Defra has a long-term strategy to improve resilience to animal diseases.

Defra's approach to resilience

1.2 Defra is the lead government department in England with responsibility for animal diseases. **Figure 1** on pages 16 and 17 sets out the main roles and responsibilities across government.

Figure 1

Main roles and responsibilities for the management of animal diseases across government

The Department for Environment, Food & Rural Affairs (Defra) is the lead government department with responsibility for animal diseases

Government

Central government in England

Defra group

Defra: Responsible for providing policy, guidance and funding for animal disease resilience (including the ability to anticipate, prevent, prepare for, respond to and recover from an outbreak) in England.

Animal & Plant Health Agency (APHA): An executive agency of Defra that delivers Defra's animal health policy objectives. APHA's work includes identifying and controlling animal diseases (including responding to outbreaks), surveillance, scientific research, and facilitating international trade in animals and products of animal origin. It is supported by a network of Veterinary Investigation Centres and its Weybridge science facility.

Veterinary Medicines Directorate: An executive agency of Defra responsible for the safety, quality and efficacy of veterinary medicines. It manages short-term supply issues with animal vaccines in the UK.

Other Defra bodies: Other bodies within the Defra Group also play a role in animal disease resilience. For example, the Rural Payments Agency runs the Cattle Tracing System and carries out livestock identification enforcements checks on farms.

Cabinet Office: Produces the National Security Risk Assessment and National Risk Register. The Cabinet Office's Briefing Rooms (COBR) unit leads the government's response to acute emergencies. For severe outbreaks of animal disease, response may be coordinated from COBR with Defra leading the response using the COBR mechanism, chairing COBR meetings as required. For catastrophic incidents, the Prime Minister or nominated Secretary of State leads the response rather than Defra.

Border Force: Responsible for securing the border, including preventing goods with potential to cause harm from entering the UK.

Other government departments and agencies: During an outbreak Defra liaises with other government departments and their devolved counterparts. For example, the Food Standards Agency (FSA) to support delivery of controls and with both FSA and UK Health Security Agency if there is a potential or actual spread from animals to humans.

Cooperates with → **Devolved administrations:** Animal health policy is mostly devolved to the administrations of Northern Ireland, Scotland and Wales.

Supports →

Local government

Local authorities have a range of statutory powers and duties related to preventing the spread of animal disease and protecting the welfare of animals. Their work includes:

- Prevention. Working with farms, abattoirs, markets and vets to reduce the risk of outbreaks happening. There are no statutory inspection requirements for animal health.
- Contingency planning. Required by law to produce a plan for animal disease.
- Responding to an outbreak. Communicating with those affected, enforcing disease control legislation (for example, movement restrictions) and coordinating with other relevant bodies through Local Resilience Forums.
- Port health authorities: lead on animal product checks at ports.

Government regulates and provides guidance ↓

Government liaises with ↓

Private sector

Farmers and other animal keepers

Anyone who suspects a case of notifiable disease in an animal (for example, highly pathogenic avian influenza) is legally required to report it to APHA.

Livestock markets

Where animals are brought to be sold. Market operators are legally required to have a duty of care to ensure animals are protected at all times. Responsible for ensuring no unfit animal is exposed for sale at market.

Abattoirs and certain other meat establishments

Require a designation from Defra to slaughter animals and/or process meat from areas subject to disease restrictions, as well as compliance with specific disease control regulations which are assessed by the FSA.

Veterinary practices

Diagnose and treat sick animals, provide advice and are a key source of surveillance (eyes and ears on the ground).

Private laboratories

Test samples taken from animals.

Marketing Authorisation Holder

Holder of the marketing authorisation for a veterinary medicine with responsibility for marketing of the product. The Veterinary Medicines Directorate regulates the medicines.

International

European Commission

World Organisation for Animal Health

Other countries

Note

1 In Wales, Scotland and Northern Ireland the respective Welsh, Scottish and Northern Ireland governments lead the ongoing management of animal diseases and the response to an outbreak.

Source: National Audit Office analysis of Department for Environment, Food & Rural Affairs published documents

1.3 Defra's approach to resilience is consistent with wider government approaches and includes several key elements: risk assessments, prevention, preparation, response and recovery (**Figure 2**). Depending on the disease, others in central government, local authorities and the private sector also support these elements.

Understanding new and emerging risks

1.4 The government's Resilience Framework, published in 2022, highlights understanding risks as a core principle of resilience.[1] There are three main boards chaired by Defra or APHA that oversee and support work to anticipate and assess the risks from animal diseases, and undertake 'horizon scanning' (a systematic approach to identifying potential threats, risks, emerging issues, and opportunities) and international disease monitoring activities.

- United Kingdom Surveillance Forum: Coordination and oversight of animal health surveillance activities across the UK.
- Veterinary Risk Group: Horizon scanning and risk assessment of new and emerging threats from animal diseases.
- Human Animal Infections and Risk Surveillance group: Horizon scanning and risk assessment for zoonotic diseases (which can transmit from animals to humans).

1.5 Teams within Defra and APHA gather information from a range of sources to understand new and emerging animal disease risks. Information sources include: international organisations such as the World Organisation for Animal Health (WOAH); animal research institutions in other countries; social media; and informal contacts. On leaving the European Union (EU), the UK lost access to the Animal Diseases Information System, which provides information on animal diseases across the EU. APHA told us that this was a significant loss of surveillance information that has not been replaced.

1.6 Defra and APHA use the information they gather to brief the Chief Veterinary Officers of the UK's four administrations (England, Northern Ireland, Scotland and Wales) each month, and to prepare published surveillance reports. In 2022, the Government Internal Audit Agency (GIAA) concluded that Defra and APHA were able to effectively identify new and emerging risks from animal diseases using a multitude of mechanisms, and gave them a green rating (substantial assurance). Defra and APHA's information also informs the Cabinet Office's assessments of risk across government.

1 HM Government, *The UK Government Resilience Framework*, December 2022.

Figure 2

Department for Environment, Food & Rural Affairs' (Defra's) responsibilities for managing animal diseases

Defra has lead responsibility for all aspects of resilience to animal disease in England

Defra responsibility	What this involves
Risk anticipation	Maintaining awareness of the changing set of risks, threats and vulnerabilities, including horizon scanning for new and emerging risks.
Risk assessment	Assessing the potential scenarios, including the reasonable worst-case scenarios, should the risk materialise, and assessing the impact and likelihood of these scenarios.
Prevention and mitigation	Introducing measures which build resilience, preventing risks from occurring or reducing their severity.
Preparation	Developing plans for responding to and recovering from an emergency, and testing their effectiveness, for example, through regular exercises.
Response	Leading and coordinating the central response to an emergency.
Recovery	Leading and coordinating a centrally led recovery process following an emergency.

Source: National Audit Office analysis of Cabinet Office, *UK National Leadership for Risk Identification, Emergency Preparedness, Response and Recovery*, last updated August 2023

Current risk level and Defra's risk tolerance

1.7 Defra regularly assesses its ability to respond to outbreaks based on likelihood and impact. In December 2022, following increased frequency and severity of avian influenza outbreaks, it escalated the risk of a severe or concurrent outbreak to which it would be unable to respond effectively to its principal risk register. Defra's risk register currently assesses this risk with a score of 20 out of a possible 25, which falls within its highest risk category ('very high' risk) and has remained unchanged since December 2022. This is above the level that Defra considers tolerable (a target of 16 out of 25, which it increased from 12 out of 25 in 2024).

1.8 Defra has not determined what optimal level of risk would align with its strategic objectives. Despite Defra taking some mitigating actions, including increasing staff resource at APHA, reports submitted to Defra's Executive Committee in June and October 2024 highlighted that resourcing (in APHA, local authorities and the private sector), veterinary and lab capacity, and legislative gaps remain key issues contributing to the severity of the risk.

1.9 The Cabinet Office's National Security Risk Assessment and published National Risk Register (NRR) cover the most serious "acute risks" facing the UK – discrete events requiring an emergency response. Since 2023, the NRR has included examples of four animal diseases and their likelihood and impact, the latest of which was published in 2025 (**Figure 3**). The NRR is based on a scenario where Defra and APHA do not put any controls in place to mitigate an outbreak at the start, leading to undetected spread. Cabinet Office takes this approach to illustrate the impact that risks would have if unmitigated. This differs from Defra's approach to risk assessment, which includes the estimated effect of mitigating actions. The NRR's risks may therefore have a lower likelihood than Defra's, but a bigger impact.

- For each animal disease, the NRR assesses the likelihood of a major outbreak – with no mitigations at the start – as a "remote chance" (each between 0% and 5%) over a five-year period.
- The NRR's assessment of the impact that a major outbreak would have includes economic impacts ranging from hundreds of millions to billions of pounds. The major foot and mouth disease outbreak of 2001 cost the public and private sectors an estimated £5.2 billion and £8.6 billion, respectively – a total of £13.8 billion (in 2023-24 prices).

1.10 Cabinet Office has also identified animal diseases within its Chronic Risk Analysis, recognising that they pose continuous challenges to environmental and human health, the economy, trade and food security.

Using a risk appetite framework to inform resourcing decisions

1.11 Government guidance sets an expectation that government departments actively use a clear understanding of risk and risk tolerance (a 'risk appetite' approach) to inform decision-making, including on funding and resource prioritisation (**Figure 4** on page 22).

1.12 Defra is still in the early stages of integrating a risk appetite approach into resourcing decisions regarding animal disease resilience. Defra's group resilience strategy, published internally in June 2024, committed to developing a new centralised and systematic process for risk management. It identified some priority areas for investment as part of the 2025 Spending Review, including for animal disease resilience. In January 2023 and October 2024, Defra's Executive Committee (its senior decision-making body) undertook 'deep dives' into the high risk of Defra's inability to respond to animal disease outbreaks. Defra and APHA have taken some actions in response, including developing business cases for IT investment at APHA. However, the deep dives and Defra's escalation of the risk have not resulted in clear prioritised actions to reduce the risk.

Figure 3

Animal diseases included in the Cabinet Office's 2025 National Risk Register (NRR)

The 2025 NRR includes examples of four exotic animal disease outbreaks to illustrate their potential impact

Notes

1 The NRR focuses on "acute risks", which are discrete events requiring an emergency response.

2 All four animal diseases included in the 2025 NRR are exotic diseases. Exotic diseases are those which are not normally present in the country.

3 Ruminants are herbivorous animals that digest their food multiple times, chewing and regurgitating grass or vegetation more than once and digesting it in various chambers of their stomachs. This includes cattle, sheep and goats.

4 The likelihood and impact are based on a scenario where the Department for Environment, Food & Rural Affairs and the Animal & Plant Health Agency do not put in place any controls to mitigate a disease outbreak at the start, leading to undetected spread.

5 The likelihood percentage represents the chances of the risk occurring over a five-year period.

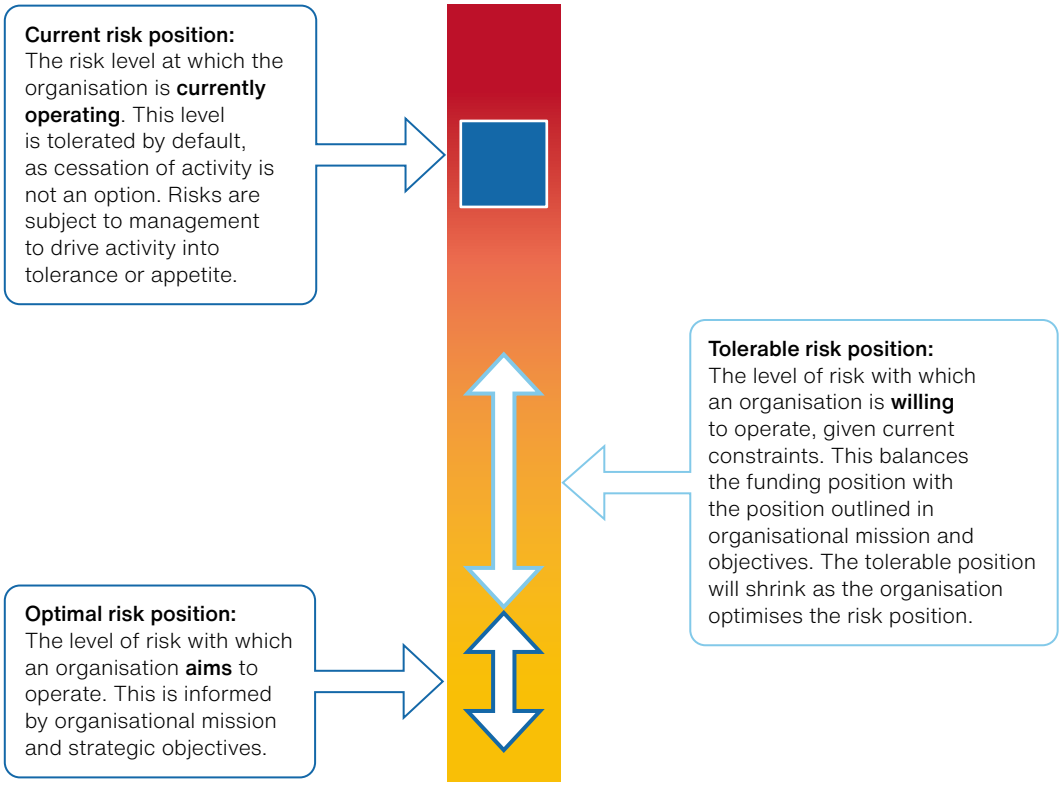
6 The impacts are considered across seven broad dimensions, with the economic costs ranging from several millions of pounds for minor impacts, to hundreds of millions of pounds for moderate impacts, to billions of pounds for significant impacts.

Source: National Audit Office analysis of Cabinet Office, *National Risk Register 2025 edition*

Figure 4

The government's risk appetite framework

Government guidance highlights the importance of using a risk appetite framework as part of the process for resource prioritisation and allocation



Source: Government Finance Function, *Risk Appetite Guidance Note*, August 2021

1.13 Defra's decisions on allocating and prioritising funding for animal disease resilience are also hampered by limitations in its management information.

- Defra has struggled to quantify and monetise the benefits from investment to strengthen resilience to animal diseases. For example, its Livestock Information Transformation Programme continues to find this difficult. Where efforts have been made to better quantify the benefits of major programmes, such as redeveloping the Weybridge science site, learning is not used to improve quantification in other areas.
- Defra does not have a comprehensive picture of how much it spends on animal health, or how much business-as-usual resource is diverted to manage disease outbreaks.

Long-term strategy for improving resilience to animal disease

1.14 Increasing resilience to animal disease is a fundamental part of the government's aim to increase biological security. This objective is set out in the government's UK Biological Security Strategy and Environmental Improvement Plan, both published in 2023.[2,3]

1.15 Defra does not have an up-to-date strategy or action plan for increasing resilience to animal disease which would bring its ambitions and activities together under a coherent vision and set of objectives. Defra, with the Scottish Executive and Welsh Government, published an Animal Health and Welfare Strategy in 2004 that focused on farmed and kept animals, with some consideration for wild animals too.[4] However, this is over 20 years old and is not actively used.

1.16 While Defra is undertaking a range of activities relating to animal health and disease resilience, which we cover in the rest of this report, it has not brought them together under a coherent vision. We have observed that many of Defra and APHA's animal disease activities are reactive rather than part of a proactive, coherent plan. By contrast, Defra has a long-term strategy and action plan for plant resilience to pests and disease for 2023 to 2028.[5] In February 2025, we highlighted the government's approach to antimicrobial resistance, which sets an overall 20-year vision and five-yearly strategies.

2 HM Government, *UK Biological Security Strategy*, 2023.
3 Department for Environment, Food & Rural Affairs, *Environmental Improvement Plan 2023*, January 2023.
4 Department for Environment, Food & Rural Affairs, Scottish Executive and Welsh Assembly Government, *Animal Health and Welfare Strategy for Great Britain*, March 2004.
5 Department for Environment, Food & Rural Affairs, Forestry Commission, Scottish Government and Welsh Government, *Plant Biosecurity strategy for Great Britain (2023 to 2028),* January 2023.

Part Two

Preparing for animal disease outbreaks

2.1 This part considers whether the Department for Environment, Food & Rural Affairs (Defra), Animal & Plant Health Agency (APHA) and key public and private bodies are taking appropriate action to prepare for outbreaks of exotic animal diseases. We examine:

- planning for outbreaks and testing plans;
- oversight of local authorities' preparedness for outbreaks; and
- surveillance to detect disease incursions early.

Planning for outbreaks and testing plans

2.2 Defra and APHA have generic contingency plans that cover exotic diseases and endemic zoonotic diseases (zoonotic diseases being those that can infect humans), but not specific diseases. The plans set out the responsibilities for preparing and responding to an outbreak. Defra is legally required to review and, if necessary, update the exotic diseases plan annually. Defra aims to update its endemic zoonotic diseases plan every two years.

2.3 Defra also has a range of strategies for controlling specific diseases, but these have not been updated to reflect lesson learned from the recent highly pathogenic avian influenza (HPAI) and bluetongue virus (BTV) outbreaks. For example, its control strategies for foot and mouth disease (FMD), African horse sickness, BTV, and avian influenza were last updated in 2011, 2013, 2014 and 2019, respectively.

2.4 Defra and APHA periodically test the adequacy of contingency plans through national and local exercises designed to refine their approach. Cabinet Office, Defra and the Government Internal Audit Agency (GIAA) have highlighted that staffing constraints and responses to increasingly frequent outbreaks are limiting the capacity of Defra and APHA to conduct thorough exercises. As a result:

- Exercises are increasingly 'table-tops', meaning they do not include live-play scenarios that require participants to respond in real time to issues, with some exercises not involving contractors or field participants. The last national live-play exercise for FMD was in 2018 (called Exercise Blackthorn) with a national table-top exercise (called Exercise London Plane) carried out in 2023 covering FMD and HPAI. This limits the ability of Defra and APHA to test the robustness of plans under circumstances that simulate a real outbreak.
- GIAA has highlighted that Defra and APHA could do more to disseminate lessons learned from both exercises and actual outbreaks and follow-up on progress in implementing actions.

2.5 There are limitations to Defra's current contingency plans for exotic disease outbreaks. For example:

- Concurrent outbreaks of diseases are increasingly likely, but APHA's evaluation of Exercise London Plane in 2023 found that the current published contingency plans did not state how the government would respond to two or more concurrent diseases.
- In 2023, GIAA also found that improvements were needed to plans for the most severe outbreaks, where there may be insufficient capacity to respond as planned. While APHA has taken some action to inform contractors of requirements for severe outbreaks, the current contingency plans for exotic disease outbreaks do not explicitly cover what would happen if available resources were overwhelmed and a response began to break down during a severe outbreak.

2.6 Defra also has lead responsibility for recovery after a disease outbreak; however, it told us it does not have the expertise or local intelligence to undertake some recovery activities such as wider community and business recovery. Defra does not test the recovery elements of its plans in exercises.

Local authority preparedness

2.7 Local authorities are required to prepare plans for outbreak response at a local level for some exotic diseases, such as rabies. Defra told us that both it and APHA assist individual local authorities in reviewing plans. However, Cabinet Office has not surveyed local authorities about their plans since 2017 and does not have a good understanding of local authority preparedness. In its 2023 capability assessment, the Cabinet Office reported, based on information that Defra had provided on animal disease response, that overall improvements in response plans at local level were likely to be needed. We also highlighted this as an issue in our 2023 report on extreme weather.[6]

6 Comptroller and Auditor General, *Government resilience: extreme weather*, Session 2023-24, HC 314, National Audit Office, December 2023.

Detecting disease incidence early

2.8 Alongside horizon scanning and international monitoring, Defra and APHA recognise the importance of scanning surveillance – having 'eyes and ears on the ground' – to help detect new and re-emerging exotic disease threats quickly and stop their spread. In 2014, APHA established its Surveillance Intelligence Unit to collate available data and identity patterns and trends.

2.9 In recent years, some key surveillance activities have reduced or are not taking place as planned. APHA told us that outdated data reporting systems limit its current capacity to carry out surveillance.

- **Regional public sector lab testing:** In 2014, APHA rationalised its regional lab structure with numbers of veterinary surveillance centres (which provide diagnostic tests, post-mortem examinations and advice from veterinary investigation officers) reduced from 15 to nine, with a further reduction to eight in 2018. As a result, APHA labs test fewer samples from animals suspected of disease, with farmers and vets using private-sector labs to undertake some of these tests. This reduces APHA's visibility of testing and ability to quickly spot new and emerging threats. In 2018, the British Veterinary Association raised a concern that this reduction had negatively affected the robustness of surveillance.[7] To mitigate the impact of the reduction, APHA told us it introduced free carcass transportation to the remaining labs to allow post-mortem examinations to be undertaken.
- **APHA inspections:** In 2022-23, APHA missed its corporate key performance targets for visiting animal markets and inspecting animal by-products (animal carcasses, parts of animals, or other materials which come from animals but are not intended for human consumption). This was because of deploying staff to respond to HPAI outbreaks. In 2023-24, it continued to miss the animal by-product inspections target, with visiting animal markets no longer included in its corporate indicator set.
- **Border checks:** The government has not achieved target levels of checks on live animal and animal product imports at the border. We examine border checks in Part Four.

2.10 Despite clear responsibilities in contingency plans, Defra and APHA told us there is a mixed picture at local level in how local authorities are fulfilling their roles. Local authorities and trading standards services undertake discretionary animal health related activities – such as livestock market inspections – and statutory enforcement work such as document compliance checks. However, some of this work has been limited, most often because animal diseases are competing with other local authority priorities and statutory responsibilities where there is limited capacity and financial resource.

7 British Veterinary Association (BVA), *BVA Position On Veterinary Scanning Surveillance*, August 2018.

Part Three

The government's response to recent outbreaks

3.1 In this part we examine:

- how the Department for Environment, Food & Rural Affairs (Defra) and the Animal & Plant Health Agency (APHA) have responded to recent exotic disease outbreaks;
- their capacity and capability to respond to future outbreaks;
- whether they are doing enough to enable a more efficient and effective response; and
- progress on the Weybridge redevelopment programme and the Livestock Information Transformation Programme.

Recent and current exotic disease outbreaks

3.2 England has experienced medium-severity outbreaks of two exotic, notifiable diseases in recent years: highly pathogenic avian influenza (HPAI) and bluetongue virus (BTV) (**Figure 5** on pages 28 and 29). There has been an outbreak of HPAI in England in six consecutive years from 2020 to 2025, with BTV first occurring in 2023. Outbreaks of both diseases are ongoing in the October 2024 to September 2025 season. Our focus group with poultry farmers illustrated the significant impact recent outbreaks of HPAI had on their businesses and their physical and mental health.

3.3 A range of stakeholders we interviewed praised the hard work and dedication of staff within Defra and APHA during recent and current outbreaks, including those working away from home for prolonged periods in stressful situations. Stakeholders highlighted how Defra and APHA had prepared and responded well to outbreaks, including listening to farmers' concerns and doing what they could to enable trading to continue. APHA tracks some metrics during outbreaks, such as turnaround times between infection confirmation and livestock disposal at a premise. However, it does not have a comprehensive set of specified thresholds or benchmarks to determine how well it is coping during an outbreak, such as sample testing or vet response times, making it difficult to assess how close it is to being unable to cope.

Figure 5

Recent and current outbreaks of exotic disease in England (as at mid-May 2025)

England is currently experiencing ongoing outbreaks of two exotic diseases

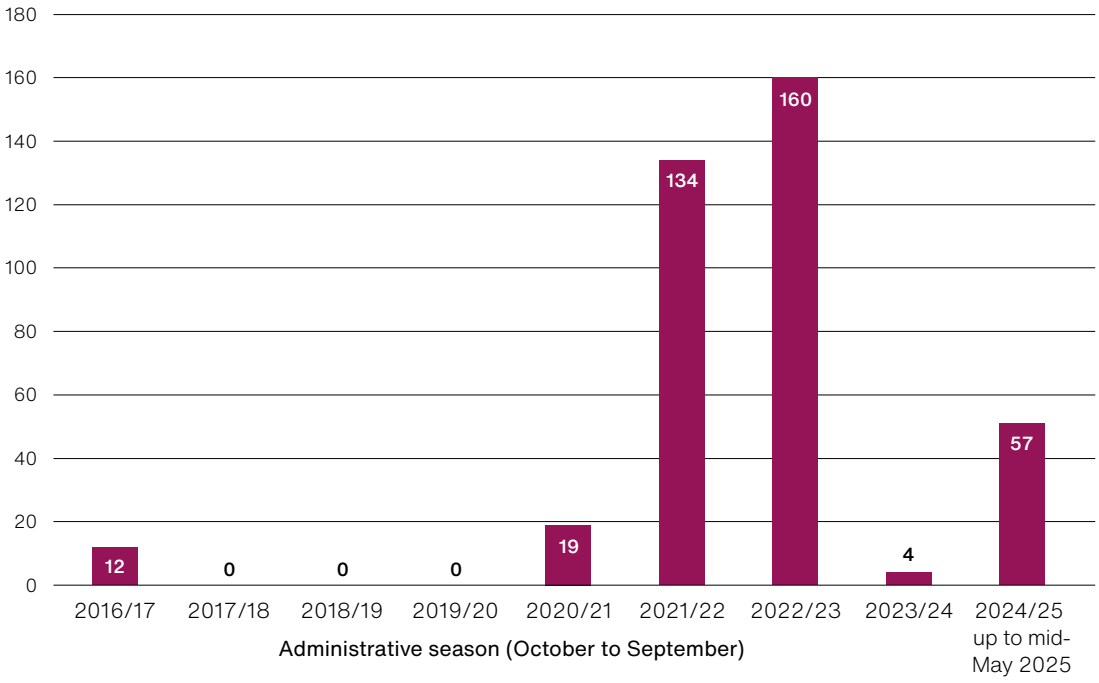
Highly pathogenic avian influenza (HPAI)	
Description of disease	A highly contagious, viral, notifiable disease which can cause severe illness and high mortality rates. The disease is spread through contact with infected birds, infected bird's faeces, or contaminated footwear, clothing, vehicles or equipment.
Animals affected	Domestic and wild birds and, less frequently, mammals.
Extent of recent outbreaks	Annual outbreaks of HPAI in England since November 2020. Number of confirmed infected premises 
Impact of disease	7.2 million birds culled between November 2020 and mid-March 2025. This compares with around 20 million birds slaughtered per week for human consumption. Unknown impact on wild bird populations. No major impact to food supply, but the Department for Environment, Food & Rural Affairs paid £58.5 million in compensation to affected premises between 2020-21 and 2023-24.
Current status	Latest outbreak ongoing since November 2024, with 57 confirmed infected premises so far in this outbreak (as of mid-May 2025).

Figure 5 *continued*
Recent and current outbreaks of exotic disease in England

Bluetongue virus (BTV-3 and BTV-12 strains)	
Description of disease	A non-contagious, viral, notifiable disease. The disease is spread by infected biting midges which can be blown long distances. it can cause relatively high levels of mortality in sheep flocks (up to 25%) but lower rates in cattle.
Animals affected	Ruminants, such as sheep and cattle, and camelids such as llamas and alpacas.
Extent of recent outbreaks	First outbreak of BTV-3 between November 2023 and March 2024 with 58 infected premises (involving 169 animals). August 2024 to present: ongoing outbreak of BTV-3. February 2025: first detection of BTV-12.
Impact of disease	Disease severity varies by species; it usually is most severe in sheep. Disease is not transmitted through meat or milk. There is no human health risk.
Current status	Latest outbreak ongoing since August 2024, with 259 infected premises so far in this outbreak (as of mid-May 2025).

Notes

1 Data for highly pathogenic avian influenza (HPAI) do not include wild birds; they include commercial and non-commercial premises.

2 For reporting purposes, avian influenza outbreaks are split into administrative seasons from 01 October to 30 September each year.

Source: National Audit Office analysis of Animal & Plant Health Agency documents

3.4 APHA has identified learning from these recent outbreaks to improve its approaches to disease response. In October 2024, it identified lessons based on its response to HPAI outbreaks between late 2021 and 2024. For example, during the 2021-22 outbreak it found biosecurity practices at a range of infected premises were not implemented effectively to prevent disease incursion. From October 2022, APHA imposed stricter standards and released communications to increase awareness. In 2024, APHA's review of the 2023 BTV outbreak found that its end-to-end response was not fit for purpose and needed updating to ensure it could be expanded appropriately should a worst-case scenario outbreak occur the following year. The review highlighted challenges with document and data management, lack of clarity on decision-making and roles and responsibilities across the end-to-end process, and resource constraints. APHA is working to implement all the recommended actions but had not yet finished doing so before the 2024 BTV outbreak began.

Capacity and capability to respond

3.5 Defra classifies exotic disease outbreaks using a scale from category 1 (least severe) to category 5 (most severe) (**Figure 6**). While Defra does not provide official classifications of each outbreak, it considers the HPAI and BTV outbreaks since 2020 have been category 2 and 3 with short periods in category 4.

3.6 Defra and APHA would struggle to manage more severe or concurrent serious outbreaks. In 2023, an exercise run by APHA and a separate assessment by Cabinet Office both found that responding to prolonged or concurrent serious outbreaks would be extremely challenging, due to shortages of veterinary, technical and administrative staff, and of protective equipment. Cabinet Office rated Defra's ability to respond as 'amber' (defined as falling short of being able to respond with minimal disruption). In October 2024, Defra's Executive Committee determined that Defra's ability to deal with exotic disease outbreaks had not kept pace with the rising risk profile of disease incidence. Defra's Outbreak Readiness Board, which provides strategic oversight of operational preparedness for outbreaks, also found in June 2024 that most APHA teams were not confident in their ability to respond to category 4 or 5 outbreaks (**Figure 7** on page 32). The main reasons given were lack of staff and expertise.

3.7 APHA has reported a lack of skills and expertise in key areas such as livestock veterinary capacity. In 2023-24, APHA's peak vacancy rate for vets was 24% (108 full-time equivalent staff), compared with a sector-wide average rate of around 10% that year. APHA's latest vacancy rate, in April 2025, was 20% (99 full-time equivalent staff). It attributes this principally to lower salaries than in the private sector, vets preferring to work with companion animals over livestock, and a reduction in European workers in the sector following EU exit. APHA has had to bring in more expensive locum vets to fill this gap. APHA expects that during an outbreak, when additional veterinary capacity is required, there are only around six vets it could call on through mutual aid arrangements with other government departments. Poultry farmers who took part in our focus group also highlighted that APHA vets often lacked experience of dealing with poultry. To fill these gaps, APHA relies on contracts with private practices, which can provide surge capacity of about 100 vets during an outbreak. The 2021 to 2024 outbreaks of HPAI highlighted the government's reliance on external contractors to fill staffing gaps; however, this approach has not always been effective, with gaps in contractor capabilities raising concerns about their ability to meet demand, timeframes and requirements.

Figure 6

Classification of severity of animal disease outbreaks

The Department for Environment, Food & Rural Affairs (Defra) classifies outbreaks of exotic disease using a scale from category 1 (least severe) to category 5 (most severe)

Outbreak category	Type of outbreak	Number of infected premises (IPs) and restrictions	Intensity	Outbreak duration and level of subsequent review	Political, public and or media interest
1	Single disease	One IP with no restrictions beyond the premises	–	A few months Lessons learned exercise	Little
2	Single disease requiring area-based restrictions	Less than 33 IPs mainly in the same control zone, geographic area or with clear business links	–	Up to six months Lessons learned exercise	Greater at the start but reduces quickly
3	Two concurrent category 2 scale	–	Less than 20 IPs per week at peak	Six to 12 months Possible external enquiry	Heightened (possible Cabinet Office Briefing Rooms involvement)
	Single outbreak	Up to 33 IPs in several different regions and few business links			
4	Three or more concurrent diseases or animal health related incidents, at least one of a category 3 scale	Between 33 and 349 IPs with widespread geographic spread and few business links	20 to 30 IPs per week at peak	More than 12 months Likely to involve one or more external enquiries	High (possible Cabinet Office Briefing Rooms involvement)
5	Significant scale single outbreak, or concurrent disease outbreaks or animal health related incidents, at least one being category 4 scale	At least 350 IPs	30 or more IPs per week at peak	More than 12 months Likely to involve one or more external enquiries	Very high and sustained interest (possible Cabinet Office Briefing Rooms involvement)

Notes

1 Outbreaks may not exhibit all the characteristics listed above.

2 'Infected premises' are those where disease has been confirmed, such as farms.

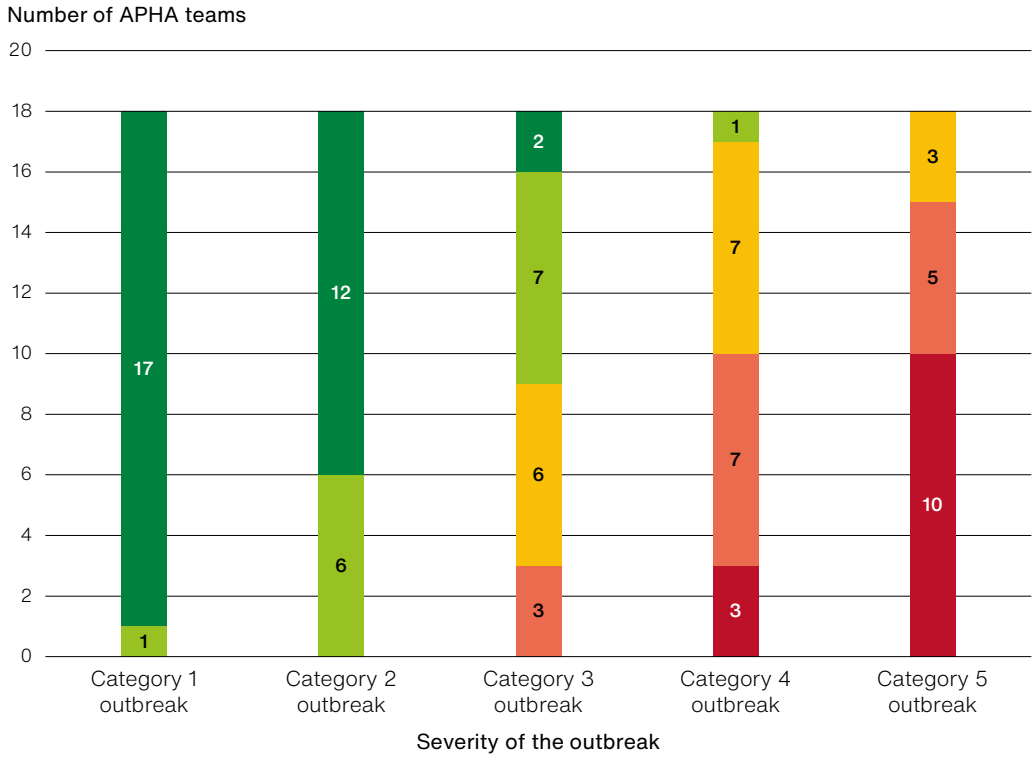
3 The threshold between categories may not always be discrete with some characteristics shared across categories. The category of an outbreak can change during an outbreak.

Source: National Audit Office review of Department for Environment, Food & Rural Affairs documentation

Figure 7

Animal & Plant Health Agency (APHA) teams' confidence in responding to animal disease outbreaks of increasing severity, 2024

Most APHA teams were not confident in their ability to respond to serious or severe outbreaks (category 4 and 5)



Notes

1 This figure shows the responses of 18 teams within APHA to the Disease Response Capability Assessment (DRCA) undertaken in June 2024. DRCA is an annual survey commissioned by the Department for Environment, Food & Rural Affairs (Defra) for teams and operational partners involved in responding to an incursion of an exotic notifiable animal disease.

2 Defra classifies outbreaks of exotic disease using a scale from category 1 (least severe) to category 5 (most severe).

Source: National Audit Office analysis of Department for Environment, Food & Rural Affairs, *Disease Response Capability Assessment survey*, June 2024

Systems and processes to enable response

3.8 While Defra and APHA have learned from experience and made improvements to their approach, they need to do more to improve systems and processes to enable a more efficient and effective response to outbreaks.

- **Data collection and management:** Quickly detecting and responding to infection is important in lowering the economic and community impact of outbreaks. However, APHA relies on outdated and inefficient data collection and management processes which can be labour-intensive, time-consuming and open to error. For example, its field teams complete paper-based forms on farms during outbreaks, which data teams then manually add to a database used for outbreak reporting and decision-making. This means additional work for APHA and farmers, and delays to having the latest data. Datasets have also been incomplete, hampering response. For example, during recent HPAI outbreaks, APHA and local authorities had to distribute flyers throughout whole geographic areas and use foot patrols to identify birds within control zones, because APHA did not have a complete list of poultry and bird keepers. Since 1 October 2024, it is a legal requirement for all bird owners in England to register with APHA, regardless of how many birds they keep (with exemptions for some species such as budgies, canaries and parrots, if kept indoors). APHA told us that 60,183 holdings had registered to keep birds in England by April 2025.

- **Workforce planning:** APHA recognises there is a need to improve its workforce planning to support rapid surge response and access to veterinary, technical and administrative staff during an emergency. In November 2024, APHA's principal risk register showed that it did not have a holistic view of staff deployment, as its new resource planning system had not been deployed consistently across the organisation.

3.9 Opportunities for efficiency can also come from new technologies, research and innovation. For example, APHA's response to HPAI outbreaks is now supported by enhanced polymerase chain reaction testing, which enables it to more quickly confirm the presence of a notifiable disease and introduce control measures. APHA's management of bovine tuberculosis (TB) and salmonella has also been improved with rapid testing and the new ability to combine genetic sequencing with livestock information to detect the source of disease. However, larger-scale changes that could have a transformative impact on APHA's operations, such as digital transformation, require a more strategic and focused approach. APHA aims for its Delivering Sustainable Futures programme to modernise and digitise key processes to make them more efficient. This six-year programme commenced in 2024 and is estimated to cost £62.8 million over the period 2024 to 2030. APHA told us it has made slower progress than planned due to continuing outbreaks. Funding for the programme beyond 2025-26 is not yet confirmed. The Programme Business Case is due before Defra's Investment Committee in spring 2025.

APHA's Weybridge site

3.10 APHA's Weybridge site houses the UK's primary science laboratory capability for managing threats from animal diseases. It contains 98% of APHA's high-containment laboratories. It is APHA's main site for running long-term animal health studies, and the only facility equipped to deal with most zoonotic diseases. Any major failure at Weybridge could have potentially significant impacts on the UK. For example, APHA may not be able to deliver its emergency response during an outbreak. Weybridge is in poor condition, with ageing buildings that need major repair and replacement. This affects APHA's flexibility during emergencies, restricting capacity for research and testing.

3.11 In 2017, Defra began its Science Capability in Animal Health programme to develop Weybridge, now called the National Biosecurity Centre programme. Defra's central cost estimate for the programme (in nominal terms) is £2.8 billion between 2021-22 and 2036-37. In June 2022, we reported that Defra was investing time to help manage risk and reduce cost and uncertainty in the programme, and trying to learn lessons from other programmes.[8] In August 2024, the Infrastructure and Projects Authority (IPA) gave the programme a 'green' delivery confidence assessment rating, meaning it is on track, and successful delivery appears likely. Without funding, the rating would be 'red'. In November 2024, the government's Major Projects Review Group recommended approval for the next phase up to 2027-28.

3.12 However, the programme will not deliver the main new laboratory facilities at Weybridge for another 10 years. The risk of failure at Weybridge in the meantime remains high and has worsened. In June 2024, Defra increased its assessment of the risk of site failure to the highest rating (25 out of a possible 25, up from 20). Defra's Outbreak Readiness Board also lowered its rating for the site's capability to respond to a medium-severity outbreak. This is due to an increasing level of building failures, and reduced ability to undertake planned remedial work due to pressure on the science facilities to respond to outbreaks. Contingency plans for a significant failure at Weybridge are limited because of the uniqueness of the site. Defra told us that, while there are contingency plans for individual buildings and an understanding of critical single points of failure, there is no detailed contingency plan for a whole-site failure.

8 Comptroller and Auditor General, *Improving the UK's science capability for managing animal diseases*, Session 2022-23, HC 64, National Audit Office, June 2022.

3.13 Defra's separate Critical Works programme at Weybridge is intended to ensure regulatory compliance and maintain capability until the new facilities are completed. The programme has faced problems, including access to spaces for works as existing science facilities have been needed to, for example, respond to the continued outbreaks of HPAI. A key element to replace the site's only incinerator was due to deliver in 2024-25, delayed from 2021, but was cancelled in March 2023 because the supplier could not deliver the incinerator to the required specifications. Instead, the existing incinerator and a previously decommissioned incinerator were refurbished and redesigned to operate independently at a cost of around £26 million – £10 million more than the original budget for the new incinerator. The incinerators are now operational, allowing the Weybridge site to continue functioning. Both incinerators are over 25 years old and are a temporary solution for the next few years, pending a new project.

Livestock movement tracing

3.14 Livestock movements in England are significant. For example, Defra reports around 20 million movements of sheep to or from different farms, livestock markets, collection centres, and to abattoirs each year. These movements increase the risk of spreading disease and make it harder to identify where animals have moved once an infection is detected. Being able to trace animal movements quickly is therefore key in responding quickly and effectively to contain an outbreak. Current tracing systems are fragmented, with different systems for different species and in each of the devolved nations in the UK. Some use outdated legacy systems and have significant reliability issues, such as the Cattle Tracing System, set up in 1998.

3.15 Defra has been attempting to create a digital, multi-species, UK-wide tracing system in some form since 2013, initially under the Livestock Information Programme (LIP). After delays, rising costs and substantial changes in scope, in April 2022 Defra reset LIP, which became the Livestock Information Transformation Programme (LITP). One issue was that the off-the-shelf platform used to develop the initial service for sheep, goats and deer movements was not suitable for a multi-species system. As part of LITP, Defra has commissioned a new multi-species tracing service, initially to develop the new cattle tracing service, on a platform which can be expanded for other species such as pigs. Defra has fallen behind the timescales planned in its 2023 outline business case. For example, it expected to deliver the cattle service in October 2024, but now expects to fully roll out the service in summer 2026. The current sheep, goats and deer service would then transition to the multi-species platform later in 2026, with pigs moving onto the system by the end of 2027.

3.16 Between 2019 and March 2025, Defra spent £181 million on the transformation and developing new systems. The LITP outline business case from December 2023 estimated whole-life costs for full deployment of a multi-species system to be £563 million, in nominal terms. This includes the substantial expansion of the programme's scope and the running costs of the systems. Although not directly comparable, due to the change in scope, the LIP business case in 2019 had an estimated cost of £91 million. In April 2024, Defra increased the programme's risk rating from 'amber' to 'amber-red', because of increased costs and potential funding constraints. In June 2024, LITP joined the Government Major Projects Portfolio, and the National Infrastructure and Service Transformation Authority plans to assess delivery confidence in June 2025.

Part Four

Strengthening resilience to animal diseases over the longer term

4.1 In this part we examine whether the Department for Environment, Food & Rural Affairs (Defra) and the Animal & Plant Health Agency (APHA) are taking efficient and effective action to strengthen long-term resilience to animal diseases. We cover:

- the actions they are taking to prevent outbreaks and strengthen resilience;
- how recent outbreaks are affecting their ability to undertake such work; and
- the government's approach to availability of animal vaccines and border biosecurity.

Preventing animal disease outbreaks and strengthening resilience

4.2 Introducing measures which build resilience, prevent risks from materialising or reduce their severity is part of Defra's role as lead government department for managing animal diseases. Defra has several programmes which are designed to strengthen long-term resilience, including the Weybridge redevelopment programme and Livestock Information Transformation Programme (Part Three). Defra and APHA have also introduced a range of other initiatives and new or innovative approaches to strengthen resilience to animal diseases (**Figure 8** overleaf).

Impact of increasingly frequent outbreaks

4.3 Defra and APHA's approach to responding to outbreaks is through a 'surge capacity' resourcing model, with staff and facilities moving away from undertaking business-as-usual activities to respond to outbreaks. However, this approach is under strain because of the need to respond to increasingly frequent outbreaks since 2020. For example, a paper to Defra's Executive Committee in October 2024 highlighted that the near-continual state of responding to outbreaks was affecting business-as-usual work, increasing risks and weakening capability to respond to future outbreaks. Defra and APHA recognise that current resourcing models may need to be reviewed, including considering how responsibility and costs are shared between government and industry.

Figure 8

Examples of initiatives by the Department for Environment, Food & Rural Affairs (Defra) and the Animal & Plant Health Agency (APHA) to strengthen resilience to animal diseases

Defra and APHA have introduced several initiatives and made use of scientific developments to strengthen resilience

Animal Health and Welfare Pathway (the Pathway)	Launched in 2023, the Pathway supports continual improvement in farm animal health and welfare. To financially reward farmers who deliver these aims, the Pathway funds four projects: annual vet visits to review animal health and welfare; animal health and welfare capital grants; disease eradication and control programmes; and help to meet some ongoing costs associated with higher welfare practices.
Polymerase chain reaction (PCR) test	PCR tests are used to confirm bovine tuberculosis (TB) infection following a post-mortem inspection. The new PCR method reduces the time taken for APHA laboratories to report results to livestock keepers from up to 22 weeks to three weeks. This means that, in certain situations, if the PCR test results are negative, APHA can lift herd movement restrictions much sooner.
Whole house gassing (WHG) of poultry	APHA and its contractors introduced WHG during the recent outbreaks of highly pathogenic avian influenza. When a disease is confirmed and poultry in an infected premises need to be culled, carbon dioxide is injected into sheds; this is instead of catching and handling individual birds, as required in other methods. This lessens the time taken to respond to an outbreak, reducing risk of further infection and the stress for affected birds.
Bovine TB Eradication Programme	Defra set out its bovine TB Eradication Programme for England in July 2011. In 2021, the government announced a set of new measures to eradicate bovine TB in cattle by 2038, the target set out in a 2014 strategy for achieving bovine TB-free status for England. These measures included developing a vaccine for cattle, trialling badger vaccinations and ceasing the licensing of new intensive badger culls.

Note

1 We have not evaluated the specific initiatives set out above.

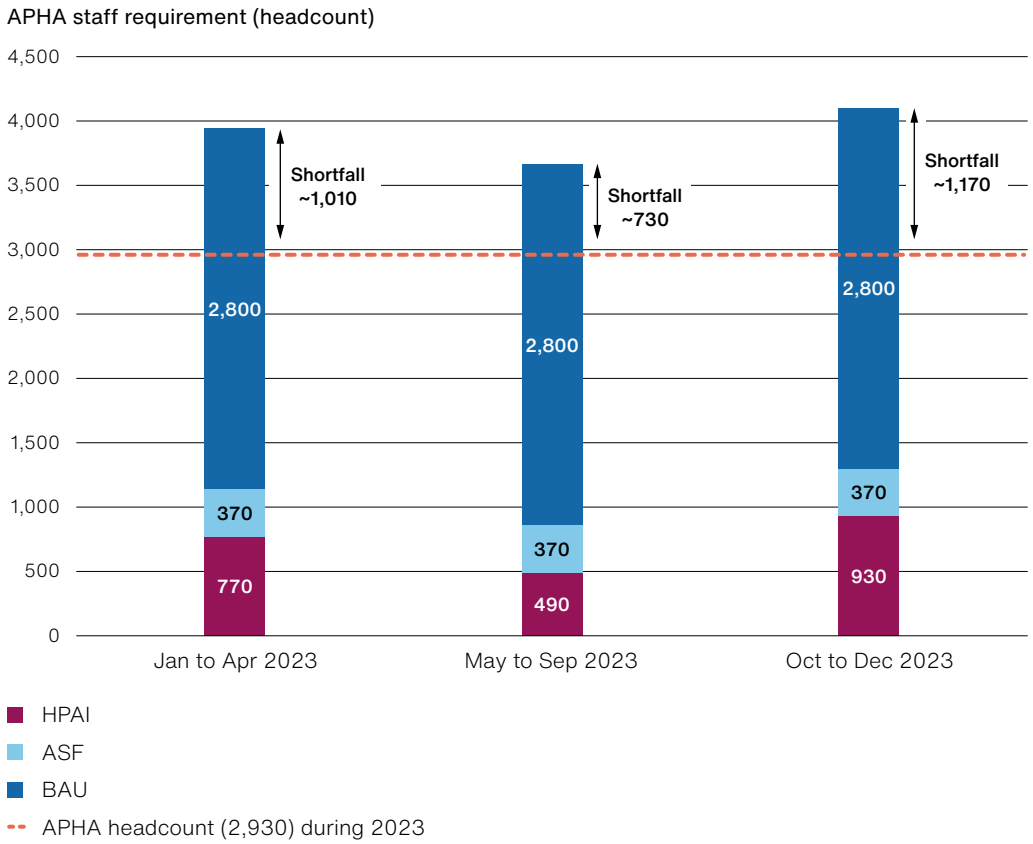
Source: National Audit Office review of Department for Environment, Food & Rural Affairs and Animal & Plant Health Agency published and unpublished documents

4.4 APHA was unable to provide us with specific numbers of staff involved in responding to the highly pathogenic avian influenza (HPAI) and bluetongue virus (BTV) outbreaks between late 2020 and 2025. However, APHA produced modelling in 2023 which showed how business-as-usual activities would be affected if a substantial proportion of APHA's staff were suddenly needed to manage concurrent outbreaks of two diseases (**Figure 9**).

Figure 9

Animal & Plant Health Agency (APHA) modelling of staffing during a concurrent outbreak of highly pathogenic avian influenza (HPAI) and African swine fever (ASF) in 2023

APHA modelling indicates a substantial shortfall in staffing to undertake business-as-usual (BAU) activities during a concurrent outbreak of HPAI and ASF



Notes

1 The modelling of HPAI and ASF was an example to demonstrate the impact of a concurrent disease outbreak.

2 HPAI modelling assumption: January to April – medium-level outbreak; May to September – low-level outbreak; October to December – high-level outbreak.

3 ASF modelling assumption: small, relatively well-contained domestic outbreak.

4 All figures shown are approximate estimates based on the modelling.

5 The staffing level of 2,930 was the headcount level at the time of the modelling; the modelling assumed it remained the same throughout 2023.

6 Where staff were working on both outbreaks, they were counted under the HPAI outbreak and not the ASF outbreak.

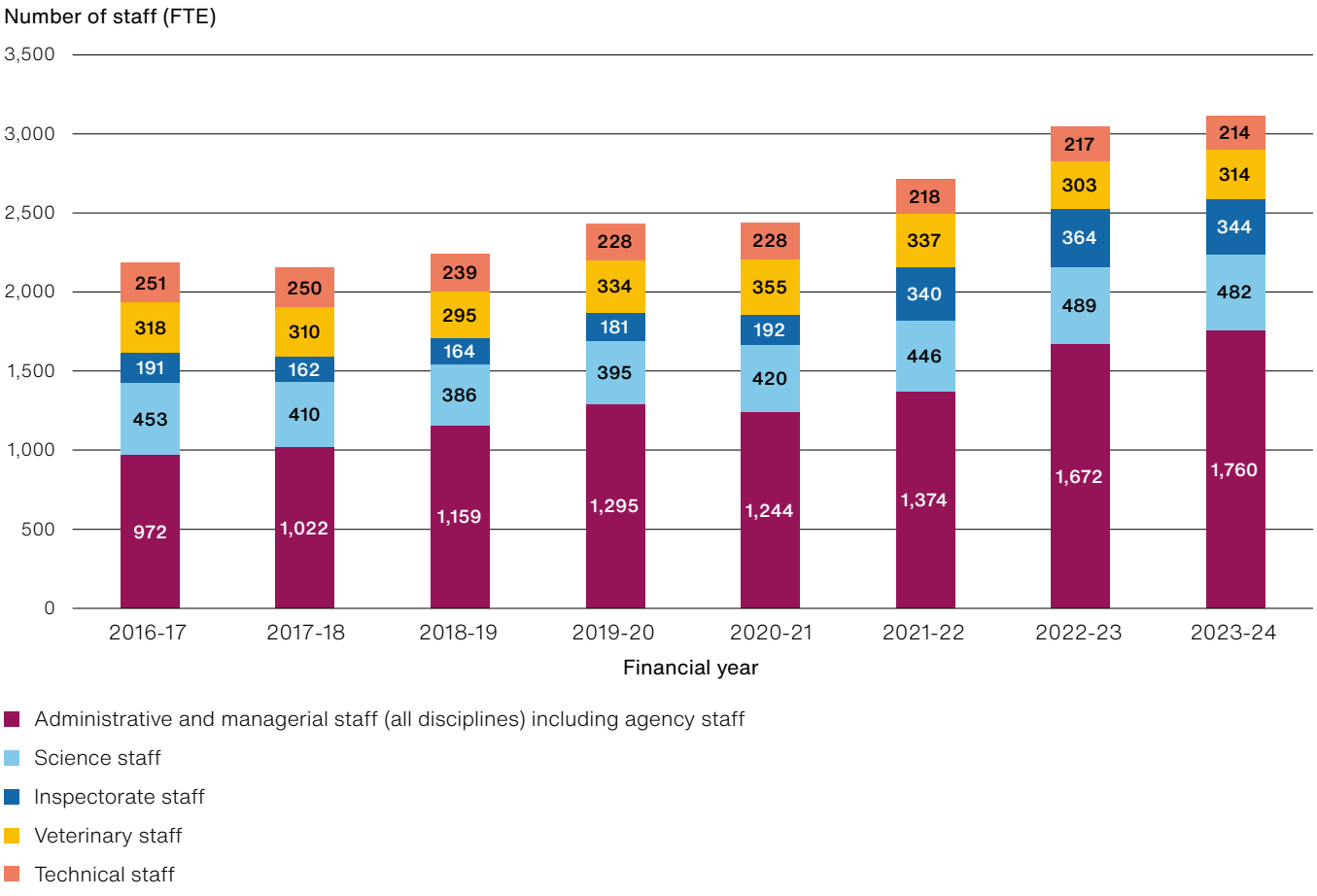
Source: National Audit Office analysis of a Department for Environment, Food & Rural Affairs (Defra) paper presented to the Defra Executive Committee in January 2023

4.5 Overall staffing levels within APHA have increased significantly since 2018-19. In 2023-24, full-time equivalent staff numbers reached 3,114, compared with 2,243 in 2018-19, an increase of 39% over this period (**Figure 10**). This was partly in response to demands from the HPAI and BTV outbreaks in this time and, to a lesser extent, the need to manage over 2,500 pet imports with Ukrainian refugees. However, APHA told us that most new staff have been recruited to deal with post-EU exit trade-related work for plant inspections, or administrative work on imports of plant and animal products. Veterinary and technical staff numbers have remained broadly flat since 2016-17.

Figure 10

Animal & Plant Health Agency (APHA) full-time equivalent (FTE) staff numbers between 2016-17 and 2023-24

APHA staff numbers have increased significantly since 2018-19



Source: National Audit Office analysis of Animal & Plant Health Agency data

4.6 While overall staff numbers have increased, business-as-usual activities across Defra and APHA are being affected by the need to manage outbreaks. For example, APHA's performance against its corporate key performance indicators (KPIs) has deteriorated substantially since 2019-20 (**Figure 11** overleaf). In earlier years, this was due in part to the COVID-19 pandemic, but it has increasingly been due to the demands of outbreak response requiring APHA to deprioritise a range of business-as-usual activities relating directly to managing animal diseases. These include animal welfare inspections and enforcement, bovine tuberculosis (TB) disease follow-ups, disease surveillance activities, and animal by-product plant inspections and approvals. It has been more difficult to understand APHA's performance since it changed how it reports against its KPIs in 2023-24.

4.7 Responding to outbreaks has also affected Defra and APHA's ability to undertake other important work that would help strengthen resilience in the longer term.

- Training: APHA has highlighted a significant deficit in training of its vets and technical staff, which affects its ability to respond to future outbreaks.
- Updating contingency plans: Some of Defra's disease-specific plans have not been updated for a long time (paragraph 2.3), and it has not had the capacity to develop specific contingency plans for an exotic zoonotic animal disease outbreak.
- Legislative framework: Exotic animal disease control is a complex regulatory area. Defra has not had capacity to strategically develop and simplify the legislative framework; where it has made changes, these have been in response to emerging disease threats, enforcement gaps, the loss of EU directives and changes to international guidance. Defra told us that the resultant legislation is fragmented and occasionally difficult to understand.

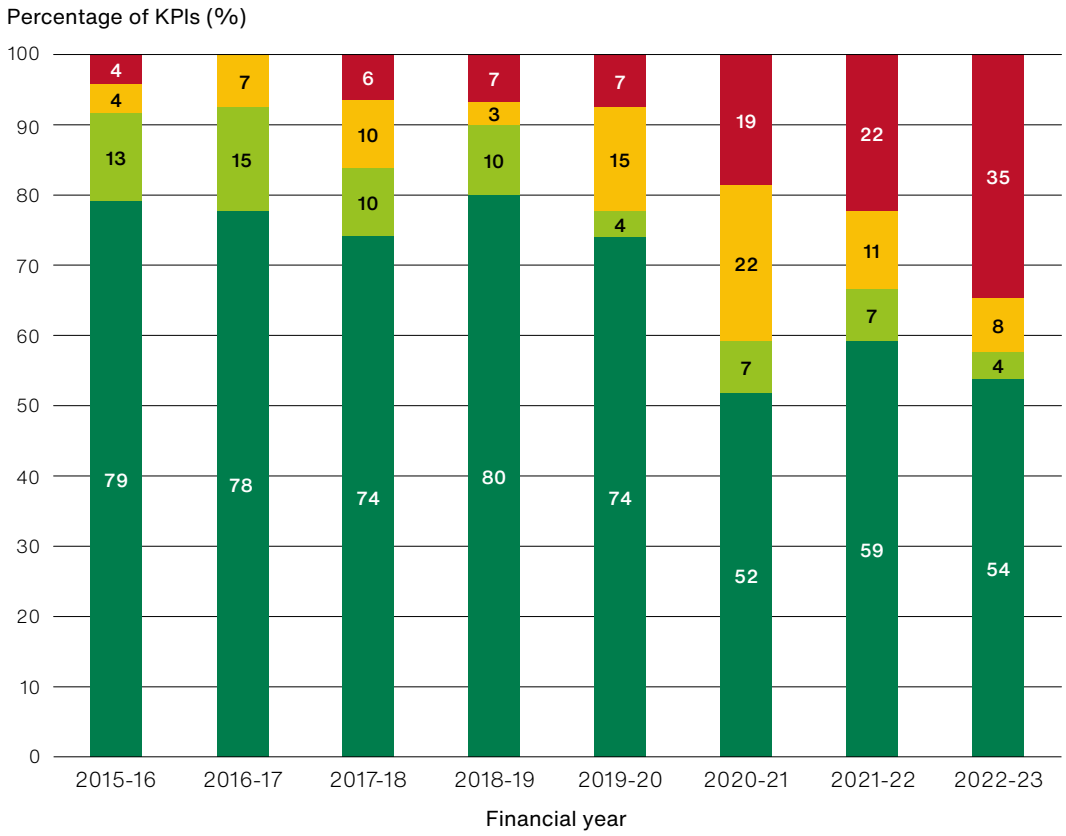
Vaccine availability

4.8 Vaccines play an important role in preventative health and disease control programmes in animals, reducing disease incidence, and maintaining health and welfare. For example, vaccines protect sheep from a range of diseases, and APHA is trialling cattle vaccines as part of its bovine TB eradication programme. Vaccines also reduce the need for antibiotics, helping combat antimicrobial resistance in animals. The Veterinary Medicines Directorate (VMD) is an executive agency of Defra. It manages short-term supply issues with animal vaccines in the UK and is responsible for the safety, quality and efficacy of veterinary medicines.

Figure 11

Animal & Plant Health Agency's (APHA's) performance against its corporate key performance indicators (KPIs) between 2015-16 and 2022-23

APHA's performance against its corporate KPIs has deteriorated substantially since 2019-20



Notes

1 The number of KPIs in each year is provided in brackets: 2015-16 (24); 2016-17 (27); 2017-18 (31); 2018-19 (30); 2019-20 (27); 2020-21 (27); 2021-22 (27); and 2022-23 (26).

2 APHA significantly changed its KPIs in 2023-24, with five of the 26 KPIs in 2022-23 remaining, and 14 new ones added. It also changed to reporting its KPIs quarterly instead of annually, and it no longer categorises performance by the extent to which an indicator has been met. This has made understanding its performance more difficult, and means that 2023-24 cannot be compared with previous years and is not included in the figure.

3 Up to and including 2022-23, the performance achieved was categorised as: met – achieved 100% or more of the target level; substantially met – achieved 95% or more of the target level; met in part – achieved 75% or more of the target level; and not met – achieved less than 75% of the target level.

4 Percentages may not always sum to 100 due to rounding.

Source: National Audit Office analysis of Animal & Plant Health Agency annual report and accounts

4.9 Limited availability of animal vaccines is a growing global issue. There have frequently been short-term vaccine supply issues due to, for example, manufacturing problems. Historically, VMD has managed this through mechanisms such as its Special Import Schemes, which allows vets to source a product not authorised in the UK. However, stakeholders we spoke to raised significant concerns about the availability of vaccines. VMD told us that supply issues have become more acute in the last two years, in part due to structural issues in the global market and limited incentives on the private sector to produce animal vaccines. Long-term issues include:

- production capacity at UK and European Union (EU) sites;
- diverting production capability to human health (such as COVID-19 vaccines);
- increased demand, as vaccines are increasingly used to prevent disease and combat antimicrobial resistance; and
- factors such as biological fragility and limited shelf life making the economics of vaccine manufacture challenging.

4.10 VMD told us that, while decisions on what vaccines to produce and supply are largely determined by the commercial considerations of manufacturers, it has convened two discussions (in November 2023 and February 2025) with manufacturers and stakeholder groups to better understand the key issues. VMD also told us that, given the increasing problem and long-term supply issues, the government needs a long-term strategy to ensure animal vaccine availability.

Biosecurity at the border

4.11 Following EU exit, the government introduced its Border Target Operating Model (BTOM), a risk-based border control system for commercial imports from both the EU and the rest of the world. Part of the BTOM includes implementing new sanitary and phytosanitary (SPS) controls, which include documentary, identity and physical checks, for imports of live animals, animal products, high-risk food and feed of non-animal origin, and plants and plant products. Checks allow health officials to verify that goods match the health certification, sample goods for diseases, and identify trends in non-compliance. Our report in May 2024 found that new SPS controls were being phased in, but that controls may operate on an inconsistent and incomplete basis for some time due to ongoing uncertainties and differences in port readiness.[9] APHA is operationally responsible for live animal checks, with port health authorities (PHAs) leading on animal product checks.

9 Comptroller and Auditor General, *The UK border: Implementing an effective trade border,* Session 2023-24, HC 730, National Audit Office, May 2024.

4.12 The government views the BTOM as an opportunity to introduce risk-based and proportionate border controls, with better targeted checks on higher-risk imports from the EU and the rest of the world. However, delays and uncertainty have resulted in this opportunity not being fully realised. The government has made some progress implementing the BTOM, but has failed to meet its targets for SPS controls. Uncertainty during negotiations of a new SPS agreement between the government and the EU, announced on 19 May 2025, has added further delays. Key issues have included the following.

- The intention of the BTOM was for all live animal imports to have 100% documentary, identity and physical checks undertaken at a border control post (BCP) by late 2024, although documentary checks could be done in advance of arrival at the BCP. Imports from the island of Ireland were not subject to this timetable. The government chose to delay the changes, and these checks are not yet happening. Defra's best estimate is that around 5% of live animal imports from the EU and the rest of the world are subject to these checks at final customer destinations, still under the pre-EU exit regime and level of testing, rather than at a BCP.
- The intention was also for all high-risk animal products to have 100% documentary, identity and physical checks at a BCP by April 2024. This is a relatively small subset of animal products. There are reduced levels of checks for medium-risk animal products and no routine checks for low-risk animal products. Defra told us that the level of checks is increasing and that there is variation across different ports. However, despite running a national system to trace all imports arriving through BCPs, Defra could not tell us the level of checks currently being undertaken due to problems with its management information systems.
- Capacity to check live animals at BCPs is currently limited. There are over 40 BCPs in the UK, including ports and airports. Sevington, the only government-run BCP which serves the Port of Dover and Eurotunnel, currently has the only capability to check live animals coming through ports, but is not yet designated to do so. On the west coast, there are currently no SPS controls taking place for live animal imports from the island of Ireland. A BCP is being built at Holyhead and is planned to have capacity for live animal checks for imports from Ireland, but it is not yet open and has not been designated to take live animals.

4.13 Illegally imported animal products, which have not gone through checks to confirm they are disease-free and conform to UK health standards, also pose a significant and potentially growing threat for introducing new animal diseases, such as African swine fever, and foot and mouth disease. Border Force and PHAs are responsible for seizing illegal meat and animal product imports. Parliament's Environment, Food and Rural Affairs Committee's inquiry on animal and plant health in 2025 highlighted several key concerns, particularly regarding the port of Dover, including the following.[10]

- **Controls on illegally imported animal products through personal imports:** The inquiry received concerns indicating that increasing quantities of illegally imported animal products for commercial use are entering England through Dover under the guise of 'personal imports' (as well as via commercial routes). Dover Port Health Authority (DPHA) told the Committee that it seized 22 tonnes of illegal meat in January 2025 compared with 0.4 tonnes in January 2023. It considers this increase to indicate a growth in illegal imports, although Defra told us this could reflect the increased level of checks. DPHA currently receives some funding (up to 2024-25) from Defra to complete proactive illegal meat checks, but it told us this only allows it to undertake this work for 20% of the time, with the volume of meat being seized coming from less than 0.2% of inbound vehicles.

- **The location of Sevington BCP for commercial imports:** Sevington is the BCP for the Port of Dover, the UK's busiest international ferry port, handling more lorries than all other UK ports. Sevington is located 22 miles inland from Dover. Commercial imports are self-declared before arriving at the Port of Dover and are unescorted between the port and BCP. The Committee received concerns that illegally imported animal products mixed in with commercial consignments could be off-loaded before reporting at Sevington. Ashford Borough Council, which runs Sevington, told us that lorries should be sealed at origin by the operator and remain sealed until they reach the BCP, and that it follows up on any vehicle that does not arrive. However, we found that there are conflicting views and a lack of clear guidance on what is required. Defra told us it did not consider commercial seals to increase the security of vehicles and that it was not aware of any legal requirement for vehicles to be sealed.

- **Engagement with stakeholders:** Written evidence to the inquiry highlighted a lack of engagement from Defra with organisations involved in or affected by biosecurity at the border, such as DPHA and the National Pig Association. DPHA described this as "a significant obstacle to change and the effective delivery of biosecurity controls at this border".

10 Environment, Food and Rural Affairs Committee, Written evidence for Animal and Plant Health inquiry, January 2025.

Appendix One

Our audit approach

Our scope

1 This report examines whether the Department for Environment, Food & Rural Affairs (Defra), working with public and private bodies, is taking effective action to ensure England is resilient to animal diseases. We do not assess the Cabinet Office's coordination role in managing risks across government, nor do we examine individual local authority plans related to animal disease or the success of local interventions. We focus on managing disease in the livestock sector but recognise that diseases also affect wildlife and other kept animals, such as pets.

2 We reached our independent conclusions based on our analysis of evidence collected from July 2024 to April 2025. We used both qualitative methods (interviews and document review) and quantitative methods to collect and analyse evidence. Details of the methods are below.

Our evidence base

Document review

3 Document review took place throughout the study period and included:

- documents provided to us from Defra and the Animal & Plant Health Agency (APHA) (including governance documents such as terms of reference, board minutes, risk registers and papers for the various governance forums associated with resilience to animal disease, specific disease reports/reviews for current/past outbreaks, capability assessments, risk reports, and guidance);
- published documents such as official guidance, strategies, contingency plans, and transcripts and papers from relevant Parliamentary hearings;
- evaluations by the Government Internal Audit Agency (GIAA) and Cabinet Office on resilience to animal disease structures and systems; and
- the Infrastructure and Projects Authority's (IPA's) latest review of Defra's Science Capability in Animal Health programme (now called the National Biosecurity Centre programme).

4 We reviewed the documents by identifying key findings and assessing these against the key study themes. We carried out more detailed reviews into England's approach to responding and managing recent outbreaks of bluetongue virus and highly pathogenic avian influenza (HPAI). We used this to illustrate our findings in our report.

Interviews

5 We conducted 64 online interviews between July 2024 and March 2025 with representatives from Defra, other public sector bodies and wider stakeholders to inform our audit. We wanted to obtain a broad range of views from government and across different sectors. These included the following.

- **Semi-structured interviews with Defra, other central government bodies and specific individuals** selected based on their responsibilities relating to the resilience to animal diseases. The public sector bodies included:
    - the Animal & Plant Health Agency (APHA);
    - the UK Health Security Agency (UKHSA);
    - the Veterinary Medicines Directorate (VMD);
    - Dr Christine Middlemiss (UK's Chief Veterinary Officer);
    - Professor Rowland Kao (in his role as Chair, Exotic and Emerging Animal Diseases (SAC-ED));
    - Professor Jonathan Statham (in his role as Chair, Animal Health and Welfare Board for England);
    - Cabinet Office;
    - the GIAA;
    - the IPA;
    - the Food Standards Agency; and
    - HM Treasury.
- **Teach-ins with Defra and APHA:** We attended online 'teach-ins' with officials from Defra and APHA to understand APHA's management information used during disease outbreaks; the role of APHA vets; government's work at the borders; horizon scanning; renewing the outbreak preparedness strategy; and business-critical disease-specific modelling.

- **Interviews with wider stakeholders** including local government, industry representatives, academics, and voluntary and membership organisations to capture a range of views to inform our findings. Stakeholders included:
    - the National Farmers' Union (NFU);
    - the Royal Society for the Protection of Birds (RSPB);
    - the National Pig Association;
    - the British Poultry Council;
    - the National Sheep Association;
    - the British Horse Council;
    - Ruminant Health & Welfare;
    - the Game Farmers' Association;
    - the Rare Breeds Survival Trust;
    - the Local Government Association;
    - the Association of Chief Trading Standards Officers (ACTSO);
    - Dover Port Health Authority;
    - Professor James Wood (Head of Department of Veterinary Medicine – University of Cambridge);
    - the Pirbright Institute;
    - the Agriculture & Horticulture Development Board (ADHB);
    - Livestock Information Limited;
    - the Livestock Auctioneers' Association Limited;
    - the Royal College of Veterinary Surgeons; and
    - the British Veterinary Association (BVA).

6 In the interviews, we sought to obtain views on the key opportunities, challenges, and risks relating to maintaining and developing resilience to animal diseases. The main topics covered in interviews included:

- Defra' structures, systems and governance processes to support resilience to animal disease;
- action taken by Defra and APHA to prevent animal disease and its use of information of the risks; and
- Defra, APHA, key public and private bodies' action to prepare for, respond to and recover from animal disease outbreaks.

7 We tailored questions to the responsibilities and expertise of each interview participant.

8 We used these interviews to develop our understanding of the government's approach to the resilience of animal disease, and the impact it has had. Analysis of these interviews was conducted by collating interview notes, identifying key findings and assessing these against the key study themes. This was used to support the findings from our document review.

Focus group with veterinarians and poultry farmers

9 With support from the BVA, we carried out a focus group with veterinarians. BVA identified and contacted 10 BVA veterinary associations, representing a wide range of sectors, including large animals and livestock. We invited all nine organisations that responded to join the virtual focus group.

10 The focus group sought to understand participants' views on:

- how resilient we are as a nation to animal disease;
- whether Defra is managing animal disease risks effectively; and
- the role of vets in supporting animal disease resilience.

11 The British Free Range Egg Producers Association's (BFREPA) support enabled us to carry out a focus group with poultry farmers that have been affected by HPAI. BFREPA contacted a number of its members and identified five poultry farmers, whom we invited to join the virtual focus group and one separate interview.

12 The focus group sought to understand participants' views on:

- their experiences of the avian influenza outbreak;
- the impact it has had on them and their businesses;
- how they have recovered; and
- whether Defra and APHA are managing avian influenza effectively.

13 We used these focus groups to develop our understanding of England's resilience to animal diseases. The veterinarian and the poultry farmers focus groups took place in December 2024 and March 2025, respectively. They were carried out online and lasted one and a half hours, with detailed notes taken.

Quantitative analysis

14 We undertook quantitative analysis, analysing public data as well as data and management information provided by Defra and APHA. This includes:

- how APHA's performed in relation to its key performance indicators (KPIs), and its assessment of capability to respond to disease outbreaks;
- data on the number of infected premises during the HPAI and bluetongue virus outbreaks;
- data on the government's overall spend on resilience to animal disease and on the Livestock Information Transformation Programme; and
- APHA staff numbers.

15 Defra and APHA provided the data between July 2024 and April 2025, including datasets such as spend data and staffing information. The data were used in a number of ways throughout the report, including to demonstrate how APHA's performance and staff numbers have changed over time.

Data limitations

16 In conducting our work, we found limitations in a number of areas of Defra and APHA's data.

- Spend data: Defra and APHA could not provide a consistent time series for the overall level of spend on animal health and resilience. The spend is dispersed over several different teams, making compilation difficult.
- Staff data: APHA was not able to provide data on the number of staff working on disease outbreaks and who, as a result, had been diverted from undertaking business-as-usual work.
- Outbreak KPIs: APHA was not able to provide any specific KPIs on its performance during disease outbreaks.
- Border control checks: Defra was not able to provide information on the number of checks currently being undertaken at the border due to problems with its management information systems.

17 Where data are presented, they represent our best understanding of the current situation. Where we have been unable to reconcile data or explain variances, we have made this clear throughout.

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