

# PANDEMIC FLU



UK international  
preparedness strategy

This strategy has been prepared through the close cooperation of a number of UK Government Departments. Its implementation is being led by:

**DFID** Department for  
International  
Development



Foreign &  
Commonwealth  
Office



**Cabinet**Office



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# Foreword

Many risks today require international collective action. They challenge governments, intergovernmental organisations, international civil society and the private sector to work together in the common interest.

The past few years have shown how a highly pathogenic avian influenza virus can spread unpredictably, threatening livelihoods and lives in many areas of the world.

Like many other infectious diseases, highly pathogenic avian influenza has emerged at the interface between people, the animals they keep and the wildlife reservoirs with which both have contact, as parts of complex and rapidly changing ecosystems.

The risk that such a virus could become the cause of a human influenza pandemic has concentrated the minds of many people worldwide. Over the past five years, this focus has delivered substantial gains in international preparedness planning.

Yet this risk now persists in the face of declining public interest. To the very real challenges of preparing for an influenza pandemic must be added the hazards of complacency and inaction.

The UK is an acknowledged leader in preparedness planning for avian and pandemic influenza. This international pandemic preparedness strategy has been developed by Cabinet Office (CO) in conjunction with Department of Health (DH), Department for Environment, Food and Rural Affairs (DEFRA), Department for International Development (DFID), Foreign and Commonwealth Office (FCO), Her Majesty's Treasury (HMT), Department for Business, Enterprise and Regulatory Reform (BERR), and Department for Innovation, Universities and Skills (DIUS) (Government Office (GO)-Science); and it has been informed by discussions with international partners and by independent academic advice. It sets out a coordinated framework for our objectives and actions on the international stage over the next five years to seek to reduce the risk of an influenza pandemic and to tackle complacency.

# Executive summary

Since 2005 there has been considerable progress in the global effort to address the challenges of avian and pandemic influenza. Donors worldwide have pledged US\$2.7 billion for this effort. The UK has to date contributed £35 million.

There have been substantive advances on the ground, yet despite much activity the pandemic threat persists and its public profile has declined. There is a pressing need to consolidate and build on the gains in pandemic preparedness achieved to date, and to address the hazards of international complacency.

This cross-government international pandemic preparedness strategy provides a coherent and coordinated framework for Departmental activities on the international stage over the next five years. It builds on recent developments across sectors and in a variety of settings.

The overarching strategic goal is to reduce the risk of an influenza pandemic through a series of coordinated activities designed to enhance both prevention and preparation at national and international levels.

The objectives in delivering this goal involve a number of different Departments and are:

- A To help improve effective coordination of the international response by all actors, including intergovernmental bodies, regional and sub-regional organisations, international non-governmental organisations and the private sector.
- B To promote high-quality cross-sectoral health and non-health pandemic planning in third countries facing high risks, including making plans operational and interoperable across borders.
- C To support detection and surveillance activity in countries at risk, and where feasible pandemic containment at source including humanitarian assistance during containment and in pandemic mitigation.
- D To encourage engagement and policy-relevant research across veterinary and human health sectors globally in support of a *One World, One Health* approach, and to reduce the gaps in the broader scientific evidence base.

For each objective the strategy details outputs and specifies broad actions needed across Government to ensure its delivery to an indicative time frame.

The strategy implementation will be reviewed after eighteen months, three years and five years.

Further Government financial support for international activities will be considered through normal budgeting procedures.

# 1. Introduction

This international pandemic preparedness strategy has been developed by Cabinet Office (CO) in conjunction with Department of Health (DH), Department for Environment, Food and Rural Affairs (DEFRA), Department for International Development (DFID), Foreign and Commonwealth Office (FCO), Her Majesty's Treasury (HMT), Department for Business, Enterprise and Regulatory Reform (BERR), and Department for Innovation, Universities and Skills (DIUS) (Government Office (GO)-Science). It sets out a framework through which international pandemic influenza activities should be taken forward over the next five years.

The strategy fundamentally addresses human pandemic influenza preparedness. However, good planning for avian influenza and potentially other zoonoses<sup>1</sup> plays a big part in managing the risk of a pandemic occurring from an animal disease. Preparing for a pandemic, and adopting and implementing the resulting policies, should help the UK and other countries develop response strategies addressing wider risks. These could include not only other zoonoses, but also new emerging infectious diseases and even hazards such as floods, cyclones or earthquakes.

The development of this strategy has been informed by:

- the work of the cross-government international influenza issues group
- a commissioned review by an independent leading academic expert
- a workshop to debate the challenges and opportunities posed over the next five years, involving expert representatives of the major international organisations and some major bilateral partners from around the world<sup>2</sup>
- the work of the UK-focused cross-government pandemic influenza implementation group.

1 Zoonoses or zoonotic diseases are defined as those transmissible, directly or indirectly, between vertebrate animals and humans (European Academies Science Advisory Council (May 2008) *Combating the threat of zoonotic infections* page 1; [www.easc.eu](http://www.easc.eu)).

2 The independent commissioned study and a workshop report have been published at [www.ukresilience.gov.uk](http://www.ukresilience.gov.uk).

## 2. Background

### 2.1 Pandemic Influenza

Infectious disease pandemics are an ever-present threat to people and their livelihoods worldwide. Pandemics are by definition global phenomena. They arise from the emergence of new infectious agents to which people are generally susceptible because few, if any, have ever been exposed to them before. In a world of rapid environmental change, and of increasingly mobile and high-density human populations, easily transmissible infections like influenza pose particular challenges for the international community. No government can tackle such challenges alone.

Most new infectious diseases of people, including influenza viruses, originate at the interface between humans and animals, whether wildlife or domesticated livestock. The recent spread and persistence of Highly Pathogenic Avian Influenza (HPAI) virus type A/H5N1 has caused extensive disruption to economies and livelihoods. There is a risk that it might mutate or change over time to trigger a human pandemic.

No single Government or international agency can tackle these challenges alone. It is critical to success that all work closely together in well-coordinated ways. To address the threats of pandemic influenza, governments therefore need strategies which are both international in nature and inter-sectoral in scope. Such approaches still need to be developed in many parts of the world, including within Europe; and they raise issues as yet unresolved about international collective action and public goods<sup>3</sup>. The greatest threat is posed in those areas with the weakest defences. These currently lie primarily in the developing world<sup>4</sup>. Strengthening defences in those countries will help protect all.

Today there are multiple networks of international players with a stake in this type of strategy. They comprise not only nation states and global multilateral organisations, but also national and multinational private sector companies, humanitarian agencies, and diverse civil society and non-governmental organisations.

<sup>3</sup> The issues are discussed by N. Stern (2006) *The economics of climate change* part VI (Cabinet Office and HM Treasury); the International Task Force on Global Public Goods (2006) *Meeting global challenges; international cooperation in the national interest*. (Stockholm); and I. Kaul, I. Grunberg, M.A. Stern (editors; 1999) *Global public goods: international cooperation in the 21st century* (Oxford: Oxford University Press).

<sup>4</sup> K.E. Jones, N.G. Patel, M.A. Levy, A. Storeygard, D. Balk, J.L. Gittleman, P. Daszak (2008) Global trends in emerging infectious diseases. *Nature* 451, pp. 990-994.

## 2.2 Why we need to review our strategy

In 2005 UK Ministers agreed five international strategic objectives for addressing avian and pandemic influenza (see Annex B) which focused on: strong international collaboration addressing HPAI at source; supporting efforts to build surveillance and rapid response capabilities in animal and human health; and needs-based international aid commitments. Although achievement of these objectives continues to pose significant challenges for the period 2008-2013, the many global developments since 2005 have substantially altered the context of the UK's international strategy and prompted the need to revise it. These developments include:

- a sequence of global inter-governmental meetings pledging to date a total of US\$2.7 billion to help build stronger global avian and pandemic influenza preparedness. These were supported by global progress reports prepared jointly by the UN System Influenza Coordinator (UNSIC) and the World Bank documenting the state of avian and pandemic preparedness, including the commitment and disbursement of pledged funds through multilateral and bilateral channels
- the December 2007 inter-governmental ministerial meeting in New Delhi, which devised a Vision and Road Map for 2008 under the rubric *One World, One Health*. The meeting highlighted the challenges and offered a framework for national authorities to develop response plans geared to their own national domestic policy context (Annex C)
- the entry into force of the International Health Regulations in June 2007, which established a legal framework for addressing the international spread of disease while avoiding unnecessary interference with international traffic
- developments in the UK policy context, including the Government's publication of the National Framework for responding to an influenza pandemic<sup>5</sup>, the *National Security Strategy*<sup>6</sup>, the *National Risk Register*<sup>7</sup>, and a White Paper on foreign policy priorities<sup>8</sup>; and the global health strategy *Health is Global*<sup>9</sup>

5 Cabinet Office and Department of Health (2007) *Pandemic flu: A national framework for responding to an influenza pandemic*

6 Cabinet Office (2008) *The National Security Strategy of the United Kingdom. Security in an interdependent world.*

7 Cabinet Office (2008) *National Risk Register.*

8 Foreign and Commonwealth Office (2006) *Active diplomacy for a changing world. The UK's international priorities.*

9 Department of Health (2008) *Health is global. A UK Government strategy with a plan for action 2008-2013.*

- the House of Lords' report on inter-governmental organisations and infectious diseases published in July 2008, which highlighted a number of issues with international planning and coordination for avian and pandemic influenza<sup>10</sup>
- recognition of planning issues that cannot be resolved without improved coordination and action by the international community, such as the interoperability of plans and operational issues that cross borders.

### 2.3 Guiding Principles

In pursuing this strategy, we will:

- best use our expertise, both in policy development and technically, in pandemic planning internationally
- continue to support a multilateral and cross-sectoral approach to pandemic preparedness and response in the run-up to and during a pandemic, enabling a well-coordinated and effective approach to outbreaks, with the WHO leading the international health response
- act in accordance with the International Health Regulations and with international standards of animal disease reporting, promoting full and transparent sharing of influenza virus samples with the WHO, and realistic risk assessments based on the earliest and best available scientific evidence
- continue to work with partners and the inter-governmental organisations to improve access to countermeasures and other benefits particularly for vulnerable countries
- work closely with EU partners, including the European Commission, the Health Security Committee, the European Centre for Disease Prevention and Control, and EU Presidencies so as to improve cooperation across the Union in pandemic preparedness and response planning
- support our Crown Dependencies and Overseas Territories in their planning
- continue to encourage and where possible support countries facing high risks to improve their preparedness and contribute to collective and global efforts
- do our best to ensure that lessons learned on pandemic preparedness both inform and build on generic response strategies for other risks.

<sup>10</sup> House of Lords (2008) *Diseases Know No Frontiers: How effective are Intergovernmental Organisations in controlling their spread?*

## 3. Overarching aim

The overarching aim of this strategy is to reduce the risk of an influenza pandemic and its potential consequences through a series of coordinated activities, designed to enhance both prevention and preparation at national and international levels.

## 4. Strategic objectives

The following four strategic objectives have been identified as being critical over the next five years, to ensure progress towards achieving the overarching aim.

### Objective A

To help improve effective coordination of the international response by all actors, including inter-governmental bodies, regional and sub-regional organisations, international non-governmental organisations and the private sector.

#### Rationale

The past three years have seen unprecedented international coordination among agencies and countries in pandemic preparedness. However, many challenges remain. Tensions persist between the roles of major technical players (including WHO, FAO and OIE) and between these and those bodies coordinating activities across the board (UNSIC and the World Bank). Respective roles would benefit from greater clarity and agreement.

Problems also remain with duplication and poor coordination by inter-governmental agencies, including particularly at the regional level<sup>11</sup>. There is great potential for the specialised technical inter-governmental organisations to share experiences and good practice at the regional level, including through the various regional security communities created over the past few decades<sup>12</sup>.

#### We will:

1. bring together international organisations to examine and define how coordination of pandemic planning and response at global and regional levels can be improved
2. engage more closely with private and non-governmental stakeholders to establish their roles in the global response
3. encourage testing of an international pandemic response involving the main international organisations, agencies and sectors.

#### The difference in five years' time will be:

- clearly defined and agreed roles of the international players in pandemic preparedness planning and response

11 UNSIC (2007) *Concept of operations for the UN System in an influenza pandemic*.

12 eg as documented by S. Peou (2001) *Security-community building for better global governance*. In *Global governance and the United Nations system*. Edited by V. Rittberger. Tokyo: UNU Press, pp.88-126.

- observed improved leadership and coordination of planning the response at regional and global levels, and a confidence-inspiring global plan demonstrating this clearly defined and tested international pandemic responses.

## Objective B

To promote high-quality cross-sectoral health and non-health pandemic planning in third countries facing high risks, including making plans operational and interoperable across borders.

### Rationale

Robust cross-sectoral planning is essential in order to minimise the consequences of an influenza pandemic, especially as most national economies are highly dependent on global markets for the supply of critical commodities. Some progress has been made internationally to advance planning for the non-health dimensions of pandemic influenza – for example in the financial sector – and to ensure that these plans are fit for purpose. However, the extent varies to which such plans can readily be made operational. The extent also varies to which such plans are interoperable and consistent between sectors and across borders. Little has been done to review or test such plans.

Global progress reporting on avian and pandemic influenza threats is currently coordinated and delivered jointly by the UNSIC and the World Bank<sup>13</sup>. This permits aggregated analysis of planning and preparedness, which has been informative in tracking global developments region by region. However, a stronger approach to monitoring and seeking to improve individual integrated national plans, at regional and global levels, could deliver significant international benefits. Peer pressure is likely to be an important way of stimulating governments to aspire to and deliver on commitments for high standards of pandemic preparedness.

Little work has been done to date to address concerns surrounding the potential detrimental impact of current international regulatory systems, for example in maritime transport, during the response to a pandemic. It is essential that international partners work together to facilitate the response to a pandemic, including potentially by altering current international regulatory regimes and their implementing arrangements. This work needs to be undertaken within the

<sup>13</sup> UNSIC and World Bank (2006a, 2006b) *Responses to avian and human influenza threats: January-June 2006 and July-December 2006*; and (2007) *Responses to avian influenza and state of pandemic readiness*.

wider context of global and regional law and norms relevant to international disaster response<sup>14</sup>.

Within the European Union, legal competence in human health generally lies with Member States, although there are several instruments and mechanisms for addressing animal health issues at the EU level. The EU has recognised that information-sharing is of prime importance in responding effectively to a pandemic<sup>15</sup>. However, recent ECDC assessments suggest a need for considerable further work to ensure adequate preparedness<sup>16</sup>. Particular attention is needed to strengthen integrated cross-government planning; to making plans operational at the local level; to ensuring the inter-operability of plans at national and regional levels; to enhancing vaccine-based prevention of seasonal influenza; and to extending influenza research on priority preparedness issues.

**We will:**

1. encourage and where possible support national, regional and wider international initiatives addressing non-health issues in pandemic planning, including by contributing knowledge and expertise to aid peer review through multilateral and bilateral channels as appropriate
2. encourage the Pandemic Influenza Contingency team in the UN Office for the Coordination of Humanitarian Affairs (PIC OCHA) in its work of monitoring, periodically assessing, and promoting the improvement and testing of business continuity plans for UN Country Teams in support of host national authorities
3. promote interoperability and consistency of national plans within regions by encouraging the WHO (for health sector issues) and by supporting and encouraging the PIC OCHA (for non-health sector issues) to:
  - enable regional sharing of experience, innovations and good practices
  - translate plans into common regional languages
  - promote and assist in regional exercises to test the operation of the plans
4. urge the WHO and PIC OCHA to work together to carry out joint reviews of preparedness in regions, promulgating innovations and good practices, and to promote the establishment of self-sustaining regional and sub-regional peer review systems

14 Such law and norms are reviewed in a desk study by the International Federation of Red Cross and Red Crescent Societies (2007) *Law and legal issues in international disaster response: a desk study*. (Geneva: IFRC)

15 *Summary overview by the Presidency of action on avian and pandemic influenza*. Document 15353/05. Also, the European Commission's *Together for health: a strategic approach for the EU 2008-2013*. COM(2007) 630.

16 European Centre for Disease Prevention and Control (2007) *Report for policymakers. Pandemic preparedness in the European Union, Autumn 2007*. [www.ecdc.europa.eu](http://www.ecdc.europa.eu).

5. work with international partners to identify and if necessary initiate appropriate fora for addressing critical supply-chain interdependencies for essential services
6. encourage the relevant international organisations to consider which legal instruments might need to be suspended, relaxed or otherwise implemented in an abnormal manner during a pandemic
7. work with EU partners to improve national plans and the planning of cross-border operations in a pandemic, and definition of roles and processes of all players throughout the WHO pandemic Phases.

**The difference in five years' time will be:**

- increasing numbers of nations worldwide will have cross-sectoral pandemic preparedness plans which address cross-border issues and have been or are being tested
- a more trusting and welcoming approach globally to a more transparent process for peer review of pandemic plans
- a clear legal structure in which pandemic response planning can be advanced within the wider context of regional and global law and norms relevant to disaster response
- concrete measures to improve cooperation between EU Member States in pandemic planning, and an EU response where roles and processes are clearly defined and tested.

## Objective C

To support detection and surveillance activity in countries at risk, and where feasible pandemic containment at source including humanitarian assistance during containment and in pandemic mitigation.

### Rationale

Improvements in communicable disease surveillance for both animals and humans are needed urgently. This urgency has been recognised in major recommendations made in July 2008 by the House of Lords Select Committee on Intergovernmental Organisations<sup>17</sup>. These recommendations centre on specific weaknesses in communicable disease surveillance and response in developing countries; on a need for generic surveillance and response systems to address both deliberately and naturally-occurring outbreaks; and on the

<sup>17</sup> House of Lords (2008) *Diseases know no frontiers: how effective are intergovernmental organisations in controlling their spread?* Paragraphs 56, 87, and 128.

potential benefits to be gained from greater cooperation and sharing of information between animal and human health sectors. Closer collaboration between veterinary and human health sectors might facilitate detection of infectious disease pathogens at their source, as well as providing general benefits through economies of scale and efficiency of resource use. For example, weak animal health surveillance explains why cases of human infection with avian influenza virus A/H5N1 have often been detected before the outbreaks in poultry which were their source.

Containing an emergent influenza pandemic at source would, if successful, prevent the spread of the disease locally and globally. However, it is highly unlikely that any single country, no matter how well prepared and resourced, will be able to contain a pandemic at source without assistance from the global community. It is, therefore, essential that the international community works to ensure that the containment operations are properly directed.

Containment measures may restrict movement, impose quarantine and include other public interventions designed to limit the spread of infection and therefore to eradicate it<sup>18</sup>. These measures are likely to raise varied humanitarian issues, including particularly among those communities which are more vulnerable to social and economic disruption<sup>19</sup>. At present, WHO has an interim protocol for containing an emergent pandemic in place<sup>20</sup>. However, it is not clear how the complementary humanitarian effort would be mobilised and led for those affected by containment. It is essential that the humanitarian needs of those facing containment are properly addressed. In this context, the UK needs to develop plans to support the international containment strategy and associated humanitarian assistance. Where containment fails then humanitarian assistance may also be needed to mitigate the consequences.

Since January 2007 Indonesia has regularly decided not to share its H5N1 virus samples with the WHO system, demanding a more equitable arrangement for the supply of benefits in a pandemic, eg vaccines. This has focused global attention on the issue of establishing a system to ensure a more equitable supply of vaccines and other benefits, including through greater vaccine production capacity. The UK has been working with other partners to find ways to address this challenge.

18 N.M. Ferguson, D.A.T. Cummings, S. Cauchemez, C. Fraser, S. Riley, A. Meeyai, S. Iamsirithaworn, D.S. Burke (2005) Strategies for containing an emerging influenza pandemic in Southeast Asia. *Nature* 437, pp.209-214.

19 R.J. Blendon, L.M. Koonin, J.M. Benson, M.S. Cetron, W.E. Pollard, E.W. Mitchell, K.J. Weldon, M.J. Herrmann (2008) Public response to community mitigation measures for pandemic influenza. *Emerging infectious diseases* 14:5, pp.778-786.

20 WHO (2007) *WHO Interim Protocol: Rapid operations to contain the initial emergence of pandemic influenza*

**We will:**

1. urge the WHO to operationalise its containment strategy and to test further its efficacy in structured exercises
2. identify what part, if any, the UK might be able to play in such a containment operation and in the associated humanitarian effort
3. develop flexible contingency planning to guide UK actions internationally from the point when WHO has issued the relevant alert, aimed at helping to contain and eradicate the pandemic virus, or at least delay its spread, alongside the existing domestic contingency plans for a pandemic reaching the UK<sup>21</sup>
4. clarify the role we would play in the business continuity planning of humanitarian partners in pandemic containment and mitigation, eg WFP, UNHCR, UNICEF, IFRC and others as appropriate
5. address how we might best contribute to improving both animal and human surveillance systems for highly pathogenic avian influenza in vulnerable areas of the world
6. continue to work with partners to find ways to resolve discussions on virus sample sharing so as to enable a fairer and greater distribution of benefits.

**The difference in five years time will be:**

- clearly defined and tested international pandemic containment response, with clarity of roles for the key international players and the UK
- an agreed and flexible UK plan to guide our international activities from WHO pandemic alert Phase IV onwards
- an agreed inter-governmental system through which samples of all viruses of pandemic potential are shared, with a mechanism which has improved capacity to produce vaccine and other benefits including their supply to vulnerable and other countries
- improved animal and human avian influenza surveillance systems in vulnerable areas.

## Objective D

To encourage engagement and policy-relevant research across veterinary and human health sectors globally in support of a *One World, One Health* approach, and to reduce the gaps in the broader scientific evidence base.

<sup>21</sup> Cabinet Office and Department of Health (2007) *Pandemic flu: A national framework for responding to an influenza pandemic*. Para 5.7.

## Rationale

Approaches based on the *One World, One Health* concept seek to bring together activity between the human and veterinary sectors so as to foster “one health”. Such approaches recognise the interdependence of human health, animal health and environmental ecosystems<sup>22</sup>.

Many scientific challenges and uncertainties remain in the global evidence base for pandemic planning including gaps both in fundamental biological research and in the applied social sciences. For example, better understanding of influenza transmission dynamics, of alternative models of pandemic emergence, or of how people might behave under sustained measures for containing a pandemic, could have important implications for alternative outbreak control options and their implementation, both locally and in the international community.

A strategic approach is needed to identify research gaps and priorities for national and international policy-makers, which builds on and complements the structures already in place.

### We will:

1. encourage the building and sustaining of functional links between animal and human health systems nationally and across borders
2. continue to work with partners to develop innovative cross-sector initiatives to address zoonotic disease risks at their source in the interfaces between animals, people, and ecosystems worldwide, including from a *One World, One Health* perspective which brings together activity between the human and veterinary sectors so as to foster “one health”
3. consult national and international veterinary and human health sectors on the scope for measures to promote cross-disciplinary curriculum development, including public education and research
4. continue to support international efforts to map research across the spectrum, and to support the research itself including international discussion and dissemination of its results.

22 EASC (2008) *Combating the threat of zoonotic infections* ([www.easc.eu](http://www.easc.eu)) documents one such approach. Sources lie in the *Technical Workshop on Highly Pathogenic Avian Influenza and Human H5N1 Infection* ([www.fao.org/avianflu](http://www.fao.org/avianflu)) in Rome in 2007, a 2004 American Wildlife Conservation Society proposal ([www.wcs.org](http://www.wcs.org)), and earlier ideas from the 1990s reported by E. Schelling, K. Wyss, M. Bechir, D.D. Moto, J. Zinsstag (2005) Synergy between public health and veterinary services to deliver human and animal health interventions in rural low income settings. *British Medical Journal* 331, pp.1264-1267. The phrase One World, One Health is a trademark of the Wildlife Conservation Society.

**The difference in five years time will be:**

- more robust and coherent animal and human avian influenza surveillance, reporting and outbreak communication systems in vulnerable countries
- improved biological security at the interface between animals and people in developing countries
- better informed pandemic preparedness planning internationally in critical areas building on the results of a coordinated and prioritised international research agenda
- wide international sharing and discussion of research results and of ways in which they might be used to inform policy decisions.

## 5. Review

A table at Annex D lists actions, the lead Department(s) and departmental partners tasked to implement specified actions. We will provide a full review for publication of progress against each objective after eighteen months and again after three and five years.

## 6. Resource implications

This strategy builds on and refocuses our existing activity so as to promote international pandemic preparedness. We will pursue the strategic objectives through our continuing engagement with inter-governmental organisations, international civil society, the private sector, informal international networks and through bilateral channels as appropriate. The UK has pledged £35 million since 2006 in support of international efforts to address avian and pandemic influenza threats. Further UK Government financial support for international activities will be considered through normal budgeting procedures.

# Annex A

## Glossary and abbreviations

APEC	Asia Pacific Economic Cooperation
ASEAN	Association of South East Asian Nations
BERR	Department for Business, Enterprise and Regulatory Reform
BWI	Bretton Woods Institutions (the World Bank and the International Monetary Fund)
CO	Cabinet Office
DEFRA	Department for Environment, Food and Rural Affairs
DFID	Department for International Development
DH	Department of Health
DIUS	Department for Innovation, Universities and Skills
DPKO	UN Department of Peace Keeping Operations
ECDC	European Centre for Disease Prevention and Control
EID	Emerging Infectious Disease
EU	European Union
FAO	Food and Agricultural Organisation of the United Nations
FCO	Foreign and Commonwealth Office
FSF	Financial Stability Forum
G8	Group of 8 industrialised countries: Australia, Canada, France, Germany, Japan, Russia, United Kingdom, United States of America
G20	Group of 20 countries with fluctuating membership comprising: Argentina, Bolivia, Brazil, Chile, China, Cuba, Ecuador, Egypt, Guatemala, India, Indonesia, Mexico, Nigeria, Pakistan, Paraguay, Peru, Philippines, South Africa, Tanzania, Thailand, Uruguay, Venezuela, Zimbabwe; former members have included Colombia, Costa Rica, El Salvador, and Turkey.
G77	A large grouping of 77 predominantly low- and middle-income countries
GHSAG	Global Health Security Action Group: G7 (G8 less Russia) plus Mexico;  GHSAG's PIWG is the Pandemic Influenza Working Group.
GISN	Global Influenza Surveillance Network
H5N1 or A/H5N1	The highly pathogenic avian influenza virus type A sub-type H5N1
HMT	Her Majesty's Treasury
HPA	Health Protection Agency
HPAI	Highly Pathogenic Avian Influenza
IFRC	International Federation of Red Cross and Red Crescent Societies
IHR	International Health Regulations
IMF	International Monetary Fund
IOM	International Organisation of Migration

IASC	Inter-Agency Standing Committee
IPAPI	International Partnership on Avian and Pandemic Influenza
NATO	North Atlantic Treaty Organisation (26 Allies plus 24 Partner countries)
NGO	Non-Governmental Organisation
PIC OCHA	Pandemic Influenza Contingency unit in UN OCHA
UN OCHA	United Nations Office for the Coordination of Humanitarian Affairs
OiE	World Organisation for Animal Health (Office international des épizooties)
<i>One World, One Health</i>	A general approach to bringing together activity between the human and veterinary sectors to foster "one health"
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
UN SG	United Nations Secretary General
UNSIC	United Nations System Influenza Coordinator
VBD	Vector Borne Disease
WB	World Bank
WFP	World Food Programme
WHO	World Health Organization

# Annex B

## UK 2005 international avian and pandemic influenza strategy

Five priority objectives have comprised UK international influenza strategy since 2005:

- i. To support international collaboration in tackling the disease [highly pathogenic avian influenza] and its underlying causes and conditions through building a strong and effective multilateral system with a clear structure, strong expertise, transparency and accountability.
- ii. In terms of near-term priorities, to support efforts to build rapid response capabilities, especially to target areas where there are good prospects of containing and eradicating avian influenza outbreaks; and to build better surveillance systems to allow rapid reporting and alerting.
- iii. To support efforts across the medium term which help to build capacity in both animal husbandry and public health in potentially affected countries and regions.
- iv. To develop a better understanding of the international position on aid commitments, as a contribution to efforts to stimulate the commitment of expenditure by donors and the distribution of funds to areas with the highest immediate need.
- v. In all this to ensure flexibility in the UK's approach, including the commitment of funds, to reflect our inability to predict how the avian and human influenza threat will evolve and associated response priorities.

# Annex C

## The major themes of the New Delhi vision and road map<sup>23</sup>

Building commitments	<ul style="list-style-type: none"> <li>● Establishment of inter-ministerial oversight and coordination mechanism</li> </ul>
Assessments	<ul style="list-style-type: none"> <li>● Assessment of needs in animal and health sectors</li> <li>● Identify priority areas for attention</li> <li>● Identify resource gaps</li> <li>● Ensure legislation fit for purpose</li> </ul>
Strengthen surveillance	<ul style="list-style-type: none"> <li>● Effective animal disease surveillance systems</li> <li>● Intensive action in the event of entrenched H5N1</li> <li>● Active surveillance of early human cases of influenza-like illness and laboratory confirmation</li> <li>● Protocols for sharing information</li> </ul>
Effective response	<ul style="list-style-type: none"> <li>● Operational plans for             <ul style="list-style-type: none"> <li>– Control AI</li> <li>– Rapid containment of human cases</li> <li>– Mitigation</li> <li>– Early resumption of livelihoods</li> <li>– Communication</li> </ul> </li> <li>● Multisectoral approach to pandemic preparedness</li> <li>● Tested plans</li> </ul>
Bio-security and livestock	
Ensure human health security	<ul style="list-style-type: none"> <li>● Established protocols for pandemic containment</li> <li>● Hospitals prepared</li> <li>● Communities prepared to implement non-pharmaceutical interventions</li> </ul>

23 Summary abstracted from S. Mounier-Jack and R. Coker (2008) UK cross-government strategy on human pandemic and avian influenza. (Briefing paper commissioned by Cabinet Office at [www.ukresilience.gov.uk](http://www.ukresilience.gov.uk).)

Coordination	<ul style="list-style-type: none"><li>● Pandemic preparedness plans incorporated into national disaster management structures</li><li>● Established platforms for dialogue between government, civil society and private sector</li></ul>
Communication	<ul style="list-style-type: none"><li>● Communications programmes should address<ul style="list-style-type: none"><li>– Awareness about livestock and dangers</li><li>– Actions to be taken if poultry outbreaks</li><li>– Guide actions in event of pandemic in humans</li></ul></li></ul>

# Annex D

## Action log

This action log outlines the lead government department(s) and supporting partner department(s) for each action.

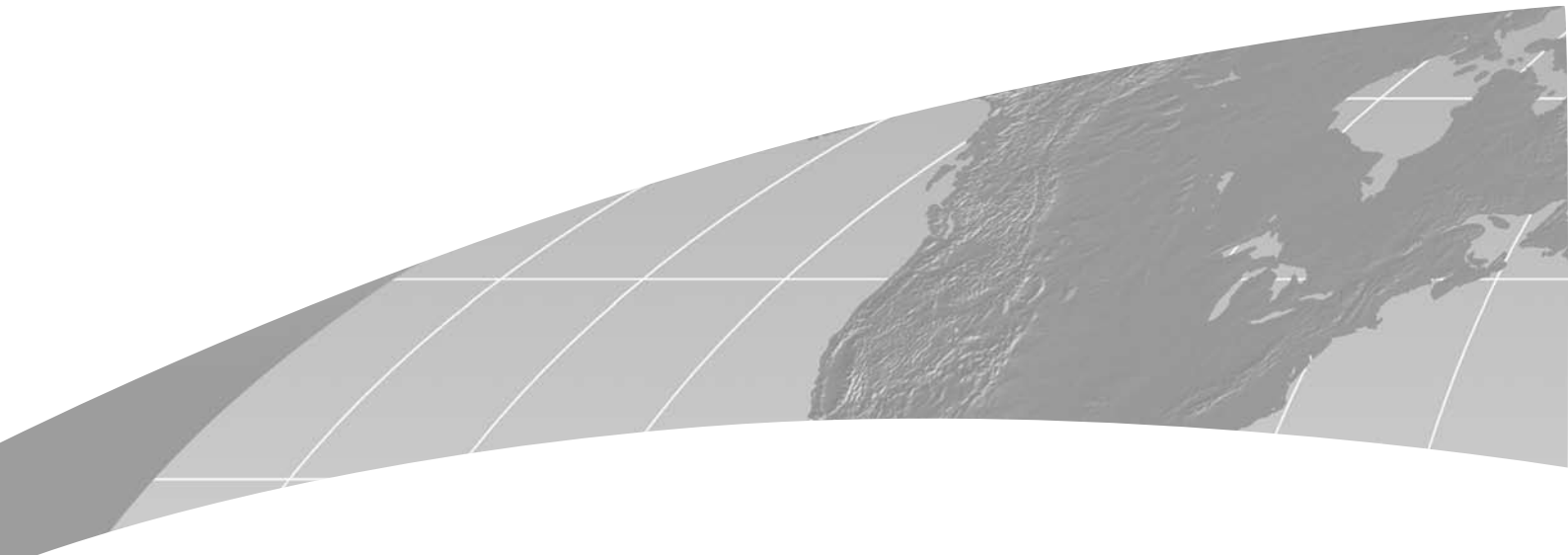
	Lead department(s)	Partner departments
<b>Objective A: To help improve effective coordination of the international response by all actors, including inter-governmental bodies, regional and sub-regional organisations, international non-governmental organisations and the private sector.</b>		
<b>Actions:</b>		
1. Bring together international organisations to examine and define how coordination of pandemic planning and response at global and regional levels can be improved.	CO	FCO, HMT, DFID, DH, DEFRA
2. Engage more closely with private and non-governmental stakeholders to establish their roles in the global response.	CO	FCO, DH
3. Encourage testing of an international pandemic response involving the main international organisations, agencies and sectors.	CO	FCO, HMT, DFID, DH, DEFRA
<b>Objective B: To promote high-quality cross-sectoral health and non-health pandemic planning in third countries facing high risks, including making plans operational and interoperable across borders.</b>		
<b>Actions:</b>		
1. Encourage and where possible support national, regional and wider international initiatives addressing non-health issues in pandemic planning, including by contributing knowledge and expertise to aid peer review through multilateral and bilateral channels as appropriate.	DFID	CO, DH
2. Encourage the Pandemic Influenza Contingency team in the UN Office for the Coordination of Humanitarian Affairs (PIC OCHA) in its work of monitoring, periodically assessing, and promoting the improvement and testing of business continuity plans for UN Country Teams in support of host national authorities.	DFID	FCO, CO

	<b>Lead department(s)</b>	<b>Partner departments</b>
<p>3. Promote interoperability and consistency of national plans by encouraging the WHO (for health sector issues) and by supporting and encouraging the PIC OCHA (for non-health sector issues) to:</p> <ul style="list-style-type: none"> <li>- enable regional sharing of experience and good practices,</li> <li>- translate plans into common regional languages, and</li> <li>- promote and assist in regional exercises to test the operation of the plans.</li> </ul>	DH+DFID	
<p>4. Urge the WHO and PIC OCHA to work together to carry out joint reviews of preparedness in regions, promulgating innovations and good practices, and to promote the establishment of self-sustaining regional and sub-regional peer review systems.</p>	FCO	DH, DFID, CO
<p>5. Work with international partners to identify and if necessary initiate appropriate forums for addressing critical supply-chain interdependencies for essential services.</p>	FCO	CO, HMT
<p>6. Encourage the relevant international organisations to consider which legal instruments might in a pandemic need to be suspended, relaxed or otherwise implemented in an abnormal manner during a pandemic.</p>	FCO	HMT, DH, DEFRA, BERR, DECC
<p>7. Work with EU partners to improve national plans and the planning of cross border operations in a pandemic, and definition of roles and processes of all players throughout the WHO pandemic Phases.</p>	FCO	HMT, DH, DEFRA, BERR, DECC

	Lead department(s)	Partner departments
<b>Objective C: To support detection and surveillance activity in countries at risk, and where feasible pandemic containment at source including humanitarian assistance during containment and in pandemic mitigation.</b>		
<b>Actions:</b>		
1. Urge the WHO to operationalise its containment strategy and to test further its efficacy in a structured exercise.	DH+DFID	
2. Identify what part, if any, the UK might be able to play in such a containment operation and in the associated humanitarian effort.	DH+DFID	
3. Develop flexible contingency planning to guide UK actions internationally from the point when WHO has issued the relevant alert, aimed at helping to contain and eradicate the pandemic virus, or at least delay its spread, alongside the existing domestic contingency plans for a pandemic reaching the UK <sup>24</sup> .	DH+DFID	
4. Clarify the role we would play in the business continuity planning of humanitarian partners in pandemic containment and mitigation, eg WFP, UNHCR, UNICEF, IFRC and others as appropriate.	DFID	
5. Address how we might best contribute to improving both animal and human surveillance systems for highly pathogenic avian influenza in vulnerable areas of the world.	DEFRA+DH	DFID
6. Continue to work with partners to find ways to resolve discussions on virus sample sharing so as to enable a fairer and greater distribution of benefits.	DH	DFID

24 Cabinet Office and Department of Health (2007) *Pandemic flu: A national framework for responding to an influenza pandemic*. Paragraph 5.7.

	Lead department(s)	Partner departments
<b>Objective D: To encourage engagement and policy-relevant research across veterinary and human health sectors globally in support of a <i>One World, One Health</i> approach, and to reduce the gaps in the broader scientific evidence base.</b>		
<b>Actions:</b>		
1. Encourage the building and sustaining of functional links between animal and human health systems nationally and across borders.	DH+DEFRA	DFID
2. Continue to work with partners to develop innovative cross-sector initiatives to address zoonotic disease risks at their source in the interfaces between animals, people, and ecosystems worldwide, including from a <i>One World, One Health</i> perspective which brings together activity between the human and veterinary sectors so as to foster 'one health'.	DEFRA+DH	DFID
3. Consult national and international veterinary and human health sectors on the scope for measures to promote cross-disciplinary curriculum development, including public education and research.	DEFRA+DH	DFID, DIUS (GO-Science)
4. Continue to support international efforts to map research across the spectrum, and to support the research itself including international discussion and dissemination of its results.	DEFRA+DH+DFID	CO, DIUS (GO-Science)



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