



DEPARTMENT FOR ENVIRONMENT, FOOD AND RURAL AFFAIRS  
Foot and Mouth Disease: Applying the Lessons

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## EXECUTIVE SUMMARY



**1** In March 2003 the House of Commons' Committee of Public Accounts (the Committee) reported on the 2001 outbreak of Foot and Mouth Disease.<sup>1</sup> The Committee made a number of recommendations to improve the management of future livestock epidemics by the Department for Environment, Food and Rural Affairs (the Department). This report examines the Government's response to the Committee in May 2003<sup>2</sup> and the progress made since then.

**2** Throughout the report we have summarised our findings on the Department's preparations for a future outbreak using a traffic light analogy: a green light where the Committee's concerns have been addressed, amber where the Committee's concerns have been mostly addressed, and red where there is limited progress to report. **Figure 1** shows that overall we consider that the Department has implemented most of the actions promised to the Committee and has made good progress on the others since 2001.

**3** Our main findings on the Department's preparations for a future outbreak are:

- The Department has taken action, through improved animal health policies, to reduce the risk of an outbreak on the scale of 2001 - although further outbreaks can never be ruled out.
- Preparedness for another outbreak is much improved – in terms of contingency planning, staff training, the availability of vaccination as an adjunct to culling, improved dialogue with stakeholders and standing arrangements with contractors to make resources available to fight any future outbreak. In addition,

1 Foot and Mouth Disease - traffic light analysis		
Report Ref	Area	NAO evaluation
Part 2	Preventing an outbreak of Foot and Mouth Disease	●
Part 3	Stopping an outbreak before it develops into a major epidemic	●
Part 4	Controlling the costs of a future outbreak	●

KEY

- Committee of Public Accounts' concerns addressed
- Concerns mostly addressed
- Progress is ongoing to address the Committee's concerns

Source: National Audit Office

the Department's disease control strategy is now better documented, and further research into disease control strategies is underway.

- Some arrangements to control the cost of a future outbreak have been improved but new compensation arrangements await legislation, and discussions continue on establishing a levy scheme to share the cost of future outbreaks with the farming industry.

These findings are discussed in greater detail in the rest of this summary. We also examined how the Department has managed issues remaining from the 2001 outbreak: final payments to some contractors remain to be resolved.

1 *The 2001 Outbreak of Foot and Mouth Disease, Committee of Public Accounts - Fifth Report 2002-03 HC 487 14 March 2003.*  
 2 *Treasury Minutes on the Fifth, Sixth and Ninth Reports from the Committee of Public Accounts 2002-2003 Cm 5801 May 2003.*

## Background

4 Foot and Mouth Disease is one of the most highly infectious livestock diseases and it reduces significantly the productivity of infected animals. In 2001, the Department estimates that at least 57 separate farms were infected before the disease was first reported. The resulting epidemic was one of the largest and most costly animal disease outbreaks ever. At least six million animals were culled for disease control purposes or because of welfare problems resulting from the restrictions on animal movements.<sup>3</sup> The 2001 epidemic cost the taxpayer over £3 billion, including some £1.4 billion paid in compensation for culled animals. The total cost of the epidemic was offset by £350 million reimbursed by the European Commission.

5 Following the three inquiries into the outbreak by the Royal Society, Dr Iain Anderson (Lessons to be Learned enquiry) and the National Audit Office, the Department prepared a full response followed by a detailed action plan or “Route Map” in November 2002.<sup>4</sup> Following the report by the Committee of Public Accounts in March 2003, the Department also prepared a Treasury Minute<sup>5</sup> which sets out the Government’s detailed response to the Committee’s main findings and recommendations, and made a number of undertakings (Appendix 4). This report does not set out to repeat the information contained in these detailed documents, but rather to assess the progress made since the Committee’s last report.

## Main findings

The Department has acted to reduce the chance of another major livestock epidemic, but continued vigilance is essential

**The Committee recommended improvements to biosecurity to reduce the chance of a future epidemic. The Treasury Minute set out details of the actions taken by the Department through its animal welfare strategy, including better controls over illegal meat imports and restrictions on the movement of animals.**

6 **The Department has acted to reduce the chances of another outbreak.** The 2001 outbreak of Foot and Mouth Disease is most likely to have been caused by the illegal feeding of unprocessed swill containing meat

contaminated with the Foot and Mouth Disease virus to pigs. The 2001 epidemic was made worse by the rapid dispersal of infected animals via livestock markets to farms in at least 16 counties, and to three other European countries, before the disease was reported. The Department’s strategy for preventing new outbreaks includes the following main elements:

- **To reduce the chance of susceptible animals coming into contact with infectious material**, the feeding of waste food (swill) to pigs by farmers is now illegal and is likely to be detected quickly through farm inspections.
- **To encourage a greater use of disease prevention measures on farms**, the Department is encouraging farm assurance schemes and is working in partnership with different livestock sectors, vets, and agricultural colleges and others.
- **To slow the initial spread of the disease**, there are now greater routine restrictions on the movements of cattle and sheep and the gathering of animals at livestock markets. In addition, once an outbreak is confirmed, the Department will impose an immediate nationwide ban on all livestock movements.
- **To improve the identification and reporting of suspect cases**, the Department’s animal health and welfare strategy will better co-ordinate farm inspections and encourage improved veterinary surveillance of farm animals.
- **To reduce the level of illegal meat and other agricultural imports**, the Department has undertaken to spend a total of £25 million over three years, mostly to fund additional work at ports by Customs officers. During 2003-04, Customs and local authorities seized 186 tonnes of illegal animal products, including an increase of over 100 per cent in seizures of illegal meat. Since the 2001 epidemic, the Department has attempted to maintain the high levels of public awareness of the risks from imported animal products. The National Audit Office is preparing a separate report on how HM Customs and Excise is seeking to stop illegal imports of agricultural products.

3 The figure excludes young animals which were valued with their mothers and not separately counted.

4 *Response to the Reports of the Foot and Mouth Disease Inquiries* Cm 5637 November 2002. The “Route Map” is available at <http://www.defra.gov.uk/corporate/inquiries/response/index.htm>

5 *Treasury Minutes on the Fifth, Sixth and Ninth Reports from the Committee of Public Accounts 2002-2003* Cm 5801 May 2003.

The Department is now better prepared to deal with a livestock epidemic

**The Committee was concerned at weaknesses in contingency planning and recommended the Department improve its partnerships with rural stakeholders and the availability of key staff and veterinary resources; develop trigger points for involving the armed forces; and clarify its plans for vaccination. The Treasury Minute outlined the major changes made to the contingency plan since 2001 and the Department's efforts to reflect wider rural issues in its policy making.**

**7 The Department has improved its capacity to deal with future outbreaks of livestock diseases and their contingency plan is one of the best available.** It now also includes explicit consideration of vaccination.<sup>6</sup> The Department has made considerable progress since February 2001 in improving its capacity and preparedness for combating another major disease outbreak including plans for increasing veterinary and other staff and other resources; over two hundred agreements with a wide range of suppliers of essential services; and capacity to deploy at least 50 vaccination teams within five days of confirmation of disease. The Department has carried out more than 30 exercises of varying scales to test their contingency plans including Exercise Hornbeam in June 2004 which involved more than 500 people. The introduction of an improved management information system – the Exotic Disease Control System – was delayed whilst the Department outsourced its information technology. In the meantime, the current Disease Control System, developed during the 2001 epidemic, is being maintained to ensure continued support for the Department's disease control activities in the interim.

**8 The new Foot and Mouth Disease contingency plan has been the subject of wide consultation with the farming industry, local authorities and other rural interest groups.** We compared this plan with a range of countries and we concluded that the UK plan is one of the best available, and the European Commission now considers that it complies with the latest European Directive. The Contingency Plan summarises the policies that would be immediately implemented, including the consideration of emergency vaccination. The plan is concerned primarily with the Department and central government decision-making processes and is not

intended to cover local authorities, emergency services and other agencies such as tourist authorities who should have their own plans. The Department is currently working with local authorities to prepare a model local plan to ensure that all those who would be involved in controlling the disease understand each other's roles and responsibilities and are able to operate in a co-ordinated and co-operative fashion.

**9 The Department's contingency plan does not include explicit consideration of a worst-case scenario.** However, the Department considers that the Plan provides for a wide range of scenarios. It has also commissioned work modelling a range of scenarios which will contribute to the Department's ability to increase veterinary and other resources to meet the needs of any realistic worst-case scenario.

**10 The Department will notify the Ministry of Defence on confirmation of disease, but the Ministry of Defence cannot guarantee the availability of troops in any civil emergency.** Thus the role of the military has not been specified in advance of an outbreak. The Committee recommended that the Department and the Ministry of Defence should plan for the early involvement of the military in future epidemics. However, the Treasury Minute argued that the specific aims and objectives of the troops are best agreed at the time of their deployment because the ability of the armed forces to participate in controlling a Foot and Mouth Disease epidemic is dependent on other commitments at the time of the outbreak. These arrangements are consistent with the national arrangements for civil contingencies, which have been the subject of a recent review by the Cabinet Office.<sup>7</sup> The Department considers that this arrangement together with Military Liaison Officers being in the National and Local Disease Control Centres from the outset retains a degree of flexibility to use the military to assist in dealing with unforeseen circumstances in a future outbreak. It also believes that relevant leadership and communications skills which the military brought to the 2001 operation are being maintained within the Department by inclusion in the contingency plan and through regular realistic exercises. Other areas where military expertise played a major part such as carcass disposal logistics will be managed through contracts with commercial firms.

<sup>6</sup> We compared the UK contingency plan and plans published by six other countries and with guidance from the European Commission and others (Appendix 6 and paragraph 3.4).

<sup>7</sup> *Dealing with Disaster* (revised 3rd edition) Cabinet Office Civil Contingencies Secretariat ISBN 1-874447-42-X.



**11 As promised in the Treasury Minute, the latest contingency plan includes details of the Department's proposals for vaccination – but the decision to use will be a complex one.** The latest European Directive on Foot and Mouth Disease requires that all animals on infected farms or otherwise exposed to the disease should be culled. Emergency vaccination of animals is allowed as an additional measure. The Department can now begin vaccination within five days - as soon as stocks of vaccine can be made up from frozen antigen. However, the decision whether or not to vaccinate commercial livestock in any particular area is a very complex one and would have to be taken in the face of many uncertainties. The Foot and Mouth Disease contingency plan includes a "decision tree" setting out internationally recognised criteria for decisions on vaccination including, for example, the density of livestock in the affected area. Neither the European Directive, nor most of the other countries' contingency plans we examined, contain specific circumstances which would trigger vaccination, and most plans include less detail on how the optimum control strategy is to be decided on. In June 2004 the Department also published a paper on the role of vaccination in any future outbreak, and held a major exercise in June 2004 which resulted in a decision to use vaccination to control the hypothetical outbreak.

**12 Vaccination is likely to feature more prominently in the response to a future outbreak, and the supply of vaccine has been substantially increased.** Plans to vaccinate up to 180,000 cattle in 2001 were not used largely due to the opposition expected from farmers and the food industry. The Department has, since 2001, engaged with a wide range of stakeholders on issues arising from the use of emergency vaccination against Foot and Mouth Disease. These discussions have involved the full food chain – from producers through to retailers and ensured that stakeholder's views were taken account of during negotiations on the new European Union Directive on Foot and Mouth Disease in 2003. Further work is currently underway to address particular concerns of the dairy and meat industry on the impact of Foot and Mouth Disease control measures especially emergency vaccination.

**13** On supply, the Department has substantially increased the UK stocks of antigen used to prepare vaccine since 2001. Foot and Mouth Disease is a highly variable virus. The UK vaccine bank now holds sufficient antigens to make in total over 20 million doses of Foot and Mouth Disease vaccine. The minimum quantity of any one of the nine strains of the virus most likely to be involved in a future outbreak is around 500,000 doses. Although widespread vaccination of sheep and pigs is unlikely to be beneficial, there are over 10 million cattle in the United Kingdom. The Department formally reviews vaccine stocks annually on the basis of independent advice from the Institute of Animal Health and additional purchases will be made if that is justified by the international situation. In the event of another UK outbreak, some further vaccine supplies may be available from international stocks such as the European Community's Vaccine Bank and from manufacturers, but the latter cannot be guaranteed.

**14 The European Union policy on the control of Foot and Mouth Disease is to cull all susceptible animals in an infected place and any dangerous contacts.** Whether or not vaccination is employed in a future epidemic, the immediate cull of all susceptible animals on infected premises along with the rapid identification and slaughter of any animals that have been exposed to infection (dangerous contacts), through human contacts, vehicle and animal movements or airborne spread, remains the primary method of control both in the United Kingdom and throughout the European Union. There will not be an automatic cull of animals on neighbouring (contiguous) premises - unless a potential route of infection is identified by veterinarians. However, if initial efforts to control the epidemic are unsuccessful, and vaccination is not feasible, a more extensive cull of animals on neighbouring farms, as in 2001, remains a possibility because animals on contiguous premises are at greater risk of infection by virtue of their proximity to infected animals.

**15 The Department made available all its data on the 2001 outbreak to independent academic researchers during 2003.** Scientific opinion on the relative effectiveness of vaccination and cull of contiguous premises is divided, and the subject remains controversial with different scientific teams producing widely different conclusions. In January 2004 the Department commissioned a major cost benefit analysis of different disease control strategies, including vaccination and contiguous cull, using improved computer models. Initial findings will be reported early in 2005.

The Department has improved controls over the costs of future epidemics

**The Committee was concerned that better benchmarks were needed for assessing compensation paid for culled animals, prices for key services should be agreed in advance with suppliers, and better control should be exercised over the costs of cleansing infected premises. The Treasury Minute outlined the progress made on these areas by May 2003 and promised a range of public consultations on detailed proposals by 2004.**

**16 The Department has issued extended guidance to valuers which is significantly better than that used in 2001 but has not provided benchmark valuations.** The Department has drawn up a list of 280 approved valuers who will be paid by the hour rather than by a percentage of the valuation as in 2001. Other improvements made since 2001 include the appointment of independent monitors to assess the valuations undertaken by approved valuers and to advise the Department on any additional instructions that need to be issued to the approved valuers in an outbreak. The extended guidance includes a range of factors which the approved valuers are expected to include (for example the valuation of hefted sheep - specialised flocks occupying hill or other pasturage), and the need for improved documentation to support the valuations. However, the guidance does not provide detailed instructions on how valuers should reach their assessments because the Department expects professionally qualified valuers to be competent and believes that further detail would undermine the independence of the valuation process. The Department also believes that benchmarks are not readily available for dairy cattle and pedigree animals. In addition, valuers who give significant cause for concern will be removed from the approved list.

**17 In October 2003, the Department consulted on a new compensation scheme for all notifiable animal diseases which would apply standard rates based on average market values prior to the outbreak.** In addition, owners of higher value animals would have the option of having them independently valued, at their own expense, prior to the outbreak, and the valuation agreed by the Department. This scheme would reduce the scope for disputes over compensation delaying the cull of infected animals and help to ensure that above average animals are valued realistically.

**18 The Department has improved its guidance on the costs of cleansing and disinfection.** In 2001, cleansing and disinfection of farms cost the taxpayer an average of £30,000 per farm. In the Netherlands farmers were required to carry out much of this work at their own expense. Neither country experienced re-emergence of the disease. The European Commission was critical of the controls exercised over the costs of cleansing and disinfection in 2001 and recently disallowed 80 per cent of the Department's claim for £209 million. The latest Departmental guidance requires cleansing and disinfection to be proportionate to the risk, and requires staff to use their judgement to assess what should be cleansed and disinfected on an individual farm. The Department does not consider that benchmark or maximum values would be effective – and could lead to excessive work being done on low risk sites.

**19 Proposals for a scheme to share the costs of a future animal disease outbreak between the farming industry and the taxpayer are expected soon.** The Department's proposals for an industry levy scheme and other charges to farmers have been delayed pending decisions on the regulation of farming and the cumulative impact of policy changes, including reform of the Common Agricultural Policy. The Department is finalising a proposed scheme for public consultation which is expected to cover all major animal diseases and ensure that the industry contributes towards the Department's animal health expenditure and the costs of dealing with major disease outbreaks. The cost of controlling a future outbreak will continue to be borne by the taxpayer until the proposed compulsory industry levy scheme is in place. The new scheme may include an element related to compliance with good practice in biosecurity.

The final cost of the 2001 epidemic for UK taxpayers is yet to be determined

**20** The final contribution by the European Union towards the Department's £3 billion cost of the 2001 outbreak – some £350 million - was significantly less than the £960 million claimed. The European Commission generally reimburses 60 per cent of Member State's eligible expenditure including compensation for compulsory slaughter of animals and certain "other costs" of disease eradication process (for example, the cleansing of infected premises). Following the outbreak, in line with European legislation, the Department submitted three claims for re-imburement (two claims for compensation costs and one for 'other costs'). These three claims amounted to some £960 million. Following a review of a sample of high value compensation claims, together with other indicators of the value of culled animals, the Commission concluded that farmers were compensated on average between two and three times the market value. The Department accepts that the compensation system in use during the emergency was flawed but believes that the Commission's conclusions overstate the extent of the problem. In addition, the European Commission conducted a detailed review of the UK's "other costs" claim. The Commission initially offered to pay £230 million in settlement of all three claims. However, following discussions with the Department and a re-examination of their work, the Commission revised the amount refundable to £350 million (£253 million for animals culled and £97 million for 'other costs').

The Committee was concerned that the Department should seek recovery where it believes it was overcharged [by contractors] in 2001. The Treasury Minute outlined the Department's approach to settling disputed invoices through negotiation, mediation, litigation and formal overpayment procedures.

**21** The Department has paid 97 per cent of the invoices submitted by contractors since 2001 but has not yet finalised payments to 57 contractors. The Department has spent over £25 million on professional services to investigate invoices for the £1.3 billion expenditure on goods, services and works arising out of the 2001 outbreak; but it estimates that this has produced savings for the taxpayer of at least £57 million.

- The Department has completed an initial review of invoices submitted by 108 of the 130 largest suppliers. Final payments have been agreed in 73 cases, valued at £444 million, by negotiation or through formal dispute resolution procedures which have saved £40 million. In the other 35 cases alternative dispute resolution procedures, and possibly litigation, are likely to be needed to resolve the difficult issues involved. The first cases to be tested in court were heard during 2003. The first judgement in January 2004 was a mixed result for the Department. Nine cases are now in the High Court and one case is the subject of ongoing Police investigation. A further case has been referred to the Special Compliance Office of the Inland Revenue as the relevant investigating authority.
- The Department expects to complete its initial review of invoices submitted by the remaining 22 suppliers by the end of March 2005 or earlier. In the cases where a final settlement has not been reached, the Department has already agreed reductions of a further £17 million.





## CONCLUSION

**22** Although good progress has been made since 2001 on most of the recommendations made by the Committee following the 2001 epidemic, the Department recognises that further work is needed in some key areas:

- The Department's contingency plan is focused on central government, but it is now working with other public bodies such as local authorities to agree roles and responsibilities to be recorded in complementary plans.
- The Department has commissioned a cost benefit analysis of alternative disease control policies and made its data on 2001 available to independent researchers – results are awaited and will thereafter be reflected in disease control strategies and contingency plans.
- The Department is reviewing its Information Technology support in any future outbreak to determine a revised programme for the introduction of essential improvements.
- The cost of controlling livestock disease outbreaks currently falls predominantly on the taxpayer rather than the industry. The Department has proposed an animal health levy scheme to share the burden in future, and it will report the findings from its consultation to Parliament.
- The Department is developing a new compensation system which will remove the need to use independent valuers to value animals prior to their cull. However, this system will require primary legislation and is unlikely to be in place until 2008.
- The Department is continuing to seek negotiated settlements with contractors which it believes have overcharged for services provided during 2001 and will consider legal action where necessary. Some 3 per cent of invoices remain to be settled.