

The 2001 Outbreak of Foot and Mouth Disease



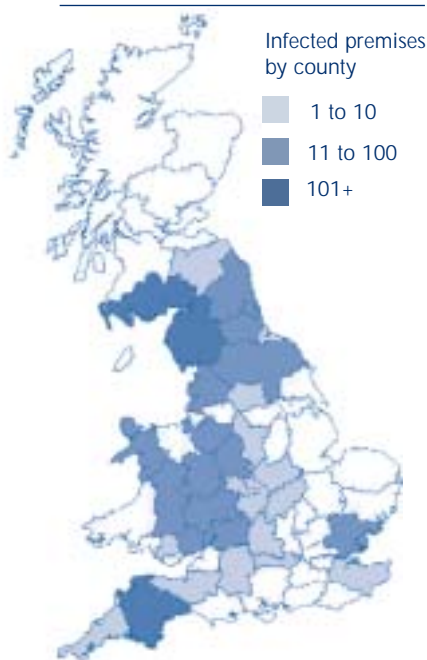
REPORT BY THE COMPTROLLER AND AUDITOR GENERAL
HC 939 Session 2001-2002: 21 June 2002

executive summary

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1 Counties with cases of foot and mouth disease



Source: Department for the Environment, Food and Rural Affairs

- 1 Foot and mouth disease was suspected at an abattoir in Essex on 19 February 2001 and confirmed the following day. By the time the disease had been eradicated in September 2001, more than six million animals had been slaughtered: over four million for disease control purposes; and over two million for welfare reasons. The direct cost to the public sector is estimated at over £3 billion and the cost to the private sector is estimated at over £5 billion.
- 2 At least 57 farms had already been infected with the virus when the disease was confirmed on 20 February 2001. The disease spread quickly and there were outbreaks in 44 counties, unitary authorities and metropolitan districts and over 2,000 premises were infected (**Figure 1**). The scale and impact of the epidemic were immense: greater than that of the last serious outbreak in Britain, in 1967-68. In mid-April 2001, at the height of the crisis, more than 10,000 vets, soldiers, field and support staff, assisted by thousands more working for contractors, were engaged in fighting the disease. Up to 100,000 animals were slaughtered and disposed of each day in what was a massive and complex logistical operation. Tourism suffered the largest financial impact from the outbreak, with visitors to Britain and the countryside deterred by the initial blanket closure of footpaths by local authorities and media images of mass pyres.
- 3 The epidemic lasted for 32 weeks, the last case being confirmed on 30 September 2001 on a farm near Appleby in Cumbria. On 22 January 2002 the United Kingdom was re-instated on the OIE¹-list of countries free of foot and mouth disease, and on 5 February 2002 the European Commission lifted remaining meat and animal export restrictions.
- 4 Compensation and other payments to farmers are expected to total nearly £1.4 billion. Direct costs of measures to deal with the epidemic including the purchase of goods and services to eradicate the disease are expected to amount to nearly £1.3 billion. Other public sector costs are estimated at £0.3 billion. In the private sector, the areas most affected by the outbreak were agriculture, the food chain and supporting services, which incurred net costs of £0.6 billion; and tourism and supporting industries, which lost revenues of between £4.5 billion and £5.4 billion. The Treasury has estimated that the net economic effect of the outbreak was less than 0.2 per cent of gross domestic product² (this would be equivalent to less than £2 billion).

1 The Office Internationale des Epizooties, with 158 member countries, sets sanitary rules for international trade in animals and animal products and disseminates veterinary scientific information on animal disease control.

2 The net economic effect was less than the £5 billion cost to agriculture and tourism because many of the losses suffered by individuals and firms led to equivalent amounts being spent elsewhere in the economy.

- 5 The Department for Environment, Food and Rural Affairs (formerly the Ministry of Agriculture, Fisheries and Food) (the Department³) took the lead in dealing with the outbreak. Many other departments and agencies were also involved and farmers, private contractors and voluntary and stakeholder groups played important roles. From the outset the Prime Minister and Cabinet were closely engaged, receiving regular briefings on the developing situation and the progress made in controlling the disease. The Government's priority was to combat the disease with whatever resources were needed. The Government's view was that best value for money would be obtained by stamping the disease out quickly.
- 6 Under the Scotland Act of 1998, legislation on all animal health matters has been devolved to the Scottish Parliament and policy development and implementation made the responsibility of Scottish Ministers. During the 2001 outbreak, Scottish Ministers operated within an agreed policy framework whilst taking account of local circumstances.
- 7 Some, but not all, animal health functions were transferred to the National Assembly for Wales in 1999, but the operational 'on the ground' disease control functions in the Animal Health Act 1981 and the Foot and Mouth Disease Order 1983 continued as functions of the Department post-devolution. Under the Animal Health Act 1981, the National Assembly for Wales makes secondary legislation jointly with the Department and makes regulations under section 2(2) of the European Communities Act 1972, mainly to implement Community decisions on import and export of animal carcasses and animal products. During the 2001 outbreak decisions affecting Wales were in practice taken by the Department in consultation with the National Assembly.

Scope of our examination

- 8 Against the above background, we examined the adequacy of contingency planning for an outbreak of foot and mouth disease, how quickly and effectively the disease was eradicated and the cost-effectiveness of the action taken. The investigation covered England, Scotland and Wales. It did not cover Northern Ireland, which has its own animal health legislation and veterinary service.

³ The "Department" is used in this report to describe the Ministry of Agriculture, Fisheries and Food, which became part of the Department for Environment, Food and Rural Affairs in June 2001.



Our main conclusions

Preparing for a possible outbreak of foot and mouth disease (Part 2 of the Report)

9 We found that:

a **The nature and scale of the 2001 outbreak were unprecedented.**

The source case, on a pig farm, was discovered two days after foot and mouth disease was confirmed to be in Britain. However, it was apparent that the premises had probably been infected for several weeks. The main transmitters of the virus were sheep, where identification of the clinical signs of disease was particularly difficult. And the outbreak occurred at a time of year when large numbers of sheep were being marketed and moved. Consequently, the disease was already widely 'seeded' across the country by the time the first case was detected. The Department believes that given the unprecedented nature of what happened it is unrealistic to expect any contingency planning to have fully prepared it for the chain of events that occurred. Senior veterinary officers in other countries and the European Commissioner for Health and Consumer Protection have commented that the nature and magnitude of the events in Britain were such that any country would have struggled under the circumstances. Many countries are revising their contingency arrangements in the light of Britain's experience in 2001.

b **The Department had prepared contingency plans which met European Union requirements.**

The plans comprised a national contingency plan for Great Britain; local contingency plans; and standing field instructions for veterinary and other staff on the practical measures to be taken in the event of an outbreak. The plans were approved by the European Commission in 1993 and had been updated in various ways since then. In the event, contingency plans worked in those areas where there were relatively few cases. In the worst hit areas, the disease had spread widely before it had been identified. The unprecedented scale of the outbreaks in these areas meant that the resources needed to deal with the disease rapidly went beyond what had been envisaged in the contingency plans.



- c **The Department's contingency plans were not sufficient to deal with an outbreak on this scale (Figure 2).** It is unrealistic to expect that any contingency plan could have coped with all the problems and difficulties that arose or that the Department could have forecast the unprecedented nature of the 2001 outbreak. Nevertheless, more thorough contingency planning would allow the Department to be better prepared for a future outbreak. During the course of the epidemic the Department responded to gaps and limitations in its plans in an active and innovative manner.
- d **Following eradication of the disease, the Department is revising its contingency plans (Figure 3).** The Department is also working to revise and update existing local plans and veterinary guidance and to codify the experience gained from the 2001 outbreak into interim operational plans. The plans will be revised, amended and developed as necessary in the light of the recommendations of the Independent Inquiries announced by the Government into the 2001 outbreak of foot and mouth disease. Similar work is under way in Scotland and Wales.

2 The Department's contingency plans were not sufficient to deal with an outbreak on the scale of that in 2001

There are lessons to be learned from the 2001 outbreak to help the Department in preparing contingency plans against any future outbreak. Some of the key lessons are set out below.

The implications of vaccination could have been more fully considered. Routine vaccination of livestock to prevent or slow foot and mouth disease is not legal in the European Union. European Union law permits the use of emergency vaccination only as part of a stamping out policy where appropriate. Before the outbreak the Department had drawn up detailed instructions for the use of emergency vaccination but did not distribute these to local offices because it considered that any vaccination programme would have to be co-ordinated and resourced nationally and would need the detailed agreement of the European Commission. At the height of the outbreak the Government accepted that there might be a case for a limited emergency vaccination programme and the Department began to draw up plans to vaccinate cattle in Cumbria and Dumfries and Galloway and possibly Devon. The necessary support of farmers, veterinarians, retailers and food manufacturers was not forthcoming, however, and vaccination did not go ahead.

The plans were based on the most likely scenario and other scenarios were not considered. In line with European Commission guidance, the Department's plans were based on the supposition that there would not be more than 10 infected premises at any one time. The Department considered this to be a sensible basis for planning as most outbreaks in Europe during the 1990s suggested that the most likely scenario would involve only a small number of infected premises at the outset. International scientific advice was that the risk of foot and mouth disease being introduced to the United Kingdom was low. The Department believes that, had there been only 10 infected premises in 2001, its contingency plans would have worked. The plans did work in those areas where there were relatively few cases. In the event, however, at least 57 premises were infected before the initial diagnosis was made. A consequence of not considering other scenarios was that little prior consideration had been given to the impact on non-farming businesses that a large-scale epidemic might have and what the economic costs might be.

Recommendations from previous animal health reports had largely been adopted with the exception of some recommendations from an internal report in 1999. The Department's contingency plans incorporated most of the recommendations made in the **Northumberland report** on the 1967-68 outbreak of foot and mouth disease. We examined four instances where it did not appear that the Department had fully followed the Northumberland report's recommendations. The Department told us that, 30 years on from the report, its plans for dealing with an outbreak had been modified to some degree compared to the 1969 report's recommendations. The Department considers that it had implemented the Northumberland report's recommendations in all material respects. In 1998-99 the **Drummond report** on preparedness across the State Veterinary Service found considerable variations in the Service's readiness to deal with outbreaks of exotic notifiable diseases, including foot and mouth. Existing contingency plans in many areas had not been updated because of other priorities and limited staff resources. The Drummond report expressed concern that a rapid spread of foot and mouth disease could quickly overwhelm the State Veterinary Service's resources, particularly if a number of separate outbreaks occurred at the same time. By July 2000 the Department had made progress on many of the action areas but implementation of other key issues was delayed by the need to attend to other high priority work.

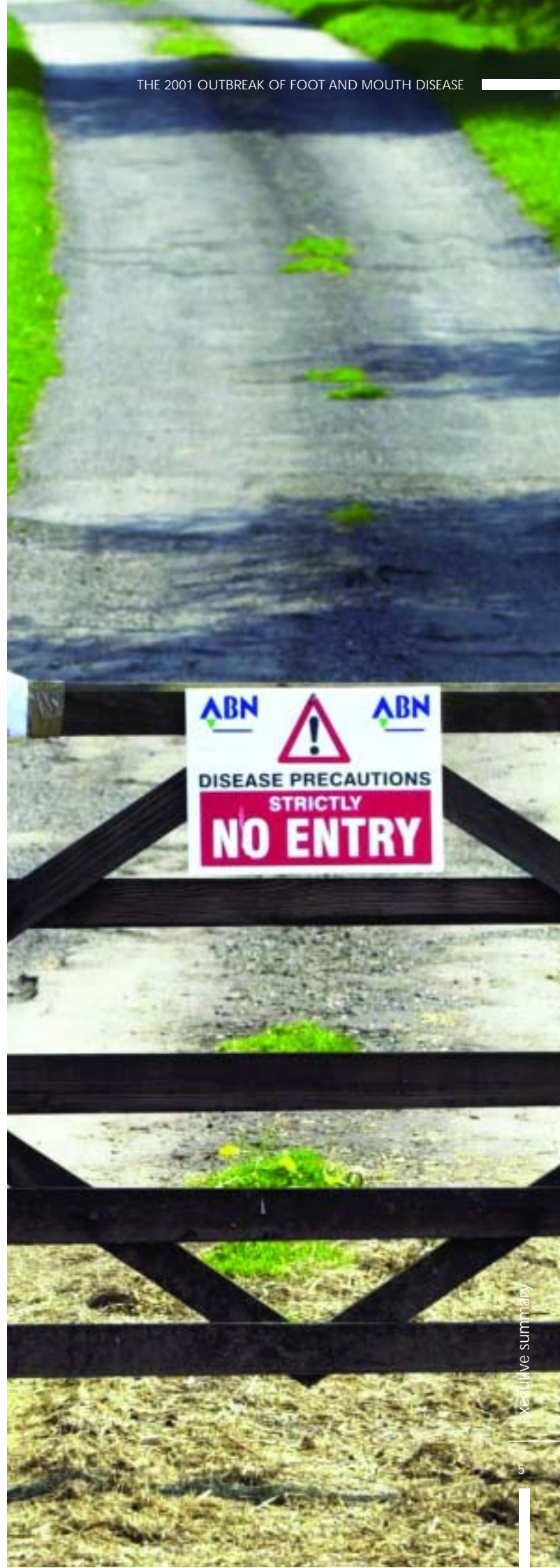
Stakeholders were not formally consulted in preparing contingency plans. Tackling a serious outbreak of animal disease requires effective co-operation among a number of government departments, including those responsible for the environment, public health, transport, the armed services, the countryside and tourism. Any strategy for dealing with the disease and its wider impacts also depends for its success on the active co-operation of those closely affected. However, in preparing the national contingency plan and the veterinary instructions for foot and mouth disease, the Department had not formally consulted other key stakeholders, such as other government departments, local authorities and representatives of farmers and the veterinary profession. Some stakeholders had nevertheless been involved in simulation exercises as part of local contingency planning.

3 The Department's interim national contingency plan for foot and mouth disease

The interim contingency plan does not seek to pre-empt the results of official inquiries and will be reviewed once their findings have been made public. The plan codifies lessons learned during the 2001 foot and mouth outbreak. It is a temporary measure, dealing solely with operational issues. The current Great Britain foot and mouth contingency plan has been in existence for many years and has been regularly updated. The plan was approved by the European Commission in 1993. The interim contingency plan was presented for discussion on 12 March 2002 and placed on the Department's website. A consultative meeting with stakeholders took place on the same day and another on 20 March 2002.

Details of the plan

- 1 The plan is split into sections outlining structures, lines of communication, roles and responsibilities at both national and local levels.
- 2 An alert system is outlined describing actions that need to be taken upon report of a suspected case (amber alert) and upon confirmation of disease (red alert).
- 3 The response to the disease alert would be controlled using the recognised Gold, Silver and Bronze Command structure (Gold - Strategic, Silver - Tactical, Bronze - Operational).
- 4 At a national level there is consideration of the role of a Joint Co-ordination Centre, a Disease Emergency Control Centre, a Foot and Mouth Disease Programme Board and a Co-ordination Committee (or perhaps the Cabinet Office Briefing Room).
- 5 Use is made of a technique called process mapping to define initial action and responsibilities.
- 6 Further detail is provided on issues such as: resources, training, accommodation, information technology, procurement, stores, disposal, serology, financial, accounting and management information, communications, publicity and disease awareness, stakeholder involvement, vaccination, health and safety, and contingency testing.
- 7 The plan provides job descriptions for key personnel (such as Regional Operations Directors) at both national and local levels.
- 8 Further information provides detail on the relationship with the devolved administrations at an operational level, personal biosecurity protocols, transport specifications, daily situation reports, key personnel contacts, and foot and mouth stock lists held at Animal Health Offices.



Handling the outbreak (Part 3 of the Report)

10 We found that:

- a **Foot and mouth disease was eradicated quickly in some areas.** In the Infected Areas covered by half of the 18 Disease Control Centres, the time between confirmation of the first and last infected premises was two months or less. The Department also had a number of successes in preventing the further spread of the disease (Figure 4). The disease was eradicated in seven months, the same time that it took to deal with the smaller outbreak in 1967-68.
- b **Those involved worked extremely hard to bring the epidemic under control.** The disease was eradicated through the commitment and dedication of the Department's staff and many others who assisted in the disease control campaign. Those in the field worked punishingly long days in stressful and often distressing conditions. Administrative staff also worked hard, often in cramped and temporary accommodation. Those from other parts of government, the voluntary sector, farmers and contractors also made a substantial contribution.
- c **There were severe problems in handling the outbreak in the worst-hit areas.** The widespread 'seeding' of the virus before it was discovered and the rapid spread of the disease quickly stretched the Department's resources. Consequently, during the early weeks of the crisis, there were delays in identification, slaughter and disposal of infected and exposed animals. As the outbreak progressed and experience was gained on the ground, the Department developed new control measures to deal with the difficulties that arose. Some of the problems faced by the Department and the measures taken to deal with them are illustrated in Figure 5.

4 Successes in preventing the further spread of foot and mouth disease in 2001

The Department successfully contained the outbreak substantially to those areas initially infected with the disease, thereby protecting large areas of important livestock production in adjoining and more distant areas.

The disease was kept out of much of East Anglia, the East Midlands, southern England, west Wales and central and northern Scotland. This protected important dairying and pig industry areas. The outbreak would probably have been much more extensive if the disease had been allowed to spread to the pig areas, as pigs are major shedders of the virus.

By mid-April 2001 the disease had been stamped out in most parts of central and eastern England. Outbreaks were also brought quite quickly under control in Anglesey and southern Scotland.

The Department was also successful in ensuring that once the disease had been stamped out in an area it did not reappear. In 1967-68 the tail of the epidemic had been prolonged by a re-emergence of the disease during restocking of previously infected farms.

5 The nature and scale of the outbreak posed immense problems for the Department

Organisational structures improved as the crisis developed.

Operations were initially directed by the Department's veterinary officers. But by mid-March 2001 the size of the outbreak was placing impossibly heavy demands on the State Veterinary Service and new structures were introduced. The Cabinet Office Briefing Room was opened, supported by a Joint Co-ordination Centre at the Department's headquarters, and senior administrators were appointed to the main Disease Control Centres as Regional Operations Directors. These new arrangements improved the response to the disease: state vets were given more time for veterinary work; resource bottlenecks, particularly those affecting slaughter and disposal, were eased; and measures were taken to promote cross-agency co-ordination and improve communications with stakeholders.

It took time to get other agencies involved. The scale and impact of the epidemic was so great that other government departments and agencies, local authorities, voluntary organisations and stakeholders inevitably became involved. They all had important contributions to make in helping to combat the disease. The armed services were kept informed from the outset and were involved in regular discussions with the Department. The Department decided not to call for substantial military assistance until three weeks after the start of the outbreak because the Government considered that the early stages of the epidemic presented no obvious requirement for military participation. The armed services went on to play a key supportive role, assisting centrally and locally in the organisational and logistical arrangements, particularly for slaughter, transport and disposal. The Department began liaising with other government departments, agencies and local authorities from day 1 of the outbreak, although some bodies felt that they could have been more directly involved earlier.

The Department overcame a severe shortage of vets. Vets played a key role in diagnosing disease, overseeing slaughter arrangements and providing advice to farmers and others. During the early weeks of the 2001 outbreak, there were too few vets and this delayed disease control. The Chief Veterinary Officer called on agreed standby arrangements nationally and internationally from 23 February 2001. Veterinary resources were built up and by mid-April 2001 the Department had the number of vets it felt were needed to contain the outbreak.

A national movement ban on 23 February 2001 prevented greater spread of the disease but with hindsight could have been imposed earlier in this outbreak. Preventing the movement of infected animals is a vital element of disease control since direct animal to animal contact is the quickest means of virus transmission. The Department imposed a local movement ban on 21 February 2001 around the first infected premises and supplier farms and a national movement ban (and closure of livestock markets) on 23 February 2001. These bans prevented greater geographical spread of the disease. The Department did not impose a national movement ban earlier because it believed that local movement controls would control the disease. A national ban would have been unprecedented and the Department considered that the epidemiological evidence at the time did not exist to justify a countrywide ban.

Because compliance with local control measures was incomplete they were not fully effective in stopping the spread of the disease.

From the second week of the outbreak, the disease was chiefly being spread locally over distances of less than three kilometres. The Department believes that an important factor in this spread was poor compliance with biosecurity standards by some farmers. 'Restricted Infected Areas' were later established with much stricter biosecurity controls. These intensified arrangements were important in helping to bring the outbreak to an end.

The Department introduced a contiguous cull to help check the spread of the disease. This was hugely controversial.

In mid-March 2001 the Government's scientific advisers provided evidence that, because the Department was initially having to "chase" the disease this could potentially lead to an exponential growth in the number of new cases. The Department responded by introducing a number of changes in approach, including the slaughter of susceptible animals on premises contiguous to infected premises. These changes helped to control the disease but led to the culling of many animals that may have been exposed but were not showing clinical signs of the disease. The contiguous cull met considerable resistance from some farmers and others. The Department considers that the cull saved many animal lives by preventing animals from becoming infected with the disease.

The Department was unable in some cases to achieve the rapid slaughter of infected or exposed animals.

Animals identified as being infected or at risk need to be slaughtered quickly to check the spread of the disease. However, in the early weeks the Department was unable to achieve rapid slaughter, mainly because of the shortage of vets. Performance improved from late March 2001 onwards.

There were huge logistical problems in disposing of millions of slaughtered animals.

The backlog of slaughtered animals awaiting disposal built up to a peak of over 200,000 carcasses in early April 2001. The most commonly used methods of disposal were burning, rendering, landfill and burial. In practice the Department experienced problems with all the methods used. Many carcasses were disposed of in March 2001 on mass pyres. But this generated negative images in the media and had profound effects for the tourist industry. Some 1.3 million carcasses were disposed of at mass burial sites but public protests and technical problems prevented greater use of some sites. The Department considers that the problems with the various disposal options had not contributed to delays in slaughter.

Communications and information systems were severely stretched during the epidemic.

The Department found it difficult in the crisis conditions to get its key instructions and messages across and to obtain good quality information from the field. At a national level, the Department engaged stakeholders positively from an early date. Locally, external communications were less satisfactory initially and on occasions the Department may not always have listened to local opinion. Local communications improved after Regional Operations Directors were appointed.



Controlling the costs of the outbreak (Part 4 of the Report)

11 We found that:

- a **There were difficulties in administering the compensation and payment schemes to farmers.** Farmers received compensation for animals that were slaughtered for disease control purposes and payments for animals slaughtered under the Livestock Welfare (Disposal) Scheme. The sheer volume of cases put both schemes under enormous pressure and this led to costs being higher than they might otherwise have been in more normal circumstances (Figure 6 opposite).
- b **The procurement of services and supplies was costly.** Large numbers of professional and administrative staff had to be brought together quickly and deployed across the country. A wide range of goods and services, many of them in short supply, had to be procured to meet urgent demands. Consequently systems of cost and financial control were put under great strain. The Department's negotiating position was weakened in many instances by the need to get things done quickly. After initial difficulties the Department took action to control costs.
- c **Financial controls over payments were strengthened after initial problems.** Many of the Department's payment processes operated during the crisis as they would have done normally. The majority of farmers and firms of contractors received the compensation or payment amount that they were expecting after their animals were valued or work had been carried out. In the first four months, however, the outbreak placed huge strains on a small but significant number of the Department's systems of financial control. The Department has sought to correct overpayments and irregularities, although some disputes remain outstanding.

Figure 6 illustrates the many difficulties the Department experienced in paying farmers and procuring goods and services. Figure 7 sets out the steps the Department took to improve costs and financial control.

7 The steps taken by the Department to improve cost and financial controls

After the difficulties experienced in the early weeks of the crisis, **the Department took a number of actions to control the costs of procuring goods and services.** Specialist contract administrators and quantity surveyors were employed and dedicated teams were set up in Disease Control Centres to improve the cost effectiveness of operations. As a result, contract administration improved considerably and significant reductions in the rates paid for goods and services were achieved. The Department has also sought to recover value from surplus purchases.

During the crisis the **Department took steps to strengthen financial controls over payments.** A dedicated financial unit was set up to improve financial and accounting controls. Financial responsibilities were reorganised to relieve vets of involvement in financial matters and establish clearer lines of responsibility.

The Department has employed forensic accountants to examine the invoices of 107 of the largest contractors, including the 86 companies awarded contracts worth more than £1 million. In total these 107 companies have submitted invoices worth £474 million and to date the Department has paid £402 million in respect of these claims. The Department is withholding payment of the remainder until it is satisfied that contractors have provided sufficient evidence of work carried out.

By May 2002 the forensic accountants, quantity surveyors and contract managers employed are estimated to have saved the Department over £20 million. In addition, further savings have been generated through contract renegotiations and changes in invoicing practices as a result of work completed by the forensic accountants. A number of reductions have also been negotiated on accounts where investigation work is still in progress.

6 The difficulties experienced in paying farmers and procuring goods and services

Problems with the slaughter compensation scheme increased the Department's costs. The Department has paid over £1.1 billion in compensation to farmers for the slaughter of their animals. Professional valuers determined the compensation to be paid. Their valuations tended to rise as more and more animals were slaughtered because they expected the resulting shortage of stock to be reflected in increased prices when the markets reopened. The Department's contingency plans envisaged the appointment of senior valuers to monitor valuations but no steps were taken to appoint such staff until July 2001.

The attempt to set standard rates for compensation contributed to a rise in prices. Standard rates for slaughtered animals were introduced on 22 March 2001 because the valuation process was thought to be delaying the slaughter of animals on infected premises. The Department expected that at least 70 per cent of farmers would accept the standard payment rates rather than seek individual valuations. In fact, however, the standard rates were used by only four per cent of farmers. Most chose to appoint a valuer. The standard rates acted as a floor for valuations and contributed to a rise in the compensation paid. The Department recognised that standard rates were not having the desired effect and withdrew them on 30 July 2001.

The Livestock Welfare Disposal Scheme helped many farmers but the generous rates created demand that exceeded initial capacity. The Department introduced the welfare scheme to alleviate the suffering of animals which were not directly affected by foot and mouth disease which could not be moved to alternative accommodation or pasture nor sent to market because of movement restrictions. Farmers received £205 million for the slaughter of two million animals. In setting up the scheme, the Department expected that farmers would pursue all other means of retaining or marketing their animals and turn to the scheme only as a last resort. This did not always happen, however. The rates were extremely attractive to farmers and the volume of applications overwhelmed the Rural Payments Agency, who administered the scheme. Demand for the scheme dropped off as movement restrictions were eased and financial incentives were reduced.

Many farmers and rural businesses suffered consequential losses. Farmers and rural businesses were not entitled to compensation for consequential losses. Farmers whose animals did not have foot and mouth disease, or were not deemed to have been exposed to the disease, or were not suffering from poor welfare conditions were not entitled to any payment. Many suffered greater financial hardship than farmers who met the criteria for payment as they had no extra money coming in to provide for those animals that they had to retain on their farms. Many rural businesses were also badly affected by the outbreak. The Government introduced a series of measures to

alleviate the financial difficulties of small businesses.

The procurement of services and supplies was costly. Several factors combined to raise the Department's expenditure on goods and services to a much higher level than would have been incurred under normal conditions. The Department recognised that it might have to pay a premium to get things done at maximum possible speed. Valuers, slaughterers and private vets, without whom the disease could not have been eradicated, all demanded and received higher fee rates. The crisis conditions quickly led to shortages of equipment and materials and it was also difficult to find firms to undertake various services.

Some controls over purchasing were initially weak. Many contracts, which would normally be put out to tender, were awarded without competition. Aspects of some contracts were initially agreed orally. Labour, materials and services were ordered by telephone, fax, or e-mail, without having to go through the Department's full procedures for authorisation and approval and the provision of supporting paperwork. When some contracts came to be written and formalised it was sometimes difficult for the parties involved to recall the detail of what had been agreed. This later gave rise to many disputes about payment for work done.

Some financial controls were put under severe strain. Information was often lacking to support the payment of bills. The Department was frequently unable to monitor the work being carried out by contractors, especially the slaughter and disposal of animals, and the cleansing and disinfection of farms. Up to date information on current expenditure was not available at some local Disease Control Centres. Partly for these reasons, the Comptroller and Auditor General qualified his audit opinion on the 2000-01 resource accounts of the Ministry of Agriculture, Fisheries and Food.

The scale of the activity and the enormous task involved opened financial systems to the risk of fraud and abuse. The Department issued guidance to staff requiring allegations of fraud to be assessed. Where there was any substance to the allegations, cases were passed via regional managers to the Department's Investigation Branch. The Investigation Branch examined 33 allegations of fraud or abuse connected with the foot and mouth disease outbreak. Three cases are being prosecuted; 16 cases are still under investigation and 14 cases have been closed, either because the allegations were found to be unproven after investigation, or because there was insufficient evidence to warrant a prosecution, or because there were satisfactory explanations for the events that occurred.

Recommendations

12 In the light of our examination and the findings set out above, we make the following recommendations. Although these recommendations are addressed specifically at controlling foot and mouth disease, they are also applicable in large measure to the control of other animal diseases. The Department already has in hand or has planned actions in response to many of the issues we have identified.

Contingency plans need to be substantially revised

- 1 Contingency plans should be based on an analysis of the risks associated with an outbreak of foot and mouth disease. They should incorporate a range of different assumptions about the nature, size and spread of an outbreak. Plans should have regard to the economic, financial and environmental impacts of different methods of disease control.
- 2 A clear chain of command is required for handling any future crisis. Responsibilities, reporting lines and accountabilities need to be clearly defined in contingency plans, both at headquarters and locally.
- 3 The plans should include arrangements for the deployment of staff and the emergency purchasing of supplies and services. The Department should have access to key supplies and services and approved firms of contractors. Where possible, pre-agreed rates should be negotiated.
- 4 The Department should consult widely with central and local government, farmers and other major stakeholders about its contingency plans. The plans should identify the roles and responsibilities that each of these would have in the event of an emergency and how and at what point each would become involved.
- 5 Contingency plans should be tested on a regular basis at national and local level. Simulation exercises should involve appropriate stakeholders including local authorities, environmental agencies and farmers' representatives. The plans should be regularly reviewed and updated to ensure that they remain relevant in the light of any significant changes in the farming industry or elsewhere.
- 6 Communications and information systems need to be reviewed to ensure that they would be able to cope in an emergency.

In the event of a crisis, cost and financial control should not fall below a minimum standard

- 7 Clear procedures should be established for the procurement of supplies or services that are needed at very short notice. These procedures should include the arrangements for tendering, agreeing contracts and providing documentation.
- 8 In an emergency, key financial controls must remain in place to ensure that monies are properly accounted for, that the risks of fraud and abuse are minimised and that value for money is secured. There should be a clear audit trail with sufficient supporting documentation at all key stages.

Further research is required

- 9 Compensation and other payment schemes to farmers should be reviewed and revised as necessary to ensure that they operate fairly and provide value for money for the taxpayer.
- 10 Research should be undertaken into:
 - The advantages and disadvantages of implementing a precautionary standstill of all livestock movements, the circumstances in which such a standstill should be implemented, and the timing of its implementation.
 - The efficacy of biosecurity measures, including the need for footpath closures.
 - The effectiveness and efficiency of the measures adopted to eradicate the disease and their appropriateness to local circumstances. This should include vaccination, methods of identification and diagnosis, culling policy, slaughter targets, and disposal methods for slaughtered animals.
- 11 In the light of the results of this research, the Department should review current animal health legislation to ensure that it meets current and likely future requirements for dealing with an outbreak of foot and mouth disease.

Follow-up action is required in a number of areas

- 12 The Department should urgently pursue those cases where it believes it was overcharged for goods and services. Irregularities in contractors' claims should also be investigated and resolved quickly.
- 13 Allegations of fraud or abuse during the crisis should be investigated thoroughly and any lessons learned incorporated into current guidance and procedures.
- 14 Disposal sites should continue to be subject to close environmental monitoring and inspection. The results should be published and reflected in the Department's contingency plans.

- 13 There are also wider lessons for future contingency planning for all departments from the 2001 foot and mouth crisis. Departments need to be aware of the major threats in their areas of business and to manage those threats by having contingency plans in place which conform with best practice on risk management. Some key points for such contingency plans are set out in Figure 8.

8 Key points on contingency plans for all departments

- 1 **Contingency plans need to be risk-based.** Plans should be informed by the identification of key risks and an analysis of the probability of their occurrence and what impact they might have. Planned responses should also be risk-based to ensure that proposed actions are proportionate and cost-effective.
- 2 **A range of different possibilities should be considered.** Plans should not be restricted to just the most likely scenario. The probability of other scenarios occurring, including a worst case, should also be assessed. Plans and proposed actions need to be flexible to enable an effective response to be made to unexpected scenarios.
- 3 **Stakeholders should be consulted.** Draft contingency plans should be discussed with key stakeholders from inside and outside government to ensure that all important aspects are covered and to secure broad agreement to the measures that would need to be taken. The draft plans should be shown to the Cabinet Office's Civil Contingencies Secretariat so that risks and combinations of risks that affect more than one Government department can be assessed. Once agreed, plans should be made readily available to stakeholders.
- 4 **A clear command structure should be prepared.** Plans should outline the command structure that would need to be introduced in a crisis. There should be clear lines of responsibility, reporting and accountability and structures to support logistics, liaison with other departments and stakeholders, and assessment of emerging risks.
- 5 **Access to key resources should be identified.** Plans should identify how personnel, goods and services of appropriate quality would be procured quickly and cost-effectively in the event of a crisis. Where appropriate, there should be reciprocal arrangements to draw in emergency personnel from other parts of Government and call-off contracts for essential supplies.
- 6 **Emergency cost and financial controls should be in place.** Plans should identify the basic controls that would need to be in place in a crisis so as to keep a tight rein over costs and to minimise the risks of fraud and abuse. The head of finance should be included in the emergency management team. This would enable opportunities to be seized quickly and ensure that financial considerations become an integral part of decision-making.
- 7 **Communications and information systems should be tested.** Communications and information systems need to be able to cope in crisis conditions. Systems for getting instructions to those in the field and for keeping stakeholders, the public and the media informed need to be reviewed and tested. Arrangements also need to be put in place for the systematic collection, assessment and dissemination of essential information that is required from the field. Staff should be trained in how to make the best use of communication and information systems in an emergency.
- 8 **Contingency plans should be tested and reviewed regularly.** Testing is essential to ensure that the measures to be taken are practical and effective; that staff know what to do in the event of a real crisis; and that plans are relevant and remain up to date in the light of experience. Certain test exercises should be designed to test the resilience of the plan's assumptions. The aim of the tests should be to learn lessons and develop experience of operating in the 'battle rhythm' of an emergency situation.
- 9 **With the onset of a crisis, contingency plans need to be immediately re-assessed.** Circumstances rarely replicate planned-for scenarios. At the outset of a crisis, facts should be gathered quickly and the plan's assumptions reviewed against the available information. The Civil Contingencies Secretariat should be invited to participate in this assessment.