1. Introduction

1.1 This volume is concerned with the implications that BSE had for human health. It covers the period from February 1989, when the Report of the Southwood Working Party was published, up to the announcement of a probable link between BSE and a new variant of CJD (vCJD) (Creutzfeldt-Jakob disease) on 20 March 1996. On one aspect we start our survey a little earlier. This concerns the policy of slaughter and compensation of BSE-infected cattle. Here we look at the period from August 1988, when the policy was introduced following interim advice of the Southwood Working Party.

1.2 The volume begins, in Chapter 2, with consideration of the scheme for compulsory slaughter, with compensation, of cattle suspected of being infected with BSE. As we have seen in vol. 4: *Southwood Working Party 1988–89*, this scheme was introduced in response to an early interim recommendation of the Southwood Working Party set up by the Government to advise on BSE. While introduced under the Animal Health Act 1981, the primary object of the scheme was to address the risk that BSE might be transmissible to humans. Under the scheme cattle appearing to show symptoms of BSE were slaughtered and their carcasses incinerated or buried. Thus, subject to the occupational and environmental risks involved in this process, there was no pathway by which the BSE agent in clinically affected cattle would be able to infect humans.

1.3 Of particular interest is the question whether there was universal compliance with the obligation to give notification of any animal showing symptoms of BSE. Initially compensation in respect of slaughtered animals confirmed to have had BSE was limited to 50 per cent of their sound market value. This was subsequently increased to 100 per cent in response to public concern that some farmers were being tempted to send cattle showing initial symptoms to the slaughterhouse, rather than notifying them to the Ministry of Agriculture, Fisheries and Food (MAFF). Whether this concern was valid receives consideration in Chapter 2.

1.4 The most obvious pathway by which BSE might be transmitted from cattle to humans was the food chain. This volume is largely concerned with that pathway, although it examines two further routes which we describe below. Other significant pathways are dealt with in a separate volume, vol. 7: *Medicines and Cosmetics*. This volume deals not only with the steps taken to prevent potentially infective bovine tissues from entering the human food chain, but also with public apprehension that these steps were not adequate and that it was unsafe to eat beef. Public pronouncements on the safety of beef are examined to see whether they were appropriate having regard to the state of knowledge at the time they were made.

1.5 The Spongiform Encephalopathy Advisory Committee (SEAC) was a source of advice to government from 1990, in succession to the Tyrrell Advisory Committee. Where SEAC advised in relation to public health, its advice is considered in this volume. A more comprehensive account of the advice given by SEAC is, however, to be found in vol. 11: *Scientists after Southwood*. 
1.6 When addressing the implications of BSE for human health, the Government’s focus was largely on precautions taken before meat left the slaughterhouse to ensure that it was free of any infective matter. For this reason MAFF is the Ministry which is principally involved. In the latter stages of the story, however, the CJD Surveillance Unit played an important role. While its involvement is covered in this volume, it receives more detailed treatment in vol. 8: Variant CJD.

1.7 The Southwood Working Party advised manufacturers that they should not include in baby food certain types of bovine offal most likely to carry infectivity if derived from an animal incubating BSE. Subject to this, the Working Party did not advise that there was any need to take steps to prevent any part of an animal sub-clinically infected with BSE from entering the human food chain. In Chapter 3 we describe how MAFF and the Department of Health (DH) went further than the Working Party had recommended in prohibiting the use of certain types of specified bovine offal (SBO) as human food (‘the human SBO ban’). We consider what motivated this action and how it was explained within government and to the public. The determination of the offal to be included in the SBO ban by MAFF and DH is considered as are the implications of the ban in relation to mechanically recovered meat (MRM).

1.8 Chapter 4 covers the year 1990, an important one in the BSE story. It saw a number of initiatives by Mr John Gummer as Minister of Agriculture which were not specifically directed to BSE, but which had implications for the manner in which government responded to BSE throughout the remainder of the period with which we are concerned. In 1990 significant events occurred which were to set the pattern for the years to follow. MAFF officials and Ministers were concerned with practical problems relating to the implementation in slaughterhouses of the SBO ban. SEAC’s advice was sought and given, with consequences which were unsatisfactory and long lasting.

1.9 In May 1990, a domestic cat was diagnosed as having contracted a spongiform encephalopathy. It was the first such case to be reported, but was soon to be followed by others. This was an occasion for reconsideration of the risk of transmissibility posed by BSE, and was the occasion of a polarisation of attitudes which persisted until 1996. In Chapter 4 we see how some were quick to contend that the cat had caught BSE by eating infected meat, with the inference that humans were at risk of the same fate. Faced with a drop in the demand for beef, MAFF stated publicly that beef was safe to eat and the Chief Medical Officer (CMO), Sir Donald Acheson, made a public statement to the same effect. The latter statement was supported by SEAC, which later produced a detailed paper explaining why it considered that it was safe to eat beef. We examine the basis on which these statements were made, and the possibility that they misled the public into believing that the Government’s position was that BSE posed no risk to humans.

1.10 Chapter 5 spans the period from the beginning of January 1991 to the end of March 1995. It is likely that during much of this period many developed a false sense of security in relation to BSE. It was anticipated that the ruminant feed ban would have cut off the source of infection of cattle, so that the disease, and any risk that it might pose to humans, were likely to be eradicated. Cattle born after the ruminant feed ban (BABs) developed BSE, but this was initially attributed to the fact that pre-existing stocks of ruminant feed were used up after the ban came into
force. The CJD Surveillance Unit found no indication of any significant change in number of cases of CJD.

1.11 Nonetheless, in this period there were pointers to the fact that BSE might pose a greater hazard than scrapie. Further cases of Feline Spongiform Encephalopathy (FSE) continued to be reported and it became clear that FSE was the consequence of eating meat or offal from BSE–infected animals. A range of zoo animals was also infected with BSE through feed. Experimental transmission to a marmoset was achieved by inoculation. In 1994, SEAC produced a lengthy report on transmissible spongiform encephalopathies (TSEs). This was published in February 1995, but attracted little notice. A careful reader might have identified in this a significant shift from the risk assessment made by the Southwood Working Party, but this was not drawn to the attention of the public.

1.12 Also overlooked, it seems, by everyone during most of the period covered by Chapter 5 was an interim result of an experiment carried out by the Neuropathogenesis Unit (NPU) which showed that \( \frac{1}{2} \) gm of BSE-infected brain had transmitted the disease orally to a breed of sheep not susceptible to scrapie. Thus when, towards the end of the period, an experiment carried out by the Central Veterinary Laboratory (CVL) indicated that 1 gm of infective material had orally transmitted BSE to a calf, there was general surprise that such a small amount of material had sufficed to infect.

1.13 A number of events did awake public interest in BSE. In Chapter 5 and elsewhere in this volume we describe the consideration given by government, the scientific community, the media and others to reported cases of confirmed or possible CJD. Each of these cases was a personal tragedy for the families concerned. In Chapter 5 we describe confirmed diagnoses of CJD in two dairy farmers and the particularly tragic case of a 16-year-old girl, Vicky Rimmer, who had been diagnosed as a possible victim of CJD and who was reported in some of the tabloid press to have been infected with BSE through eating beefburgers. We consider the media reaction to these cases and statements made by the CMO in response.

1.14 A significant event covered by Chapter 5 in the context of BSE was not directed to dealing with that disease. It was the setting up of the Meat Hygiene Service to take over the enforcement duties exercised by District Councils in slaughterhouses. This led to the discovery of shortcomings in the implementation of both the human and the animal SBO bans and enabled effective measures to be taken to address these matters that are covered in Chapter 6.

1.15 Chapter 6 covers the remainder of 1995. This was a period of growing concern about BSE for a number of reasons. Inspection of slaughterhouses, after the Meat Hygiene Service (MHS) had taken over from the District Councils as the enforcement agency, showed shortcomings in the implementation of the SBO Regulations. These included failures to remove spinal cord cleanly from the carcass. This led SEAC to recommend that MRM should no longer be permitted to be extracted from the spinal cord, and the Regulations were amended to prohibit this. A third dairy farmer contracted CJD and two teenagers were confirmed to have CJD – a disease which had almost always struck its victims late in life. A distinguished scientist warned publicly against eating bovine offal or products which might
contain it. We look at the media responses to these events and public statements that were made in an attempt to allay the public concerns which they raised.

1.16 Chapter 7 covers the final period up to 20 March 1996. It describes the consideration given by the CJD Surveillance Unit and SEAC to a growing number of cases of CJD in young victims, leading to the conclusion that these were suffering from a new variant of CJD that was probably transmitted from BSE. We examine when officials and Ministers in MAFF and DH first appreciated that this was a possibility and whether they reacted soon enough. Finally, we record the consideration given by Government as to what action to take and the decision that was reached and announced to Parliament on 20 March 1996.

1.17 Chapter 8 deals with a different aspect of human health: action taken to protect those whose occupations exposed them to particular risks of infection with BSE. This chapter covers the entire period of the Report. The Southwood Working Party’s recommendations in respect of occupational health are considered and we see the manner in which those with responsibilities in this area, in particular the Health and Safety Executive (HSE), responded. Chapter 9 considers the identification of a risk posed to schoolchildren who dissected bovine eyeballs and the steps taken to address this risk.

1.18 Chapter 10 deals with another topic that had implications for human health: the disposal of the bovine waste generated by the cattle compulsorily slaughtered and by the banning of SBOs from human and animal feed. The problems exemplified by a controversial planning appeal raising concerns about effluent generated in the course of rendering cattle carcasses at Thruxted Mill in Kent are discussed.