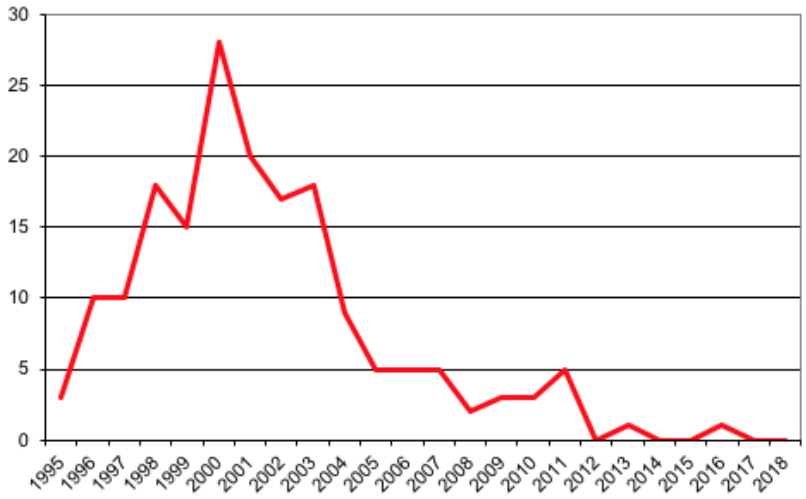
variant **Creutzfeld-Jacob Disease**

Last updated April 2018

The British population has been involved in a real time experiment to see the extent to which BSE ("mad cow disease") has been transmitted to humans. The results so far are shown in the chart below, which shows the number of deaths from *v*CJD identified each year. (CJD is a rare disease which was identified many years ago. *v*CJD is relatively recent variant, clearly linked to the consumption of BSE-infected beef.)



These results are a good example of just how difficult it can be to draw conclusions from scientific data. Anyone looking at the statistics in 2000 had a right to feel terrified, bearing in mind the potentially huge exposure of the population to the meat from BSE-infected cattle. But the numbers have now clearly fallen, although it was only in 2004 that we could become reasonably confident that the initial crisis was indeed over. There remains some concern, however, that there may be future waves of disease.

One example of the difficulty of interpreting scientific statistics was a *British Medical Journal* (20 September 2002) report that scientists had examined samples from 8,318 fairly young (and apparently healthy) people and had found that only one of them was infected with the prion that causes *v*CJD. This was surely pretty good news as it suggested that the most apocalyptic of earlier predictions were almost certainly wrong. However, as the UK population is over 56 million (about 7,000 times 8,000), newspapers immediately reported that "up to 7,000 may have caught CJD and not know it" (*The Times*). This was surely nonsense. Very little can be inferred from that fact that one infection was found in 8,000 people. Maybe another 24,000 samples might have been examined and no infection found (in which case the infection rate comes down to around 2,000 in the whole population) or maybe 3

infections would be found in the next 8,000 samples (in which case maybe 14,000 people might be infected). The only sensible thing to do was to carry on examining samples – which is what the scientists suggested and what the Government announced it would do.

The first results of the further research started to come through in May 2004. 12,674 appendix and tonsil samples had been examined of which only one showed a pattern which was clear evidence of the existence of *v*CJD prions, and another 2 showed a different pattern of uncertain significance. Again, media coverage was over-excited, claiming that 3 positive results suggested an eventual national total of c.4,000 cases. But all that can really be said for certain is that scientists were learning a lot but were not yet in a position to draw clear conclusions.

In the meantime, the optimists had been encouraged by another misleading headline (*The Times* 21 May 2003) which announced that "Experts predict end for vCJD"). Again, the text was more ambiguous, reporting that the maximum toll "could be 500". However, this covered only the 40% of the population who have the MM prion protein that makes them more susceptible to *v*CJD. "Others may get the disease later" – said *The Times* – and indeed a University College London team has suggested that it may take more than 50 years for vCJD to develop in many people.

It was certainly no surprise, therefore, that there have been no cases reported since 2011 apart from one isolated case in both 2013 and 2016.

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