

230

Ref: 1M311A

BY E MAIL

Dr Metters

From: Dr A Wight

Date: 31 January 1995

Copy: Mr Lister

CJD: STATISTICAL INFORMATION

1. Your note of 16 January to Mr Lister refers.
2. I enclose a draft reply which I will forward to MAFF if you are content.

Dr Ailsa Wight
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Enc.

229

Ref: 1M301A

D R A F T

Mr Eddy

From: Dr A Wight

Date: 30 January 1995

Copies: Dr Harvey
Dr Metters
Dr Jones
Mr Bridges
Mr Cunningham
Dr Skinner
Mr Lister

REQUEST FOR STATISTICAL INFORMATION

1. Your minute of 21 December, and our brief discussion on the phone this morning refer. You asked if DH could provide a statistical analysis on the probability of dairy farm workers developing CJD compared to the general population, following a third case in this group.
2. Over a 5 year period, which is the time period on which the advice from Professor Smith and Dr Gore was based, and assuming a population of 120,000 dairy farm workers, and an annual incidence of 1 per million cases of CJD in the general population, a dairy farm worker is 5 times more likely than an individual in the general population to develop CJD. Using the actual current annual incidence of CJD in the UK of 0.7 per million, this figure becomes 7.5 times.
3. You will recall that the advice provided by Professor Smith in 1993 and by Dr Gore this month used the sub-population of dairy farm workers who had had a case of BSE on their farms - 63,000, which is approximately half the number of dairy farm workers - as a denominator. If the above sums are repeated using this denominator population, taking an annual incidence in the general population of 1 per million the observed rate in this sub-population is 10 times, and taking an annual incidence of 0.7 per million, it is 15 times (the "worst case" scenario) than that in the general population.
4. Once again, as the total numbers with disease in the general population and in the sub-populations of interest are so small, statistical associations are very fragile, and no conclusions can be reliably drawn from these figures. It should be borne in mind that the absolute risk to an individual worker on a farm with a BSE case remains very small, about 1 in 100,000 over 5 years (another way of saying 10 times the risk compared with the general population).
5. These same calculations of observed vs. expected rates, using either 1 per million or 0.7 per million incidence rates in the general population, could be repeated for all agriculture workers if you feel that would be useful. Certainly, by increasing the denominator population, a lower probability of this group developing disease compared with the general population would be arrived at. This might be useful presentationally, but I am not convinced it is very meaningful.

228

- 2 -

6. I do not think any more can be said about the probability of these cases being either chance, or non-chance, associations with occupation over and above what was said at the Committee meeting. For the dairy farm workers with a case of BSE, the probability of obtaining 3 cases over 5 years by chance is 1:250, and for dairy farm workers as a whole it is 1:50, with the usual provisos as far as this disease is concerned. If you have any more recent data on number of dairy farm workers, we can of course reconsider these figures.

I hope this is helpful. We are hoping to have more data on other groups with apparent "high" rates very shortly. Happy to discuss further.

Dr Ailsa Wight
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