DECLASSIFIED

From the Secretary of State for Health

REC 10 DEC 2004
INDEX

DH Department of Health

Richmond House
79 Whitehall
London
SW1A 2NS
Tel:

SofS 35616

The Rt Hon Jack Straw MP
Foreign Secretary
Foreign & Commonwealth Office
King Charles Street
London
SW1A 2AH

Secretary of State's Office
- 1 DEC 2004
Foreign and Commonwealth Office

29 NOV 2004

Dear Jack,

I thought that you might be interested in a piece of work that I commissioned through the Chief Medical Officer on the Lancet article published last week, *Mortality before and after the invasion of Iraq in 2003*.

I am attaching a short note which I have received from Dr Bill Kirkup, one of our Regional Directors of Public Health and the Department's lead on health in Iraq, who is also an expert on epidemiological and statistical matters.

Hope you find this interesting

Yours ever

John

JOHN RIED

DG2411

DECLASSIFIED

DECLASSIFIED

Secretary of State

From: Sir Liam Donaldson, CMO

Date: 10 November 2004

Cc: Nick Boyd
Bill Kirkup

LANCET PAPER ON DEATHS IN IRAQ

You asked for the opinion of an epidemiologist on the study published on the Lancet's website last week that claimed that there had been an extra 10,000 civilian deaths in Iraq since March 2003.

I put the paper to Dr Bill Kirkup, one of our Regional Directors of Public Health and the Department's lead on health in Iraq, who also is an excellent opinion on epidemiological and statistical matters.

I attach a summary of his opinion on the study.

Please let me know if you require anything further.

Liam Donaldson

SIR LIAM DONALDSON
CHIEF MEDICAL OFFICER

DECLASSIFIED

DECLASSIFIED

MORTALITY BEFORE AND AFTER THE 2003 INVASION OF IRAQ: CLUSTER SAMPLE SURVEY

The method depended on cluster sampling to generate 33 clusters of 30 households. Less than a thousand households (containing less than 8,000 individuals) is a small number on which to base death rates. The confidence intervals are correspondingly very wide. For example, the overall 'excess deaths' estimate is quoted as 98,000; the 95% confidence interval around this figure ranges from 8,000 to 194,000. A confidence interval this large makes the meaning of the estimate very difficult to interpret. This point has been largely ignored in media reporting.

Cluster sampling may not be appropriate when there is a large element of discontinuity in the population experience. Clearly, some parts of Iraq have seen much more violence than others. The siting of the clusters in relation to this patchy distribution of violence raises additional difficulties of interpretation. At the very least, it will widen confidence intervals further. The confidence interval does not take this into account. The authors do refer to the issue – as they were bound to do because Fallujah is such an obvious example – but do not discuss the effect on confidence intervals.

There is clearly a problem in relation to Fallujah. As is widely recognised, Fallujah has seen the most severe of the action since April 2003, including both terrorist acts and attempts by coalition forces to secure the city. The results obtained from the single cluster based in Fallujah are so markedly different from those obtained from the other clusters that the authors have generated several different estimates depending on whether this cluster is included or excluded. Although the issue is discussed in the paper, it is not helpful in understanding the implications of the figures, especially when reported in headline terms.

The authors provide a reasonable amount of detail on their figures in most of the paper. They do, however, become noticeably reticent when it comes to the breakdown of deaths into violent and non-violent, and the breakdown of violent deaths into those attributed to the coalition and those due to terrorism or criminal acts, particularly taking into account the 'Fallujah problem' as outlined above. The paper concludes that "violence accounted for most of the excess deaths". This is only true if the bizarre Fallujah projection is included; otherwise my recalculation suggests that just over 23,000 of the 98,000 estimated excess deaths are due to violence. This is not "most" (nor is it wildly out of line with previous estimates of 13,000 to 15,000).

Unfortunately, no such recalculation is possible in relation to the second omission, because of incomplete information. The paper concludes that "air strikes from coalition forces accounted for most violent deaths". There were 73 violent deaths reported in total, of which 21 were outside Fallujah and 52 within; of the total 73, 61 were attributed to coalition action. It is nowhere stated how the 12 violent deaths not attributed to coalition action were distributed between Fallujah and the rest of Iraq. It is entirely possible that all of these were outside Fallujah, in which case the estimate of coalition-

DECLASSIFIED

DECLASSIFIED

attributed violent deaths would be 9,900 (out of an estimated 23,000 violent deaths and 98,000 total deaths). Again, this is not "most".

The authors discuss some of the obvious sources of bias in their results. However, they significantly downplay the pressures on the Iraqi population from bullying and intimidation. In many areas people are frightened to associate with coalition personnel because of the possibility of reprisals, and this has worsened with the influx of terrorists from other countries. News of the arrival of the epidemiology team in a neighbourhood would have spread rapidly, and those called upon would have known they would be visited later to check what was said. Whilst deaths would not by and large have been invented, the authors fail to recognise the extreme pressure on people to attribute deaths to violence due to coalition action.

The results from Fallujah are so bizarre that they require an explanation like this. They are simply not credible otherwise. Using the same techniques of extrapolation as elsewhere in the paper, the authors estimate an excess of 200,000 deaths in Fallujah. Using their methodology, 196,000 of these would be due to violence. This is supposed to have occurred in a population of roughly 700,000, a loss of nearly 28% of the population in 14 months. This would be more devastating than the battle of Stalingrad, which caused an estimated 100,000 civilian deaths, or 10% of the population over seven months – all supposedly taking place under the eyes of the world's media.

Something has plainly gone so badly wrong with the estimates in Fallujah that it must cast doubt on the validity of the rest of the findings. However, just for reference, and to test face validity, it is worth noting that the authors' estimate of 98,000 excess civilian deaths in the rest of Iraq is equivalent to a rate of 0.41% per year. In comparison, the civilian loss rate in WW2 is estimated at 0.02% per year in the UK, and in Germany 0.07% per year. Only in the horrors of the eastern front was the rate higher than the authors' implied 0.41%, the USSR's civilian losses being 0.88% per year. This too casts serious doubt on the validity of the findings.

In summary, the paper suffers from wide confidence intervals, dubious methodology, the likelihood of significant respondent bias and results that are disastrously skewed by the Fallujah outlier. The authors have been tempted into extrapolations based on shaky data that lack face validity, and in two cases are not even borne out by their own results. The Lancet has compounded all this with a characteristically pugnacious editorial and an attempt to defend the findings in the media – which have typically reported the findings very simplistically, as if 100,000 deaths were the results of coalition violence.

DECLASSIFIED