

of strategies to prevent suicide shows the dramatic reduction in fatal completed suicides in Britain as a result of coal gas being replaced by natural gas, which does not contain carbon monoxide. The history of the prevention of suicide in Australia also shows the remarkable cessation of suicides in middle aged women due to overdosage of barbiturates following a change in prescribing practices by general practitioners.

Clearly, a large proportion of people who commit suicide would not die if access to highly lethal methods was less easy. We have examined a series of 30 suicides due to firearms; the histories clearly showed a subgroup of people who had committed suicide on impulse. Indeed, a recent paper looking at people who attempted to commit suicide by using firearms showed that most had no history of mental illness and, several days after the attempt, had no wish to die.²

A second point made by Wilkinson is clearly also incorrect: he states that there is no good evidence for targeting strategies to prevent suicide at people presenting at general hospitals after attempted suicide.³ Work under way in Perth, Australia, shows a clear benefit from the provision of psychological assessment and support in reducing the frequency of further attempts at suicide. While it remains to be seen if this strategy has an impact on the longer term mortality from suicide, in the short to medium term there are clear reductions in the morbidity and health burden associated with repeated attempts.

While the treatment of people with mental illness is an important aspect of reducing suicide, there is compelling and sound evidence for a range of other strategies that reduce access to means of suicide, restraint in media reporting, and management of attempted suicides.

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1 Wilkinson G, Morgan HG. Can suicide be prevented? *BMJ* 1994;309:860-2. (1 October.)

2 De Moore GM, Plew JD, Bray KM, Snars JN. Survivors of self-inflicted firearm injury. A liaison psychiatry perspective. *Med J Aust* 1994;160:421-5.

Multiple significance tests

EDITOR.—J Martin Bland and Douglas G Altman highlight the need, in significance testing, to take account of simultaneous tests that are not independent.¹ This is a common situation in investigations of outbreaks of food poisoning. Such investigations usually take the form of a cohort or case-control study based on a questionnaire that contains questions about all, or as many as are known, of the foods to which those affected may have been exposed.² Usually one statistical test is performed for every "exposure"—that is, for every item of food included in the survey. Bonferroni's correction is one of the best known methods of adjustment but requires knowledge of the number of statistical tests performed on the dataset.³

To investigate correction for simultaneous inference in reports of investigations of outbreaks we analysed a sample of published reports of outbreaks from 1991 and 1992. We manually trawled journals that had some association with public health, epidemiology, food hygiene, infectious disease, and microbiology from the shelves of a large regional medical library. Any studies that

reported the investigations of outbreaks of food poisoning were included in this study. We found 27 such reports, of which 16 were cohort studies and the remainder case-control studies. Only two reports mentioned the number of foods included in the investigation, and none mentioned the possible need to take account of simultaneous inference. Only 11 reports stated the significance level against which the result of the statistical test was compared (in each case it was taken to be 0.05), and it seems that epidemiologists reporting outbreak investigations often ignore basic statistics.

Even if one supports Rothman's view that correction for simultaneous inference is not necessary, the number of tests performed in investigations of outbreaks and the level of significance should be stated to allow readers the choice of whether to make an adjustment and thus to ensure an informed interpretation of the results.⁴

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1 Bland JM, Altman DG. Multiple significance tests: the Bonferroni method. *BMJ* 1995;310:170. (21 January.)

2 Palmer SR. Epidemiology in search of infectious diseases: methods in an outbreak investigation. *J Epidemiol Community Health* 1989;43:311-4.

3 Miller RG. *Simultaneous statistical inference*. New York: McGraw Hill, 1966.

4 Rothman KJ. No adjustments are needed for multiple comparisons. *Epidemiology* 1990;1:43-6.

The Gulf war syndrome

EDITOR.—Since my predecessor last wrote to the *BMJ* the number of patients concerned about their health in relation to service during the Gulf war in 1990-1 who have undergone systematic assessment by the defence medical services has risen to 200. Our assessment programme is being subjected to clinical audit by the Royal College of Physicians. When the programme is complete a detailed report will be published; meanwhile, I offer this summary of our findings.

Some 45 000 British personnel were involved in the Gulf war conflict, and 237 have come forward under our clinical assessment programme. Five broad diagnostic categories have emerged.

Minor organic disorders (40%)—These are well defined minor medical or surgical conditions. Diagnoses include bronchial asthma, proctitis, the irritable bowel syndrome, tension headache, and various dermatoses. In no case can an unequivocal causative link be shown with service during the Gulf war.

Major organic disorders (14%)—These are well defined serious illnesses requiring long term treatment. Diagnoses include ischaemic heart disease, malignant disease, cardiomyopathy, inflammatory bowel disease, and the nephrotic syndrome. Again, there is no unequivocal causative link with service during the Gulf war.

Psychiatric disorders (36%)—This category includes post-traumatic stress disorder, adjustment disorders, anxiety states, and depression. A clear relation between service during the Gulf war and the onset of illness can be shown in a number of these patients.

The chronic fatigue syndrome (8%)—This controversial diagnosis is restricted to those who satisfy the criteria of the US Centers for Disease Control. No consistent temporal relation between service during the Gulf war and the onset of the syndrome has emerged.

Worried well (2%)—These patients have presented for assessment as a result of either anxiety

induced by the media or exhortation from relatives. They have been reassured by the medical examination process.

No evidence has emerged that any organic disorder has occurred more commonly in Gulf veterans than in any similar population over a similar four year period. As might be expected, certain psychiatric conditions (post-traumatic stress disorder, adjustment disorders) can be attributed to the Gulf conflict, though there is no evidence that their incidence is greater than that in earlier conflicts. The incidence of the chronic fatigue syndrome may fuel the debate over this condition, but overall the symptom "fatigue" was reported no more commonly in the assessment group than in an age matched general population.²

These findings remain consistent with the earlier British position¹ and recent American findings.^{3,4}

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1 Beale P. Gulf illness. *BMJ* 1994;308:1574. (11 June.)

2 Meltzer H, Gill B, Petticrew M. *The prevalence of psychiatric morbidity among adults aged 16-64, living in private households, in Great Britain*. London: Office of Population Censuses and Surveys, 1994. (OPCS surveys of psychiatric morbidity in Great Britain bulletin No 1.)

3 US Department of Defense. *Clinical evaluation programme for Gulf war veterans; preliminary status report on the first 1000 patients*. Washington, DC: USDD, 1994.

4 US Institute of Medicine. *Health consequences of service during the Persian Gulf war: initial findings and recommendations for immediate action*. Washington, DC: National Academy Press, 1995.

Referencing medical articles on computer networks

EDITOR.—Interest is increasing in the use of electronic communication between computer users over networks such as the internet. This allows the rapid dissemination of information between doctors in different continents. There are a growing number of discussion groups for practitioners with specialist interests, in which messages are distributed by electronic mail from a central hub.¹ The proceedings of these discussion groups are often collected into archives. A peer reviewed electronic journal of anaesthesia and critical care medicine (*Educational Synopses in Anesthesiology and Critical Care Medicine*) was established last year.

A system for referencing articles in electronic journals or the archives of discussion groups is now needed. Such a system would have to incorporate the internet address for the article (the universal resource locator) as well as the more familiar details of author, title, and date. An example of a reference to a recent article might be:

Doyle DJ. The diagnosis of brain death. A checklist approach. *Educational Synopses in Anesthesiology and Critical Care Medicine* (Internet: esia@gasnet.med.nyu.edu) 1995;3.

Referencing of items in the archives of medical discussion groups is complicated by the variety of formats that exist and the frequent lack of editorial input. The location and format of articles on computer networks are also likely to change with improvements in computer and communications technology. The attractions of this means of rapid global communication will surely, however, lead to an increasing amount of important information appearing in this form. The adoption of a standardised system for referencing and archiving medical articles on computer networks will be essential to enable full use of such developments.

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1 Ruskin KJ, Tissot M. A new method of communication between anesthesiologists. *Anesthesiology* 1993;79:867.