

simple as Ronald E LaPorte and colleagues make out.

Firstly, a number of journals have been largely electronic for nearly a decade. The creation of the joint academic network (JANET) and its successor, SuperJANET, has meant that many articles from people based primarily at universities have been submitted and refereed electronically for a number of years. Only in the final stage, when the journal was printed, did these articles meet with paper.

Secondly, citation indices are a poor replacement for peer review so the delay (and cost) in publication due to peer review is likely to remain even with journals on the Internet. New authors have yet to establish a citation record, and to appreciate the value of truly original work takes time. Indeed, a recent paper in *Nature* looked at evidence of whether peer review or citation indices are better tools for judging how original articles are and concluded that, with regard to indicators of the originality of research proposals, citation is not necessarily as reliable as peer review.<sup>2</sup> The situation gets worse if electronic access is used as a criterion comparable to citation. Like LaPorte and colleagues, the Institute of Biology has found that access by others to its electronic publication on the Internet far outstripped its original expectations, but further analysis has shown that the duration of a large number of accesses was short; this leads to the conclusion that there is a lot of browsing (or surfing?) on the net.

Then there is the misconception that the Internet is free. LaPorte and colleagues refer to subscription to the four big medical journals costing \$400 each, but the Internet is far from free, even if the costs are often largely hidden from the end user. A recent article reported how scientists in the central Brazilian Amazon fear that their Internet connection will be cut as the telephone bill alone comes to \$15 000 a month.<sup>3</sup>

So far only a few journals appear solely on the Internet despite the advantages that LaPorte and colleagues cite. One of the main reasons for this is that a mechanism has yet to be determined for paying for standardising copy into a house style, arranging for books to be reviewed, and papers refereed (the time delay here being due largely to the referee and his or her selection, not the postal system), and the other costs not related to print and post that go into producing journals.

These reasons and others (for example, my copy of the *BMJ* is far more portable than a portable personal computer, let alone a portable net site, and so can be read on the train, etc) mean that we are a long way from the time when the Internet even begins to kill off paper journals.

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1 LaPorte RE, Marler E, Akazawa S, Sauer F, Gamboa C, Shenton C, et al. The death of biomedical journals. *BMJ* 1995;310:1387-90. (27 May.)

2 Van den Beemt FCHD, van Raan AFJ. Evaluating research proposals. *Nature* 1995;375:272.

3 Amazon scientists seek funds for InterNet link. *Nature* 1995;375:269.

## Most consultants deviate from asthma guidelines

EDITOR,—The British Thoracic Society recommends that children who need anti-inflammatory treatment should be given cromoglycate in the first instance (rather than inhaled steroids).<sup>1</sup> We investigated our impression that few British consultant paediatricians use cromoglycate as first line treatment. We sent a questionnaire to 100 randomly selected general paediatricians. They were asked to consider "children aged

between 3 and 7 years old who have never had preventive treatment before and who you think need it now." They were asked to estimate "roughly what proportion of such children would you start off by prescribing sodium cromoglycate for?" There were four responses to choose from: almost all, more than half, less than half, and hardly any. Those who reported using sodium cromoglycate in less than half of the children described were then asked to circle one or more of five reasons for not using cromoglycate more.

Ninety two questionnaires were returned, of which 90 were complete. Respondents estimated the frequency with which they used cromoglycate as first line treatment in the proposed context as follows: almost all, 19; more than half, 30; less than half, 21; and hardly any, 20. The reason most commonly cited for not using more cromoglycate was that it was "less effective than inhaled steroids" (29/41 (70%)). Other reasons included the frequency of doses (24/40 (58%)) and problems with inhalers (12/41 (29%)).

The British Thoracic Society's guidelines state that "patients should start treatment at the step most appropriate to the initial severity." Nevertheless, the spirit of the guidelines is that cromoglycate should be the first step in children. We found that only 21% of British paediatricians use cromoglycate as the first step in "nearly all" children in the context we proposed. Thus, according to their responses to our questionnaire, 79% of British paediatricians deviate from the guidelines.

When audit shows a gap between protocol and practice then either the guidelines or the practice, or both, should change. Unless more evidence supporting the use of cromoglycate is produced, its use seems unlikely to increase. Thus we believe that the British Thoracic Society's guidelines should be changed to match more closely what paediatricians do.

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1 British Thoracic Society, British Paediatric Association, Research Unit of the Royal College of Physicians of London, King's Fund Centre, National Asthma Campaign, Royal College of General Practitioners, General Practitioners in Asthma Group, British Association of Accident and Emergency Medicine, British Paediatric Respiratory Group. Guidelines on the management of asthma. *Thorax* 1993;48(suppl):S1-24.

## Management of cardiac arrest by ambulance technicians and paramedics

### Paramedics have other uses beside attending cardiac arrests

EDITOR,—The paper by U M Guly and colleagues, of Edinburgh, shows the wisdom of the former managers of the Scottish Ambulance Service who in 1989, before the widespread introduction of paramedic training in Scotland, resolved to equip all frontline ambulances with defibrillators and train staff in their use.<sup>1</sup> Since the start of the "Heartstart Scotland" programme about 1000 patients have recovered completely after a cardiac arrest outside hospital. The fact that the grade of staff using defibrillators does not materially influence such excellent results causes no great surprise because, in the chain of survival after cardiac arrest, the link of early defibrillation is the most positive discriminator and it matters little who provides it.

It might, however, be useful to analyse why paramedics in Edinburgh have not achieved significantly better outcomes for patients. Firstly, the study coincided with the deployment of paramedics in rapid response units; they could not

transport patients. With successful defibrillation a delay often occurred before a vehicle became available for transport, resulting in the paramedics spending longer at the scene, as reported. Secondly, paramedics were often deployed as a secondary response when cardiac resuscitation was initiated by an ambulance technician because breathing and consciousness had not returned after defibrillation. Patients in such cases are less likely to survive. The paramedics' only relevant extended skill at the time of the study was tracheal intubation, which alone is unlikely to be of major benefit in these high risk patients. The immediate survival of such patients receiving a secondary response from the authors' hospital based medical team (a group of patients excluded from this analysis) may be little better than that ascribed to early defibrillation by ambulance technicians.

This study examined only cardiac resuscitation and in a city setting close to a major teaching hospital. It took no account of the contribution of paramedics to the management of other emergencies, including trauma, asthma, and diabetes, especially in remote localities. From the authors' narrow perspective, we fail to see how they can support their conclusion in the key messages box that "the outcome of patients treated by technicians v paramedics does not justify the government's plans." Only a comprehensive review of all aspects of the delivery of services will be sufficient to justify or challenge the government's investment.

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1 Guly UM, Mitchell RG, Cook R, Steedman DJ, Robertson CE. Paramedics and technicians are equally successful at managing cardiac arrest outside hospital. *BMJ* 1995;310:1091-4. (29 April.)

### Paramedics were not used effectively

EDITOR,—U M Guly and colleagues found that ambulance technicians with a few hours' additional training performed basic life support with defibrillation as effectively as highly trained paramedics.<sup>1</sup> Their study, however, has several flaws. Allocation to type of ambulance staff was not random. The delay before the arrival of a paramedic as a secondary response, which the authors believe to be detrimental, would not occur if a paramedic was in each frontline ambulance. Our main criticism of the study is that the paramedics were not permitted to use their full training. If the authors wished to prove that cardioactive drugs are ineffective they needed a third arm of the study, in which paramedics were allowed to provide full advanced life support.

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### Benefit of paramedics in non-ventricular fibrillation arrests is transitory

EDITOR,—We agree with U M Guly and colleagues' conclusion that intervention by paramedics does not improve the outcome of cardiopulmonary arrest occurring outside hospital when compared with intervention by ambulance technicians using

basic life support with early defibrillation.<sup>1</sup> A retrospective study in Hampshire of 98 patients who had a cardiac arrest outside hospital showed that the introduction of paramedics resulted in an increase in the number who regained spontaneous cardiac output from 12 to 21 (P=0.01).<sup>2</sup> The number who survived to discharge from hospital, however, did not increase.

In the group treated by paramedics seven of 23 patients who regained spontaneous cardiac output were in asystolic arrest or electromechanical dissociation when first monitored. In the group treated by ambulance technicians only one patient who regained spontaneous cardiac output had such an arrest. The success of initial resuscitation showed a direct but transient benefit of intervention by a paramedic since none of these patients survived to discharge. In both groups three of 23 patients with ventricular fibrillation survived to discharge.

These findings reflect the irreversible pathophysiology and grave prognosis of cardiac arrest when the initial rhythm is not ventricular fibrillation. This is irrespective of where the arrest occurs. Furthermore, the principal therapeutic goal in ventricular fibrillation remains prompt defibrillation.

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### Studying only admissions is a source of potential bias

EDITOR,—U M Guly and colleagues state that their study, which claims to show that "paramedics and technicians are equally successful at managing cardiac arrest outside hospital," does not "diminish the role of paramedics."<sup>1</sup> Yet the paragraph about their paper in *This week in BMJ* concludes that such patients "are best treated" by technicians and calls into question the requirement of having a paramedic in every emergency ambulance. We do not believe that such a conclusion can be safely drawn from the data presented.

The methodology gives rise to several sources of bias. Information is presented for those patients taken to the emergency department and not for all patients sustaining cardiac arrests in the community. In our series, based on telephone interviews with ambulance staff, 30% of all patients were certified dead at the scene, and for every three cases in which resuscitation was attempted there were two cases in which it was not; paramedics were more likely to start resuscitation.<sup>2</sup> Moreover, if ambulance controllers base their decision to dispatch technicians or paramedics on clinical information, random allocation of crew is unlikely. Thus the two types of crew may not resuscitate patients with the same likelihood of success before the intervention.

Furthermore, a comparison of times spent at

the scene and outcome may be distorted by the inclusion of patients attended first by technicians and then by paramedics in the group treated by paramedics. Our data (table) show that these patients spend the longest times at the scene of the arrest. In our community based study of arrests due to all causes, paramedics, who (unlike those in Guly and colleagues' study) were able to give drugs, compared favourably with other crews. Therefore, while we agree that it is most important to provide rapid defibrillation, giving drugs (according to the European Resuscitation Council's guidelines) may be important.

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## Debriefing after psychological trauma

### Inappropriate exporting of Western culture may cause additional harm

EDITOR,—Trauma is a growth industry in the West and thus fertile terrain for fashion. Beverley Raphael and colleagues note that debriefing after psychological trauma, which they call a social movement, is being widely instituted in advance of objective evidence of efficacy.<sup>1</sup> I wish to highlight one aspect with considerable implications: the export of Western psychological practices of this kind to various peoples affected by war worldwide.<sup>2</sup>

Rwanda is a good example. The first flows of destitute Tutsi refugees into Tanzania had scarcely abated when various aid organisations in the West were deciding from afar what was a priority—namely, "counselling." Projects were implemented without prior consultation with the refugees themselves or knowledge of their cultural norms and frameworks for psychological health, which are so different from those in the West. The experience of war is a collective one; processing it is a function of what it means or comes to mean. In the Rwandan case this will be coloured by what previous massacres have come to represent in Tutsi and Hutu social memory and the coping strategies used then. The notion that the complex and evolving impact of such events collapses down in a survivor to a discrete mental entity, the "trauma," that can be addressed by debriefing or similar approaches is risible. Projects should primarily target the impoverished social context of the survivors.

Psychosocial projects in war zones have become attractive for Western donors, driven in part by some expansive claims by professionals. For example, mental health advisers to the World Health Organisation and other agencies state that

there are 700 000 people in Bosnia-Herzegovina and Croatia with severe trauma needing urgent treatment and that local professionals can handle less than 1% of these.<sup>3</sup> As a consultant to Oxfam I see these claims as misconceived, reflecting a narrowly pathologising view in which distress is relabelled as psychological disturbance. They also aggrandise the foreign experts who define the disorder and bring the cure. They risk distorting the wider debate about the destructive effects of war, including those on health. These trends can also pose dilemmas for indigenous organisations serving groups affected by war. Workers see that the central problem is the broken social world of these people, including poverty and lack of rights, but tell me that it seems easier to obtain funding from Western donors if they portray it as "trauma," whose antidote is "counselling."

Western psychological ideas are part of Western culture, which is becoming increasingly globalised. It would be ironic if trauma projects unwittingly generated the further disempowerment of non-Western communities weakened by war by presenting Western psychological thought as definitive knowledge and imputing inappropriate sick roles to the communities. The health and humanitarian fields are not exempt from issues of power and ideology.

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### Response to stress is not necessarily pathological

EDITOR,—Beverley Raphael and colleagues' critical examination of the value of debriefing after psychological trauma focuses primarily on treatment after single disasters but could be extended to the wide range of psychological treatments offered to victims of current wars.<sup>1</sup> The failure of the concept of post-traumatic stress disorder to embrace the complexity of the experiences of suffering and loss in these situations has been addressed by other authors,<sup>2</sup> including me.<sup>3</sup> The treatment strategies that follow in its wake are equally problematic. They rest on an assumption of a pathological response to stress that is both universal across different cultures and centred on the individual. They ignore the continuing trauma of flight and resettlement that is experienced by refugees, and of life in regions of continuing conflict. And there is the possibility that they pathologise coping strategies that might be essential to survival. Hypervigilance—the ability to distinguish the sound of an incoming mortar from that of an outgoing mortar, for example—may mean the difference between life and death in Sarajevo. Numbing and denial may allow a person to muster the psychological strength necessary for flight and to endure the miseries of refugee camp life as well as make possible courageous acts of non-violent resistance.

The authors are right to point out that the provision of psychological first aid answers the need of mental health workers to make an immediate response to suffering. I would also suggest that, through its focus on intrapsychic processes, this approach allows the workers to avoid the complexities of political and social causation and maintain that detached objectivity that is the professional ideal. The problem is that while questions such as "Why did this happen?" "Who

Outcome of cardiorespiratory arrest outside hospital managed by South Glamorgan Ambulance Service (figures are numbers (percentages))

	Technicians with basic life support skills alone	Technicians with basic life support skills and defibrillators	Paramedics	Paramedics providing back up to technicians
Median time at scene (min)	10	13	22	30
Total No of attempts	252	102	517	83
Certified dead	75 (30)	34 (33)	158 (31)	18 (22)
Admitted	31 (12)	10 (10)	86 (17)	9 (11)
Discharged	11 (4)	5 (5)	46 (9)	6 (7)