

improvised, often with great ingenuity, from simple explosives with crafty triggers, such as those made from slit bamboo and nails or metal foil. In the past decade, however, mass production of anti-personnel mines has lowered the unit price to only a few pounds sterling, and even the poorest nations or groups of insurgents can import tens of thousands each year. Over 110 million landmines are currently in existence.<sup>1 6</sup>

Anti-personnel mines require only a small charge of explosive to be effective. To fulfil their tactical role—that of immobilising and denying ground to an enemy—the blast need be sufficient only to avulse limbs. With deadly cynicism, many armies use smaller mines to wound rather than kill. A dead soldier will not in himself halt an advance, but an injured one requiring resuscitation and rescue will.<sup>7</sup> Formal tactical training in many countries acknowledges that extracting survivors of landmine blasts (some 40-50% of victims survive) hinders morale, ties up transport and other resources, and demands aeromedical evacuation.

Although anti-personnel landmines may be a legitimate weapon of war, they have no place in an ensuing peace.<sup>5</sup> The civilian death toll shows that they are often sown in places where civilians—especially children and farmers—work, forage, and play. Many of the anti-personnel mines used in the 1990s were made entirely of plastic to escape detection and so may float in floodwater run off, killing and injuring people many kilometres from the site of primary implantation in places where mines are not considered a threat. This has been a particular problem in Afghanistan,<sup>8</sup> Cambodia,<sup>9</sup> and Rwanda,<sup>5</sup> where all plastic, butterfly shaped, “babykiller” mines have been dispersed by air.

The medical consequences of landmines are well known. Avulsion of one or both feet or lower limbs is typical,<sup>5</sup> with shrapnel fragmentation wounds to the pelvis, abdomen,<sup>5</sup> thorax, and face. Blinding in one or both eyes is common,<sup>10</sup> and conductive deafness almost inevitable.<sup>11</sup> The blast wave travels up the bones of the leg,<sup>8</sup> and amputation well above the site of frank avulsion is necessary because of bony as well as soft tissue devitalisation.<sup>8</sup> Civilian injuries usually involve more than one victim, and sometimes whole families or groups of children are killed or injured.<sup>1 5</sup> The legacy of legless, partly deaf, blinded orphan children is a challenge for preventive medicine that the medical profession cannot ignore.

At the international level much has been achieved in drawing up a code of combat. The St Petersburg Declaration (1868), the Brussels Conference on the Rules of Military Warfare (1874), the Hague Conventions (1899 and 1907), the

Washington Treaty (1922), the Geneva Conventions (especially the 1949 codifications),<sup>12</sup> and the Resolutions of the International Committee of the Red Cross (especially those of 1965 and 1977)<sup>13</sup> have followed the evolution of technology, banning in turn the inhumane use of dum-dum bullets and poison gas,<sup>14 15</sup> the torture of prisoners—military and civilian—caught in combat zones, and the use of offensive biological weapons.

The common thread woven through this ethical evolution of the profession of arms is that all such weapons are indiscriminate in their effects. The technology of the 20th century has produced a cheap, highly efficient, indiscriminate killer. In this context it is logical, indeed now mandatory, to insist on a new international convention to ban the manufacture, trade, and use of anti-personnel mines. Last October, in Vienna, the United Nations failed to agree to ban landmines. In January it failed to agree on the feasibility of a lesser target of forcing manufacturers to install fuses that would inactivate landmines within six months. This week at the United Nations convention on inhumane weapons, the international community has a third opportunity to act. It must not fail.

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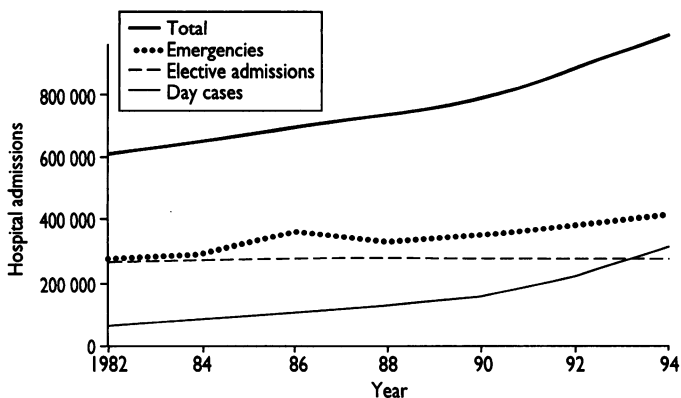
## The continuing rise in emergency admissions

*Explanations and responses must be properly evaluated*

Emergency admissions in Britain are continuing to rise.<sup>1</sup> The highly publicised bed crisis this winter and a number of national meetings have underlined concern over the lack of explanations and frustration at the lack of control. In Scotland, emergency admissions increased by 45% between 1981 and 1994 (fig 1). This represented an annual increase of about 3%, rising to over 5% in 1993 and 1994,<sup>2</sup> and probably in 1995. Even steeper increases have been reported by individual hospitals throughout Britain.<sup>1 2</sup> In stark contrast, elective admissions have increased by only 1% a year.<sup>3</sup> Emergency hospital admissions account for about 40% of total acute bed use in the NHS.<sup>2</sup>

Why is this rise occurring? Potential explanations need to account for its generality and persistence. Hospital admissions have actually been increasing for some four decades.<sup>1 3</sup> Some

recent inflation in the figures was caused by the use of finished consultant episodes and more complete recording. However, analysis of linked data has confirmed that the rise is genuine.<sup>2</sup> Only 2% of the increase can be explained by population aging.<sup>1 2</sup> Although all age groups and diagnostic categories are involved in the rise, major contributions come from older medical and surgical patients, multiple admissions, and socially deprived groups.<sup>4</sup> In Scotland, admission rates have always been higher in health board areas with teaching hospitals but the rise has generally been steeper in non-teaching health boards, so that the gap is now narrowing. Decreasing length of hospital stay increases the risk of premature discharge, leading to “revolving door” readmission.<sup>1</sup> The detection of additional disease by more sensitive investigations may also contribute.<sup>5</sup> However, with the exception of



Trends in elective and emergency admissions in Scotland

childhood asthma<sup>6</sup> and self-poisoning,<sup>2</sup> there is little evidence of any genuine rise in disease incidence.<sup>1</sup>

Demand has clearly increased, with major changes in the way illness is dealt with. Patients attend their general practitioners more often and are referred to specialists more readily.<sup>1 7</sup> The rise in emergency admissions has paralleled the increase in out of hours calls. The threshold for hospital admission may also have fallen.<sup>1</sup> General practitioners, particularly deputies, are less keen to act as gatekeepers, and inexperienced junior hospital doctors may be reluctant to refuse admission. All are concerned about possible litigation.<sup>1 8</sup> Patient expectations and demands have also increased, perhaps fuelled by various charter initiatives.<sup>9</sup> Broader social changes include decreasing support for the elderly<sup>2</sup> and increasing social deprivation.<sup>10</sup>

Supply side factors are also important.<sup>11</sup> These include the continuing consultant expansion of about 2% a year and, as predicted by Roemer's law, admissions increasing to the limit of bed availability.<sup>1</sup> Furthermore, increasing capacity in a local medical unit may initially improve quality and throughput, only to be swamped by a further surge in admissions as local practitioners refer a greater proportion of eligible patients. This is all too easy when "icebergs of disease" exist in the community, such as with hypertension, asthma, or coronary heart disease.<sup>6</sup>

Perverse financial incentives may also contribute, including cost per case contracts and general practitioner fundholders paying for elective but not emergency admissions. New interventions such as thrombolysis, stroke units, and minimal access surgery may further increase elective and emergency admissions. A North American model of clinical practice may be developing in Britain, emphasising hospital rather than community care and interventional rather than conservative management.

Some 20% of medical admissions may be "inappropriate."<sup>12 13</sup> If enhanced resources were provided, some 10% of admissions could have received alternative care in Bristol,<sup>13</sup> and up to 40% were rated as "possibly avoidable" in Doncaster (M Pringle, personal communication). However, appropriateness is contentious and value laden; patients and carers' views cannot be ignored.<sup>9 14</sup> Attempts to explain the rise in emergency admissions increasingly require a multifactorial model.

The rising trend may threaten quality of care. If patients are discharged "sicker and quicker," primary care workloads may increase. We must always remember the interdependence of community and hospital services.<sup>14</sup> Thus far, the NHS has usually coped. Because average length of stay has decreased substantially, total bed days have fortunately remained relatively steady over the past decade. But acute hospital resources are severely limited and throughput and turnover are still rising. Each year, managers and clinicians are expected to treat more with less. This increasing "efficiency" may narrow safety margins and increase vulnerability to unforeseen surges

in activity or staff illness. Each crisis encourages sensational media headlines describing patients sleeping on trolleys, cancelled operations, or worse.<sup>1 3</sup>

### Coping with the increase

The wide range of responses suggested for the problem of increasing emergency admissions emphasises the lack of effective interventions. Strategic suggestions have included increasing NHS resources and, conversely, more explicit rationing. Community interventions might reduce the need for admission—for instance, specialist advice by telephone or domiciliary visit, open access outpatient clinics, or staffing of casualty departments by consultants, general practitioners, or practice nurses.

Alternative inpatient sites might include hospital at home schemes, beds in community hospitals or nursing homes, and direct admission to geriatric assessment units. The existing acute beds might be used even more effectively with short stay admission wards, early discharge facilities, using beds more flexibly, reallocating surgical beds to medical units, appointing a bed manager, rapid transfer of patients to geriatric care, or improved discharge procedures.<sup>1 13 14</sup>

Surprisingly few options have been properly evaluated or costed. Major uncertainties persist, and it even remains unclear whether particular referral or admission rates are desirable. Research should clearly be encouraged, but clear objectives are vital. Firstly, the factors underlying emergency admissions need to be clarified. Research themes might include the specific contributions from changes in epidemiology, demography, referral and admission criteria, and the incentives and disincentives of current NHS funding and organisation. Secondly, possible interventions should be rigorously assessed. Many hospitals in Britain are now making radical attempts to reduce admissions. Without evaluation, the experience may benefit no one.

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### Correction

#### Long term adjuvant therapy for primary breast cancer

An error occurred in this editorial by R D Bulbrook (17 February, pp 389-90). In the sixth paragraph, the third sentence should read, "... the American trial of the use of tamoxifen for the prevention of breast cancer [not: both the Scottish and the American trials in primary breast cancer] contains so large a proportion of young women that they are [not: it is] unlikely to have sufficient power to provide significant data on the effects of tamoxifen on cardiovascular disease."