information would be needed to analyse this aspect properly, but it is still clear that, numerically, most overseas doctors are not tending to remain permanently.

The 1977 diagram (figure) includes a "cell" (bottom right) that gives a rough estimate of the total loss of doctors during the year and apportions this according to the previously used estimates of death and retirement from the career grades. The residual loss of about 3500 doctors from the junior hospital grades can mostly be accounted for by overseas doctors; the model, with the data available, is not accurate enough to give a true estimate of the rate of emigration of British graduates, but this does not seem likely to have been more than a few hundred each year.

### Comment

Detailed comment is unnecessary, except to reiterate the need for continuous evaluation of the medical manpower position before launching with any confidence into long-term predictions. Much interest is still concentrated on what might happen in 20 years time, or might not,[4 5] and on what should happen according to many different views. The continuing analysis of what is currently taking place is no less important, and perhaps more; it requires thoughtful study and more detailed information than can be found in the published tables of the DHSS.

### References


[1] Parkhouse, J, *Proceedings of the Royal Society of Medicine*, 1976, **69,** 815.
[2] Parkhouse, J, *British Medical Journal*, 1977, **2,** 530.
[3] Parkhouse, J, *Medical Education*, 1978, **12,** pp 40, 54, 133, 143, 230.
[4] Maynard, A, and Walker, A, *Doctor Manpower 1975-2000: Alternative Forecasts and Their Resource Implications*, (Royal Commission on the National Health Service, Research Paper 4). London, HMSO, 1978.
[5] DHSS, *Medical Manpower—The Next Twenty Years. A Discussion Paper.* London, DHSS, 1978.


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# *Letter from Chicago*

# Medical crises

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A recent article entitled "The urban crisis leaves town" underscores some of the difficulties of trying to evaluate current socioeconomic trends in America.[1] One difficulty is the pronounced discrepancy between what the government says (or even believes) it is doing and what it is actually doing. This is best exemplified by President Johnson's Great Society fiscal programmes, which were supposed to help the cities but in reality hastened the destruction of neighbourhoods and the exodus to the suburbs; and by the Nixon-Ford administrations, which seemingly ignored the plight of the cities but in fact halted their decline with massive infusions of Federal funds.

Misconceptions also arise from underestimating the consequences of a giant the size of the Federal Government just sitting back and doing nothing. Another danger is failing to recognise the changes brought about by massive social, economic, demographic, and technological forces that exceed the Government's ability to control them. Furthermore, a perception gap of several years often separates the onset of a particular problem from the time it becomes recognised as a crisis, so that by the time a problem provokes great political concern it is often already being solved. We worry then, it seems, about the wrong things: "should be worrying about what we are not worrying about"; recognise as "crises" problems that are not crises at all, at least not at the moment when they are making the headlines; and "tend to confuse unstoppable evolutions with sudden breaks in the dike."[1] These conclusions may well apply to some of our medical crises—budgetary, maldistribution, malpractice, and access crises—as well as to the recent predictions of an imminent surplus of doctors.

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### Surplus of doctors

The origins of this last problem go back to the late 1960s, when, in response to cries about a supposed doctor shortage and to intensive government prodding and cajoling, the medical schools greatly increased the size of their classes and their output of graduates. Within a decade the number of doctors per 100 000 population rose from 140 to 189; and by 1990 it is expected to reach 240, making for a total of 600 000, some 25 000 to 50 000 more than are needed. This year the Government at last realised that too many doctors costs a lot of money without necessarily ensuring better overall health; and in October Health, Education, and Welfare Secretary Califano told the deans and professors that they could now slow down and begin to cut the size of their classes—without either losing their capitation grants or creating a health-care crisis.

Regarding the "crisis" in primary care, much has already been done to satisfy the public, at least if one is to go by some of the articles in the lay press. Indeed, hardly a week passes by without some newspaper or magazine extolling the virtues of the new breed of family practitioners, how they have special training in almost everything, with boards and recertification and broad aims and responsibilities, willing to look after whole patients and whole families and not just after whole livers and lungs. Some 5000 doctors are now training in more than 350 approved three-year residency programmes, and in addition to passing their boards they will take recertifying exams every six years to keep up with modern techniques and developments. Their orientation is towards ambulatory care and avoidance of

excessive reliance on technology; they derive extraordinary satisfaction from treating patients with self-limited and psychosocial illnesses; and they are also more humane, less clinical, and not at all priestly. Nor are they afraid to say "I don't know," and, being exceedingly sensitive to patients' emotional needs, they act in dealings with specialists as the patient's advocate, protector, and guardian angel.

In some parts of the country, however, a shortage of guardian angels persists, while in others too many belong to the higher orders of specialised angels, making for a maldistribution "crisis." Barring another perception lag, the fault seems to lie mainly with the internal medicine programmes, which with 15 000 trainees could easily cope with the nation's primary care needs were it not that two-thirds of graduates pursue further training in the subspecialties.[2] So far there is no agreement on whether the primary care "crisis" should be solved by reforms in internal medicine, by further expansion of family practice programmes, by administrative reorganisation of institutions, or by continuing competition within the present pluralistic system.[3] But in November the Federated Council for Internal Medicine called for a reduction in subspecialty training programmes and an expansion of the number of general internists, with an increased emphasis on basic bedside skills and clinical judgment and a reduced dependence on technical procedures. The council also urged a reversal of present day reimbursement schedules, which reward biopsying a patient's liver but downgrade "cognitive clinical skills," which means taking a history and carrying out a physical examination—a laudable objective but one that in this technological age stands little chance of achieving implementation.[4]

## Self-induced illness

Meanwhile the Office of Technology Assessment reports that bad nutrition kills millions of Americans and that Federal research programmes have not stopped people from eating sugar, sweets, junk foods, and fat. The public, according to recent polls, thinks doctors should spend more time advising patients to live healthily and eat prudently. Yet already the epidemiologists report a pronounced reduction in deaths from stroke and coronary heart disease within the past decade. And Dr Harry Schwartz thinks society should stop paying for its medical criminals, since at present the prudent foot the bill for those who eat, drink, or smoke too much and exercise too little. He points out that, while in Samuel Butler's utopia the sick are punished as criminals unless they successfully hide their illness, in America a university that recently attempted to exclude grossly overweight candidates was charged with discriminating against fat people. Since present policies fail to distinguish self-induced from unavoidable illnesses, one solution might be setting up a special order of health judges who would separate the deserving health sheep from the imprudent goats (who will have to pay their own bills)—but only within a system of due process, formal appeals, fair decisions based on the evidence of special health detectives and informers, and a suitably large bureaucracy to implement the programme.[5]

As to the non-human sheep and goats, their overall health care has greatly improved as a result of a sharp increase in the number of veterinarians, whose number has doubled within two decades, so that another supposed shortage will soon give way to a glut. Some shortages remain in rural areas, but while the Government continues to increase the number of schools, the opportunities in the cities are already becoming less plentiful; and there is great competition for entry into schools, with only 15% of candidates being accepted and with determined applicants having to try their luck four or five times. Veterinarians earn rather less money than doctors; about 70% have small animal practices, but some specialise in organ systems and even plastic surgery, pacemakers, and transplants. Psychosomatic illnesses are uncommon, the family practice movement has not as yet developed, but most veterinarians seem to be motivated by a genuine concern for animals and malpractice suits are uncommon.

## Malpractice crisis

For the medical profession, however, the malpractice crisis remains unresolved, with the high cost of premiums and of defensive medicine contributing to inflation as well as undermining an already fragile doctor-patient relationship. Those who live in this world have seen too many competent doctors entangled in frivolous suits while some of their less responsible brethren carry on as in the days of chloroform and Neosalvarsan. They will therefore have little sympathy for the Olympian view that damages awarded in malpractice suits deter "health-care providers" from negligent behaviour, thus resulting in a higher standard of medicine being practised, and that to achieve deterrence individual doctors' premiums should be based on their past claims experience.[7] But in the real world the malpractice crisis was recently exacerbated, at least in Illinois, by the appellate court reversing a radiologist's successful countersuit against a patient who had claimed misdiagnosis of a tennis injury to her little finger. The decision, though subject to review by a high court, apparently offers lawyers in Illinois complete immunity to sue doctors for whatever reason they might imagine.

## General news

In non-legal medicine, meanwhile, the debate continues about the fallibility of treadmill stress tests in the diagnosis of coronary heart disease and about the value of bypass surgery in its treatment. Several studies have cast doubt on the usefulness of annual routine physical examinations in lowering morbidity and mortality rates. Drs Bartha and Nugent have done an incalculable service to medicine by rediscovering that chest radiographs and electrocardiograms are not useful in evaluating routine hypertensives.[8] The University Group Diabetes Program reports that maintaining normoglycemia does not prevent vascular complications in adult-onset diabetics, and that diet rather than drugs or insulin should be prescribed.[9] On the same lines the Food and Drug Administration's auditors have concluded that despite some errors and discrepancies the UGDP study was sound and that tolbutamide may well cause heart disease and stroke. The agency now plans to go ahead and relabel antidiabetic pills, but the issue is by no means settled and may have to be fought out in the courts.

Among other news, several Illinois hospitals have set up "teenage-only" wards because "the adolescent is a unique creature." Six hospitals were accused of violating equal rights provisions by not providing sign-language interpreters for deaf patients. Some hospitals are easing the plight of their junior staff by allowing "shared internships," where two interns work together for two years, each working one month and taking the next off. A school teacher recently made headlines by recovering from what may have been pancreatitis even though he had a temperature of 109. In Iowa an 84-year-old man has suffered from hiccups continuously for 56 years, interrupting his meals and sleep, and doctors have been unable to help. A New York doctor has urged an end to compulsory premarital syphilis tests because they cost too much and don't turn up enough cases to justify the expense. The Transportation Safety Board has announced a 4% increase in roadway accidents for 1977, partly because drivers are ignoring the 55 mph speed limit. Dr Henry Heimlich warns that "back blows are death blows" and complains that the Red Cross is endangering lives by recommending slapping choking victims four times on the back instead of immediately applying his manoeuvre of squeezing the abdomen. And there has been much controversy about the setting up of new unaccredited medical schools in the United States. In

Tulsa, Oklahoma, evangelist Oral Roberts received direct instructions from the Lord to build a $100m complex to combine the forces of prayer and medicine but ran afoul of local health planning agencies. In Cincinatti the American University of the Caribbean began classes on temporary premises pending the completion of its campus at Montserrat; and in Philadelphia plans were made for opening the first class of the University of Dominica.

Finally, in Pittsburgh, a man dying from a blood disease sued his cousin who refused to donate 21 ounces of marrow for a transplant; but the judge denied the suit saying that it would be revolting and reminiscent of the swastika and the Inquisition for society to sink its teeth into the jugular vein of one of its members and suck out sustenance for another. Which brings us to the much maligned bat, who for centuries has suffered from a bad press because of our instinctive fear of the devouring mother, but who wishes nothing better than to be left alone, cannot get tangled in your hair, rarely sucks people's blood (at least not more than a teaspoonful at a time), and though far from being blind has an awful time learning to hang upside down. Bats are particularly harmless if well cooked, taste delicious in a coconut milk sauce, and are unlikely to provoke a health crisis provided that the rabies virus is suitably coagulated by boiling.[10]

## References


[1] Allman, T D, *Harper's*, 1978, **257,** 41.
[2] Petersdorf, R G, *New England Journal of Medicine*, 1978, **299,** 628.
[3] Relman, A S, *New England Journal of Medicine*, 1978, **299,** 652.
[4] Federated Council for Internal Medicine, *Forum of Medicine*, 1978, **1** (No 8), 20.
[5] Schwartz, H, *Wall Street Journal*, 5 October 1978.
[6] Gilmer, W jun, *Wall Street Journal*, 5 October 1978.
[7] Schwartz, W B, and Komesar, J K, *New England Journal of Medicine*, 1978, **298,** 1282.
[8] Bartha, G W, and Nugent, C A, *Archives of Internal Medicine*, 1978, **138,** 1211.
[9] Knatterud, G L, *et al, Journal of the American Medical Association*, 1978, **240,** 37.
[10] Kaufman, J, *Wall Street Journal*, 22 August 1978.


*Recently the herb comfrey has received attention in the press and on television as a possible cause of cancer. Is this correct?*

The Henry Doubleday Research Association (HDRA) grow and market comfrey (*Symphytum officinale*) in the UK. Pyrrolizidine alkaloids, which are present in many varieties of plant but particularly those of the *Senacio* species, have been identified in *S officinale* by Furuya and Araki,[1] and in other species of comfrey by Dr C C J Culvenor and colleagues of the Commonwealth Scientific Industrial Research Association in Melbourne, Australia, and by Pedersen[2] in Denmark. Several pyrrolizidine alkaloids are toxic for animals[1] and some predispose to tumour development in animals.[3] In both cases the liver is the principal target organ. Hirono *et al*[4] recently reported an increased incidence of tumours of the liver in rats fed on diets containing 16 or 33% comfrey leaf or 0·5-4% comfrey root. Before the publication of this report, HDRA issued a public statement that concluded that until the position is clarified "no human being or animal should eat, drink, or take comfrey in any form." An abstract of the HDRA statement appeared in the *Observer* of 30 July, 1978. Unless further work shows that for some reason the findings of Hirono *et al* are misleading, it seems unlikely that comfrey will ever again be regarded as a plant that can be consumed with complete safety. The carcinogenic response in animals was seen in response to continuous high dosing over long periods and evidence of liver intoxication preceded liver tumour development. The consumption of comfrey by man is generally at a much lower level and no examples of liver poisoning have been reported. People who have in the past consumed or used products containing comfrey have therefore no cause for alarm.


[1] Furuya, T, and Araki, K, *Chemical and Pharmaceutical Bulletin*, 1968, **16,** 2512.
[2] Pedersen, E, *Archiv for Pharmaci og Chemi Scientific Edition*, 1975, **3,** 55.
[3] International Agency for Research on Cancer, *Monograph on the Evaluation of Carcinogenic Risk of Chemicals to Man*, 1976, **10,** 265.
[4] Hirono, I, Mori, H, and Haga, M, *Journal of the National Cancer Institute*, 1978, **61,** 865.


*Progressive massive fibrosis (PMF) occurs in coal workers suffering from pneumoconiosis. What is its exact definition and how can it be differentiated from fibrosis arising from other causes at pathological examination of a coal worker's lung that has become infiltrated with coal dust?*

PMF is defined in pathological terms as a mass of apparently fibrosed deeply pigmented tissue in the lung parenchyma. The actual size at which a nodule becomes PMF appears to be arbitrary; the Pneumoconiosis Medical Panels will accept a nodule that exceeds 2 cm in diameter. Initially it was thought that the masses consisted of irregular clumps of collagen fibres with amorphous material containing coal dust either lying free or in disintegrating macrophages; more recent studies, however, have suggested that proteins other than collagen form the bulk of the tissue. In the lungs of coalworkers there is a background of simple pneumoconiosis, usually with the formation of small centrilobular nodules. The aetiology of these masses is in doubt and they are probably caused by multiple factors—silica, tuberculosis, other infections, rheumatoid factor, and the presence of massive amounts of dust in the lungs have all been suggested.

PMF can easily be separated from the numerous diseases causing interstitial fibrosis (fibrosing alveolitis), as the latter cause a widespread thickening of the walls of the bronchioles and air spaces, whereas PMF is a localised solid mass completely replacing the respiratory tissue. The other diseases in which a similar mass appearance can be seen are tuberculosis, rheumatoid pneumoconiosis, silicosis, and, very rarely, tumours. The tumours, overt tuberculosis, and active rheumatoid lesions can be recognised on histological examination. This leaves old tuberculous scarring, silicosis, and burnt-out rheumatoid lesions. As these conditions have been considered as aetiological agents in PMF further differentiation may be extremely difficult. The rheumatoid lesions and silicosis present with a more conglomerate appearance in which the individual nodules may be clearly demarcated, in contrast to the more uniform appearance of PMF. In all three lesions, however, areas of necrosis and foci of calcification may occur. The full diagnosis may depend on advanced immunological staining and chemical analyses of the lesions.

*Are the immunological complications of streptococcal sore throats prevented by antibiotic treatment after a few days, and is the decline in these complications related to widespread use of antibiotics or changes in the virulence and classes of streptococci?*

The immunological complications of streptococcal throat infections are accepted as attributable to the dissemination of bacterial antigens; the retention of these antigens in sites, such as the mitral valve and kidney; and the inflammatory response these provoke. This belief is based on the difficulty in identifying intact organisms in the lesions, the relatively indestructible nature of the antigens, and the serological evidence of an immune response to bacterial antigens. Thus antibiotics are effective only in preventing streptococcal sore throats, and there is little evidence that they have any effect once infection has become established in the throat. If streptococci are identified in the throat after diseases such as rheumatic fever and poststreptococcal glomerulonephritis have started, it is still worth while eliminating these organisms with antibiotics.[1 2] While the widespread use of antibiotics may have reduced the numbers of streptococcal carriers in the community, there are other probably more important factors leading to the decline of streptococcal infection and their sequelae. In developed countries better standards of health, improved housing, and a reduction in overcrowding are largely responsible, and there may have been fundamental changes in the classes of streptococci endemic in the community with an accompanying decline in virulence.[3] The relevance of strain differences is attested by the occasional occurrence of poststreptococcal glomerulonephritis in communities affected by nephritogenic strains of streptococcus. The importance of social factors is shown by the continued high incidence of rheumatic fever and carditis in many underdeveloped countries, particularly in Africa.


[1] Stollerman, G H, *et al*, *Medical Concepts in Cardiovascular Disease*, 1965, **34,** 45.
[2] Schwartz, W B, and Kassirer, J P, in *Diseases of the Kidney*, ed M B Strauss and L G Welt, p 268. London, Churchill, 1963.
[3] Bywaters, E G L, in *Copeman's Textbook of the Rheumatic Diseases*, ed J T Scott, p 763. Edinburgh, Churchill Livingstone, 1978.