Letter from . . . Dunedin

Evolutions in medicine

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A report in the Christchurch newspaper *The Press* in May indicated that the source of some restlessness which has been rippling through the academic medical centres of New Zealand had reached the attention of Government. The prime minister was commenting on the numbers of students expected to graduate from New Zealand medical schools. The 310 pre-registration practitioners in 1980 compared generously with the 90 a year from 1945 until 1970. He went on to refer to the \$50 000 each new doctor cost the tax payer to educate. One's eye might have been caught by the sting in the tail of the report, in which the leader of the National Party—tendency to the political right—warned that “medical care societies” should ensure that their success (and the luncheon was to celebrate the assumption of a half million membership by the Southern Cross Medical Society) “did not create a grave imbalance in the demands on specialists, and an apportionment of their time between public and private hospitals.” Shades of Barbara—clearly of the political left?

Inflation came to New Zealand considerably after Europe and the United States, and is leaving in phase. There are, therefore, querulous eyebrows being raised at some of the expenditure proposed or executed in the health services. The profession here is jealous of its independence, and recoils, in general, at the prospect of a British-type National Health Service. The patient pays the GP a small but variable (one to five dollars) fee-for-service, which is subsidised at a fixed fee-for-service rate by the Government. A generous and adequate list of drugs is free to outpatients, but the esoteric therapeutic whims of your doctor may have to be paid for. Hospital care and drugs are all free. The patient receives no subsidy for dental work once he has left school. At primary schools a corps of dental nurses practice conservation of a child's teeth—gratis.

When the Labour Party—tendency to the political left—was in power from 1972 to 1975 it produced a White Paper on health, whose basic premise was administrative regionalisation of the service. There was muttering and uneasy shifting of professional bottoms. It was recognised that a first move toward what our American colleagues call “socialised medicine” had been taken when that same government had introduced the work of the Accident Compensation Commission in 1974. Simply, this Act will compensate, in an earnings-related manner, anyone suffering an accident resulting in loss of income. “Accident” is still being defined in shadier areas, but is now held to encompass what might be called industrial disease. The Immigration Department's brochure, which all travellers arriving in New

Zealand complete, points out that culpable parties cannot be taken to court for costs for injuries and death as a result of accident—look to your laurels, defence bodies—for ACC will solve all. There are wrangles and deprivatory injustices yet. But clearly there are anomalies of generosity. At the moment the ACC is paying out three million dollars every ten days, and is worried that the wood is showing through at the bottom of its coffers. The apparent naivety contained in the Commission's complaint that the amount of the levy exacted from employers was calculated on the basis that only 20% of remunerable accidents would be outside places of employment is astounding. This is the land of the great outdoors: rugby football is a religion, skiing a weekend habit that is growing year by year, and 20 000 people are injured on the road every year. So why is the Commission surprised and complaining at 48% of claims against it coming from sources outside places of work? There is little doubt, indeed good evidence, and not surprising to any survivor of the National Health Service, that the ACC beneficence is not being scorned—at work or play.

Production of doctors

The prime minister's comments on the production of doctors can be seen in other lights too. Many factors, including some magnificent traditions, are changing in New Zealand's medical teaching institutions. One factor is a world-wide phenomenon—the increased production of doctors. The wild swings of estimates of need, revealed in equally wild error by time and events, of medical manpower is well known as an international phenomenon. Because Britain, the traditional place “to go overseas” for postgraduate doctors, is having trouble employing its own medical school leavers, access to training there will become severely limited. Tradition is another changing factor. The Australasian regard for the UK as Home, The Old Country, is maturing, as we all know. From New Zealand, “overseas experience” is being increasingly sought in Australia, which not only has it to offer, but has also some glowing pecuniary and professional attractions to hold people there. Australia is, however, well populated with trainees, and offers good and stiff competition with its own offspring to outsiders. Australia's affinity and social similarities to the USA are clear, and many young New Zealand doctors have sought postgraduate training in America. BTA (Been to America) does not have the aura of the postgraduate diploma that it had in Britain in the 1960s, however. That the USA has its barriers up to immigrant medicos is common knowledge. Where indeed “shall John (Kiwi) go . . .”? It would seem therefore, that all nations will have to find employment for their own graduates, and that in that context they cannot afford to budget for losses to overseas.

All of this would not be so bad if it had not coincided with the fructification of the plans, initiated in the late 1960s, to expand New Zealand's doctor production. Then, young New Zealanders went overseas to complete the postgraduate training they couldn't get here. London and the provinces were crowded

with Australians and New Zealanders struggling for fellowships and memberships; a lot stayed on, or moved on to the USA. In 1968 a momentous decision was made here in the University of Otago. A need for expansion was seen to attract, accommodate, and hold the staff to maintain the only medical school in New Zealand. Action was decided, the price agreed, and execution started. The 1968 decision was essentially the provision of extended facilities in Dunedin, in exchange for the expanded output forecast (precariously) as being needed. Among other expansive university building, the eight-floor ward block is now well on its way to its completion scheduled for 1980, preceded by a five-floor clinical services block opened in 1972. Two beautiful lecture theatres with all mod cons replace those within the hospital destroyed to make room for the ward block. Two hundred preclinical students were admitted to the medical course in 1975 to be dissipated among the three clinical schools in 1977 for graduation in 1980.

Provincial rivalries

As long ago as 1875 the frustrated Coughtrey, first professor of anatomy and physiology in the University of Otago, feared the rivalry of Christchurch, that local aspirations there would steal the initiative and set up a medical school in Canterbury. Coughtrey survived only a couple of years in his university role, but from 1877 things moved forward gratifyingly in Dunedin. From then until 1884 a two-year course only was offered, and students went Home for a further three years to qualify. In 1885 the Otago Medical School started a full medical course in Dunedin with graduation, MB ChB (New Zealand). This remained so until 1974, when Auckland Medical School graduated its first students and reversion to the designatory suffix of Otago was made.

The University of Otago was born with a golden spoon in its mouth, for it was the rich gold strikes of the 1860s that enabled higher education to start. Otago's gold boom ran out and even by 1890 the greater part had gone. Towns and settlements rose, flourished, and died. They are now but romantic names and piles of stones, with silent water wheels standing sentinel in the wild hills over the rusting remains of broken shovels and picks. The relative stasis of beautiful pastoral rurality has been with Otago since the beginning of the twentieth century. Otago has a fine harbour and modern port facilities, a little light industry, and a fine, many-facultied university of 6000 students now. Christchurch, in the Canterbury Plains—its aspiration to be a typical English town (as opposed to the Scottish one in Otago) achieved—has a population two and a half times that of Dunedin, but trails behind the 800 000 of the great metropolis of Auckland. Wellington, the busy, building, capital city on many hills of many earthquakes has 300 000 people—comparable with Christchurch. At once the practical disadvantage of the major medical school of the nation within its least populated centre is apparent.

The student numbers at the Dunedin school gradually swelled over the years. Sixth-year students had already been distributed to hospitals in Auckland, Wellington, and Christchurch, when in 1973 the changing image became apparent. For in that year the three years of clinical education were divided between continuing in Dunedin and going to what was to become the Christchurch Clinical School of Medicine. I wonder what Coughtrey would have thought of that? The second barrel to this decade's changes was discharged by the execution of the proposals of the 1968 Commission, which advocated increase of preclinical students to an annual intake of 200 and the establishment of an additional clinical school at Wellington to absorb them for the clinical years. The full three-way split of the Dunedin school's preclinical students to their clinical years at Dunedin, Christchurch, and Wellington occurred in 1977. The first 120 students from the self-sufficient school at Auckland graduated in 1974 so that in 1980 the nation will have graduated about 320 students. So, proud Dunedin, in

the rich province of Otago, which struggled and succeeded beyond dreams to produce the first medical school in New Zealand, in an ironic way has come full circle. She, who used to send her young Home to complete their education in Edinburgh, Glasgow, and even London, disperses them at a similar stage in their education, to those clinical schools that are administratively still of the University of Otago, but nurtured in the bosoms of Victoria University of Wellington and the Canterbury University at Christchurch.

Dunedin

A firmly established, broadly based preclinical school in Dunedin remains the rock on which the education of this nation's medical cadre is based. Pathology, always strong here, retains its acknowledged influence for good with a strong influence on the curriculum throughout. Although we seem to have lost the romance of chairs of classics and English language and literature, of mathematics and natural philosophy, and of mental philosophy and political economy—which were the three chairs advocated in the University of Otago initiating Ordinance of June 1869—preventive medicine has always been a pervasive and influential force for good in Dunedin. Here again the colony led, for preventive medicine was acknowledged as a need by Coughtrey himself, and, though many influences exerted to establish such a learning stream, wartime authorities brought bitter experience back from the Gallipolean carnage, and turned that sword into a plough share with profit for the nation. Smirk's appointment to the chair of medicine in 1939 heralded the intense and profitable interest that this medical school was to establish in hypertension.

Probably one of the greatest distinctions of New Zealand health care was initiated by the work of Truby King, later knighted, who developed a nation-wide infant welfare organisation, named after a current dignitary, to become the Plunket Society for the Protection of Women and Children. Associated with this body was developed the network of Karitane Hospitals for new-born infant care and training of children's nurses. At the time of writing, the dissolution of these hospitals and their nurse-training programme is causing considerable disquiet in the nation, which, probably understandably, is questioning the rectitude of the loss of this important and innovative infant welfare service.

Distribution of doctors

Figures are available to show that in 1976 New Zealand had one doctor for each 764 of its population; this is currently projected in a recent *New Zealand Medical Journal* editorial to rise possibly to 1/548 in 1991. But we recognise that many doctors does not necessarily mean more health. The worm in the wood is distribution. A letter in the same journal draws attention to two paediatricians for a 120 000 population in Southland, while 140 miles north the writer notes seven specialists for a similar population in the teaching and research centre of Dunedin. The remote and wild, sparsely populated, west coast of the South Island chronically, bitterly, and justifiably complains of lack of medical practitioners in its midst. All this relates in time to the recent dictum from the Health Department that a general practitioner in Auckland, seeing 70 patients each day, is seeing too many. I'm sure 70 patients is too many each day, but the patients feel a need to be seen. So—do we need more doctors? Or do we need, by some means, to use them more profitably—that is, a more equitable distribution of manpower?

Consider on top of the question of rationale of more production—a recent editorial in the *Otago Daily Times* on this theme was headed "Epidemic of doctors?"—the expense of this possibly superfluous article, which the *Times* valued at \$60 000 each, particularly when that economical article, the practice nurse, is beginning to have her potential recognised.

The corollary to expansion of production is expansion of use. Seventy per cent of New Zealand health expenditure goes into hospitals. The world's nations know, as the director general of WHO, who spoke so persuasively in Dunedin a few months back explained, cost-effectiveness is in, broadly speaking, public health and prophylaxis. The public meeting gave him a standing ovation for his eloquent pains. The economists deny the service this title of "health" saying that it is a sickness service—echoing Dr Mahler with their implied emphasis as to where the energy should be diverted. As the *New Zealand Medical Journal* editorial concludes, these matters are politically decided, and one might wonder whether we are not suffering at the mercy of an exacerbation of chronic progress. 1978 being an election year, the leader of the National Party promised to support the irrationality of the Department of Health's invited advisor, J Keith Ross's, advocacy of a second cardiac surgery unit in the South Island, total population 854 000; there are suggestions that it would cost \$2 million. One might wonder, parenthetically, on the paradox of Mr Ross's advice to establish five cardiac surgical units in a nation of 3 million people, when his own one unit serves 2.7 million in Southampton. It may be that the political resolve on this matter is weakening a little, a

trend that might be aided by the recent opinion of the Department of Health's guest, Professor McKinlay of Harvard, as to its superfluity.

But the sadness of the control of our profession by political moods was humourously highlighted recently when a Dunedin Labour Party candidate in the coming election voiced the opinion that a government of that persuasion, if brought to power, would reconsider the allocation of a CAT scanner promised to the city. My word, if the election had been held that week, the long-held, safe Labour seat of Dunedin Central would have vanished overnight. The error was emphasised by an amazing series of explanations and elucidations from party spokesmen over the next few days. You see, we have the problem of fierce and often exclusive local pride of achievement and possession in New Zealand, a factor that gives fertile ground for the exercise of political manipulation—and so we recircle to, and within, the problems of the health service, its changing face, values, and virtues.

If it is not too late already the profession, world wide, will have to be careful that the technological advances do not master it, and drown it and our community of patients in a rising tide of economic misuse and social ineptitude disguised as progress.

How to do it

Choose and use a calculator

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A potential customer looking at the glittering ranks of calculators in a shop window is apt to be amazed at the wonders of science. This is the shopkeeper's intention. The object of this article is to reduce the bewilderment that may supervene.

Choosing a calculator

The first question a doctor, like any other customer, should begin by asking himself is what purposes his calculator must serve. Is it to do the household accounts, for example, or his daughter's A-level maths, metric conversions, arithmetical computations related to his practice, or correlation coefficients? Many individual calculators can perform all these functions and more, but so many specialised models are now available that if a restricted function is intended for it a calculator designed for that purpose is worth getting. And, as often in life, it pays to buy the best; that generally means—with calculators—avoiding the cheapest. There are plenty on the market that are unreliable and

short-lived owing to shoddy workmanship. Be prepared therefore to pay more than the minimum. From time to time the Consumers' Association publishes *Which?* reports on calculators, and one that appeared in September 1977¹ is worth consulting despite the continual introduction of new models.

In addition to the basic functions of +, −, ×, and ÷ most simple calculators offer %, a key to change the sign from + to − and vice versa, and an exchange key to enable the displayed number to be used as a divisor into another number subsequently entered on to the display. These are the minimum functions required in a calculator to be put to almost any use.

The potential user will then find that there are two main systems by which calculators are operated, and he may wonder which to opt for. One is known as "algebraic logic," the other as "reverse Polish notation" (named after a man, not Poland). Most calculators work on algebraic logic, and they are sometimes marketed with the claim, expressed or implied, that they are more "natural" to use and therefore easier. Algebraic logic deals with calculations in the same order as we say them. In $2+3=5$, for example, keys are successively pressed for 2, +, 3, and =. In the reverse Polish notation there is no key for =. Instead there is a key marked Enter, and the above addition is done as follows: 2, Enter, 3, +. The answer then appears. This order of working is in fact akin to how we do a sum on paper, and it comes perfectly readily after a little practice. Each system has advantages. The only real difficulty is to switch from one to the other, and so it is advisable for the owner of more than one calculator to have them all in the same mode of logic.

Even cheap instruments nowadays provide a memory, and this facility is well worth having whatever the calculator's

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