Letter from . . . Yugoslavia

Diabetes services in Yugoslavia

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Abstract

The Socialist Federal Republic of Yugoslavia lies in south east Europe between the Soviet block and the free enterprise countries of Western Europe. It was originally established as a confederation of independent Balkan states after the first world war; after the second world war it became an independent federation of the socialist republics of Bosnia, Herzegovina, Montenegro, Croatia (including Dalmatia), Slovenia, and Serbia, together with the two small autonomous provinces of Kosovo and Vojvodina. In the subsequent 30 years the trend towards decentralised decision making and institutional self management has continued. Nevertheless, the federal authorities retain major control over economic decision making and policies. For example, they forbid anyone from owning more than two houses or 10 hectares of land, and no factory owner may employ more than 10 people. Capitalism in any other than this minor form is not allowed, and any businessman whose business expands must become involved in frustrating negotiations with the local government to set up a state industry.

I recently visited Yugoslavia as a guest of the Institute for Diabetes, Endocrinology, and Metabolic Diseases and of the medical faculty of the University of Zagreb and visited various health care units which provide services for diabetics in Croatia. As well as Zagreb itself I visited units in Split on the Adriatic coast and at Varazdin, near the Hungarian border. Necessarily my observations are based on the diabetes services in Croatia, but although the other republics may have less developed services they follow similar principles.

Organisation of health care

POLICYMAKING

All regional groupings within Croatia—a surprisingly Westernised country of 3.5 million people—make autonomous decisions about health budgets, as do the smaller subcentres. Thus in Zagreb, a city of about one million people, there are 14 medical centres and several hospitals, each of which has, through elected councils, a large degree of autonomy.

The Diabetes Institute—the Vuk Vrhovac—is part of the teaching hospital, and the day after I left Zagreb its 140 members of staff were meeting to elect their three representatives to the hospital's decision making council. Cleaners and technical, secretarial, and administrative staff are represented on this council as well as medical and nursing staff. Although the council receives recommendations and advice from the heads of medical and administrative departments, ultimately it is responsible for allocating the budget. As part of the hospital, the Diabetes Institute is given a budget, and it in turn has an

18 member committee which decides how to spend it. The year before, for example, the institute's committee had decided, among other things, to provide a free hot meal at the cafeteria each day for the staff because many of the younger laboratory technicians were eating inadequate lunches and to increase the ratio of salaries from lowest to highest from 1:4 to 1:4.6 because of the success of the senior medical staff in obtaining funds from the World Health Organisation and drug companies.

Primary care units also have councils, elected every four years from the local population. These have wide powers and can also vary salaries and numbers of staff in a flexible manner unknown in New Zealand. Representation on these primary care area councils reflects the occupational structure of the constituent population. Thus in an upper middle class area of town where there are a disproportionate number of lawyers and accountants, these people will be elected in proportion to their numbers. In a country area where 60% of the people are farmers then 60% of the representatives will be farmers. Many of the representatives are thus housewives, except in cities, where many of the younger married women work, leaving their children with in-laws or in creches.

At state level the Communist Party retains power, although only 1.5 million Yugoslavs are party members out of a total population of 21.7 million.

MANPOWER AND SALARIES

Throughout Yugoslavia there is about one qualified doctor per 680 people, one qualified general practitioner per 2000, and one qualified internist (physician) per 9000. Priority in the health care system is given to the primary health care units, which have about 18 staff each, of whom four are usually general practitioners, one a paediatrician, and the remainder nurses (clinical, preschool, district, public, maternity), and technical staff. The 3.5 million people of Croatia thus have just over 2000 family doctors; all of them are linked to an imaginative computer based register in the Diabetes Institute.

The average salary for recently qualified house staff is about \$250 a month. Senior registrars earn about twice this, but tax and housing subsidies and very cheap transport costs make comparisons with New Zealand difficult. The medical structure in Yugoslavia is much less autocratic than in Russia, where the Communist Party decides salary ratios. I was told that a top professor in Moscow may have a salary 120 times that of the lowest paid member of staff in his institute together with the use of two state cars.

Diabetic services in Croatia

Owing to the magnificent leadership of Professor Zdenko Skrabalo—a partisan captain at the age of 16—the Croatian diabetes service now serves as a model for those in the other republics. Throughout Croatia a network of 33 regional

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centres provides specialist diabetic care. Each centre has two or three highly trained diabetologists (or physicians in internal medicine with training in endocrinology, metabolism, and diabetes) and serves a population of about 100 000 people. The amount of time the specialists spend treating diabetes depends on the size of hospital and town; some are full time diabetologists, but others spend up to half their time doing general medical work. These specialists are expected to review the 2-3000 people with diabetes each year, refer those needing extra help to the seven tertiary care centres in Croatia, and provide primary care doctors with education and help with management. They meet each year at a meeting of the Croatian Diabetes Society (medical) to present papers, updates, and so on. Most general practitioners attend a half day educational meeting on diabetes twice a year.

The seven tertiary care centres provide advanced diagnostic services and specialist care and serve as centres for clinical research. In addition there are three major research centres—in Belgrade, Dubrovnik, and particularly Zagreb. The central focus for this excellent diabetes programme is the Diabetes Institute at Zagreb with its 12 senior diabetologists and 20 or so scientists. It has a close association with the World Health Organisation as a training centre for non-aligned and Third World countries.

How the diabetes service works

Because of the greater flexibility in decision making than in New Zealand and the United Kingdom, there are necessarily regional variations. Nevertheless, there is a basic pattern to the diabetic services. The primary care unit screens for new diabetics; when a new patient is found he or she is referred to one of the 33 secondary centres for confirmation of the diagnosis and the formulation of a management plan. There is an aim to diagnose carbohydrate intolerance early, especially in pregnancy and in families at risk. Patient education may take place in the specialist centre, but most occurs in the primary care unit.

Each regional centre maintains a register of diabetics under its care. This comprises a folder for each diabetic patient filed according to terminal digit and colour coded for type of diabetes and carbohydrate intolerance. I examined these folders in Varazdin, and found the register efficient, swift, and easy to use. Each year every patient on this regional register is seen and reviewed by the specialist in consultation with the general practitioner, who will usually send a letter outlining special problems.

About half the patients in a country centre that I visited (one and a half hours by bus from Zagreb) were performing some form of self blood glucose monitoring, and the remainder did strip testing of the urine with Yugoslavian made strips. Most home testing of blood sugar was with BM strips and Reflomat. I gained the impression that cost precluded more than one or two tests a day.

In the primary health unit that I visited patients were weighed by nurses while the unit technician measured the blood sugar concentrations of samples taken after breakfast and on arrival. Specially trained nurses gave dietary advice, and patients were then examined by the general practitioner. Insulin dependent diabetics seemed to come to the health unit as often as once a month, but non-insulin dependent patients attended only once every three months if their blood sugar concentrations were under 11 mmol/l (200 mg/100 ml).

An interesting innovation I saw in Zagreb was the Diabetes Institute's outpatient and consultative service. Although the institute is a tertiary research centre, it also acts as one of the 33 regional centres. The staff of this service is grouped into five teams, usually of two diabetologists, two nurses, and one administrator. Each team has its "own" general practitioners in the city. Only four of the five teams work in the outpatient building at any one time. The remaining team, in rotation, spends a week out visiting general practitioners in its part of

the city. The administrator makes two hourly appointments with individual general practitioners for that week, and the team takes the files of about 10 difficult cases to each appointment. The general practitioner likewise organises the files of 10 patients who have concerned him, and the discussion revolves around these 20 cases with an exchange of views and knowledge. The aim of this scheme is for the diabetologist, who is also a member of the Diabetes Institute and thus in touch with new scientific and clinical developments, to transmit new ideas to the general practitioners through discussing difficult cases. The scheme allows each general practitioner in Zagreb to be visited each year and reinforces the teaching given at the half day postgraduate sessions. I thought that it also allowed the younger diabetes specialists to see something of the conditions in general practice and led to better mutual understanding.

THE DIABETES REGISTER

Under the leadership of Professor Skrabalo, the Croatian service is attempting to use diabetes as a model in the health care system to measure the effects of intervention in a community of 3.5 million. The central computer register of the Croatian diabetic service is under the direction of Professor Aganovic, who has postgraduate training in diabetes, public health, and epidemiology. His responsibility is to maintain the flow of information to and from every general practitioner in Croatia. Every time he registers a new patient with diabetes or impaired glucose tolerance the general practitioner fills in a simple one page questionnaire and sends it to the register. Each year the central register office sends each general practitioner a printout of all the patients registered with him. The regional secondary centres also return the numbers and names of patients referred to them by general practitioners, and this list serves as a double check. The scheme has not been in operation long enough to be used for measuring the effects of varying the services from one region to another, but many such studies are planned. Yugoslavian statistics on hospital bed use and morbidity from diabetes, available through the register, confirm our views in both Auckland and Christchurch, New Zealand, that the 4% of patients with diabetes consume more than 10% of hospital resources.

The Diabetes Institute

Without the clinical excellence and reputation for research of the Institute I doubt whether the Croatian register would have either the support or the interest of primary care doctors. Discussions in Zagreb, and my observations of other attempts to establish registers in other centres, suggest that such an ambitious scheme would surely fail if based in a purely administrative central department. The institute always has a large number of patients with difficult problems from all over Croatia, and this guarantees mutual goodwill and support between the staff of the central register and the general practitioners. The institute's international reputation and its growing prominence in providing postgraduate help and training for Third World countries further reinforces the interest of both general practitioners and diabetologists throughout Croatia.

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Correction

Non-steroidal analgesic and anti-inflammatory agents

An error occurred in the table of the article by Professor George Nuki (2 July, p 39). The cost of 28 days' treatment with indoprofen (Flosint) is £13.44 and not £2.60.