impossible to compare their outcome with matched control patients looked after in a conventional manner in a general ward—even if this were considered ethical.^{2 30} It is significant that a working party on intensive care¹⁰ was unable to find any I.C.U. that had been discontinued once started.

Intensive care implies a concept, a structure and a function. The concept is one of highly specialized care with inordinate and time-consuming attention to detail; the structure will be dictated predominantly by the whim of architects and the space available. The function of such units is to provide the standard of care the concept implies and it is irrelevant what label is applied—that is, whether coronary, respiratory, or surgical, etc. This review has aimed at showing that a general-purpose intensive care unit can provide a service which covers all disciplines and that a multiplicity of units, varying only in name but not in purpose, is at least unnecessary in this hospital and at worst grossly wasteful of medical, nursing, and technical staff.

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Around Europe

Clinical Medicine and Research in Belgium

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In January 1974, on behalf of the British Council, we spent a week visiting various medical organizations in Belgium—including the medical faculties at Ghent, Louvain, Brussels, Antwerp, and Liège. Everyone was most welcoming and friendly and, to our surprise, there was no language problem. The doctors all spoke excellent English and in many laboratories English was the language of normal communication; clinical meetings and conferences were often conducted in English.

There are two official languages in Belgium. In the northern, Flemish part Dutch is spoken and in the southern Walloon part, French. There are also some German-speaking communities near the German border. The total population is about ten million. There have been historical conflicts of interest between the French-and the Dutch-speaking populations, and after

the troubles in the late 1960s, those universities in which both languages were used—namely, the Free University of Brussels and the Catholic University of Louvain—were divided to form separate French-and Dutch-speaking universities, so that there are now two Dutch-speaking universities (Katholieke Universiteit te Leuven and Vrije Universiteit te Brussel) and two French-speaking universities (Université Catholique de Louvain and Université Libre de Bruxelles). In the case of Louvain/Leuven, the French-speaking university has already moved some of its departments and faculties to a new site at Wavre, and part of the medical faculty to the outskirts of Brussels.

Health Services

The Belgians are an independent and industrious people with a high regard for equality of opportunity and freedom of choice. Their health service arrangements are very complicated. In essence they are financed by the patients' payments (on a scale which is fixed nationally) to one of several private insurance schemes which provide for most aspects of social security.

The patient can go direct to any doctor, whether he be G.P. or specialist. The patient does not have to be referred by a G.P. to see a specialist, and the specialist is under no obligation to tell the G.P. of his findings. The various doctors are therefore in

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competition with each other—a situation which is not always to the patient's advantage. General practitioners do not have access to general hospital beds except for midwifery. The infant mortality rate is fairly high.

Virtually all medical care is paid for on a fee-for-item-of-service basis. There is an official scale of fees agreed by the doctors' organizations and the insurance bodies, or failing this, by the Ministère de la Prévoyance Sociale. The fee is paid directly to the doctor by the patient, who then reclaims between 80% and 100% of the scale fee from his insurance scheme, depending on his social situation and the nature of his illness. For instance, the fees for a casual visit would be reimbursed at the 80% level, but someone who was unemployed or a widow or who was suffering from an illness such as tuberculosis or cancer would be fully reimbursed for the whole of the scale fees. Doctors may charge the patient more than the scale fee, but the patient is reimbursed only at the official rate.

Doctors' Pay

General practitioners may earn something like one to two million Belgian francs a year (£10-20,000), but they have to work very hard and usually on their own and are in sharp competition with their colleagues. They are usually responsible for their own midwifery cases in hospital.

Specialists are also well paid but do not have to work so hard. Examples of the fees for surgery are, at the present time, 6,000 Belgian francs (£65) for a gastrectomy and 16,000 Belgian francs (£175) for a major neurosurgical operation. The surgeon has to pay certain expenses—for instance, his assistants—from these fees, but even so surgeons can earn very large incomes indeed. Radiologists and clinical pathologists and doctors in physical medicine also do very well. The least well paid of the specialists outside the university hospitals are those in internal medicine, but even they frequently earn from two to four million francs a year (£20-40,000).

Academic staff working in university hospitals, and the few doctors in public service, seem to be at the lower end of the medical salary range. In all cases, the Ministry of National Education pays the salaries of the academic staff on the same scales as for non-medical faculties. In addition, those doctors carrying out clinical and laboratory service work in the teaching hospitals are generally paid an additional salary by the management of the hospitals.

Medical Organizations

In Belgium, power seems to lie mainly in the hands of the universities and the doctors' union. The nearest thing to the B.M.A. is a federation of several doctors unions (Chambre Syndicale), which is very powerful and effective in negotiations with the government. Not all doctors belong to a union; an approximate figure is 80%, with a lower proportion in the universities than elsewhere in the profession. The two royal academies (one for the French-speaking part of the profession, the other for the Dutch) have their academic meetings and are sometimes asked to advise the government on matters of policy, but there are no organizations comparable with our royal colleges. The licensing of doctors and their ethical behaviour are controlled by a National Council of Medical Ethics (L'Ordre).

Undergraduate Medical Training

There are six established medical faculties in Belgium. The following are in the French-speaking part of the country: Liège, Université Libre de Bruxelles, and Université Catholique de Louvain. In the Dutch-speaking part of the country, the faculties are: Ghent, Katholieke Universiteit te Leuven, and Vrije Universiteit te Brussel. In addition, there are two new faculties in Hasselt and Antwerp which have started to function

only recently. These established university hospitals each have an annual output of about 200 or so doctors a year. The doctors who finally qualify are the survivors of a very large initial intake of preclinical students who start each year after leaving school at about the age of 18.

At the end of this first preclinical year there is an examination which in some universities is a multiple-choice written examination but in others consists of a practical and viva voce examination in each of six subjects studied during the year. As a result, between 60% and 80% of first year students fail and are not allowed to proceed to the second year. This high failure rate is essential to obtain a manageable number of students and inevitable because many of those who started the preclinical course have little or no scientific background, having been in the arts and humanities streams in their secondary schools. The reason for this situation is that everyone who passes the school-leaving examination has a right to university education and can choose the subject he or she wishes to read, irrespective of the subjects they studied at school. Those who survive the cataclysmic experience of the first year examination have another two preclinical years and then a further four clinical years.

The amount of practical experience during these four clinical years varies in the different universities but is mostly less than in Britain. The fourth clinical year is equivalent to our internship with responsibility for far fewer patients and little or no pay. Throughout their course there are regular examinations and the students have to work very hard and appear to be under much greater pressure than their British counterparts. At the end of their fourth clinical year they take their final examination. They are then qualified to go on the medical register and can set up in general practice without any further training.

Postgraduate Education

SPECIALIST TRAINING

At present about a quarter of the newly qualified doctors go into general practice, and about three-quarters undertake further specialist training. The required duration of this varies from three years for ophthalmology to six years for surgery. Internal medicine requires five years, three of which must be spent in a university teaching hospital. At the end of his training the doctor is admitted to the specialist register and can start to practice in the community and treat his inpatients in a public or private hospital. Alternatively, he may become an assistant to an established specialist, or be appointed to the teaching staff of a university hospital.

IN-SERVICE TRAINING

In the past, lectures and courses for general practitioners have been arranged by some universities but only a small proportion have shown much interest and more formal arrangements are now being developed. Until now there has been no financial incentive for the general practitioners to attend, but now their union has negotiated higher scale fees for general practitioners who have attended courses and, more significantly, they will be allowed to charge higher fees for new skills acquired by attending courses. For instance, they cannot at present charge for an E.C.G. but after attending an approved course they will be allowed to do so.

It seems possible that a new brand of general practitioner will emerge with more of the skills of the specialist in general internal medicine.

Research

There was a considerable volume of research going on at all the hospitals we visited, particularly in the basic and laboratory sciences. Much is in the field of immunology, as was to be

expected. There appeared to be a good deal of work in the field of virology—for instance, at the superbly equipped Institute of Microbiology at the Katholieke Universiteit te Leuven large-scale production of interferon is about to begin. The blood coagulation laboratories at the same university were a hive of activity, with the research workers almost standing shoulder to shoulder—working on studies of platelet function and fibrinogen metabolism, while in another part of the laboratory blood flow was being investigated by plethysmography and doppler techniques.

Computer techniques have been successfully applied in medical accounting and administration but less successfully in the field of clinical medicine. A computerized E.C.G. reporting system has been introduced but is not popular. In the diabetic clinic in the University of Liège a PDP8 computer has been programmed to take the patients' history in a choice of French, Dutch, German, English, Italian, or Arabic. The patient is questioned by a taped voice in the appropriate language, and his responses are fed back to the computer by a physician's assistant.

There seemed to be no shortage of funds and most institutions seemed to be very well equipped. Government funds for scientific research are administered by the Fonds National de la Recherche Scientifique (F.R.N.S.) (Nationaal Fonds voor Wetenschappelijk Onderzoek); in association with this organization are two other bodies concerned with financing medical research, the Fonds de la Recherche Scientifique Médicale (F.R.S.M.) (Fonds voor Geneeskundig Wetenschappelijk

Onderzoek) and the Fonds de la Recherche Fondamentale Collectieve (Fonds voor Kollektief Fundamenteel Onderzoek).

The F.R.S.M. receives its funds from the Ministère de la Santé Publique and the chairman of the advisory committee is the Secrétaire Générale of the Ministry. The F.R.S.M. rarely meets all the costs of a particular project and it normally requires that a matching grant be made by the applicant's own institution as some guarantee that the institution thinks that the project is important. Until recently most of the grants made have been rather small and projects have been for only a year or two, but recently the F.R.S.M. has begun to help larger and longer programmes of fundamental research which are both interdisciplinary and inter-university in nature. In such cases the advisory committee is made up of several experts invited from abroad. The Belgians feel that by doing this they dispel any ideas of nepotism and insularity and get the best opinions. British research committees might also consider this.

Opportunities in Belgium

It seems unlikely that there will be much in the way of opportunities for British clinicians to work in Belgium. Apart from the problem of communicating with their patients there will soon be a surfeit of Belgian doctors themselves. On the other hand, research workers would be very welcome and, even if they did not speak French or Dutch, would have no difficulty in communicating with their laboratory colleagues.

Hospital Topics

Scottish Automated Follow-up Register for Thyroid Disease: Four Years' Experience in Glasgow

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Summary

Four years of experience in Glasgow with an automated follow-up system for thyroid disease developed initially in a low-density population area has confirmed that the approach is a successful, practical, and exportable method of sharing long-term patient management between general practitioners and a hospital specialist clinic.

Introduction

The Scottish Automated Follow-up Register for thyroid disease (SAFUR) has been operating at the Western Infirmary, Glas-

gow, for four years. The system was developed as a joint venture between general practitioners and hospital thyroid clinics in a low-density and dispersed population area in the North of Scotland for the long-term care of patients who had received radioiodine or surgical or drug therapy for thyrotoxicosis.¹ Computer and laboratory facilities are sited in Aberdeen and are available to other centres in Scotland. When regular follow-up is considered necessary the patient is entered on to the register. At regular intervals (usually yearly) he attends his general practitioner, who is supplied with a kit containing a needle, syringe, and bottle for the collection of blood for protein bound iodine and serum cholesterol estimation and a tick-off clinical index for evaluating metabolic status. The results are processed centrally and sent to the relevant hospital, where a decision is made whether to call the patient to the clinic. Normal results are sent to the practitioner, who in turn communicates with the patient. Some results of the first four years of experience with the system (October 1969 to September 1973) in the urban environment of Glasgow are presented here.

General Practitioners

Over the four-year period there was a steady increase in the number of general practitioners joining the scheme. Up to

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