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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September 1973, 436 practitioners had registered, though 35 of these had expressed an unwillingness to co-operate. Altogether 59% of the practitioners had one patient from their list on the follow-up scheme, 18% had two patients, and 10% three patients. Only eight doctors (2%) had more than six patients on SAFUR (table I).

TABLE I—Number of Patients on General Practitioners' Lists included in Scheme. Data based on 396 General Practitioners*

No. of Patients per G.P. on Register	No. (%) of G.P.s	No. of Patients per G.P. on Register	No. (%) of G.P.s
1	235 (59)	8	1 (0.25)
2	73 (18)	9	1 (0.25)
3	38 (10)	10	1 (0.25)
4	24 (6)	11	2 (0.5)
5	9 (2)	12	0
6	9 (2)	13	1 (0.25)
7	2 (0.5)		

*Five further general practitioners were registered but had no patients in the scheme

REASONS FOR NON-COOPERATION

Most of the 35 doctors unwilling to co-operate in the system either gave no reason or said that they were "too busy," "over-worked," or "had no time." One practitioner felt that the scheme was not good for patients who "might get worried if called back to the G.P. rather than to the outpatient department." Another believed that "no G.P. should co-operate with the scheme without directive from B.M.A." A third withdrew from the register because his patient did not keep her appointment with him. The average number of patients per doctor was the same for both co-operative and non-cooperative practitioners.

Patients

In September 1973 810 patients were being followed up. Altogether 17 deaths had occurred, though data were available only from the beginning of 1971. Five were due to myocardial infarction, three to cerebrovascular accident, and two to bronchial carcinoma; in seven cases the cause of death was not recorded.

ATTITUDES TO SAFUR

A total of 200 patients selected at random were sent a self-completion questionnaire designed to assess their attitudes to the system; 157 (79%) replied. The first part of the questionnaire was in tick-off form, and the results are presented in table II. Most patients agreed that the system was acceptable and more convenient than conventional hospital follow-up and generally without major problems. The second part of the questionnaire was open-ended and invited comments on SAFUR in general (table III). Eight patients (5%) were obviously worried about their state of health, though in general they had no major complaints about SAFUR. They all felt that their management was not satisfactory and specifically requested a hospital appointment. I interviewed this group

personally. All were clinically and biochemically euthyroid and most had psychiatric or personality problems which apparently were important factors in their dissatisfaction. When questioned specifically about their thyroid follow-up, however, this was considered to be satisfactory and all were willing to be re-entered on to the register.

TABLE III—Patients' General Comments on SAFUR

	No. (%) of Patients
Very satisfied with SAFUR and also expressed satisfaction with treatment while attending thyroid clinic	27 (17)
Would like to receive information personally about results of tests	6 (4)
Not on SAFUR long enough to comment	11 (7)
Worried about health and would like hospital appointment as soon as possible	8 (5)
Other comments	17 (11)
Total	157 (100)
No comment	88 (56)

Discussion

The SAFUR system has been operating successfully in Glasgow for four years. The numbers of general practitioners and patients have been increasing steadily, and at present each practitioner has an average of two patients from his list on the register.

A large proportion of doctors (35 out of 436) are unwilling to co-operate, and the most-quoted reason is lack of time. The time taken to take the blood sample and fill out the questionnaire at each patient visit is estimated to be no more than five minutes. On average the practitioner can expect two such visits a year. This figure also holds for those practitioners who are unwilling to co-operate. It is therefore likely that the SAFUR organization is failing to communicate effectively with certain general practitioners and that this problem should be resolved by better explanation, presentation, and advertising of the usefulness of the system in providing a shared management programme.

Loss of patients from the register due to death was low. Predicted death rates for this group of patients using the Registrar General's returns for 1971 and 1972 are similar to the observed rates and suggest that loss by death is due to causes apparently unrelated to the thyroid condition. Patient acceptability was high, the large majority finding the system convenient, problem-free, and preferable to repeated hospital visits. A few patients (4%) felt that information on test results should be sent directly to them from the central computing laboratory facilities. At present results are sent to the general practitioner, who passes them on to his patients. Some bottlenecks probably occur because of this and it may be preferable to communicate with both patient and doctor in order to minimize this risk.

A few patients (5%) felt that their medical management was unsatisfactory. All but one of these had definite psychiatric or personality problems which seemed to be the basis for their general dissatisfaction. All were clinically and biochemically euthyroid and had no basic objections to the SAFUR system. In each case the patient was willing to continue on the register for thyroid follow-up, though supportive visits to the practitioner for other problems would probably be needed.

The SAFUR system was not initially developed for use in a high-density population urban environment. The experience in Glasgow suggests that the system for thyroid disease is

TABLE II—Patients' Attitudes to SAFUR as assessed by Questionnaire

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Totals
I find the SAFUR system acceptable	65 (45%)	64 (44%)	11 (7%)	5 (3%)	1 (1%)	146 (100%)
It is more convenient for me to be followed up by my G.P. than by the thyroid clinic at the Western Infirmary	69 (48%)	53 (37%)	11 (8%)	9 (6%)	2 (1%)	144 (100%)
So far as I am concerned there are no major problems with the system	65 (46%)	68 (48%)	5 (3%)	3 (2%)	1 (1%)	142 (100%)
Given the chance of remaining on SAFUR or going back to the old system of follow-up at hospital I would remain with SAFUR	68 (49%)	50 (36%)	13 (9%)	7 (5%)	2 (1%)	140 (100%)

exportable, successful, practical, and acceptable. I hope that other centres will wish to try this type of approach for the shared management of this and other conditions requiring long-term follow-up—for example, iron deficiency anaemia, hypertension, and rheumatoid arthritis.

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Reference

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Medicine in China

Public Health in China

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Acupuncture and barefoot doctors may be the current talking points in any Western discussion of medicine in China, but in fact probably the most important achievements made in the years of Communist rule have been in the field of public health. Many infectious and parasitic diseases have been eliminated and others brought under control. Sixteen days spent in a country the size of China does not really give time for even a superficial impression; and necessarily much of the information we required came from conversations with our hosts rather than from our own observations. However, a great deal of information on methods and results has been published¹⁻³ in the last few years, and it is true to say that we saw nothing to contradict the claims made by the Chinese health authorities.

Health Priorities

In the 25 years of the People's Republic health policies have changed, sometimes quite abruptly, on matters such as the need for population growth or restraint; but a single theme has retained pride of place—that preventive medicine has priority over curative treatment. With this has been combined the unique Chinese capacity for mobilizing mass efforts by the people—and this was well illustrated by the first Patriotic Health Campaign launched in the early 1950s.

The primary goal of the health campaign was simple—the elimination of the four pests, flies, mosquitoes, rats, and sparrows (later sparrows were replaced as targets by bedbugs as the ecological value of the birds became apparent). Workers and their families were repeatedly encouraged to search for and destroy the pests: big campaigns were held in the spring each year before the national holiday on May Day. The astonishing result has been that the housefly is virtually extinct in China.

We visited Peking, Shanghai, and Kwangchow in late April and early May, with temperatures in the 70s and low 80s F. (25-30°C). We went round pig farms and dairy farms, we visited fish shops and butchers, and we used public latrines near the Great Wall of China in company with

thousands of workers having a day out. No flies were to be seen, until we reached the far south in Kwangchow, where there were some very occasional ones.

The barefoot doctors have been responsible for maintaining the impetus of the patriotic health campaigns at the commune level—and this means keeping the commune clean as well as free from flies and rats. Many communes have three set days each month when the entire population takes part in a scouring, cleaning, disinfecting, and rubbish clearing exercise. In the cities government office workers, who are expected to do some manual labour each week, may well spend that time helping to clear rubbish or clean the streets. Certainly we noticed very little rubbish or waste in the streets of the cities or in the yards of the houses of the agricultural workers: everything had a scrubbed or scoured appearance (though very little recent painting seemed to have been done).

Endemic Disease

In 1949 the bacterial and viral diseases in China included plague, cholera, smallpox, leprosy, poliomyelitis and tuberculosis and the parasitic disorders included malaria, kala azar, hookworm, filariasis, and schistosomiasis. Some of these were localized to only part of the country, but all represented major public health problems. They were tackled by a multiple attack: improvements in sanitation, elimination of intermediate hosts, vaccination and immunization campaigns, and identification and treatment of human carriers. The typical approach of the Chinese health authorities to endemic disease can be illustrated by their programme for the elimination of schistosomiasis, which formerly affected a large area of China along the valley of the Yangtze river—threatening the health of 100,000 people.

Schistosomiasis

The Chinese form of schistosomiasis is caused by *Schistosoma japonicum*, and the intermediate host is the small amphibious snail *Oncomelania hupensis*. The attack on the disease was described in detail for us at the Institute of Parasitic Diseases in Shanghai. Of the eight laboratories in the institute four are concerned with schistosomiasis, and one each of the others with kala azar, malaria, hookworm, and filariasis.

The key to the control programme is elimination of the snails. Here the Chinese have an advantage over many other