arrangement similar to the wallet on its outside face 1 and 2 to make it interchangeable between Scotland and England.

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REFERENCES

Marsh, G. N., and Simons, M. E. (1967). *Brit. med. J.*, 1, 163.
Taylor, S. (1954). *Good General Practice*, p. 150. London.
Tunbridge, R. E (1965). *Standardization of Hospital Medical Records.* H.M.S.O., London.
Walker, L. (1967). *Hospital Medical Records in Scotland, Development and Standardization, Report of a Subcommittee of the Standing Medical Advisory Committee*, paras. 59, 91, 97, 98, Recommendation 8. H.M.S.O., Edinburgh.

AROUND EUROPE

Copenhagen Emergency Service

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The reason for establishing emergency services to relieve the general practitioner is that, as is the case of any other citizen in modern society, he has to have some time off—time for reading, time for postgraduate study, and time for leisure. If these conditions are not fulfilled it is inevitable that general practice will gradually wither away for lack of recruitment, no matter what else is done to keep it up.

Over 30 years ago, the general-practitioner organization in Copenhagen established an emergency service to cover evenings, night, Sundays, and Bank Holidays. The staff consists mainly of young hospital doctors, who are employed on a contract basis by the Copenhagen Medical Association. A small number of general practitioners also take part—usually at a time when they have just set up in practice.

Emergency services such as the Copenhagen scheme can be established only in towns of a certain size, which contain a sufficient number of interested young hospital doctors. Moreover, experience in the emergency service is considered to give both future consultants and future general practitioners some idea of the conditions and problems in general practice.

The extra earnings, which a young hospital doctor working in the emergency receives cannot be obtained by the general practitioner even if he visits his patients outside duty hours, as the latter receives only a fixed annual capitation fee. Hence most emergency calls outside working hours are made through the emergency service. Furthermore, this scheme provides the public with a simple, rapid system of effective emergency treatment administered by well-qualified doctors. Now it is natural for every patient to call the emergency service directly, when he develops an acute illness which is thought not to need his own doctor's special knowledge of the patient. Equally naturally the patient reports to his own doctor on the following day, while the doctor working in the emergency service leaves a report for the general practitioner in the patient's home. In special cases the service doctor reports by telephone to the general practitioner next day.

Financial Arrangements

General practitioners lose nothing financially by using the emergency service during their off-duty hours. Moreover, they gain nothing financially by not using the service—that is, attending to these visits themselves—and they do not pay for the upkeep of the service.

Doctors working in the emergency service are paid by the Health Insurance Society for each visit. The fee depends on the service rendered and on the time of day it is rendered. The details of the service were fixed by agreement between the Copenhagen Medical Association and the private but State-approved Health Insurance Societies. In April 1966 the entire service was reorganized by the Copenhagen Medical Association in collaboration with the Copenhagen branch of the Health Insurance Societies. Under the old system each doctor working in the service had a fairly heavy work load, and hence they were tempted to engage, on their own initiative, assistants who were often recently qualified and who lacked the necessary experience for the work. There was little contact between the doctors and the head of the emergency service, and doctors had to use their own private telephones and cars for this work. This meant that as a result of parking problems and traffic delays patients often had to wait for a long time before they were seen by a doctor.

The principle behind the reorganization was to ensure that all the non-professional work was in non-professional hands. The aim was to create a system which would attract a large number of well-qualified doctors. This would also give the patients a rapid, efficient service, as well as saving the hospitals from unnecessary admissions. A further advantage was that it would increase the number of doctors interested in this type of work so that the individual work load could be diminished. Another aim of the reorganization was that the head of the service should be in constant touch with what was going on in all branches.

The Service Today

The Copenhagen Emergency Services covers an area with a population of about 800,000. Geographically this area is divided into nine districts during afternoons, evenings, Sundays, and Bank Holidays, and into four districts during the night. The service is in action from 4 p.m. on workdays, from noon on Saturdays, and all day on Sundays and Bank Holidays. The service closes at 8 a.m. on workdays, when the general practitioners start taking telephone calls again.

The duty periods are divided into five- or six-hour shifts, so that every fifth or sixth hour a change takes place in each district, new doctors as well as new cars taking over. Each doctor has an obligation to finish all the calls he has received during his duty period.

The call system and transport are operated by one particular taxi company and can be contacted only through them. A

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request for an emergency call is made by dialling a special telephone number (0041), which is well known to the Copenhagen population ; from this the patients are put through direct to the taxi call exchange, and the request is immediately passed on by radio to the cabs in the appropriate district.

Urgent cases have priority, even though this means interrupting a set route. If the doctor is undecided about the degree of urgency he can contact the patient over the cab telephone, and in special cases this telephone system may also be used to instruct or reassure patients while they are waiting for the doctor to come. Other necessary arrangements (admission to hospital, arranging a domiciliary visit by a consultant, the police, an ambulance, etc.) may also be made over the cab telephone while the doctor is on his way to the next patient.

The staff at the call exchange have no medical training, and their only job is to receive and pass on requests for medical aid. This is a deliberate decision, for any attempt at solving medical problems on the telephone inevitably carries eventually a risk of major mistakes.

The radio frequencies used in the call system cannot be tapped, and all the auxiliary staff—drivers, telephone operators, etc.—are bound by, and are instructed in, the usual rules of professional secrecy.

The technical apparatus is entirely up to date and is carefully maintained. The drivers are specially selected and trained for emergency-service work. Since the drivers know Copenhagen like the back of their hands, the doctor does not need to have this knowledge. Other duties of the drivers include any communication with the call exchange, recording the requests received from patients, planning the route, operation of the radiotelephones, and parking the car ; this leaves the doctor entirely free for his professional duties.

It was not felt necessary to equip the service cabs with apparatus for emergencies such as ventilators, suction apparatus, oxygen cylinders, etc., since by using the cab radio it is possible in a few minutes to summon an ambulance with all this equipment, together with specially trained personnel to operate it under the supervision of the emergency doctor.

Statistics

Since April 1966 detailed statistics have been kept on all recordable aspects of the system. These show that the permanent service doctors manage more than 80% of their shifts personally. Any remaining shift is filled, through the office of the head of the service, by a locumtenent from an approved list of doctors as well qualified (at least five-year graduates) as the permanent medical staff. This is felt to be a most desirable pattern. Permanently appointed well-qualified services doctors are employed to an increasing extent in permanent shifts in the same districts, and thus work in collaboration with the same general practitioners. Moreover, another advantage is that the "permanent clientele" (including drug addicts) is treated by a limited number of permanent service doctors who know these patients' problems.

During the emergency periods—that is, from 4 p.m. on workdays, from noon on Saturdays, and all day on Sunday and Bank Holidays—about 120,000 visits are made per annum. If the considerable number of tourists and people who have recently moved to Copenhagen and who are not yet on any particular doctor's list is deducted, this means that the emergency service makes about one visit every 24 hours for each of the 300 practitioners in Copenhagen. These relatively low figures show that the service does not in any way affect the doctor–patient relationship.

About 25% of the patients wait less than 15 minutes for the service doctor, and about 50% wait less than half an hour. Less than 3% have to wait for two hours or longer. Since the "abusers" (including drug addicts) tend to use the emergency service more than their general practitioners, it is undoubtedly these patients who have to wait the longest. Of the calls to the emergency service roughly 5% are classed as urgent.

Cost

The total annual expenditure is 1.7 million Danish kroner. The expenses are covered by: (1) the service doctors, who pay an administration fee of kr. 1.60 per visit, a total of about 250,000 kr. per annum ; (2) the more well-to-do part of the population, who are B members of the Health Insurance Societies (about 30% of the population), pay 10 kr.—a total of about 200,000 kr. per annum—towards the administration of the emergency service in addition to the doctor's fee (the Health Insurance Societies repay about 75% of both expenses) ; and (3) the Health Insurance Societies cover—for services rendered to their A members (the remaining 70% of the population)—any difference between total expenditure and the revenue from (1) and (2).

The Copenhagen Medical Association, in collaboration with the Copenhagen fraction of the Health Insurance Societies, has created an emergency service which has justly attracted attention both in Denmark and abroad. It has silenced the criticism which was periodically raised by the general public and by the authorities under the old system ; and the head of the service has no difficulty in procuring highly qualified doctors who can —in contact and collaboration with the patients' own doctors— treat patients with acute illness occurring outside normal duty hours.

CONFERENCES AND MEETINGS

Medical Research in the British Caribbean

[FROM A SPECIAL CORRESPONDENT]

The thirteenth scientific meeting organized by the Standing Advisory Committee for Medical Research in the British Caribbean was held at the University of the West Indies, Jamaica, from 19 to 23 April. Four scientific sessions were held, two of which were devoted to gastroenterological topics.

Gastrointestinal Function

Dr. W. P. T. JAMES (M.R.C. Tropical Metabolism Research Unit, Jamaica) opened the first session by observing that, though diarrhoea was a problem in the type of infantile malnutrition seen in their unit, its cause remained unknown. He had investigated the absorption of sugars by intestinal-intubation studies, and had found that, although the ten malnourished patients absorbed less than the controls, the differences were not statistically significant. Dye-dilution curves suggested that the intestine of the malnourished was smaller and less distensible. Disaccharidase enzymes were reduced in the malnourished group. Both disaccharide hydrolysis and glucose absorption improved after 6 to 16 weeks on a high-protein diet. On the basis of these results Dr. James suggested that small carbohydrate feeds given frequently would present a more acceptable load to the intestine and result both in more complete absorption and less diarrhoea.

Serial jejunal biopsies had been done on the same children studied by Dr. James, and Dr. B. R. SPARKE (University of the West Indies) said that none of these showed normal histological appearances. There was always stunting and widening of the villi with partial villous atrophy or subtotal villous