Middle Articles

GENERAL PRACTICE OBSERVED

General Practitioners in Hospital

J. WESTON SMITH,* M.B., D.R.C.O.G., M.R.C.G.P. ; J. B. O'DONOVAN,† M.B., B.S., M.R.C.G.P.

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Summary: An acute general hospital of 68 beds at Tamworth, a Midland town of 50,000 people, is staffed by general practitioners for both inpatient and casualty work. During the period 1967-8 there were 889 general practitioner admissions to the hospital for intermediate surgical and medical care, the average length of stay being 6·3 days and the average cost per case £44·3. Of these patients 96 were transferred to other hospitals. The patients, doctors, and standard of medical care have benefited from this kind of service. A "satellite" hospital of this type therefore has an important role in the community for carefully selected types of cases.

Introduction

Over 100 years ago a Tamworth general practitioner was the first doctor to point out the advantage of village (or cottage) hospitals, a concept that has spread over the whole of Britain (Thomson, 1854). Today the need for general practitioners to be more implicated in the running of hospital services is well known. The Department of Health and Social Security has recently proposed a new post, that of "hospital practitioner," to meet this need. Because the eventual status and responsibility of such posts have not been clearly defined, much controversy has arisen. Thus possibly the general practitioner may occupy a position in the hospital service which contrasts unfavourably with his status and responsibility in the community health services.

During the past few years many of the smaller hospitals have closed down and several casualty departments staffed by general practitioners have ceased to function, often through pressure of work. For this reason it is vitally important to the future of general practitioners that the work available in hospitals be integrated with their work in the community outside. During the past century in Tamworth a true community health service has been running on these lines. Both the population and the doctors have benefited from such a service. In this report we attempt to measure the amount of work done in the local general hospital, to indicate its cost, and to assess the value to a local community of a medium-sized hospital staffed by general practitioners.

Tamworth and its Hospitals

The hospitals in the Tamworth area have a total of 200 beds (acute and geriatric), which for the most part are the direct responsibility of the local general practitioners. Hence the standards of medical care in the community are high, because of the added stimulus to the general practitioner of working in hospital, and the number of outpatient and inpatient referrals to the major hospital serving the area is considerably reduced. Unfortunately, it is extremely difficult to measure the economies to the National Health Service that result.

Tamworth itself is a fast-growing town in an overspill area. The general hospital, which has 68 beds, caters for the needs of a population of about 50,000. Until about seven years ago, because the main hospital centres at Birmingham and Burton were 15 miles (24 km.) away, the hospital had to be self-sufficient and therefore undertook the care of major medical and surgical problems. Since then a new district general hospital at Sutton Coldfield, 8 miles (13 km.) away, has gradually come into operation and as a result has altered the nature of the work done in the local hospital. Nevertheless, there is still a sense of isolation due to the area of "green belt" between Tamworth and Sutton. The nearest consultant lives 8 miles (13 km.) away.

The town lies at the intersection of two main highways and two main railways and, with a great deal of industry, quarrying, and mining, has a high accident potential. The 11 doctors who undertake the casualty work have an average of about 3,000 patients each on their lists, and the locality is a designated area. On the other hand, it is obvious to the local doctors that the demand for visiting is not at all high and that the consultation rates appear to be lower than those for the rest of the country (Weston Smith and O'Donovan, 1970). The reason the doctors are able to manage their large lists and hospital work is because of their intimate contact with the hospital and all its services, which results in an intelligent transfer of all types of cases from the community to the hospital and vice versa when the need arises.

Staffing

All the local hospitals are run by the general practitioners and there is no resident staff, 18 local doctors who admit patients to the wards being personally responsible for their medical care. Only two doctors within 6 miles (10 km.) of the general hospital do not have contracts. Of the general practitioners on the staff, 11 live within 2 miles (3 km.) of the hospital, have casualty contracts, and maintain a 24-hour service on a rota basis. They are allocated 12 notional half-days for this service, which is a figure based on the number of new patient attendances. Other services given on a notional half-day basis are shown in Table I.

The hospital for the chronic sick has all 18 doctors on its staff, though in practice one member of each firm is responsible for looking after the patients. Consultant cover is given from the surrounding district hospitals (Table II). The consultants visit the general hospital for outpatient sessions, ward rounds, and operating-sessions; they are, of course, available for any case that is causing concern at the hospital. The relations between the general practitioners and the consultant staff are in the main very good, and during the years deep cordiality has resulted from the sense of joint responsibility.

*Anaesthetist and Representative Medical Officer.
†Clinical Assistant.
Tamworth General Hospital, Tamworth, Staffs.

Obviously there has to be a great deal of mutual trust if such a system is to work satisfactorily, as both general practitioners and consultants are endeavouring to avoid unnecessary calls and travelling, which at certain times of the year can be quite demanding.

TABLE I.—*General-practitioner Clinical Assistantships*

Specialty	General Practitioners	Notional No. of Half-days (per Clinical Assistant)
Anaesthetics	4	2
Surgery	1	1
Chest diseases	1	2
Representative medical officer	1	1
Staff health	1	1
Electrocardiography	1	½

TABLE II.—*Consultant Sessions (Including all Outpatient Sessions) Held at the Tamworth Hospitals*

Consultant Session	No. of Notional Half-days per Week	Consultant Session	No. of Notional Half-days per Week
Surgery	5	Ophthalmology	1
Gynaecology	2	Radiology	3
Medicine	4	Traumatology and orthopaedics	4
Ear, nose, and throat	2	Chest diseases	2
Geriatrics	2	Anaesthetics	2
Dentistry and orthodontics	2	Psychiatry	1

Remuneration

The medical staff are paid in differing ways owing to the gradual evolution of the service. They are paid for the general care of patients on a bed-occupancy basis—that is, a block sum for every bed occupied throughout the year. This sum is divided among all the doctors equally, as paying each doctor on his individual bed occupancy led to unfortunate results. The medical salary per inpatient week amounts to £1 6s. and the sum per doctor to about £120 per annum. The practitioners who are clinical assistants are, of course, paid at the current rate of £300 per notional half-day per year. In the geriatric unit the doctors are paid according to the approximate amount of time spent there per week, and at present each doctor receives £60 per annum. The figure of £0·29 per geriatric inpatient week is too low and would indicate that more intensive care should be given to these patients. The regional average medical salary in hospitals (51-100 beds) is £2 17s. 10d. per week. All the above figures include weighting for consultant care and are for the year April 1968 to March 1969. The total cost of medical inpatient care for this period was £4,495.

Admissions

Patients with a wide range of clinical disorders are admitted to the general hospital (Table III). A local general-practitioner hospital without resident staff, however, cannot care for the more difficult types of cases needing intensive care and investigations; these patients should be treated in a district hospital. We have found, on the other hand, that a wide range of work, both medical and surgical, can be undertaken quite safely without ancillary services actually in the town.

TABLE III.—*Analysis of Admissions to Tamworth General Hospital by Type of Case (All Non-waiting-list Cases 1967-8)*

Types of Cases	No. of Patients	Types of Cases	No. of Patients
Infections	3	Varicose veins and haemorrhoids	7
Neoplasms	29	Ear, nose, and throat conditions	14
Asthma	29	Accidents	292
Diabetes	25	Respiratory diseases	86
Investigation of abdominal pain	35	Gastrointestinal conditions (including hernias)	39
Neurological conditions	56	Skin diseases	18
Cardiovascular conditions	72	Other conditions	170
Bone and joint diseases	14		

Surgical Cases

Such routine operations as herniorrhaphy, tonsillectomy, dilatation and curettage, cystoscopy, and those for varicose veins are undertaken, while major surgery is restricted to hysterectomy, cholecystectomy, prostatectomy, mastectomy, and some major orthopaedic surgery. All surgical patients needing general anaesthesia have routine chest *x*-ray films taken and their haemoglobin measured. Where major surgery is contemplated blood is cross-matched and made available in the pathological laboratory at the district general hospital. Specimens are collected daily during the week and taken to the laboratory; reports can be obtained the same day by telephone. *X*-ray and physiotherapy facilities are available from 9 a.m. to 5 p.m. during the week. Practitioners can see their own *x*-ray films immediately, and the plates are then forwarded to the district hospital for consultant reporting.

Medical Cases

The types of medical case admitted to the general hospital are shown in Table III; these include a number of initial cases for assessment before transfer to the district hospital and patients discharged in a pre-convalescent state from the district general hospital but who still need medical and nursing care (Table IV). Experience has taught the local doctors which types of cases are suitable for admission, and if there is any doubt a consultation is held between nursing and medical staff. During 1969 there were 70 transfers from the district hospital to Tamworth General Hospital and 59 cases were assessed before transfer to the district hospital for more intensive care.

TABLE IV.—*Outcome of Admissions to Tamworth General Hospital (1967-8)*

Total No. of General-practitioner Admissions*	Average Stay (Days)	No. of Deaths	Transfers to other Hospitals	Total No. of Hospital Admissions
889	6·3	63	96	2,285

*General-practitioner admissions refer to patients who are his clinical responsibility throughout. The remaining beds are occupied by patients admitted under a particular consultant—usually outpatients waiting for operation, medical care, or investigation—or transferred from the local district hospital, where they remain his responsibility.

Patient Costs

The costs per case are lower at Tamworth General Hospital than in the average district hospital (Table V); this is to be expected, as the routine types of cases admitted to the district hospital cost more, though they could be adequately cared for in the smaller local hospital. There is a tendency to keep patients longer in a general-practitioner hospital, but this may not be entirely to their disadvantage. It could be logically argued that if all the cases were transferred to the district hospital the patient costs there would fall because of the greater numbers and greater efficiency; this, of course, is ministerial policy.

TABLE V.—*Comparison of Patient-Costs*

Hospital	Beds			Average Stay per Case (Days)	Cost	
	No. Available	No. Occupied	% Occupied		Per Inpatient Week	Per Case
Tamworth General	68	54	79	8·2	£37·77	£44·3
Birmingham Regional Acute	468	349	74	8·1	£51·75	£60
Local district	240·5	197·3	82	9·2	£51·79	£68·49

Against this, however, we have to assess other factors, such as patients' travelling time, the convenience of visiting, and the sense or separation from local amenities which we think beneficial to the patient. In a local hospital such as ours the

patient never loses touch, because his neighbours are in the wards with him, and the doctors, nursing staff, and ancillary staff are often familiar figures. Consequently, he does not feel lost in an organization, and this contributes to the popularity of the hospital with local people. We rarely, if ever, have difficulty in persuading patients to come in for treatment. Moreover, these factors must be weighed when considering the whole pattern of community care, especially when discussing the pros and cons of "satellite" hospitals (Central Health Services Council, 1969).

Surgery

During the year 1968-9, 842 operations, occupying 875 hours, were performed on inpatients. Outpatient operations numbered 540 and occupied 270 hours. The cost for each inpatient operation was £4·87 and the cost per operating-hour £5·88. These costs, of course, include consultants' salaries. The total cost including all services for an operation was £9·63. This contrasts with the cost of £14·3 for the district hospital, but is undoubtedly due to the fact that a 24-hour emergency service is not attempted and that as a rule only cold surgery is undertaken. This obviates many staffing problems. The surgery performed is restricted to suit the nature of the hospital and the staff, but it must be pointed out that this type of routine operation probably helps the "working" community a great deal and represents a high proportion of the total surgical work-load of any hospital. One other effect is that the average waiting-time for admission for a routine intermediate surgical procedure is about four to six weeks.

Casualty Services

The casualty rota is operated by 11 of the doctors on the general hospital staff, and all live within 2 miles (3 km.) of the hospital. One doctor acts as casualty officer of the day and holds a morning session from about 10.30 to 12 noon, at which he sees all comers. Thereafter he sees any patient whose doctor is not on the casualty rota. All other patients whose doctor is on the rota are seen by their own doctor or his deputy if they come to the casualty department (Table VI). Trauma clinics are held twice a week by the consultant

TABLE VI.—*Cost of Casualty Services*

Hospital	Casualty Attendances	New Casualties	Casualty Costs		Medical Salaries
			Per New Patient	Per 100 Attendances	
			£	£	£
Tamworth General	25,614	10,775	2·12	46·82	3,100
District hospital	34,393	14,492			

orthopaedic surgeons from the district general hospital. Patients with major trauma are usually taken by ambulance direct to the accident unit at the district general hospital.

Inevitably patients with gross injuries, either sent direct by ambulance or forwarded to the district hospital from the local casualty department, form only a small proportion of the total work-load, though they occupy the greatest time and cause the greatest anxiety.

Nursing and Administration

The nursing staff is recruited locally and, in our experience, recruitment is not so difficult as in some areas; we have a number of part-time personnel. A male senior nursing officer is in overall charge of all the services in the Tamworth group. A flourishing school for State-enrolled nurses has two intakes a year of about five girls. There is a sister tutor, and lectures are given on special subjects by visiting consultants and local general practitioners.

In a general-practitioner hospital there must of necessity be very close understanding and liaison between medical and nursing staff as, in the absence of senior resident staff, the senior nurses have to bear an unusually heavy responsibility. This encourages a team spirit, and many of the senior nurses attend with the medical staff the postgraduate courses held at the hospital.

To allow the hospital to work as smoothly as possible a committee consisting of all the medical staff, including consultants, meets about three times a year to discuss and decide matters of general policy. An executive committee consisting of six representatives of the local practices, consultant representatives, senior nursing staff, and administrative staff meets more often to discuss problems of the day-to-day running of the hospital. One general practitioner is appointed for liaison purposes with the nursing and administrative staff and to solve minor daily administrative problems. He also has responsibility for some of the surgical waiting-lists. In addition, there are clinical lunch-time meetings where all grades of staff meet, together with members of the local health team. These are recognized under section 63 of the National Health Service Act.

It is also possible to assess the feelings of the local population about a hospital by their attitude to voluntary help and donations. Over the past few years the generosity of the people of Tamworth has been very great, having provided two lifts, a recovery room, nurses' recreation hall, day rooms for two of the wards, and now almost enough money to build a day hospital for geriatric patients. These factors were the life-blood of the old system and should not be rejected too quickly today, even though we have an all-embracing Health Service.

Discussion

Tamworth General Hospital seems to have evolved gradually to meet the demands of the local community and allied itself closely with the development of local industry and the general-practitioner services. It has developed along the lines envisaged in the Dawson Report (Consultative Council on Medical and Allied Services, 1920) as a secondary health centre, with visiting consultants and ancillary services coping with the medical needs of the local community. With increased knowledge and developing techniques it might be asked whether such a hospital has any part to play in the modern community. Though they live near the hospital, general practitioners are not always so easily available as resident staff; neither, with their busy practices, have they always time to make such detailed examination of patients or such copious notes as do junior doctors in a larger district hospital. In addition, the ancillary services are not available 24 hours a day, and of necessity certain types of cases have to be rigorously excluded. Hence patients have to be selected very carefully. The knowledge of how to select these cases comes with experience and is not to be undertaken lightly; this may account for the relatively high proportion of doctors in the Oxford Regional Hospital Board (1969) Survey deciding that they did not wish to have total care of their patients. About 70% were not interested in total clinical control of patients in acute beds; only about half wished to care for patients in hospital beds who required admission on social grounds; and 68% were interested in being integrated into a hospital team, thus bringing the expertise of the general practitioner into the hospital.

The benefit to the patient of being in his or her own hospital may outweigh many disadvantages. The fact that the doctors are in general and hospital practice at the same time

means constant collaboration with their consultant colleagues and the stimulus to keep abreast with modern developments. The patients soon realize that there is a degree of continuity and that their doctor also has hospital responsibilities. The doctor too is aware that he cannot easily shelve responsibility by moving his patient into hospital. We believe this makes for an increase in mutual respect. It can, however, have strange repercussions for newcomers. On at least one occasion a patient has disagreed with the opinion and advice of a doctor in his surgery and has appeared some hours later in the casualty department asking for another opinion, only to be confronted by the same but wearier and slightly annoyed doctor.

One hospital of the group, however, in a similar position was closed down many years ago for over a year. The local doctors lost interest in hospital work, and valiant attempts to get the hospital running again on its same standards have been in vain. Once general practitioners lose their hospital skills and connexions they need much coaxing to come back into hospital work. It is only fair to add that throughout the years we have had a most understanding hospital management committee and administrative officers who are prepared to understand the problems of a cottage hospital sympathetically, and they have given every support to our endeavours to improve the service.

In the Bonham-Carter Report (Central Health Services Council, 1969) the future of the hospital which we have described comes in for anxious discussion and its future seems to be uncertain. We might ask whether such a satellite hospital has a function in the hospital service of the future. It is apposite at this time to quote an extract from the *General Practitioner and the Hospital* (Oxford Regional Hospital Board, 1969):

> "In order to reconcile functional and economic requirements, decisions are required of the order of comparison between needs, for example, for admission to inpatient facilities of 'cold' surgical patients and acute medical 'G.P. type' patients. Great flexibility of attitude is required, but once the resource is made available to the general practitioner, hospital consultants would need to recognize thtat the patient's needs had competed fairly. Conversely, general practitioners would have to recognize their responsibility to use resources at least as economically and efficiently as consultants. It should be possible in this way to separate 'clinical control' from the management of resources and to bestow both much more flexibly, both in and out of hospital."

We think that in our area we have gone a long way to meeting these requirements and that for a particular type of case as envisaged in the Bonham-Carter Report we can effectively contribute to the medical needs of a community of about 50,000 people separated from a major hospital. In paragraph 34 of that report it is stated that "the essence of such a unit is that it should not attempt to provide a complete hospital service to its community, but only those hospital services which can with reasonable economy of skilled manpower (and of money) be provided locally."

Should medical services be provided with the doctors working as clinical assistants under the guidance of consultants or, alternatively, taking clinical control of the patients? We believe that in the end it is essential that a particular doctor should have clinical control, and at our level of hospital work this should be the local practitioner working along the lines described. But at all times it should be remembered that "there is a tendency for some cottage hospitals to produce a service to satisfy general practitioners and patients in a manner rather unrelated to the requirements of modern medicine or the community concerned" (Oxford Regional Hospital Board, 1969). We believe that in many cases of an intermediate type we can show an improvement in patient care for the community which is distinct from that of the local district hospital. We think that the integration with the general practice service shows an optimum use of medical manpower and that the resulting unification of medical effort should be the fundamental aim of any health service.

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FOR DEBATE . . .

Unified Concept of Cell-mediated Immune Reactions

G. S. PANAYI,* M.B., B.CHIR.

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Reactions of delayed hypersensitivity are thought to be involved in a number of biological phenomena of great interest in clinical medicine, such as acquired cellular resistance to infective and parasitic diseases (Mackaness and Blanden, 1967), the homograft reaction (Brent and Medawar, 1969), certain autoimmune diseases (Pearson and Wood, 1964), and tumour immunity (Bennett, 1965). The central pathogenetic role in these situations is exerted by sensitized lymphoid cells (Gowans and McGregor, 1965), and it is for this reason that the term "cell-mediated immunity" is used in preference to the operationally descriptive term "delayed hypersensitivity."

* Medical Research Council Junior Research Fellow, the Division of Immunology, the Mathilda and Terence Kennedy Institute of Rheumatology, London W.6.

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The mechanism whereby lymphoid cells express immunological reactivity, however, is not clearly understood. This lack of knowledge is especially felt at the biochemical level, and without such information the possibilities of a more rational interference with reactions of cell-mediated immunity become remote. Recently, with the development of more reproducible and more sensitive in-vitro techniques (Symposium on Delayed Hypersensitivity, 1968), these problems have begun to yield some of their secrets to a more systematic and analytical approach. This research has not, as yet, reached a wider clinical audience, and this seems an opportune moment to summarize the results of these researches. Furthermore, the presentation of a unified concept of cell-mediated immunity, based on present knowledge, may help to focus attention on future developments.