

A REVIEW OF A PHYSICIAN'S WORK IN A COMMUNITY MEDICAL SERVICE*

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I present this article as physician to an industrialist group which provides a complete medical and dental service for its employees and their families. This service, which now includes 15 full-time general practitioners and 12 full-time or part-time specialists, is responsible for the European working community of a steel works and its related industries, and their families. The people cared for numbered 8,000 in 1950, when they constituted 80% of the total population of the town in which they live, and 20,000 in 1958. Today they constitute 65% of the total population. The remainder of the European population of the town, not directly associated with the steel industry, and all the non-Europeans, are attended by the private practitioners of the town.

The material on which the article is based is a review of

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the office consultations of the physicians of this service in 3,132 cases.

The information that is offered was gathered not with a view to laying down any specific principles, but simply to extend the figures available in this country for that most difficult and valuable study in medical practice, the natural occurrence and pattern of disease. It is probably only by group reviews such as this that the general pattern of disease will be defined, the importance of various forms of research assessed, the natural history and prognosis of individual pathologies followed up, and their modification by our current methods of treatment estimated.

The review is subject to certain local difficulties and limitations, which must be defined. For instance, in valuing this study against South Africa as a whole one must remember that the population under survey is a comparatively young one and entirely European. The industry is a young one,

and the workers in a young industry are young themselves, the 50-60 group are not numerous, and pensioners are few. Our figures will not therefore reflect the situation as it is in an established city of the Old World or in Johannesburg or Cape Town, but they must reflect with some accuracy what is happening in the developing areas of our own country.

Another example of limitation in our figures is in neurotic and psychological disturbances. At one time specialist care for these conditions was given as part of the service, without charge to the patient. The introduction of a rule by which the member became responsible for 50% of the psychiatrist's fees immediately reduced to one-tenth the number of people requesting this form of treatment. No attempt is made to guess which incidence of psychological disturbance is the correct one—that before or that after the introduction of personal payment.

Again our figures have been affected by the Provincial hospital system of record keeping and destruction, as a result of which a retrospective review of hospital cases has not been a practical or rewarding possibility.

On the other hand, in my opinion the figures here presented are of special value for two main reasons. In the first place, they are based on the records of a homogeneous consulting medical organization serving the greater part of an industrial town. Such records are usually difficult to compile because of the many distinct and unrelated forms of medical care which ordinarily serve a community. It is impossible to gather together and publish in one review the records of separate firms of private doctors, medical and benefit societies, full-time hospital personnel, district surgeons, public-health officials, and local and visiting specialists.

Secondly, the physicians in this service have unusual statistical control for the following reasons:

(a) Patients never come to us direct, but are referred through the full-time general practitioners and the other specialists in the service. The services of physicians are provided without restriction to the patient. He may, through us, request not our opinion but that of any private physician of his choice. We have the advantage, therefore, that there is no obstruction, financial or ethical, to any physician's opinion being obtained whenever a patient or his doctor may require it.

(b) It is an essential part of our set-up that the reference, the report, and the return, is made to the general practitioner. Continuity of treatment and follow-up should consequently be complete.

(c) Because of our responsibility in the service, we full-time physicians cannot allow ourselves to build a reputation in one particular branch of medicine, as a physician in private practice must do.

(d) The diagnosis of the physician is for ever afterwards subject to the critical review of the whole team. No one of them, either in day-to-day practice, or in this review of 3,000 cases, has ever spared our feelings.

I have found it a stimulating exercise, and one which contains many surprises, to review what the community really requires of me as a physician—what problems are most likely to require my opinion, what diseases from the patient's and general practitioner's point of view have the greatest frequency of importance, on what subjects one can most usefully spend one's reading, and what groups of cases—fascinating as they may be—are too rare in a normal

healthy community to deserve much of one's time. From our younger colleagues' point of view, these considerations throw light on the question of what particular specialization is worth entering into: how many specialists the cases likely to arise in a particular speciality will keep busy in a town, in a province, or in the whole country?

CLASSIFICATION

I have divided my cases according to their major pathology into the system under which the pathology and its presenting symptom have been found to fall. Each case is counted once only. This classification naturally presents difficulties. For instance, a great number of patients present with the complaint of 'chest pain'—straightforward to them but very complex to us. Headache seldom has a single aetiology. Hypertension has been put under the 'heart disease' group, and obesity, so irritatingly frequent a complaint, under the endocrine system. Periodic sickness in children, and enuresis, are classified under psychological disturbances.

The first gross break-down of the 3,132 cases is presented in Fig. 1. It is evident that heart disease, alimentary disease, and disease of the central nervous system (excluding psycho-

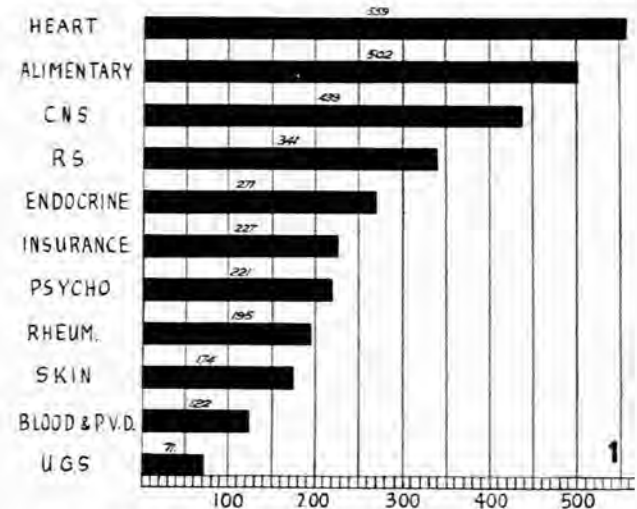


Fig. 1. Break-down of 3,132 consulting-room cases seen by the general physicians. CNS=central nervous system. RS=respiratory system. Psycho=psychological. Rheum.=rheumatic fever. PVD=peripheral vascular disease. UGS=urogenital system.

logical states) provide half the cases seen. It is also evident that anyone setting up practice in blood and peripheral vascular disease alone, which provide 4% of the total of our cases, should find a really big city to settle in! (I must remind the reader that, as this is a review of cases as they come to a physician, it would be wrong to make the claim that these percentages exactly reflect the proportion in which they occur in the population. Many cases—one can instance peptic ulcers—will be cared for by their general practitioners or go direct to the surgeon.) There are many suppressed factors which influence the partition of cases. Heart disease is high not only because the incidence of cases is high but because our general practitioners feel that the decisions to be taken are of such importance that they require the backing of the specialist's opinion; alimentary

cases notoriously become impatient of their symptoms; and to the difficulty of diagnosis in central-nervous-system cases is added the importance of their ability (especially in epileptics) to continue work.

From the point of view of follow-up, it is one of the trials of consultant practice that we so seldom know what has happened to our patient once he has left us—has he died, has he thought so little of us that he has taken up faith-healing or, worse still, has he gone to the brilliant young specialist from Cape Town? I can offer some comfort here. He very seldom does any of these things. The follow-up figures available to me show that a large proportion of the cases I see only once (and this group is 30% of my practice) are satisfied with the reassurance the examination brings them, and thereafter do not trouble their practitioner, but get well with time. This reassurance appears to be the physician's greatest usefulness to a community! Only a very small number—less than 1% in the 2,000 or so we have followed-up—develop some serious illness that was not apparent at the time or was missed at examination. An even smaller percentage die without one's knowledge. The dreadful things we envisage in our depressed moments do not therefore appear to happen to our patients.

Anyone who does insurance examinations, and has not the opportunity of follow-up, worries whether his assessment of his patient was correct. It is of interest that for the last few years we have been examining all the 'executives' and new employees of the industry who are over 50 years old. Although we cannot set an insurance-policy standard of fitness where workers are scarce, only 1 of the 208 we have accepted has so far let us down by dying!

HEART DISEASE

The presenting pathology in the 559 cases of heart disease is shown in Fig. 2.

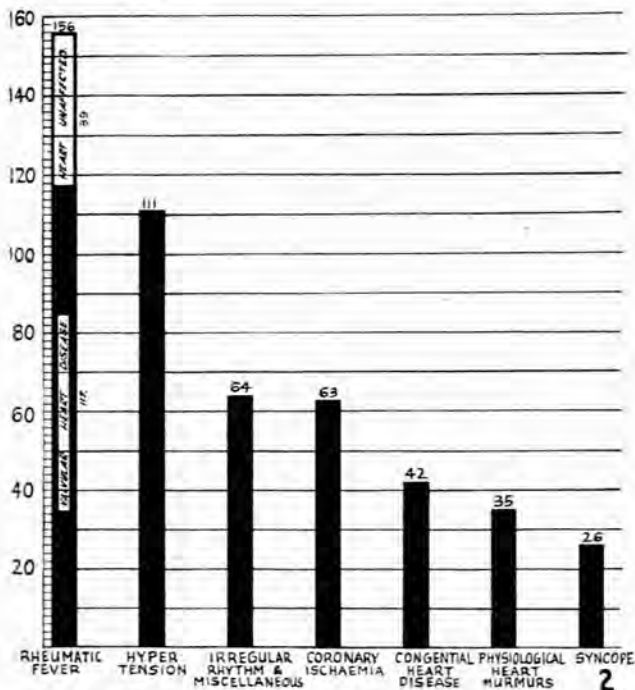


Fig. 2. Heart disease: presenting pathology in 559 cases.

Rheumatic Heart Disease

To me the most disturbing fact that arises is the number of cases of rheumatic heart disease we have. It may be compared with the expected average of 20% of all heart disease as quoted by Paul Wood for Britain—and there have been those who have taught that rheumatic fever is infrequent in South Africa!

It is alarming to think of so great a number of cardiac cripples moving about in a small community like ours. If we have such a number, what will the figure be in Johannesburg or Cape Town, where not every rheumatic child has free access to a physician?

We have compared the number of rheumatic heart cases which have come to us against the certified number of poliomyelitis cases in our community. The figures are: rheumatic fever 155, poliomyelitis 22. Fig. 3 shows the relative effects of these diseases. When one considers the emotions aroused by the child obviously limping in our streets, one wishes that that same emotion would flow for the children lying at home crippled by rheumatic fever, not merely with a handicapped future ahead of them but with each day an increasing battle for mobility and life. Perhaps then we should get our rheumatism foundation.

A second point of great interest is the pool of potential cardiac surgical cases we carry, and how few of them come

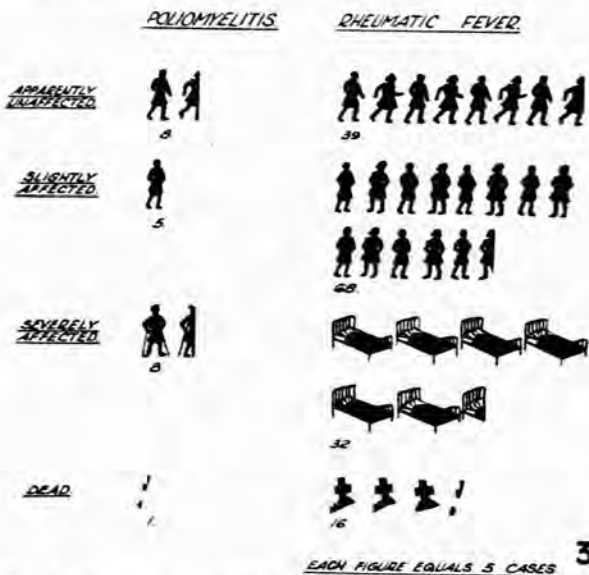


Fig. 3. Incidence and effects of poliomyelitis and rheumatic fever.

to operation. Out of the 117 cases of rheumatic valvular disease only 9 have been operated upon; and out of the 42 cases of congenital heart disease only 3. Some years ago I was asked by our committees to estimate the number of valvular and congenital deformities which might come to operation, so that the necessary financial preparation could be made. I gave my estimate and £5,000 was placed in a fixed deposit. Ever since then the committees have asked me, 'Where are all those mitral stenotics and children with congenital hearts which you said you had?' Well, here they are. Obviously when I prepared my original figure I was looking at the problem from the point of view of a

cardiac clinic. I had failed to recognize the factors which apply when the patient is taken home.

Perhaps this is the greatest lesson I have learnt from my review. The major medical illnesses take on an entirely new slant when one relates them to the life of a community. No longer does one then follow the natural history of a disease, but the history of a community relative to disease. A girl of 16 may be found to be suffering from a patent ductus arteriosus. She is an ideal case for surgery. But she feels she has already got through 16 years pretty well and, anyway, she hopes to marry in 6 months' time and is not going to lose her chance of *that* for any operation. And once she has married and has the support of an unintelligent husband, one may argue for years. This has happened to us with 3 out of 5 cases of patent ductus. Or one may have followed a child with a septal defect or aortic stenosis through the years, waiting for the full development of the heart-lung machine. With the passage of years the child has grown into an age when he must now contribute to the family income and he can no longer be 'laid-off' or 'risky' as he could as a child. Boy-friends and economics destroy statistics. Paul Wood's estimate that 4/5ths of all cases of mitral stenosis will eventually come to surgery is possibly correct, but one must work from the hospital heart clinic, and remember the 'eventually'!

We have reviewed our own cases of heart disease operated upon and find they divide up as follows:

Those operated upon	12
Those unsuitable for surgery at the present time for clinical or technical reasons	41
Those with established mitral or congenital valvular disease but who feel too well to consider surgery	67
Those suitable for surgery, but delaying for one reason or another	9
Those who have moved to another town	30

With surgery freely offered, only 12 out of 159 cases have come to operation!

We frequently refer patients from this group to thoracic surgeons with the request that if they cannot persuade the patient to accept operation, they should establish their own base-line of observation for the future. The patient always seems to take the 'base-line' choice. I should be very interested to hear how far physicians—not thoracic surgeons—feel we should force the surgical issue in these cases.

Coronary Thrombosis

We have had 50 cases of coronary thrombosis, with 6 deaths. Each case has been counted once only; several, dead or still alive, have had more than one thrombosis. We had one young man of 28 with 4 separate thromboses identifiable on one ECG, and more than 20 scars found at post-mortem. All our cases are treated in hospital and all with anticoagulants. Because of their difficulties with laboratory services the private practitioners of the town, who are responsible for about one-quarter of the European population and the entire non-European, do not treat with anticoagulants. From their comparative figures—which, however, are small—it appears that their survival rate for the first month is not significantly worse than ours. The majority of deaths (12) among our own and the private cases have taken place before the patient could be admitted to hospital. We shall follow the comparison as long as the differences in treatment remain. The important point to us, however,

is that whether treatment with anticoagulants has been used or not, the mortality rate of the group as a whole is much lower than it was 20 years ago. This, of course, has been noted by many authorities.

ENDOCRINE DISEASES

These are classified in Fig. 4.

We propose making the follow-up of *thyroid disease* the subject of a fuller report later but so far, in consultation with the general practitioners and our patient's families, we are impressed by the number of patients who persist with symptoms of nervousness and tension even after apparently adequate treatment by any of the accepted methods, including thyroidectomy. Indeed, patients made myxoedematous by treatment are often nearly as tense and difficult with their families after therapy as before it. It would seem that to our difficulties of diagnosis in thyroid we should at our first consultation add a psychologist's assessment



Fig. 4. Endocrine diseases.

of the patient's basic personality, for that personality will persist beyond therapy, and our expectation (and promise) of changing a nervous person to a calm one may often prove wrong.

DISEASES OF THE CENTRAL NERVOUS SYSTEM

These are classified in Fig. 5.

Epilepsy has been particularly interesting to us because by law no established epileptic is allowed to work in heavy

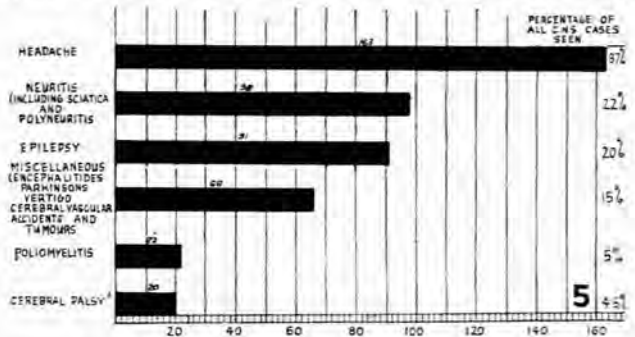


Fig. 5. Diseases of the central nervous system.

industry. In consequence, to allow our patients every chance before condemning them to medical boarding, we have investigated them fully, usually up to air studies and angiograms.

It is common practice in a small town to accept a suspect epileptic as such, and for ever afterward he is treated by the general practitioner with sedatives and anticonvulsants. The cases which are referred to neurologists are those which are alarmingly out of true—probably tumours. Because of our interest in their social future, our patients fall between these two groups, the epileptics of the general practitioners and those of the neurologists. This probably explains the

considerable difference in the frequency with which tumours are found among our patients and the figures suggested by some of our neurological colleagues. Although the few text-book estimates place the frequency of brain tumour in epileptics above 2% one occasionally hears it stated that surgery for neoplasm may be expected in anything up to 20% of epileptic presentations. Our experience supports the text-books and not our enthusiastic associates. In our 91 cases investigated and followed-up we have found only 2 tumours, and one of these a secondary from a bronchial carcinoma. Cerebral atrophy as judged by air studies is the most frequent pathology found.

RARE DISEASES

Earlier on I mentioned those fascinating diseases which seemed to occur so infrequently in a community and yet take up so much of our time in hospital practice. In spite of diligent searching and follow-up we have had only one

case of lupus erythematosus disseminatus in 8 years, and there have been only 2 cases of collagen disease (indefinitely diagnosed by biopsy), 11 of rheumatoid arthritis (ours is admittedly a population aged largely under 60), 2 of nephrosis, 2 established cases of electrolyte-retaining nephritis, and 8 of subacute bacterial endocarditis (in spite of the large number of rheumatic and congenital hearts). There has been only 1 established case of ulcerative colitis and none of pernicious anaemia. Rare diseases we have had, but here we are discussing the more fashionable diseases.

On the other side of the picture, one wonders where one could best spend one's reading to give the greatest service to the patient group as a whole. And here our figures and our experience are definite. Most of all one needs a clear knowledge and a differential diagnosis beyond the usual on headache, chest pain, colitis in its various forms, thyroid disease and epilepsy—all too common to be exciting, except that we know so desperately little about them.