

THE CARE OF SERIOUSLY ILL PATIENTS IN HOSPITAL AND GENERAL PRACTICE

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There is little information about the size of the reservoir of seriously ill patients from which patients admitted to medical beds in hospital are drawn, and indeed, the impression is widely held that all seriously ill patients are cared for in hospital.

Taylor (1960) pointed out that any planning of the future of the hospital services must take account not only of trends in population structure and treatment but also the total morbidity experienced by the population. A leading article in the same publication also stressed the need for annual morbidity rates if any real assessment of future needs was to be achieved.

A potential source of information about the proportion of serious illness cared for at home is the publication by Logan and Cushion (1958) of morbidity encountered by doctors in 106 general practices during the twelve months May 1955 to April 1956. This study gives the rates per 1,000 practice population of various serious illnesses encountered by the practitioners during that period and these rates are probably representative of the country as a whole. Unfortunately, the authors admit that figures for hospital admissions may be unreliable and the overall admission rates quoted are much less than those known to be true from Ministry publications.

In the Registrar General's *Statistical Review* (Part III 1956, H.M.S.O.) for the year 1956, where the cause of death was analysed by the type of place where death occurred, it was shown that of the total of 521,331 deaths registered, 246,743 (47 per cent) were in the deceased person's own home, 205,603 (39 per cent) were in hospitals (non-mental) belonging to the National Health Service, 14,081 (3 per cent) in other non-mental hospitals or nursing homes, 14,368 (3 per cent) in mental hospitals and mental deficiency hospitals belonging to the National Health Service and 15,648 (3 per cent)

in other institutions (homes for the aged, schools, prisons, etc.).

The proportion of deaths in any particular class of institution varied considerably from cause to cause. Diseases of the circulatory system caused nearly 200,000 deaths of which only 27 per cent took place in hospitals (non-mental) belonging to the National Health Service. The main cause of death in mental hospitals and mental deficiency hospitals was arteriosclerotic and degenerative heart disease, which caused 5,956 (40 per cent) of the 14,974 deaths occurring in these institutions. Seventy-eight per cent of all deaths from diseases of the digestive system occurred in non-mental National Health Service hospitals.

Table CXII abstrated from the same source gives the comparative figures for selected disease groupings.

<i>Cause of death</i>	<i>Total deaths</i>	<i>Deaths outside hospitals</i>
Infective and parasitic diseases	8,275	3,212
Neoplasms	94,354	45,957
Diseases of circulatory system	193,907	121,401
Diseases of respiratory system	59,779	30,519

Thus more than half the number of deaths from these four diagnostic groups combined occur in the patients' own homes. The large majority of patients who die of malignant disease spend more time being nursed at home than they do in hospital, though they may receive more sophisticated care during the latter, shorter phase.

The information from these sources can be used to relate diseases carrying the same diagnostic label, but this tells us, and then only by inference, little about the relative severity of individual illnesses or even of all illness in general practice compared with hospital practice.

Before any meaningful estimates of the total size of the seriously ill population can be made, a method of delineating minor from serious illness in general practice is required, and the same criteria must be applicable to patients admitted to hospital. Such a method was described in a previous communication (Crombie and Cross, 1959). The results of applying these quantitative as well as qualitative criteria to patients on the list of one of us (D.L.C.) and to

patients admitted to the medical beds in a large general hospital in Birmingham were also given.

In this paper these criteria are used to assess the number of seriously ill (non-surgical) patients seen by a general practitioner in his practice during a year and to establish the proportion of patients with comparable illnesses admitted to medical beds in a large general hospital, from a known population at risk. The total incidence of serious illnesses occurring during a year in that population and the relative proportions treated at home and hospital are also estimated.

Method

In the previous publication, in which the criteria for assessment of patient illnesses in general practice and in hospital were given, a fourfold classification of severity was used.

- GROUP A: Patients with no diagnostic or therapeutic requirements at hospital level.
- GROUP B: Patients with requirements of group A but who in addition required radiography of chest and pleura.
- GROUP C: Patients with requirements of groups A and B but who in addition required multiple injections.
- GROUP D: All other patients.

The reasons why chest radiography, required by patients in group B, was not considered to be an absolute indication for hospital care were considered previously (Crombie and Cross, 1959). The distinction between groups A and B need not therefore concern us here and the combined group represents the class of seriously ill patients not needing any facilities at hospital level.

The catchment area of the hospital concerned, a large general hospital, has been calculated by one of us (K.W.C.) from an analysis of records of patients admitted to all hospitals, teaching and non-teaching, in the Birmingham region. During 1952, a total of 13,500 patients, residents of Birmingham county borough were discharged from (or died in) medical departments of hospitals (excluding chronic sick wards). Of these, 4,960 were discharged from the hospital concerned in this survey, i.e., 37 per cent of the total. In that year the population of Birmingham county borough was 1,119,000 so that the population of the catchment area of the general hospital concerned was about 415,000.

An estimate can be made of the size of the reservoir of all seriously ill patients with "medical" diagnoses treated by general practitioners in the same population by relating the numbers of patients in each of the four groups of serious illness in the practice series to the population from which they are drawn, and relating this in turn to the above-mentioned catchment area population.

Since the age-sex distribution of the patients in the writer's practice

is similar to the age-sex distribution of the population of Birmingham, and also presumably to the population of the catchment area of the hospital, it has not been deemed necessary to consider each age and sex separately, but to estimate the numbers by groups of serious illness only. It has also been assumed that the pattern of morbidity of serious illness in the City of Birmingham did not vary significantly between 1952, when the patients considered in the hospital survey had their illnesses, and 1953-4 when the practice survey was conducted.

Results

During the year of the survey, 89, 1 and 11 practice patients were allocated to groups A and B combined, C and D respectively (including three patients in group D who required anti-coagulant therapy). The practice population consisted of 4,199 patients. The numbers of patients falling into these groups in the hospital series were 1,360, 970 and 3,020 (as estimated from the ten per cent sample of admissions to the hospital). These latter findings are similar to those of Forsyth and Logan (1960), who found that one quarter of the patients in the male medical wards and nearly one half of the female medical patients were admitted for reasons other than strictly clinical.

If the clinical methods of D.L.C. are similar to those of other practitioners in the City of Birmingham and if the pattern of morbidity among his patients is similar to that of the population as a whole, then there should have been 8,800, 100 and 1,100 patients respectively with illnesses in groups A and B combined, C and D of the hospital series. There were, therefore, 6.5, 0.1 and 0.4 times as many patients respectively with illnesses in groups A and B combined, C and D in the population of the catchment area of the hospital treated at home as were actually treated in the hospital. Bearing in mind that the numbers of patients in group A of the practice series has probably been underestimated (Crombie and Cross, 1959), the above ratio for groups A and B combined must also be regarded as an underestimate. The individual ratios for groups A and B are 4.1 and 10.3 respectively. The corresponding ratio for all patients in group C and D combined is 0.3 which falls to 0.2 if the three patients in the practice series who required anti-coagulant therapy are excluded. This also must be an underestimate. For instance, some of the patients in groups C and D of the hospital series were admitted as medical emergencies from general practices and are represented in the relatively small groups C and D of the practice series. The majority were admitted from outpatient departments and do not therefore contribute to the practice figures.

It could be argued that the practice figures must contain a pro-

portion of patients who are not strictly comparable with patients in the hospital but with patients in beds for the chronic and aged sick. These patients must be restricted to the age group of 65 years and over, and if all patients in this age group are excluded from the practice figures the ratio for all patients in groups A and B combined is 4 : 1. If the restriction is applied only to these patients whose duration of stay exceeded 90 days, irrespective of age, the corresponding ratio for all patients in groups A and B combined is 5 : 1.

The ratio based on figures from which all patients over 65 have been excluded must be gross underestimates of the true figures for the following reasons:

- (a) Since the publication of Lowe and McKeown's findings in 1949 there has been an increasing tendency to admit the acutely ill patient to a hospital bed rather than to an "infirmiry" bed regardless of the patient's age, whereas prior to this, patients over 65 years were more likely to be admitted to an infirmiry bed than patients in younger age groups with similar medical conditions.
- (b) Even before the publication of Lowe and McKeown's findings, only 20 per cent of the patients in "infirmiry" beds were ill enough to warrant their transfer to hospital beds, and it can therefore be inferred that even at that time the bulk of acutely ill patients over 65 years of age were, in fact, admitted (initially at least) to hospital beds.

The ratio of the total number of patients in all groups of serious illness in the practice to all patients discharged from the medical beds of the hospital during the survey is 1.9 : 1. The corresponding ratio when all patients over 65 years of age in the practice series are excluded is 1.2 : 1.

The ratio of 6.5 : 1 for all patients in groups A and B combined of the population of the hospital catchment area compared with the corresponding patients in the hospital series agrees closely with the findings for the chronic and aged sick which follow. It may therefore be concluded that:

1. There are probably at least 6 times as many medically ill patients whose illnesses fulfil the criteria of groups A and B, cared for at home by their general practitioners as are actually cared for in the medical wards of the hospitals in the City of Birmingham.
2. Very few of the patients with illnesses of such a severity that they fulfil the criteria for groups C and D, are cared for at home by their general practitioners.

A similar assessment can be made of the size of the pool of chronic and aged sick patients in the City of Birmingham from which admissions to the appropriate hospitals are drawn. Lowe and McKeown, in various papers published between July 1949 and September 1950, discussed the medical and nursing requirements of patients in wards for the chronic and aged sick. They showed

that 1.4 per 1,000 of the general population of Birmingham, or 12 per 1,000 of the population over the age of 65, occupied such beds for the chronic and aged sick in hospitals throughout this city, and assessed patients in Summerfield Hospital (a large chronic sick hospital named at the time, Western Road Infirmary) by means of a four-fold classification:

- (a) Patients who require medical and or skilled nursing attention once a week or more often: these accounted for 18.8 per cent of the total and represent a bed-population ratio of 2.4 per 1,000 persons over the age of 65 years.
- (b) Patients who required simple nursing attention only, or nursing or medical attention less than once a week: these accounted for 54.6 per cent of the total and resulted in an allocation of 6.8 beds per 1,000 persons over 65.
- (c) Patients who required only domestic help: seven per cent of all patients and 0.8 beds per 1,000 persons over 65 years.
- (d) Patients who were so grossly deranged mentally as to require hospital care: these accounted for 20 per cent of the total and give a bed-population ratio of 2.4 per 1,000.

An estimate has been made of the number of patients in D.L.C.'s practice who fulfilled the criteria used by Lowe and McKeown in groups (a) and (b) of their assessment. For this purpose the visiting list for the month of January 1952 was used. This was the month prior to the conception of this assessment and therefore the amount of medical attention given during that month was unbiased by any personal factor. A recent month had to be chosen since much of the detail would depend on memory.

Among the chronic and aged sick, the criteria for group (a) above (patients ill enough to warrant hospital attention) was fulfilled by:

- 4 patients for the whole month;
- 1 patient for 3 weeks of the month;
- 2 patients for 2 weeks of the month;
- 3 patients for 1 week of the month;
- 1 patient for $\frac{1}{2}$ a week of the month.

These patients are equivalent to 6.6 patients for a complete period of *one month* and, since there were 550 patients over 65 in the practice, there were 12 patients per 1,000 of the practice population. This compares with the figure of 2.4 per 1,000 population for the hospital and hence the ratio of the two rates is 5 : 1.

The number of chronic aged and sick patients, other than (a), who fulfill the criteria for group (b) and who were under the practitioner's care for the whole month was 22. There was an unknown number who may have been attended by the district nurse but not seen by D.L.C. during this period. Hence, the rate for this group

is at least 40 per 1,000 of practice population as compared with a figure of 6.8 from the hospital figures; the ratio of the two rates is therefore 5.9 : 1.

It may therefore be concluded that, if the practice surveyed is representative of the practices in the City of Birmingham and if the clinical methods of D.L.C. are similar to those of other practitioners in the city, there were in 1952, using the criteria of Lowe and McKeown in their assessment:

- (a) *five* times as many chronic and aged sick patients ill enough to warrant hospital attention cared for at home by their general practitioners than are actually cared for in the wards for the chronic and aged sick.
- (b) *six* times as many chronic and aged sick patients with illnesses of a lesser degree of severity than in (a) above cared for at home by their general practitioners than are actually cared for in the wards for the chronic and aged sick.

Conclusions

Although the patients with medical conditions of a minor nature in the wards of general hospitals and hospitals for the chronic sick, may represent an enormous problem to the hospital authorities, it does seem that this group of patients represent in turn only a small proportion of all the cases occurring, the majority of whom are being cared for adequately at home. It was shown in a previous communication that the reasons for their admission were equally divided between absolute social bars to home care, such as no willing and able relative, no home or no money on the one hand and the reluctance of the general practitioner and patients' relatives to accept the responsibility of home care where social factors were adequate on the other hand. The latter group of factors is responsible for the admission to hospital of less than ten per cent of the sick and accounts for only ten per cent of the patients in hospital beds. Far from reflecting on the abilities of general practitioners and relatives to shoulder their responsibilities, these findings support the reverse view.

Similarly, social defects in the patients' environment accounted for a small proportion of seriously ill patients in hospital requiring no therapeutic, diagnostic, or nursing skills. It could be argued that the provision of services to replace these social defects would still be worth while. These include home helps, night watchers, and meals on wheels; but these could already be provided for this group of patients.

It could also be argued that some financial inducement should be

offered to the families who undertake the care of these patients. This argument is certainly specious for, in order to save say £25 per week to empty one bed, the relatives of six other similar patients might demand a grant for the home care of a relative where admission to hospital was never requested but whose illness was of equal severity. While £5 per week to one family might seem economically feasible, £30 to six families is not. This latter situation obtains also in the case of the chronic and aged sick but in this group there is more time for the deployment of ancillary services in kind to replace social defects. The rapidity of development of the clinical science, at present, outstrips the speed with which the ancillary services can be deployed. It may of course be uneconomical to keep these services at the highest pitch of readiness. An improvement in accessibility of the services may also lead to an enormous increase in demand when the size of the pool of illness is considered.

It would seem that the balanced hospital community as described by McKeown (1958), where all medical services at hospital level for a given area are grouped on the same site, might answer many of the administrative problems of hospital planning; but the present findings indicate that close integration with the work of general practitioners in the domiciliary care of serious illness will be necessary if the maximum effectiveness is to be extracted.

Finally, the collection of material about continuing morbidity in the community (particularly serious illness) would seem to be essential to the assessment of future needs and this may well be a service which could be provided by the College of General Practitioners.

Summary

An assessment of the proportion of serious illness treated at home by the patients' own general practitioners has been made by applying specified criteria of the severity of illness to patients on a general practitioner's list and to patients admitted to the medical beds in a large general hospital from a known population at risk.

The ratio of the total number of patients with serious illness treated by general practitioners at home during one year to all patients admitted to acute medical beds during a year is estimated to be 1.9 : 1. But the corresponding ratio for patients with serious illness not requiring therapeutic or diagnostic services at hospital level is 6 : 1. If patients aged 65 years of age or over are excluded from both series the ratio is reduced to 4 : 1.

The ratio of the total number of chronic and aged sick cared for at home to the number treated in institutions is estimated as 5 : 1.

The implications of these findings are discussed in relation to the

planning of hospital services.

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The Dying Patient. GIBSON, P. C., M.D., M.R.C.P. *The Practitioner* (January 1961), **186**, 85.

Dr Gibson is able to write with the experience of a hospital physician who spent a good deal of his earlier years as a family doctor in a retirement area, and he saw much of the problem he describes. He asks, "Is death an end or a beginning?" He sees it as something in which spiritual values must be recognized—the waning body and the waxing soul—and goes on to discuss the relative parts to be played by physician and parson, and the relationship that should exist between them. After distinguishing between the fear of death and the agony of dying, he talks about the essential dignity of death.

If death were merely "the ugly fact that nature has to hide" its treatment would be simple, but so shallow a solution satisfies nobody. Dr Gibson tackles the problem with wisdom and sensitivity.