THE CARE OF THE CHRONIC SICK

I. MEDICAL AND NURSING REQUIREMENTS*

BY

C. R. LOWE and THOMAS McKEOWN

From the Department of Social Medicine, University of Birmingham

INTRODUCTION

If we are not now aware that old age and chronic sickness are among the most urgent of contemporary medical problems, it is not the fault of the numerous writers who have tried to persuade us. Their case is supported by national statistics, and stated briefly amounts to this: the fact that preventive medicine (to use the term in its most inclusive sense) has reduced the incidence of disease in younger age groups means that a higher proportion of the general population suffers from the diseases of old age; the relative contribution of these diseases to the total incidence of disease is already high and is increasing; we are comparatively ignorant about the diseases of late life and have the best of reasons for learning more about them (in this matter we have the double interest of the actuary and of the insured).

In this paper, the first of a series based on an investigation of the chronic sick in hospital, we deal mainly with administrative difficulties created by these diseases. It will be useful first to consider the reasons which have led to the coupling of the problem of chronic sickness with that of old age, for if we use the term chronic sickness in reference to diseases which continue or recur over a considerable period, it is quite evident that it is not limited to late life. Bronchitis, rheumatic heart disease, and disseminated sclerosis are examples, in the respiratory, circulatory, and nervous systems respectively, of chronic diseases which commonly appear for the first time in young people. The fact that we associate chronic sickness with old age reflects a natural preoccupation with the administrative problem. As scientists we should like to know the proportion of the chronic diseases which first appear in each age group, but as medical administrators we are more concerned with the proportion of individuals in each age group who require attention.

It is known that most patients who need continuous care are old, but there is no detailed information about the kind of care they require. The only substantial numerical data are based on returns of hospitals for the chronic sick, and give the total population in hospital; these figures have also been subdivided into "chronic sick" and "aged and infirm"[†], but the division tells us nothing of the medical and nursing requirements of patients in each group. We have only to recall the way in which cases were admitted until July, 1948, to recognize the mixed nature of this hospital population. The medical needs of the elderly patient cannot be considered apart from the social circumstances in which they arise, and the general practitioner who stated to the relieving officer that in his opinion a patient should be admitted to hospital was inevitably influenced by the inadequacy of facilities in the home, as well as by the urgency of the need for hospital treatment. Even more important, as we shall show in a later paper, it has frequently been necessary to retain in hospital patients whose need for frequent medical attention or skilled nursing was transient, but whose home circumstances prevented discharge.

This was a situation which the Poor Law authorities could accept with composure. They were responsible for the social as well as for the medical needs of many of their patients, and the vicarious burden on their hospitals was compensated by relief for other parts of their administration. Indeed, having regard to the limited staff and equipment used in the hospitals it was even possible that an elderly patient not requiring medical attention or skilled nursing could be provided for as economically in a hospital bed as elsewhere.

There was no important change during the period of administration under local authorities (1929-1948),

* This research was assisted by a grant from the Birmingham University Students' Social Services Fund.

[†] Report of the Working Party on the Recruitment and Training of Nurses, p. 107.

and the hospitals transferred in July, 1948, to regional hospital boards still housed deprived children, the aged and infirm, and the destitute of all ages, as well as the chronic sick. But the responsibility of the new authorities was limited sharply by act of parliament to hospital care, and, faced with the unpleasant facts of long waiting lists and too few beds, they naturally viewed with concern the possibility that their hospitals contained patients who could be cared for more economically elsewhere, and who were in any case not their problem.

The reasons for concern about this situation are not all administrative ones. We know that the social and medical attention which patients later require are determined to some extent by the adequacy of the services to which they have access in the acute stages of their illness. Continence and mobility in particular reflect the standard of care received. The fact that hospital beds are scarce, and likely to remain so for some time to come, makes it important that they should not be occupied by patients who no longer need hospital attention.

We have attempted in this paper to answer two questions. (1) What proportion of the chronic sick require the kind of medical or nursing attention provided in hospitals? (2) What facilities are needed for patients who can more satisfactorily or more economically be cared for outside hospitals?

For this purpose it has been necessary first to define the nursing and medical attention which justify hospital care, and second to examine the requirements of patients in relation to these standards.

MATERIAL AND METHODS

The numerical data in this paper are derived from an analysis of 1,005 patients in Western Road Infirmary, Birmingham. A brief account follows of the nature of this material and of the extent to which it may be regarded as representative of the problem of chronic sickness in the country as a whole.

Western Road Infirmary is typical of many institutions provided as workhouses under the Poor Law Amendment Act of 1834 and administered by a Board of Guardians elected locally to serve the surrounding parishes. To the original workhouse, now more than a hundred years old, was added during the nineteenth and twentieth centuries a series of hospital blocks for the sick and infirm destitute. These are badly planned buildings, with high windows, narrow ward doors, and totally inadequate kitchens and sanitary arrangements, designed with an eye on the cost to local rates rather than on the convenience of patients and staff.

Under the Local Government Act of 1929 this building came under the control of the Public Assistance Committee of the Birmingham City Council, and on July 5, 1948, the hospital wards were transferred to the Regional Hospital Board. The old workhouse, consisting of 299 beds for the poor and destitute, has been taken over by the local authority's social welfare committee complying with the National Assistance Act of 1948.

The occupants of these 299 beds, and of 155 beds used for venereal and skin diseases, are excluded from the survey, which covers only the 1,005 patients classified by the Chief Medical Officer as "chronic sick". The beds used for these various purposes are to some extent interchangeable, and the numbers vary slightly from time to time.

After a preliminary survey of 50 patients, a record card was designed for hand sorting. It was divided into two parts: a medical section, completed by one of three doctors; and a social section, completed by one of two social workers. Records were inspected on completion, and returned for attention to inconsistencies or omissions. The staff engaged on this work were married women with some domestic responsibilities, who gave part-time service under the supervision of one of us (C.R.L.). This arrangement, necessary because of the difficulty of recruiting doctors and social workers for full-time service for a limited period, was entirely satisfactory in an enquiry in which the exacting nature of the work made full-time employment undesirable.

The data are mainly the results of physical examinations and of histories taken from the patients. Where the latter sources were not available (20 per cent. of patients were grossly abnormal mentally, and 4 per cent. were deaf) or were considered unreliable, relatives were interviewed on visiting days. No home visits were made, and where data in respect of domestic circumstances could not be obtained from patients or relatives the items were entered as "unknown". Much of the medical data was provided or confirmed by the ward doctor or sister, and records of mental state, mobility, and bladder and bowel habits, were completed only after consultation with them. The hospital records, though adequate for the needs of the hospital staff, were of little use for research purposes. The medical diagnosis and details of laboratory investigations were extracted, but no other use was made of this source.

We have no reason to believe that the population of Western Road Infirmary differs in any important respect from that of other hospitals of the same type; at a later date we can make a comparison with the hospitals in the Stoke-on-Trent area where

FIG. 1.—Proportion of patients requiring medical attention or skilled nursing (see Tables I and II).

the same material has been collected. It will be evident that we have no information about patients with chronic diseases cared for in mental, general, or other hospitals, or in their own homes, who are also excluded from the recent national returns, one of which* gives 70,000 as the number of chronic sick in England and Wales. Of this total, the 1,005 patients in the survey represent about 1·4 per cent.

MEDICAL AND NURSING REQUIREMENTS

Our examination of the medical and nursing requirements of each patient is based upon a distinction between four different types of service: (i) medical attention, (ii) skilled nursing, (iii) simple nursing, and (iv) domestic service.

(i) *Medical Attention*.—In assessing medical attention needed by patients, we have had regard both to the attention actually received in hospital and to that which the patient's condition appeared to merit. In Western Road Infirmary, in conformity with usual hospital practice, every ward is visited daily, and medical supervision given if required. Needless

to say, this frequent attention is in many cases quite unnecessary, and for our records the appropriate interval has been decided in each case after careful consideration of the patient's condition.

The results of this examination are contained in Table I (see also Fig. 1), which may be summarized in the statement that although nearly all patients (97 per cent.) require medical attention, few of them (7 per cent.) need it more frequently than once a week, and only about a quarter more frequently than once a month.

(ii) *Skilled Nursing*.—The distinction which we have considered it imperative to make between skilled and simple nursing is not a usual one. The duties of the State Registered Nurse are not as a rule limited to those in which training and skill are required, nor is the work of the assistant nurse restricted to what is described below as simple nursing. But it is only by making this arbitrary division that we can assess even roughly the nursing requirements of each patient, and we therefore include under skilled nursing only those duties, such as injections, dressings, administration of dangerous drugs, care of acutely ill people, etc., for which it may

* Report of the Ministry of Health for the year ended March 31, 1947.

TABLE I*
MEDICAL ATTENTION REQUIRED (see Fig. 1)

	Daily	More than once a week	Weekly	Fort-nightly	Monthly or Less	None	Totals
Males ..	10 (2.2)	36 (7.9)	61 (13.4)	44 (9.7)	282 (62.0)	22 (4.8)	455 (100)
Females ..	6 (1.1)	22 (4.0)	42 (7.6)	41 (7.4)	431 (78.4)	8 (1.5)	550 (100)
All patients	16 (1.6)	58 (5.8)	103 (10.2)	85 (8.5)	713 (70.9)	30 (3.0)	1,005 (100)

* In all tables, percentages are given in brackets.

TABLE II
SKILLED NURSING REQUIRED (see Fig. 1)

	Daily	More than once a week	Weekly	Fort-nightly	None	Totals
Males ..	65 (14.3)	24 (5.3)	2 (0.4)	1 (0.2)	363 (79.8)	455 (100)
Females ..	55 (10.0)	14 (2.5)	1 (0.2)	2 (0.4)	478 (86.9)	550 (100)
All patients	120 (11.9)	38 (3.8)	3 (0.3)	3 (0.3)	841 (83.7)	1,005 (100)

TABLE III
SIMPLE NURSING REQUIRED

	Required	Not Required	Totals
Males ..	414 (91.0)	41 (9.0)	455 (100)
Females ..	521 (94.7)	29 (5.3)	550 (100)
All patients	935 (93.1)	70 (6.9)	1,005 (100)

reasonably be claimed that full training is necessary.

Table II (see also Fig. 1) indicates that few patients (16 per cent.) require skilled nursing, but that those who do require it often. Twelve per cent. need daily the type of service referred to.

(iii) *Simple Nursing*.—With the problem of disposal in view, we have also thought it desirable to distinguish clearly between simple nursing and domestic service. Many patients need to be washed, fed, dressed, or lifted into and out of bed, tasks characterized by the personal nature of the service but not requiring skill of the kind referred to under (ii). We have been in doubt about the classification of patients who are incontinent of

faeces or urine, but whose care would not otherwise necessitate the presence of a skilled nurse. These cases are considered to require simple nursing only, but since it may be argued that the prevention of bed sores is a service for which training and skill are needed, incontinent patients are shown separately in tables where a different decision might have a bearing on disposal. Table III shows that 93 per cent. of patients require simple nursing.

(iv) *Domestic Service*.—All patients in Western Road Infirmary need some form of domestic service (shopping, preparation of food, laundry, cleaning, etc.). This fact, which requires no further numerical examination, emerged from detailed consideration of individual needs, and has an important bearing on any plans for subsequent disposal.

DISPOSAL

The possible disposal of patients is now considered in relation to their medical and nursing requirements. It may be necessary to emphasize at once that it is not suggested that the arrangements proposed are available to hospital authorities at this time; beds in general and mental hospitals, for example, are already insufficient for their recognized commitments. All that is attempted is to guide future policy by indicating alternative facilities which the requirements of the present hospital population appear to warrant; we have naturally had in mind the importance of freeing hospital beds of all patients for whom satisfactory and more economical arrangements can be made elsewhere.

Table IV (overleaf; see also Fig. 2) gives the numbers of patients in each of the four main divisions identified as follows:

PATIENTS WITHOUT GROSS MENTAL CHANGE

(a) *Hospital* (one-fifth). Patients needing skilled nursing and/or medical attention once a week or more frequently are considered to require hospital care. Most patients in this group do, of course, need both skilled nursing and frequent medical attention, but cases needing one and not the other are also included. It may be objected that where no skilled nursing is required medical attention at weekly intervals should not be provided in hospital, but we have preferred to risk criticism of a conservative estimate.

(b) *Institution or own home with simple nursing* (slightly over half). Patients who do not require skilled nursing, or medical attention, as often as once a week are not considered to require hospital care if the necessary arrangements can be made in alternative institutions or in their own homes.

(c) *Institution or own home without simple nursing* (slightly under one-tenth). Patients in this group are distinguished from the previous one by the fact that they do not require the kind of personal service described as simple nursing.

TABLE IV

SUGGESTED DISPOSAL OF PATIENTS (see Fig. 2)

	Patients without Gross Mental Change			Patients with Gross Mental Change	Totals
	Hospital* (a)	Institution or own home		Hospitals§ (d)	
		With simple nursing† (b)	Without simple nursing‡ (c)		
Continent	137	390	69	52	648
Incontinent (urine and/or faeces)	52	159	1	145	357
Totals	189 (18·8)	549 (54·6)	70 (7·0)	197 (19·6)	1,005 (100)

* Includes patients requiring skilled nursing, and/or medical attention, once a week or more frequently.

† Simple nursing: washing, dressing, feeding, lifting in and out of bed, etc.

‡ These patients all require some form of domestic service.

§ Includes all patients requiring supervision because of their abnormal mental state.

FIG. 2.—Suggested disposal of patients (see Table IV).

PATIENTS WITH GROSS MENTAL CHANGE

(d) *Hospital* (one-fifth). It has been thought necessary to consider separately the disposal of patients whose mental state is such that, irrespective of other medical and nursing requirements, they need personal supervision and must therefore, with few exceptions, be cared for in hospital. The group excludes some other patients (distributed between (a), (b) and (c)) who have mental changes of a kind not necessitating personal supervision, such as dullness, apathy, speech difficulty, or failing memory.

We next examine in detail the diagnosis, age, duration of stay in hospital, and mobility and continence of the patients in each of these four main divisions, considerations which have an important bearing on the acceptability of the classification suggested above.

(a) *Patients without Gross Mental Change, requiring Skilled Nursing and/or Frequent Medical Attention.*—Tables V and VI (opposite) give for males and females respectively the diagnosis and attention required by the patients in this group. Many of them are in the acute and some in the terminal stages of illness; almost all require the kind of attention (dressings, injections, investigations, care of acute illness) best provided in general hospitals.

It is mainly in respect of age and duration of stay that these patients differ from those ordinarily admitted to general hospitals (Tables VII and VIII overleaf; see also Figs. 3A and 4A); 88 per cent. are over 60; half have been in hospital for at least three months, and about one-fifth for at least three years. It does not follow, of course, that those who have spent months or years in hospital have been continuously in need of hospital care; on the contrary, most of the long-stay patients have only recently developed the conditions necessitating their inclusion in this group. If the necessary alternative facilities had been available, they need only recently have been transferred to an acute hospital, thus reducing the mean duration of stay.

Table IX (p. 118; see also Fig. 5A) gives details of mobility and continence; about a quarter are incontinent, and two-thirds are confined to bed. Objections may be raised to the admission of incontinent patients to acute hospitals, but in many of these cases the incontinence is a temporary phenomenon associated with the acute illness and responsive to adequate treatment. Under present conditions in hospitals for the chronic sick, this transient incontinence frequently remains as a permanent disability when the acute illness has subsided.

With these data before us, we may examine more realistically than has hitherto been possible the

TABLE V

DIAGNOSIS AND ATTENTION REQUIRED BY PATIENTS WITHOUT GROSS MENTAL CHANGE CONSIDERED SUITABLE FOR HOSPITALS (106 MALES)*

Attention Required	No. of Cases	Comments
1. <i>Acute Illness</i> (41)		
Cardiac failure	18	Tonsillitis; herpes zoster; conjunctivitis.
Recent hemiplegia	6	
Acute bronchitis	14	
Other	3	
2. <i>Dressings</i> (33)		
Gangrene of foot	7	Ulcer (4); sepsis (5). Advanced disseminated sclerosis; paraplegia (2).
Leg sepsis and ulceration	9	
Pressure sore	3	
Carbuncle	2	
Other skin conditions	2	Exfoliative dermatitis; severe eczema. With cystitis and requiring irrigation. Femur (2); tibia and fibula; clavicle.
Suprapubic cystotomy	6	
Recent fracture	4	
3. <i>Injections</i> (14)		
Advanced carcinoma	12	Pernicious anaemia; syphilis.
Other	2	
4. <i>Investigation</i> (18)	18	Includes: unexplained jaundice; diarrhoea; vomiting; anaemia; vertigo; oedema of legs; haematuria; etc.

* Includes patients requiring skilled nursing, and/or medical attention, once a week or more frequently.

TABLE VI

DIAGNOSIS AND ATTENTION REQUIRED BY PATIENTS WITHOUT GROSS MENTAL CHANGE CONSIDERED SUITABLE FOR HOSPITALS (83 FEMALES)*

Attention Required	No. of Cases	Comments
1. <i>Acute Illness</i> (31)		
Cardiac failure	12	Conjunctivitis (3); glaucoma. Otitis media (2); subphrenic abscess; thyrotoxicosis.
Recent hemiplegia	3	
Acute bronchitis	8	
Acute eye conditions	4	
Other	4	
2. <i>Dressings</i> (18)		
Gangrene of foot	2	Ulcer (6); sepsis (3). Advanced paralysis agitans (bedfast 4 years before admission). Diabetes.
Leg sepsis and ulceration	9	
Pressure sore	1	
Carbuncle	1	Psoriasis (2); exfoliative dermatitis; eczema; pemphigus.
Other skin conditions	5	
3. <i>Injections</i> (22)		
Advanced carcinoma	13	All cases of long standing.
Syphilis	3	
Pernicious anaemia	3	
Diabetes	3	
4. <i>Investigation</i> (12)	12	Includes: haematemesis; jaundice; urinary infection; haemoptysis; melena; epileptiform convulsions; ? hyperthyroidism; etc.

* Includes patients requiring skilled nursing, and/or medical attention once a week or more frequently.

FIG. 3.—Age distribution (see Tables VII, X, XVII, XXI).

suggestion that the chronic sick should in future be cared for in the wards of general hospitals. This view has been supported by the following considerations:

1. It is very difficult to attract nursing and medical staff to hospitals which cater exclusively for this class of patient.
2. All nurses and doctors should have some experience of the care of the elderly chronic sick.
3. Many patients require the type of investigation and treatment which can only be provided with certainty in a general hospital.

TABLE VII

AGE OF PATIENTS WITHOUT GROSS MENTAL CHANGE CONSIDERED SUITABLE FOR HOSPITALS (see Fig. 3A)

Sex	Age at Survey (Years)				Totals
	0-59	60-69	70-79	80 and over	
Males ..	15 (14·2)	28 (26·4)	40 (37·7)	23 (21·7)	106 (100)
Females ..	7 (8·4)	27 (32·5)	31 (37·4)	18 (21·7)	83 (100)
All patients	22 (11·6)	55 (29·1)	71 (37·6)	41 (21·7)	189 (100)

One further consideration may be added. Unless we accept as inevitable the state of apathy and resignation which has characterized these institutions in the past, and which has more in common with the nineteenth century workhouse than with the twentieth century hospital, it is important that the chronic sick should no longer be isolated from the acute sick. Many of them are in fact acutely ill, and merit the attention of the general hospital.

To this proposal there has appeared to be only

TABLE VIII

DURATION OF STAY OF PATIENTS WITHOUT GROSS MENTAL CHANGE CONSIDERED SUITABLE FOR HOSPITALS (see Fig. 4A)

Sex	Duration of Stay (Months)				Totals
	0-2	3-11	12-35	36 and over	
Males ..	64 (60·4)	17 (16·0)	10 (9·4)	15 (14·2)	106 (100)
Females ..	32 (38·5)	15 (18·1)	17 (20·5)	19 (22·9)	83 (100)
All patients	96 (50·8)	32 (16·9)	27 (14·3)	34 (18·0)	189 (100)

FIG. 4.—Duration of stay in hospital
(see Tables VIII, XI, XVIII, XXII).

one objection, but it is a serious one. If hospital beds needed for the chronic sick are 2.0 to 2.5 per 1,000 of the population, as suggested by national figures available from the hospital surveys conducted by the Ministry of Health,* roughly one-third of the accommodation of general hospitals† would be needed to provide them. But if, as our data suggest, only about one-fifth of the patients are suitable for this type of hospital, the necessary proportion of beds is about one-tenth‡; and what has previously been an attractive also becomes a practical possibility.

Without more knowledge of the situation in other parts of the country, as well as of the extent to which this commitment can be further reduced by adequate medical and social services, the figure given cannot have the authority of a final estimate. It is likely to be very much nearer to it than any so far available, and gives good reason for believing that it should

eventually be possible for general hospitals to accept this additional responsibility without serious embarrassment to their traditional work.

(b) *Patients without Gross Mental Change, requiring only Simple Nursing and Infrequent Medical Attention.*—As has been stated, slightly over half the patients are of this type, and in Table IV (and Fig. 2) they are classified as suitable for their own homes or for institutions other than hospitals. Whether this classification is reasonable cannot be decided without reference to the information about diagnosis given in Tables XIII and XIV for males and females respectively. The tables include one indefinite entity (senility), but indicate that most patients are suffering from well-recognized diseases, quite properly referred to as chronic diseases, some of which are characterized by long periods in which neither skilled nursing nor frequent medical attention is necessary. Three of the largest groups (chronic bronchitis, hemiplegia-recovered, arthritis) are conspicuous examples. Most of the patients are old (93 per cent. over 60; cf. Table X and Fig. 3C) and have been in hospital for a considerable period (90 per cent. for at least three months, 70 per cent. for at least a year; cf. Table XI and Fig. 4C).

* Ministry of Health Hospital Surveys (H.M.S.O., 1945; 1946).

† 2.5 beds for the chronic sick in relation to 5.0 beds per 1,000 of population for the acute sick.

‡ 0.5 beds for the chronic sick in relation to 5.0 beds per 1,000 of population for the acute sick.

FIG. 5.—Degree of mobility
(see Tables IX, XII, XIX, XXV).

Tables XIII and XIV also show that about one-fifth of the men and one-quarter of the women have some kind of mental abnormality, of a degree which would not necessitate reconsideration of disposal (patients requiring supervision because of their mental state are excluded and discussed below under a separate heading). About one-third of the men, and less than one-fifth of the women are ambulant,

and about one-third of the women and less than one-fifth of the men are incontinent (Table XII and Fig. 5C). It may be felt that patients who are incontinent require skilled nursing, but where there is no other reason we have considered this insufficient grounds for admitting them to hospital.

It is evident that nearly all these patients may at

TABLE IX
MOBILITY AND CONTINENCE OF PATIENTS WITHOUT GROSS MENTAL CHANGE CONSIDERED SUITABLE FOR HOSPITALS
(see Fig. 5A)

Sex	Males				Females			
	Bed-fast	Sitting out of bed	Ambulant	Totals	Bed-fast	Sitting out of bed	Ambulant	Totals
No. Continent ..	54	10	12	76 (71·7)	36	11	14	61 (73·5)
No. Incontinent (urine and/or faeces) ..	23	3	4	30 (28·3)	17	3	2	22 (26·5)
Totals	77 (72·6)	13 (12·3)	16 (15·1)	106 (100)	53 (63·8)	14 (16·9)	16 (19·3)	83 (100)

THE CHRONIC SICK: I. MEDICAL AND NURSING REQUIREMENTS

119

TABLE X

AGE OF PATIENTS NEEDING SIMPLE NURSING AND CONSIDERED SUITABLE FOR THEIR OWN HOMES OR FOR INSTITUTIONS OTHER THAN HOSPITALS (see Fig. 3C)

Sex	Age at Survey (Years)				Totals
	0-59	60-69	70-79	80 and over	
Males	21 (9.6)	43 (19.5)	102 (46.4)	54 (24.5)	220 (100)
Females	19 (5.8)	42 (12.8)	136 (41.3)	132 (40.1)	329 (100)
All patients	40 (7.3)	85 (15.5)	238 (43.3)	186 (33.9)	549 (100)

any time require the service of a nurse or doctor. But if this possibility is considered a sufficient reason for their retention in hospital during periods of remission, there is little prospect of relieving the pressure on hospital beds. It should not be beyond the bounds of administrative possibilities to admit these patients to hospital during the acute or terminal phase of illness, and to arrange alternative accommodation at other times.

(c) *Patients without Gross Mental Change Requiring only Domestic Services and Infrequent Medical Attention.*—In respect of diagnosis (Tables XV and XVI), age (Table XVII and Fig. 3D), and duration of stay (Table XVIII and Fig. 4D), these patients are very much like those in the previous group; they differ mainly in that all are ambulant and all but one are continent (Table XIX and Fig. 5D), and in consequence they do not need the sort of personal attention described as simple nursing. Indeed comparisons of the diagnoses in Tables XV and XVI with those in Tables XIII and XIV indicate that the division here made with an eye to the administrative

TABLE XI

DURATION OF STAY OF PATIENTS NEEDING SIMPLE NURSING AND CONSIDERED SUITABLE FOR THEIR OWN HOMES OR FOR INSTITUTIONS OTHER THAN HOSPITALS (see Fig. 4C)

Sex	Duration of Stay (Months)				Totals
	0-2	3-11	12-35	36 and over	
Males	32 (14.6)	54 (24.5)	54 (24.5)	80 (36.4)	220 (100)
Females	25 (7.6)	58 (17.6)	118 (35.9)	128 (38.9)	329 (100)
All patients	57 (10.4)	112 (20.4)	172 (31.3)	208 (37.9)	549 (100)

problem mainly separates different stages in the course of the same illnesses.

The administrative significance of the distinction between groups (b) and (c) rests on the assumption that patients who do not need simple nursing require only domestic services and can dispense with any kind of personal supervision. Closer examination of Tables XV and XVI indicates that this is not the case. Though all are ambulant, the majority of these patients are not able to go out of doors, and many cannot climb stairs. Indeed, after careful consideration only a few of them were judged suitable for discharge to the ordinary type of municipal home, and some had recently been admitted from such homes because facilities were inadequate for their care. The same considerations inevitably determine in many cases whether patients can be accepted in their own homes.

Together groups (b) and (c) make up three-fifths of the present hospital population. Whether in future most of them can be cared for in their own homes or in institutions cannot be decided on the

TABLE XII

MOBILITY AND CONTINENCE OF PATIENTS NEEDING SIMPLE NURSING AND CONSIDERED SUITABLE FOR THEIR OWN HOMES OR FOR INSTITUTIONS OTHER THAN HOSPITALS (see Fig. 5C)

Sex	Males				Females			
	Bed-fast	Sitting out of Bed	Ambulant	Totals	Bed-fast	Sitting out of Bed	Ambulant	Totals
No. Continent	64	49	69	182 (82.7)	114	46	48	208 (63.2)
No. Incontinent (urine and/or faeces)	29	7	2	38 (17.3)	93	22	6	121 (36.8)
Totals	93 (42.3)	56 (25.4)	71 (32.3)	220 (100)	207 (62.9)	68 (20.7)	54 (16.4)	329 (100)

TABLE XIII

DIAGNOSIS OF PATIENTS NEEDING SIMPLE NURSING ONLY, AND CONSIDERED SUITABLE FOR THEIR OWN HOMES OR INSTITUTIONS OTHER THAN HOSPITALS (220 MALES)

Diagnosis	Continent			Incontinent		
	No. of Cases	Mental State		No. of Cases	Mental State	
		Normal	Abnormal§		Normal	Abnormal§
1. <i>Hemiplegia</i>	31	28	3	14	7	7
2. " <i>Senility</i> "*	37	33	4	8	5	3
3. <i>Arthritis</i>	16	14	2	4	3	1
4. <i>Chronic Bronchitis</i>	27	22	5	4	2	2
5. <i>Cardiac Failure</i>	16	14	2	—	—	—
6. <i>Old Fractures of Leg</i> †	16	12	4	—	—	—
7. <i>Neurological Disease</i>						
<i>Paralysis agitans</i>	5			—		
<i>Post encephalitis</i>	1			—		
<i>Disseminated sclerosis</i>	3			—		
<i>Lateral sclerosis</i>	2			1		
<i>Tabes</i>	3			2		
<i>Paraplegia</i>	4			1		
<i>Other known diagnoses</i>	3			—		
<i>Other unknown diagnoses</i>	4			—		
	25	22	3	4	2	2
8. <i>Miscellaneous</i>						
<i>Prostatic disease</i> ‡	3			4		
<i>Chronic nephritis</i>	1			—		
<i>Diabetes (treated by diet only)</i>	3			—		
<i>Carcinoma of lung</i>	1			—		
<i>Recovered from leg sepsis</i>	4			—		
<i>Paget's disease</i>	1			—		
<i>Popliteal aneurysm</i>	1			—		
	14	12	2	4	3	1
	182	157	25	38	22	16

* Of 37 continent patients: 8 are blind; 4 have only one leg; and 10 have vertigo. Of 8 incontinent patients: 3 have vertigo; 2 were admitted from municipal homes; 3 were neglected or destitute on admission.

† Femur (12); tibia and fibula (4).

‡ All with symptoms: frequency; haematuria; or cystitis.

§ Mental abnormality here refers to mental changes which do not necessitate constant supervision, e.g. dullness, apathy, speech difficulty, aphasia, loss of memory, some degree of confusion, "wandering".

evidence. Table XX and Fig. 6 give the home facilities now available for each of the four main classes of patient and show that over half have no home. The main interest of the table is in the two classes ((b) and (c)) not considered to require hospital care, of which 39 per cent. and 27 per cent. respectively have homes to which they could be discharged if the appropriate services were made available. This implies that about one-fifth of the present hospital population could be discharged in this way, though in practice some of the patients may not wish to return home even if provided with the necessary facilities for their care.

(d) *Patients with Gross Mental Change.*—About one-fifth of the patients have in common their need for supervision because of gross mental change, and Tables XXIII and XXIV give details of diagnosis for males and females respectively. All or nearly all these patients could be certified, but in many cases

certification and admission to mental hospitals would be most undesirable.

In Tables XXIII and XXIV, classes 2 (mental defect), 3 (psychosis), and 4 (neurological disease) could be regarded as suitable for mental hospitals, and no doubt examples of the other conditions specified could also be found in them. Mental hospitals are not, however, equally happy about the acceptance of all these groups; for example, most hospitals prefer not to take the elderly senile patient. Moreover the certification of patients who become abnormal when they are very old, or who suffer from other acute or chronic illness not directly associated with their mental state, is often unacceptable to relatives. If institutions for the chronic sick do not survive in their present form, it may therefore be desirable to create separate facilities apart from the mental hospitals for some of the patients in this group.

TABLE XIV

DIAGNOSIS OF PATIENTS NEEDING SIMPLE NURSING ONLY, AND CONSIDERED SUITABLE FOR THEIR OWN HOMES OR INSTITUTIONS OTHER THAN HOSPITALS (329 FEMALES)

Diagnosis	Continent			Incontinent		
	No. of Cases	Mental State		No. of Cases	Mental State	
		Normal	Abnormal§		Normal	Abnormal§
1. Hemiplegia	28	25	3	35	21	14
2. "Senility" *	46	35	11	33	19	14
3. Arthritis	44	40	4	19	12	7
4. Chronic Bronchitis	17	13	4	11	6	5
5. Cardiac Failure	26	22	4	5	1	4
6. Old Fractures of Leg†	16	14	2	6	4	2
7. Neurological Disease						
Paralysis agitans	5			4		
Post encephalitis	3			—		
Disseminated sclerosis	2			1		
Cerebral syphilis	2			—		
Huntingdon's chorea	2			—		
Cerebellar ataxia	1			1		
Epilepsy	1			—		
Paraplegia (Paget's)	—			1		
8. Leg Sepsis and Ulceration‡	16	14	2	7	5	2
9. Miscellaneous	7	7	—	—	—	—
Diabetes	2			1		
Myxoedema	1			—		
Pernicious anaemia (not having liver)	1			—		
Urinary infection (now recovered) ..	1			—		
Chronic nephritis	1			—		
Labyrinthine vertigo	1			—		
Vertigo following mastoidectomy ..	—			1		
Paget's disease	—			1		
Prolapsed rectum	—			1		
Femoral thrombosis (recovered) ..	—			1		
Diagnosis uncertain	1			—		
	8	6	2	5	2	3
	208	176	32	121	70	51

* Of 46 continent patients: 9 are blind; 11 were admitted because of vertigo; 10 were neglected or destitute; 3 were considered too feeble in a municipal home; others had temporary acute illnesses (enteritis, urinary infection, lumbago, etc.). Of 33 incontinent patients: 4 are blind; 7 were admitted because of vertigo; 5 were neglected or destitute; 2 were admitted from a municipal home because of incontinence; 4 because of leg sepsis or ulceration; 1 patient was admitted because of constipation (and has been incontinent of faeces ever since).

† Of 16 continent patients, fractures are as follows: femur (12); tibia and fibula (2); pelvis (1); patella (1). Of 6 incontinent patients, fractures are as follows: femur (5); tibia and fibula (1).

‡ Healed gangrene, varicose ulcers, etc.

§ Mental abnormality here refers to mental changes which do not necessitate constant supervision, e.g. dullness, apathy, speech difficulty aphasia, loss of memory, some degree of confusion, "wandering".

As one might expect, the mean age is high (Table XXI and Fig. 3B) and most patients have been in hospital for a considerable period (36 per cent. over three years; Table XXII and Fig. 4B). The problems of nursing care are formidable, since only about 10 per cent. are ambulant and the great majority are incontinent (Table XXV and Fig. 5B).

DISCUSSION

It seems advisable to consider first the limitations of an enquiry restricted to the patients in a hospital for the chronic sick. Even if we assume that Western Road Infirmary is typical of other institu-

tions of the same type (and we shall later have data from the Stoke area for comparison), we are unable to offer reliable estimates of the proportion of chronic sick in different age groups in the population as a whole, much less to assess accurately their medical and social needs. We are handicapped by the lack of information about the present age distribution of the general population, as well as by the fact that some patients of the same type are cared for in general or mental hospitals or in their own homes.

We should recognize a further reason for caution before accepting results based on a cross section of

TABLE XV

DIAGNOSIS OF PATIENTS REQUIRING NO NURSING OR FREQUENT MEDICAL ATTENTION, AND CONSIDERED SUITABLE FOR THEIR OWN HOMES OR INSTITUTIONS OTHER THAN HOSPITALS (41 MALES)*

Diagnosis	Ambulant	
	Indoors Only	Out of Doors
Cardiac Failure (recovered)	2	4
Hemiplegia (recovered) ..	3	4
Chronic Bronchitis ..	10	3
Peptic Ulcer (on diet) ..	1	1
Prostatic Enlargement (admitted with retention) ..	1	1
Paralysis agitans ..	2	—
Arthritis ..	2	—
Old Fracture of Femur (with walking disability)	2	—
Healed Varicose Ulcer (with frequent relapses) ..	1	—
Post-encephalitis ..	—	1
Haematuria (cause unknown) ..	—	1
None† ..	—	2
Totals ..	24	17

* Only 3 patients in this group have homes with some facilities for their care; they are unwilling to go home, because they believe they would be a nuisance in households with children.

† Two patients, aged 72 and 82, admitted with no illness, but in a neglected state. These are the only patients in this group considered suitable for discharge to the ordinary type of municipal home.

TABLE XVI

DIAGNOSIS OF PATIENTS REQUIRING NO NURSING OR FREQUENT MEDICAL ATTENTION, AND CONSIDERED SUITABLE FOR THEIR OWN HOMES OR INSTITUTIONS OTHER THAN HOSPITALS (29 FEMALES)*

Diagnosis	Ambulant	
	Indoors Only	Out of Doors
Cardiac Failure (recovered)	7	3
Hemiplegia (recovered) ..	3	—
Chronic Bronchitis ..	3	—
Paralysis agitans ..	2	—
Old Fracture (with walking disability) ..	2	—
Carcinoma of breast (no evidence of secondaries)	1	—
Mental Defect (high grade)	—	1
Huntingdon's Chorea ..	—	1
None ..	3†	3‡
Totals ..	21	8

* Only 2 patients in this group have homes with some facilities for their care; they are unwilling to return home, because they believe they would be a nuisance in households with children.

† Three patients, considered senile, who are old and very feeble.

‡ Only two patients, aged 65 and 70, could be discharged to the ordinary type of municipal home. The third, aged 81, was recently admitted from a municipal home because of "senility".

TABLE XVII

AGE OF PATIENTS REQUIRING NO NURSING OR FREQUENT MEDICAL ATTENTION, AND CONSIDERED SUITABLE FOR THEIR OWN HOMES OR INSTITUTIONS OTHER THAN HOSPITALS (see Fig. 3D)

Sex	Age at Survey (Years)				Totals
	0-59	60-69	70-79	80 and over	
Males ..	5 (12·2)	12 (29·2)	17 (41·5)	7 (17·1)	41 (100)
Females ..	4 (13·8)	7 (24·1)	10 (34·5)	8 (27·6)	29 (100)
All patients	9 (12·8)	19 (27·1)	27 (38·7)	15 (21·4)	70 (100)

TABLE XVIII

DURATION OF STAY OF PATIENTS REQUIRING NO NURSING OR FREQUENT MEDICAL ATTENTION, AND CONSIDERED SUITABLE FOR THEIR OWN HOMES OR INSTITUTIONS OTHER THAN HOSPITALS (see Fig. 4D)

Sex	Duration of Stay (Months)				Totals
	0-2	3-11	12-35	36 and over	
Males ..	4 (9·8)	7 (17·1)	16 (39·0)	14 (34·1)	41 (100)
Females ..	1 (3·5)	13 (44·8)	4 (13·8)	11 (37·9)	29 (100)
All patients	5 (7·1)	20 (28·6)	20 (28·6)	25 (35·7)	70 (100)

TABLE XIX

MOBILITY AND CONTINENCE OF PATIENTS REQUIRING NO NURSING OR FREQUENT MEDICAL ATTENTION, AND CONSIDERED SUITABLE FOR THEIR OWN HOMES OR INSTITUTIONS OTHER THAN HOSPITALS (see Fig. 5D)

Sex	Males			Females		
	Indoors Only	Fully Ambulant	Totals	Indoors Only	Fully Ambulant	Totals
No. Continent	24	17	41 (100)	20	8	28 (96·6)
No. Incontinent (urine and/or faeces)	—	—	—	1*	—	1 (3·4)
Totals ..	24 (58·5)	17 (41·5)	41 (100)	21 (72·4)	8 (27·6)	29 (100)

* A woman of 76 years with partial incontinence of urine due to proctidial incompletely controlled by a ring pessary.

the present hospital population as an accurate guide to future policy. The adequacy of the medical services provided determines to some extent the dimensions of the subsequent administrative problem; for example, the proportion of patients confined to bed or incontinent undoubtedly can be

FIG 6.—Facilities available at home (see Table XX).

TABLE XX

FACILITIES AVAILABLE AT HOME (ALL PATIENTS) (see Fig. 6)

Home Available	Patients without Gross Mental Change			Patients with Gross Mental Change	Totals
		Institution or Own Home			
		With Simple Nursing	Without Simple Nursing		
	Hospital (a)	(b)	(c)	Hospital (d)	
None	78 (41.3)	334 (60.8)	51 (72.9)	117 (59.4)	580 (57.7)
Without Simple Nursing or Domestic Service	56 (29.6)	119 (21.7)	14 (20.0)	40 (20.3)	229 (22.8)
With Domestic Service but without Simple Nursing ..	42 (22.2)	91 (16.6)	5 (7.1)	40 (20.3)	178 (17.7)
With Simple Nursing	13 (6.9)	5 (0.9)	—	—	18 (1.8)
Totals	189 (100)	549 (100)	70 (100)	197 (100)	1,005 (100)

TABLE XXI

AGE OF PATIENTS WITH GROSS MENTAL CHANGE (see Fig. 3B)

	Age at Survey (Years)				Totals
	0-59	60-69	70-79	80 and over	
Males ..	6 (6.8)	14 (15.9)	39 (44.3)	29 (33.0)	88 (100)
Females ..	7 (6.4)	16 (14.7)	42 (38.5)	44 (40.4)	109 (100)
All patients	13 (6.6)	30 (15.2)	81 (41.1)	73 (37.1)	197 (100)

TABLE XXII

DURATION OF STAY OF PATIENTS WITH GROSS MENTAL CHANGE (see Fig. 4B)

	Duration of Stay (Months)				Totals
	0-2	3-11	12-35	36 and over	
Males ..	14 (15.9)	24 (27.3)	21 (23.9)	29 (32.9)	88 (100)
Females ..	9 (8.3)	21 (19.3)	37 (33.9)	42 (38.5)	109 (100)
All patients	23 (11.7)	45 (22.8)	58 (29.4)	71 (36.1)	197 (100)

TABLE XXIII

DIAGNOSIS OF PATIENTS WITH GROSS MENTAL CHANGE (88 MALES)

Diagnosis	No. of Cases	Age		Continence	
		Mean	Range	Continent	Incontinent
1. <i>Senile Dementia only</i>	26	77.5	65-90	10	16
2. <i>Mental Defect</i>	3	68	54-72	3	—
3. <i>Psychosis</i>					
4. <i>Neurological Disease</i>					
Post-encephalitis	2	42			
Paralysis agitans	2	67			
Cerebral syphilis	2	68			
Neurofibromatosis	1	66			
Advanced disseminated sclerosis	1	43			
5. <i>Hemiplegia</i>	8	57	37-76	5	3
6. <i>Other Medical Conditions</i>	31	73	54-89	4	27
Cardiac failure	7	80			
Bronchitis	3	82			
Gross arthritis	3	78			
Carcinoma	1	78			
Old fracture	2	74.5			
Leg ulcer	2	76.5			
Ischio-rectal abscess	1	77			
Haematuria	1	79			
	20	78	69-95	6	14
	88			28	60

TABLE XXIV

DIAGNOSIS OF PATIENTS WITH GROSS MENTAL CHANGE (109 FEMALES)

Diagnosis	No. of Cases	Age		Continence	
		Mean	Range	Continent	Incontinent
1. <i>Senile Dementia only</i>	39	82	74-96	5	34
2. <i>Mental Defect</i>	3	60	50-67	2	1
3. <i>Psychosis</i>	1	69	69	1	—
4. <i>Neurological Disease</i>					
Post-encephalitis	3	44	42-48		
Paralysis agitans	1	73	73		
Cerebral syphilis	3	64	59-67		
Huntingdon's chorea	2	61.5	61-62		
Epilepsy	1	73	73		
5. <i>Hemiplegia</i>	10	59	42-73	5	5
6. <i>Other Medical Conditions</i>	22	72	53-88	2	20
Cardiac failure	6	76	62-84		
Bronchitis	8	81	74-88		
Gross arthritis	9	80	73-87		
Carcinoma	3	77	74-80		
Old fracture	5	82	78-88		
Gangrene of foot	1	66	66		
Leg ulcer	1	85	85		
Paget's disease	1	62	62		
	34	79	62-88	9	25
	109			24	85

TABLE XXV

MOBILITY AND CONTINENCE OF PATIENTS WITH GROSS MENTAL CHANGE (see Fig. 5B)

Sex		Males			Females			
Mobility	Bed-fast	Sitting out of Bed	Ambulant	Totals	Bed-fast	Sitting out of Bed	Ambulant	Totals
No. Continent ..	13	5	10	28 (31·8)	10	5	9	24 (22·0)
No. Incontinent (urine and/or faeces) ..	58	2	—	60 (68·2)	77	8	—	85 (78·0)
Totals	71 (80·7)	7 (7·9)	10 (11·4)	88 (100)	87 (79·8)	13 (11·9)	9 (8·3)	109 (100)

reduced by better services. But although improved services may diminish the proportion of individuals in each age group requiring attention, the proportion of individuals in the general population requiring attention will increase as more people survive to older ages.

With these difficulties in mind, we may indicate the conclusions which can legitimately be drawn from this survey. We are here concerned mainly with disposal and our suggestions are based on a detailed examination of the medical and social needs of each patient; they make it clear that patients now listed as chronic sick do not form a homogeneous group with consistent medical and social needs. As we shall discuss more fully in a later paper, the present hospital population is highly selected in respect of age, marital status, and social circumstances, and it is these features as much as the special nature of their medical problems which in the past have determined their segregation from the acute sick. Estimates of hospital bed requirements which have been based on national returns are for this reason misleading, since they ignore the administrative significance of the distinction between two classes of patient commonly described as chronic sick, namely, (1) patients whose illnesses require continuous skilled nursing or medical attention; and (2) patients whose illnesses, though chronic, are characterized by periods of remission in which neither medical nor nursing attention is needed.

It is possible to speak with most confidence about the disposal of that section of the hospital population which requires the kind of medical and nursing service provided in a general hospital. In our survey, about a fifth of the patients are of this type and they differ chiefly in age from those ordinarily admitted. Good reasons have been suggested for caring for the chronic sick in the general hospitals,

the most impressive of them being the difficulty of staffing isolated institutions. If the proportion of chronic sick whose needs can best be satisfied in general hospitals is not greatly in excess of our experience, this suggestion becomes a practical administrative possibility.

It is also evident that patients who require supervision because of their mental state (also about one-fifth in our survey) must be cared for in hospital; the type of hospital is less certain. Few general hospitals are equipped for the supervision of this class of patient, and most mental hospitals are reluctant to take them. Detailed consideration of the diagnoses indicates that this also is not a homogeneous group, and includes many patients indistinguishable from others already in mental hospitals. A decision about disposal could be made more intelligently if similar data were available from mental hospitals. For the present, it may be stated that some of these patients could quite properly be admitted to a mental hospital; for others (for example the senile dementias), it may be desirable to create separate institutions. We think particularly of elderly senile patients, some of whom require medical attention for illness not directly associated with their abnormal mental state, and whose certification would in many cases distress the relatives.

There remain for consideration three-fifths of the patients of the survey who required no medical or nursing attention of a kind or frequency necessitating admission to hospital, and it is by the disposal of this group that most relief can be given to hospitals. Clearly from the point of view of the administration, and one hopes of the patients also, no alternative can be as satisfactory as their own homes, where the necessary facilities and assistance are available. It is equally clear that in very many

cases these are totally inadequate, and in future local authorities will no doubt insure that no patient leaves his home, or fails to return to it after hospital treatment, for lack of any service which the community can reasonably be expected to provide.

Until fuller information is available about the patients on hospital waiting lists, whose personal circumstances are more representative of present conditions, it is unprofitable to speculate on the extent to which the needs of this large class of patients can be met at home. It is quite certain that few of those now in hospital can be sent home, since few of them have homes to which they could or would wish to return. Moreover, the proportion of unmarried or widowed persons without a home of their own at the time of admission to hospital is high, and indicates that alternative accommodation must be found if such patients are not to continue to fill large numbers of hospital beds. If hospitals are to be relieved of that part of the problem which is not essentially their responsibility, it will be necessary to supplement the home services referred to above with institutions which can offer simple nursing or some personal supervision as well as domestic service.

Is this the responsibility of regional hospital boards or of local health authorities? It must be remembered that with few exceptions we are discussing the care, not of two separate classes of patient but of the same patients at different stages of illness; their medical and social needs may not always be readily squared with a division of responsibility between several authorities. None the less, if we continue to view this as solely a hospital matter, the difficulties will remain as formidable as ever, and will only be relieved by a considerable proliferation of hospital facilities.

Because the present position has been greatly influenced by earlier deficiencies in medical and social services, it would be wise to attach significance to the nature of the facilities which this survey suggests, and to let future experience indicate the relative proportions of different types required. Although, for the reasons discussed, it is not possible immediately to provide alternative arrangements for many of the chronic sick now in hospital, the evidence suggests that the existing institutions, with their attendant difficulties in staffing and equipment, should not survive in their present form. That part of their work which is truly a hospital responsibility can be taken over by the general and mental hospitals, and the remainder by the local

health authorities in co-operation with general practitioners and voluntary agencies.

SUMMARY

An examination has been made of the medical, nursing, and social needs of the 1,005 patients in an institution for the chronic sick transferred to the Birmingham Regional Hospital Board in July, 1948.

On the basis of their present requirements, it is suggested that if the necessary facilities were available these patients might be cared for as follows:

1. One-fifth in general hospitals (patients requiring frequent medical attention, or skilled nursing).
2. One-fifth divided between: (a) mental hospitals; and (b) other institutions which can supervise patients with abnormal mental states, whom for administrative or personal reasons it may be undesirable to certify.
3. Three-fifths divided between: (a) their own homes, supported by the services of local health authorities, general practitioners and voluntary agencies; and (b) institutions, other than hospitals, providing domestic services and simple nursing (washing, feeding, dressing).

Published estimates, based on national returns from hospitals, have put the beds required for the chronic sick at 2.0 to 2.5 per 1,000 of the population. If the data given above are typical of other parts of the country, this figure may be sub-divided as follows:

1. *Under Hospital Authorities*.—0.5 beds per 1,000 of population in general hospitals (about one-tenth of their proposed capacity of 5.0 beds per 1,000 of the population. 0.5 beds per 1,000 of population in some type of mental hospital.
2. *Under Local Authorities*.—The equivalent of 1.5 beds per 1,000 of population in institutions other than hospitals, and in patients' homes.

The limitations of data based on the present population in hospitals for the chronic sick are referred to.

We have pleasure in acknowledging an indebtedness to Professor A. P. Thomson, who has contributed to this survey in many ways. The medical records were completed by Dr. Charmian Elkes, Dr. S. E. Hallissy, and Dr. P. M. Meynell, and the social records by Mrs. L. Leaver and Mrs. H. Pringle; the enquiry owes much to their work, and to the generous co-operation of Dr. Nagley and his staff at Western Road Infirmary. We are also indebted to Miss Frew, and to those other members of the Almoner's department of the Birmingham United Hospitals, who assisted in a preliminary pilot survey. The diagrams used in this paper were prepared by Miss C. Wall.