'Hostels' in Hospitals?

The analysis of beds in hospitals by patient dependency

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Introduction

It is a matter of common knowledge that patients in hospital vary widely in their dependency on doctors, nurses, and a wide range of facilities. While an increasing number require artificial support of some vital function and are dependent on staff operating complex equipment, patients at the other end of the scale remain in 'acute' wards although at a stage of almost complete independence from medical and nursing care. It is a key question in hospital administration and planning whether or not a significant number of minimally dependent patients might be more suitably placed in hospital accommodation of a less elaborate nature but which would still permit skilled observation and supervision in the pre-discharge stage.

While there is no dispute over the existence of different categories of patient, there has been divergence of view on the proportion to be allocated to each category. The broad function of the 'acute' beds is relatively easy to understand and it is clear that there will be further developments of the intensive element of patient care. The less intensive area of hospital care, however, remains ill defined. This is illustrated by the multiplicity of semi-descriptive titles for beds of this kind. Convalescent, pre-convalescent, self-care, minimal-care, continuation, ancillary, second-line, pre-discharge, hostel, low-cost, longer-term, work-up and follow-up, extended-care, and homeward-bound, all describe a broad range of provision which may be grouped under the general term 'supporting' beds. These terms are not synonymous but all differ from the

'acute' beds. This report contributes to an analysis of the problem and contains proposals designed to allow a closer assessment of various economies in construction and in the deployment of skilled staff which might be secured if a proportion of 'acute' beds was designed specifically to cater for the 'pre-discharge' patient.

The survey team[1] consisted of a consultant physician, a senior nursing officer, and a research assistant. This group was assisted by the Secretary/Research Officer of the Scottish Hospital Centre from which the study was directed. Grateful acknowledgement is made to the management and staff of the hospitals visited for helpful co-operation and advice during the course of the survey.

In the *Hospital Plan for Scotland* (Cmnd. 1602), and in *A Hospital Plan for England and Wales* (Cmnd. 1604), 'acute' beds were identified and other categories of hospital bed were mentioned. Certain ratios were given for planning purposes and, however approximate the proportions may have been, they rested on a certain amount of study and assessment of bed needs and bed demand; with this background, estimates of apparent deficiences or surpluses in the Regional Board areas were presented. Similarly, bed needs for certain specialities, for example, obstetrics, psychiatry, mental deficiency, geriatric medicine, and for treatment of infectious disease, were based to some extent on quantitative assessments. The existence and the importance of 'longer term' beds was referred to in the *Hospital Plan for Scotland* where it was noted (para. 53) that the application of a lower ratio of 'acute' beds per thousand of the population would only be satisfactory when such provision was made: in this context 'longer-term' beds referred particularly but not exclusively to the needs of old people.

In the Command papers, no detailed references were made, however, to 'supporting' beds although these play a significant

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if ill-defined role. Their importance lies in the influence they have on the usage of 'acute' beds. Their numbers, location, and the facilities they can offer will have a direct effect on future hospital provision but administrative action will remain largely frustrated while questions concerning them remain open, unanswered, or the subject of widely differing views. Some seem hesitant to admit the need for change, others appear to fear the implications of this element of selective patient grouping. Individual opinions are frequently expressed that acute beds are being misused. One physician, for example, stated that 20 per cent of the patients in his 'acute' beds would be accommodated as suitably and more cheaply in a five-star hotel. A ward sister in a large teaching hospital has suggested that half of the patients in her ward need not be in 'acute' beds.

There is an increasing need to relate particular areas of hospital accommodation to the requirements of at least the main categories of patient. What have been regarded as a single group of 'acute' beds can be shown, however, to include the requirements for several categories. The intensive end of the spectrum of patient care is becoming increasingly important as medical knowledge and new techniques develop. The demands for intensive therapy units and intensive nursing care areas are increasing and there is undoubtedly a need to use 'acute' wards to the maximum advantage in view of staffing problems and increasing costs. If the skills of medical and nursing staff are to be used to the full in this rapidly evolving situation, it is obvious that more definitive thought must be directed to the less intensive areas of patient care. Effective concentration of medical and nursing skills will only be possible if doctors and nurses are prepared to recognize that the less intensive areas must be left to less qualified staff working in supporting units to provide routine care for patients who no longer require more than the supervisory services of highly skilled staff. This concept is, of course, included in 'progressive patient care' where a patient may move from an intensive-care environment through the stages of recovery to

a 'self-care' situation. At the present time, however, most patients remain in 'acute' wards and continue to receive the attendant skills of medical and nursing care that the term 'acute' implies. It is generally recognized that this results in over-nursing a proportion of the patients.

CLASSIFICATION OF BEDS

It is necessary at this stage to outline the classification of types of 'acute' and 'supporting' beds as found in the literature and used by the survey team. It should also be noted that this study did not take account of bed requirements for patients in obstetric, paediatric, psychiatric, or mental deficiency units, or those suffering from infectious disease, tuberculosis, or for the long-term chronic sick.

'ACUTE' BEDS

'Acute' beds include those for intensive therapy, intensive nursing care, non-intensive nursing (intermediate) care, five-day wards, day beds, and 24-hour beds.

'Intensive therapy' beds are for patients who are critically ill and frequently require the use of highly specialized, and often elaborate, equipment. These patients are highly doctor- and nurse-dependent; the major dependency is on the doctor, be he an anaesthetist, a physician, biochemist, or surgeon. Sub-sections of units for intensive therapy may be necessary to accommodate highly specialized functions such as cardiac, traumatic, neuro, thoracic, and cardiovascular surgery. Although this is a developing field, the total number of beds for this purpose in any hospital is unlikely to be large; it may represent 1 or 2 per cent of the total number of beds.

Intensive nursing care beds represent those beds traditionally arranged near the door of a Nightingale-type ward to allow easier observation between the nurse and the patient and to facilitate the nurse's work, particularly at night. They are

used for patients dependent on skilled nursing care both by day and by night but who require only intermittent medical attention. Beds of this kind represent a much larger number than are required for intensive therapy; the proportion may be 12–20 per cent of the total beds in most acute wards.

Non-intensive (intermediate) nursing care beds. This accommodation, representing at the present time the most substantial proportion of beds on most ward floors, is used for patients no longer in need of intensive therapy or intensive nursing care or who may never have required these facilities. These patients still require nursing and medical attention though a considerable proportion in most specialities will be ambulant for at least part of the day.

Five-day wards are being introduced where nurse staffing is limited. Such wards are closed over the weekend. There is, of course, a limited group of conditions which can be dealt with on this basis: some ear, nose, and throat operations are suitable; certain surgical and gynaecological conditions; some patients having radiotherapy; and some undergoing rehabilitation. For patients in a five-day ward who cannot be discharged on or before the fifth day, arrangements must be made to transfer them to the main wards of the hospital over the weekend.

Day beds and twenty-four-hour beds. As with five-day wards, these beds are used to reduce the period of hospitalization. Only certain types of condition are suitable for treatment in this type of accommodation but for some examinations—with local or general anaesthesia—certain endoscopic examinations, and some surgical procedures, the patient need be in the ward unit for a very limited period of time. The requirement for this type of accommodation appears likely to increase.

'SUPPORTING' BEDS

As mentioned above, there is a miscellaneous group of hospital beds concerning which the need has not been expressed—

even in tentative terms—in relation either to population size or to the number of 'acute' beds in an area. This group is referred to by a wide variety of titles, none of which is entirely satisfactory; there is no sharp distinction between many of these categories and they tend to be referred to indiscriminately. This type of bed is likely to gain in importance as less costly to provide and less demanding on skilled staff than 'acute' beds. They can provide acceptable accommodation for patients who do not need the full service of the 'acute' hospital environment. This broad group of beds can be discussed further under three headings, *viz.* pre-discharge or second-line beds, convalescent, and hostel accommodation.

Pre-discharge or second-line beds. In general terms this type of accommodation deals with patients recovering from operation or illness and at a stage when the degree of nursing and medical care required is minimal, yet at the same time they require to be in hospital accommodation, have certain facilities available to them, and be available for general supervision by medical and nursing staff. It does not follow that this accommodation would be required solely on medical grounds. It might be required for social reasons when home conditions were not suitable for convalescence or because the distance between a patient's home and the hospital, or from his family doctor and district nurse was such that adequate supervision could not readily be undertaken. Where pre-discharge wards are in use, certain authorities specify contra-indications for admission. Some will not, for example, accept patients requiring bladder drainage, major surgical dressings, or where fluids might be required intravenously. At the same time, it is usually thought necessary to fix a comparatively short duration of stay in units of this kind.

Convalescent beds. There are two distinct groups in this category. The first is the traditional convalescent accommodation for patients recovering slowly from, possibly, a major operation or illness and for whom it is considered necessary to have a prolonged period of rest in congenial surroundings.

Social reasons or the effect of age may in fact play a more prominent part in the selection of these patients than strictly medical requirements. The other main type of convalescent accommodation is for patients admitted on a long-term basis and requiring intensive rehabilitation: those recovering, for example, from major accidents involving serious disabilities to limbs and requiring a long period of retraining or limb fitting. There are also the cerebral vascular catastrophies where re-education of muscles and brain is an integral part of treatment. There is a certain amount of overlap between 'pre-discharge' or 'second-line' beds and convalescent accommodation for long-term patients. The main difference between these categories would appear to lie in the fact that the latter group require more prolonged rehabilitation by physiotherapy etc.

Hostel accommodation is suitable for patients having certain investigations carried out and who require no immediate medical or nursing supervision. This could cover a series of laboratory tests or X-ray investigations between which the patient, although requiring only to be housed, may have to be available for further tests or more repeated examinations. In some central hospitals serving distant areas of population, hostel accommodation might meet such short-term requirements.

THE STUDY

The main objective of this study was to review the work-load in acute ward units and to consider whether a more practical and economical alternative could be evolved for those patients not requiring 'acute' treatment. The results of the survey are given in a later chapter of this report. First, however, the team reviewed the large body of literature on the subject of bed usage and in particular the reports of studies—notably under Nuffield auspices—of the need for beds for the in-patient service. The review of literature is summarized in the following chapter.

2

Review of literature

The volume of material published in the last twenty years on bed usage is substantial. While not all appropriate to the subject of the review, it was essential to study a wide range of literature before determining the pattern of the survey and the fact-finding methods to be adopted. This proved to be a task of some magnitude; it entailed a scrutiny of the literature and discussion with some authors to clarify particular points. The following review highlights those aspects particularly relevant to a study of supporting beds; the reader seeking further information should consult in the bibliography at Appendix A those items in which he has a particular interest.

The review concentrated on estimates of bed needs, bed usage, progressive patient care, and previous surveys and estimates of patients requiring minimal care.

ESTIMATES OF BED NEEDS

The bed ratio figures set out in the hospital plans are used by the hospital service in calculating bed needs, to determine the number and types of beds to serve given areas, and the size of new hospitals or departments of hospitals. These ratios do not include a specific group of 'supporting' beds, although it can be assumed that the ratios for 'acute' beds include a proportion of beds which could be more accurately described as 'supporting' in function. Although separate ratios or estimates

for 'supporting' beds are not available it was considered important to review the work done by others in estimating 'acute' bed requirements in the period 1941–61. This demonstrates a wide variation.

IN THE PERIOD 1941–61

Major surveys of 'acute' bed needs in the period 1941–61 were made or sponsored by the Ministry of Health, the former Department of Health for Scotland, and the Nuffield Provincial Hospitals Trust (hereinafter referred to as the 'Trust'). The results of these are set out overleaf with some comment on the figures which range from approximately 2·0–8·0 per 1000 of the population.

Table 1. *Estimates of 'acute' bed needs*

	Year	Made or sponsored by	Area covered	Acute beds per 1000 of population
(26)	1941	Ministry of Health	England and Wales	4·5–6·4
(31)	1945	Trust	Counties of Ayr and Stirling	5·0–8·75
(30)				
(8)	1945	Dept. of Health for Scotland	Scotland	4·0–8·0
(32)	1947	Trust	Berks., Bucks., and Oxon.	5·0
(27)	1950	Ministry of Health	England and Wales	7·0
(34)	1951	Trust	Norwich and Northampton	2·0
(5)	1956	Oxford R.H.B.	Reading	1·97
(12)	1960	Trust	Barrow-in-Furness	2·56
(3)	1962	Trust	Teeside	3·21

Starting in 1941 (26) a series of surveys covering the whole of England was organized as a joint effort between the Ministry of Health and the Trust to assess the adequacy of existing hospital facilities and to advise on their co-ordination and possible expansion. About the same time, two surveys were started in Scotland covering the Counties of Ayr (31) and

Stirling (30). The Scottish and English surveys were of a different type. Those in Scotland were 'population centred' and based on all the figures available for usage of the hospital: they appeared to be a measure of the current use of hospitals rather than the actual demand for hospital beds, and as noted in Table 1, they indicated a need for not less than 5·0 beds per 1000 of the population.

The surveys in England sponsored by the Ministry of Health and the Trust were 'hospital centred'. A group of hospitals formed the basis of each survey and initially it was necessary to attempt to assess the population served by the hospital group. The methods used were based on those described firstly by Norris (29) and later by Bailey (4) in the use of statistics in estimating bed requirements. Data was collected from a wide area both from the survey hospitals and the surrounding groups. The proportions of total patients attending the survey hospital were then calculated and by applying these proportions to the total populations of the smaller areas, the whole population served by the survey hospitals was estimated. Secondly, Bailey introduced the concept of the 'critical number of beds'; the number which could just keep pace with the current demand. The important difference was that an attempt was made to measure either unsatisfied demand or supply in excess of current demand. Bailey sought to achieve this by noting the change in the length of the waiting list over a period and incorporating this change with the satisfied demand, i.e. the patients actually admitted during the period.

The results of these English surveys showed very different figures from those in Scotland. At Reading (5) only 1·92–1·97 per 1000 of the population appeared to be required while in fact 2·05 per 1000 were available; when it was decided that 2·0 per 1000 would be a reasonable average this caused considerable surprise in view of higher figures previously estimated. As shown in Table 1 further surveys in England produced results very close to the lower figures estimated for Reading. In their studies in Barrow-in-Furness, Forsyth and Logan (12) showed

an apparent need for 2·56 beds per 1000 of the population. In the Hospital Plan for England and Wales (p. 4, para. 13) (10) it was stated that at Salisbury and Cambridge the need appeared to be 3·20 and 3·24 respectively. Later, Airth and Newell (3) carried out a survey on Teeside, where they showed that two areas, namely Hartlepool and Teeside had different needs. Hartlepool appeared to require 2·45 beds per 1000 of the population against an existing 2·69 and Teeside's requirement was 3·38 against an existing 3·98. Only on Teeside did general practitioners complain of difficulties in obtaining admissions for their patients. Airth and Newell concluded that demand was modified by existing supply.

No explanations could be offered for the differences in the apparent demand as demonstrated by the English surveys. Contrary to what might be expected the 'poorer' areas did not show a greater demand for hospital beds as compared with 'better-off' areas where in fact the demand was slightly greater; in poorer areas the length of stay was somewhat longer. Norwich (34) and Reading showed a high hospitalization rate for the urban areas while the Counties of Ayr and Stirling did not. In 1945, Gray and Topping (14), referring to the bed position in London described it as being a discrepancy between excess supply and unsatisfied demand, in that where there were more beds than the national average the demand seemed to call for these extra beds and yet where there were fewer beds than the national average the pressure on them seemed to be no greater.

One factor in modifying the demand for hospital beds can be the number of patients admitted, sometimes unnecessarily. Forsyth and Logan (12), for instance, estimated that approximately one-quarter of the patients receiving treatment or investigation could have had this elsewhere, either in an outpatient department or at home by general practitioners. This was a very much higher figure than estimated by McKeown (22) and his colleagues in Birmingham and has been the subject of considerable criticism. It is evident, however, from the various figures in Table 1 above that the initial or early

estimates of 'acute' bed requirements were much greater than now appears to be necessary; some twice as great.

Forecasts of the number of hospital beds can become out of date within a few years. Statistical methods cannot predict with accuracy the entire range of need for beds as there is an area of demand for which qualification is affected by constant change. While technological advances and the changing pattern of therapy may not be susceptible to translation into terms of hospital bed numbers, nevertheless, the improved processing of morbidity statistics should reveal trends sooner than in the past and allow earlier action to meet changing bed requirements for particular specialities and phases of treatment.

HOSPITAL PLANS OF 1962–6

In January 1962 the Minister of Health and the Secretary of State for Scotland presented to Parliament Command papers entitled *A Hospital Plan for England and Wales* (Cmnd. 1604) (25) and *Hospital Plan for Scotland* (Cmnd. 1602) (10) respectively. These plans were blueprints for a hospital building programme to be carried out during the period 1961–71 at a total expenditure (at 1961 prices) of £570 million. They have subsequently been amended and brought up to date, the latest revisions being those published in 1966 (24), (37). The content of the individual hospitals in the plans are based on bed ratios which are not strictly comparable between England and Wales and Scotland. This survey related only to 'acute' beds which, in the case of Scotland were defined as being:

Surgery: General, orthopaedic, E.N.T., ophthalmology, neuro, plastic, other types.
Paediatrics: medical and surgical.
Gynaecology.
Urology.
General medicine, including neurology, cardiology, physical.
Dermatology.
Non-respiratory tuberculosis.
Radiotherapy.
Unclassified beds.

In the plan for England and Wales, beds for infectious diseases and pre-convalescence were included along with the above under the term 'acute' beds.

In Scotland, while the number of acute beds available was 3·8 per 1000 of the population, it was considered that in areas outside the cities, 2·5 per 1000 would be adequate. Over a hospital region as a whole and making allowances for teaching requirements and possibly for highly specialized facilities, the ratio of 'acute' beds might rise to approximately 3·0 per 1000 of the population. It was considered possible to work with the lower ratio of 3·0 per 1000 provided the acute units were efficiently run and adequate provision made for domiciliary care and for longer-term hospital care, particularly for old people. The emphasis in the Scottish plan was on the efficient running of the 'acute' units; it is a follow-up from that which calls for the use for 'supporting' beds.

In England and Wales there was great diversity in the figures for available 'acute' beds. For instance, in East Anglia there were reported to be 3·0 per 1000 of the population and in the Liverpool region the figure was 5·6 per 1000. However, it was considered for the purposes of planning that the ratio could be 3·3 beds per 1000 of the population; this approximates very closely to the Scottish figures bearing in mind that the term 'acute' in England and Wales includes infectious diseases—given separately for Scotland at 0·3 beds per 1000 of the population.

The plans clearly envisaged that the hospital service was only one part of a comprehensive health service and that where illness or disability occurred the aim would be to provide care at home and in the community for all who did not require the special type of diagnosis and treatment which only a hospital could provide. The proposed scale of hospital provision was based, in the first instance, on the assumption that hospital treatment and care would be provided only for those who needed it and that the domiciliary services would be responsible for the others. The needs of the aged were on the basis that when acutely ill, the old person needed treatment in an 'acute' hospital but that he or she should normally

only remain in such a hospital for the period in which such medical or surgical care was required.

BED USAGE

As the hospital plans of 1962 envisaged a decrease in the number of 'acute' beds it was obviously necessary to look at what had been said and written about the past and present usage of these beds, and also 'supporting' beds located in convalescent hospitals and recovery homes, in hostels and in cottage hospitals to see what suggestions had been made for their more efficient use. Much has been written about greater efficiency in the use of 'acute' beds, and while it is necessary to quote facts and figures applicable to bed usage, generally the review of other writers' work concentrates on the part relating to the 'supporting' bed.

The plans showed that there had been substantial increases in the use of beds and facilities as follows:

England and Wales	Staffed beds	In-patients discharged (million)	Attendances at O.P.D.s (million)	Attendances at Casualty depts. (million)
1949	475 000	3·0	26·0	10·0
1960	480 000	4·0	29·0	12·5

With only a 1 per cent increase in beds there had been an increase of approximately 40 per cent in the number of in-patients treated. The position in Scotland was somewhat different as is shown in the following figures:

Scotland	Staffed beds	In-patients discharged	Attendances at O.P.D.s and Casualty departments: New patients (million)	Attendances at O.P.D.s and Casualty departments: Total attendances (million)
1948	58 000	383 000	1·26	4·55
1960	63 500	561 000	2·23	7·29

The increases in Scotland were 10 per cent for beds and 47 per cent for number of in-patients treated. Over the same period new out-patient attendances had increased by 75 per cent and total attendances by 60 per cent. It was noted in the Scottish Plan that increased staffing appeared to have brought more intensive care and a shorter stay while the 'empty bed interval' was being steadily reduced.

ACUTE BEDS: SHORTER LENGTH OF STAY AND TURNOVER INTERVAL

Much of the material on 'acute' beds concern the length of stay and turnover interval, subjects on which numerous well-known writers have undertaken studies and produced useful reports and statistics. Before setting out many of the points which are still relevant and topical, it is worthwhile listing some examples of the principal categories of 'acute' beds in terms of the definition given in the hospital plan for England and Wales, and also how they are used (see Table 2). Figures for 1966 are given separately for England and Wales and for Scotland. These figures indicate that margins exist in which improved levels of bed usage might be achieved.

The 1952 Annual Report of the Ministry of Health (73) stated that if the stay of each patient in general hospitals could be shortened by only one day, the waiting lists for the then demands would be eliminated in three years. Further calculations by Logan and Forsyth (19) suggested that if the average bed occupancy in England could be raised to 90 per cent, there would be a need for 130 000 general 'acute' beds, i.e. 2·9 per 1000 of the population. Logan and Forsyth (19) calculated that in the United States of America, the average stay in hospital was 60 per cent of that in the United Kingdom. They considered that in England in 1960 if that gap could be reduced by even one half, i.e. the gap in the average length of stay, only 26 500 surgical beds would be needed in place of the then 33 200, and if the bed occupancy could be raised to

Table 2. *'Acute' beds: Length of stay, occupancy, and turnover interval*

	England and Wales				Scotland			
	Available staffed beds	Average duration of stay in days	Percentage occupancy	Turnover interval in days	Available staffed beds	Average duration of stay in days	Percentage occupancy	Turnover interval in days
General medicine	33 747	17·1	88·7	2·2	4901	18·8	83·8	3·6
Chest medicine	14 708	39·6	69·2	17·6	682	30·8	78·7	8·3
Infectious diseases	5173	15·5	48·5	16·5	1713	18·2	58·6	12·8
General surgery	33 438	10·6	84·3	2·0	4264	11·5	79·3	3·0
E.N.T. surgery	6541	5·1	63·3	3·0	898	4·7	63·9	2·6
Traumatic and orthopaedic surgery	18 432	17·7	88·8	2·2	2397	20·3	80·5	4·9
Gynaecology	10 068	7·8	85·4	1·3	1404	8·0	81·2	1·9
Paediatrics: Surgical	6469	10·0	64·0	5·6	592	7·1	73·1	2·6
Medical					1263	10·8	68·2	5·1

95 per cent, there would then be a need for only 24 700 surgical beds, a decrease of 8500 or, say, 25 per cent of the total.

In the London Undergraduate Teaching Hospitals in 1952 (73) there was, for instance, a variation of from 10·1 to 17·4 days in the length of stay in general medical beds, and from 19·4 to 30·5 days in general surgical beds, and there was no obvious explanation for these variations although extended periods of convalescence for some patients within the 'acute' wards might have played some part.

In Scotland in 1966 (36) in the main teaching hospitals the average length of stay of patients varied from ten to fifteen days with a bed occupancy rate varying from 72 to 92 per cent. At the same time the bed turnover interval varied from one to four days. These figures do not give any indication of the length of stay of patients suffering from any particular medical or surgical condition and, of course, there are other factors which cannot be shown in a table of averages. A reduction in the length of stay may result from better organization of admission and discharge, improved diagnostic and treatment facilities including operating theatre time, and also the early recognition and attention to social problems before the time comes for discharge. Early ambulation and attention to rehabilitation are further aspects which can help to reduce the length of stay in 'acute' wards.

DAY CENTRES AND DAY BEDS

Most of the day beds in existing hospitals are for the treatment and care of mental illness and, more recently, for the aged, but much thought is being given to the extension of this kind of facility to patients who, as in-patients, now occupy an 'acute' bed. Operations such as herniotomies have been described (43) where, contrary to established practice, these were carried out on a day basis thus saving a considerable number of beds.

In a somewhat similar manner other attempts have been made to limit the length of stay in hospital. In Bedford (53)

an attempt was made to work out a scheme whereby ten days before admission of the patient the hospital notified the local health authority chief nursing officer who, in turn, advised the district nurse for the area where the patient resided to visit the home and assess the home conditions. Provided these were satisfactory the patient was discharged home earlier than usual, the chief nursing officer and the patient's general practitioner advised, and the district nurse instructed to attend. The patient had been advised in hospital of the degree of mobility he was expected to maintain. The district nurse carried out treatment, removed stitches, and notifying, if necessary, the general practitioner of any untoward effects if any. By operating this system it was estimated that in a period of five months the waiting list for admission had been reduced from seventy-five to seven.

CONVALESCENT HOSPITALS AND RECOVERY HOMES

With the exception of a few articles in professional journals, the major literature on the subject of convalescent hospitals and recovery homes is contained in two reports published in 1954 and 1959. The first, by the King Edward's Hospital Fund for London (63), was the result of an inquiry covering the working of recovery homes and their value to the hospital service. The second was a report of a Working Party appointed in 1956 by the Minister of Health (72) to examine the extent to which the provision of convalescent treatment, as provided by the hospital service, was meeting the demand placed upon it in the light of recent advances in medicine and modern conceptions of treatment and nursing care.

While a precise definition of convalescent hospitals and recovery homes, and the kind of patients who would be discharged from acute beds to those post-acute beds, still needs to be found, the King's Fund report defined a recovery home as a place providing:

> Accommodation for patient in whom the illness has definitely begun to abate, or the risk of complication after operation is only slight so

that with proper care and nursing the patient is likely to progress to recovery.

The Working Party report of 1959 (72) defined what they considered to be 'convalescent treatment' under three headings as follows:

(i) 'pre-convalescence' or 'recovery'—the patient has already received the most intensive part of the medical treatment required but is still in need of active nursing care and medical oversight.

(ii) 'active convalescent treatment' or 'rehabilitation'—the patient no longer requires nursing care in bed and can get about and attend to his own needs with or without appliances but with occasional assistance, but requires remedial and re-educative treatment with a view to attaining the maximum degree of recovery or use of functions.

(iii) 'passive convalescence'—the patient no longer requires active medical supervision or nursing care in bed, though he may need such simple nursing procedures as renewal of dressings or the administration of medicines.

These definitions of 'convalescent treatment' cover a wide band of nursing care; the first definition relating more to patients who still require the nursing care provided in an acute ward.

The King's Fund publication of 1954 (63) recorded general agreement that there was a substantial number of patients in acute hospitals who could be transferred to 'recovery homes', that a recovery home or homes should be attached to and be administered by a parent hospital to ensure continuity of medical and nursing care. It was considered that hospitals with nurse training schools would be able as a rule to supply nursing staff for the homes, and that no anxiety was felt by teaching hospitals that instruction of medical students would be adversely affected. In spite of these views it was still necessary in the Working Party report in 1959 to say that convalescence was not generally used as part of the planned treatment of patients, but rather as accommodation to which a patient might go when full hospital facilities were no longer required. The 1959 report also referred to a relative lack of

interest in problems of convalescence by the medical profession: medical publications on this subject were scanty, little research had been undertaken, and little thought or attention given to the medical aspects of recovery. The almost complete failure to use convalescent accommodation for preventive or preparatory treatment was also noted.

The 1959 report recognized that in-patient treatment required during convalescence, if met by prolonging the stay in an 'acute' bed, was wasteful in money and skilled staff and was often not in the best interests of the patients. It could be met by providing suitable wards or blocks within the curtilage of the acute hospital, or in the earlier stages by removal to a pre-convalescent or recovery unit while still bedfast.

The main point arising from the findings of the Working Party report in 1959 was that convalescent treatment required a new approach, including:

1. A much greater interest at all levels and particularly by the medical profession;
2. A more vigorous attack along the lines of rehabilitation for the sick similar to that developed in rehabilitation for the disabled;
3. Research into the problems of convalescence; and
4. A larger study of the relative roles and comparative value and cost of recovery homes, rehabilitation units and convalescent hospitals and homes in the recovery of health.

In 1960, Stallworthy (90) reaffirmed that convalescent patients must not be kept in acute hospitals. He considered that the creation of annexes with a simple, quiet environment would be psychologically good for most patients. Medical and nursing requirements would be minimal because the emphasis should be on self-help and rapid rehabilitation. The consultant in charge of the patient during the acute phase of his illness could still retain control over his convalescence. Some annexes in cities would be part of, or located alongside, the acute hospital, others might be created in small towns to allow patients to return amongst their friends and relatives. He

estimated that a gynaecology ward, where patients could spend five days and then move to recovery accommodation for ten days, could treat 1500–2000 patients a year with 24 acute beds and 30 recovery beds. It has been suggested further that 100 acute beds supported by an appropriate number of recovery beds could replace 300–350 acute beds; an effective alternative to the provision of more new and expensive acute beds. According to another survey, gynaecology and E.N.T. wards could discharge a significant number of patients to post-acute beds.

In an unpublished survey (66), it was estimated that the potential use in Liverpool of recovery homes varied from 46·7 per cent of all patients in a cancer hospital down to 19·9 per cent for other units, with an average of 31·3 per cent of all patients in the Liverpool area. It was calculated that 180 000 patient days could be saved in a year if more use were made of recovery homes. The Liverpool report expressed certain reservations, however, about the use of such beds, which might lead to longer retention of patients. If the length of stay was greater than it would be in an acute hospital, the cost of the extra feeding, etc., might mean that the 'patient treated cost' would be no less than if the patient had remained in an acute bed until discharged. The report goes on to point out, at the same time, that it should be possible to maintain a higher bed occupancy in a pre-discharge unit than in an acute hospital. In the former it should be easy to predict the date of discharge of most patients, and similarly the expected day of arrival of such patients could also be more or less pre-determined as there was no need to hold a proportion of beds to meet emergencies.

In reference to surveys in Liverpool (66) and Inverness (80) on the better use of convalescent hospitals and recovery homes and the provision of hostels, extra beds for these purposes were suggested. The continuation or pre-discharge units at Torrance House in Kilmarnock (144) and Dryburn in Durham (151) were additions to the bed complements of the acute units they served but in a Sheffield study (86) it was

proposed that this kind of 'supporting' bed should be found from the existing complement of 'acute' beds.

Since these reports little of much significance has happened. The occasional article in a journal has referred to how services to patients could be improved if better provision was made at the convalescent or pre-discharge stage, but no major effort has been made to achieve this. In Scotland, while the number of 'convalescent' beds has decreased in recent years, and with modern methods of treatment more in-patients are ambulant, the number of 'acute' beds has steadily increased. Many do not require the full nursing facilities available in an 'acute' ward. Patients between two stages of an operation, or under observation and investigation, or convalescent, or ambulant but in need of treatment whilst living away from the main hospital, might be treated in more suitably designed accommodation than that currently available in 'acute' wards if they are able to wash, feed, and go to the toilet by themselves. A simple, more domestic environment, minimum medical and nursing care, adequate day-rooms, and access to a cafeteria would appear to represent the main requirements.

CHEAPER TO BUILD AND RUN

Generally speaking, much guesswork has gone into comparisons of building and running costs between acute units and convalescent units, and no firm comparisons could be obtained from the literature reviewed. Most of it related to a period before substantial new building work commenced in the late 1950s and early 1960s and also before the issue of Hospital Building Notes with their cost allowances.

There have been several references to hotel costs. Stallworthy (90) stated that the 'recovery annexes' he envisaged as part of a general hospital would be very much cheaper than acute bed units, which he suggested cost three times as much as a luxury hotel. While almost certainly cheaper, this suggestion is not borne out by recent building cost for two new hotels outwith London, one of 100 beds and one of almost

400 beds, where the over-all cost worked out at approximately £5300 per bed. This compares with an average cost of £8500 per bed in large new district general hospitals which include more facilities and space in the way of diagnostic and treatment areas than any hotel would require.

Although not within our competence to carry out a detailed analysis and comparison of the building costs of hotels and hospitals, it may be guessed that an analysis would show little difference between the cost of a bed in a good-class hotel and the cost of a bed in a district general hospital. Comparisons within the service are more pertinent and later in this report detailed costs are given for building a 'supporting' bed unit.

It is clear from the literature that existing convalescent hospitals and recovery homes are much cheaper to run than acute units of comparable size. Many examples could be quoted, but generally speaking the patient/week rate in a ward in a convalescent hospital has been about half or less than that for an acute ward in a general hospital. This results from a number of factors, not least being the need for fewer nursing staff in a convalescent ward. It should be noted, however, that few convalescent units provide rehabilitation facilities, which could add to the costs, but not to the point of making them as expensive as acute units.

HOSTELS

There are various references in the literature to the possible use of hostels either as separate units or as a section of the hospital. They would be run, at a lower cost, on a hotel principle with a cafeteria feeding system for patients who did not require full acute nursing facilities. This type of accommodation could provide for patients waiting between two stages of an operation, or who had received acute treatment and were under observation, or who were ambulant but required daily treatment. One estimate was that as many as 30 per cent of all patients were in this category.

A survey conducted in Birmingham in 1959 (48) found that

an average of 12·5 per cent (and sometimes as high as 43 per cent in certain groups) of all hospital patients covered in the survey required hotel or hostel care only. The conclusion was, however, that separate units to deal with this group of patients should not be established, and quoted the similarity in costs between cottage and large general hospitals as being a factor which militated against separate units. The authors considered that the establishment of special wards within each general hospital to provide for this class of patient might save money, but would introduce rigidity into nursing and medical care. It was also considered that seriously ill patients normally recovered quicker when nursed along with less ill patients.

In 1963 Goodman (60) reported that night hostels were provided in Great Britain for mentally subnormal and mentally ill patients, and that there were hostels for patients requiring radiotherapy (five regional centres with 13–57 beds). Sometimes local authorities made arrangements with landladies to accommodate patients. He also reported that in Norway the social security organization paid up to 25 Kr. daily (a hospital bed cost 128 Kr.) to a patient who had to attend the out-patient department, to cover his board and lodging at a hotel run by a private welfare organization. In Belgium and France, spas, hotels, and *maisons de repos* were used as hostels for patients. It was also noted that in Great Britain the length of stay in hospital had been reduced to a minimum by a better organization of admission and discharge, improved rehabilitation and diagnostic services, day treatment, and the transfer of patients to pre-convalescent and cottage hospitals.

In 1964 an attempt was made in Inverness (80) to assess the possible use of hostel beds. The survey carried out over a composite sample week covered the patients occupying some 740 beds classified as 'acute' in three hospitals in Inverness. A hostel was defined as accommodation for fully ambulant patients and was not to be regarded as a self-care unit of a progressive patient care scheme for in-patients. Such a hostel

would provide residential and catering facilities for those patients who, if it were not for travelling difficulties in the Highlands of Scotland, would be dealt with as out-patients. A hostel patient found to require more medical or nursing care than could be provided in an out-patient department would be transferred to an appropriate in-patient unit.

The consultants in charge of ward units determined which of their patients would be suitable for hostel accommodation and these were followed up by a nursing officer from the Regional Hospital Board. During the sample week it was found that seventy-eight patients could have been accommodated in the hostel-type accommodation described above, and that the occupancy of the hostel would have varied from five to twenty-six patients with an average of thirteen to fourteen. The nominal occupation of a hostel would have shown that of the total occupied bed days, 35 per cent related to orthopaedic surgery, 30 per cent to general surgery, 12 per cent to paediatrics, 11 per cent to general medicine, 8 per cent to radiotherapy, and 4 per cent amongst the remainder of the specialities. Of those who might have been accommodated, 38 per cent required physiotherapy. Thirteen per cent required radiotherapy and 23 per cent would have required further radio diagnostic investigation. While the results of this survey were interesting it has to be remembered that Inverness, serving as it does a large, sparsely populated area, cannot be regarded as typical and the results would not necessarily compare with those in other parts of the country.

USE OF COTTAGE HOSPITALS

The possible use of the cottage hospital as a means of providing a local 'supporting' bed service for patients transferred from a district hospital has been sparsely covered in the literature reviewed. Lawrence Abel and Lewin stated in 1959 that one major general hospital should be built in every natural area of population and should work in close conjunction with small cottage hospitals. They considered that patients brought

up in country areas preferred cottage hospitals. General practitioners could run these small hospitals which should be visited regularly by consultants from the main district hospital. Relatives could visit patients more easily.

The Report on the use of Chipping Norton Cottage Hospital was reviewed in the *Lancet* (45) and some pertinent points worth repeating were made. The cottage hospital was said to be convenient for patients, it usually had a homely atmosphere and belonged to the locality. The food was often better as were communications between patients and staff. The doctors as a rule were the patients' own family practitioners and there were usually good facilities for consultation. But a cottage hospital only justified its existence if it did not attempt tasks beyond its capability. According to the Report (81), Chipping Norton treated, as in-patients, four-fifths of the 'acute' medical cases residing in the area covered by the hospital.

The *Lancet* review concluded that many other cottage hospitals would be of better value to the community if, as at Chipping Norton, the preventive services of the local health authority, infant welfare, child guidance, health visitors, etc., could be combined with the creative work of the hospital.

Newsholme, writing in 1931 (78), maintained that cottage hospitals embodied many of the worst features of the voluntary system of that time and that they were unsatisfactory for surgical work. Nowadays, however, very little major surgery is done in cottage hospitals.

Stainer (89) in reviewing the work of three cottage hospitals referred to the comparatively poor use of the available beds, partly because of faulty organization of the work undertaken and partly because the type of work was fundamentally unsuited to these units. The small size and limited numbers of the wards themselves imposed limitations. Smallness made for inflexibility and he suggested that better use could be made of them by utilizing each for one sex, a particular group of longer-term conditions or as a convalescent unit. His detailed review of occupancy figures for the three units, showing as it did low occupancy rates particularly for the 'acute' beds,

reflected the opinion already stressed that these beds could be better used for relatively long-term medical conditions or as pre-discharge units for a nearby larger hospital.

Friedman and Weiner (57) wrote in 1966 that while there were over 2000 hospitals of under 50 beds in the United States of America, only a limited number were warranted for remote regions of the country, provided they were co-ordinated in a regional hospital system. To accept the remainder as independent isolated units was probably to consign the population they served to at most, a very limited range of health care. In the light of medical, scientific, and technological developments there was no place for the existence of small hospitals in areas that could be better served from large towns.

CONSIDERATION OF DESIGN

Since the publication of the hospital plans, the design of new buildings and particularly out-patient departments and ward units reflects increasingly the need for flexibility in use. This is being achieved in the planning of district hospitals in Scotland by the design of larger ward floors, often of 72 beds, comprising mainly 4-bed rooms and a proportion (up to 20 per cent) of single rooms, and planning for sexes and specialities to be mixed on one floor. These ward floors are, of course, designed to meet the extensively studied functional requirements of 'acute' beds with all the attendant engineering facilities and equipment.

It would seem inappropriate for these wards to be used as 'supporting' beds, where the area per bed and indeed the overall requirement is more of a domestic nature. For the patient requiring a 'supporting' bed it is unnecessary to surround him with all the professional and technical skills and facilities normally provided in an acute ward. At the same time, however, the provision of the expensive 'acute' bed may be prejudiced if the need for accommodation for the 'supporting' function is not recognized and met.

The need for flexibility and adaptability to suit changing

requirements has been frequently reported, particularly in relation to new building. There is a general lack of precision, however, as to what these and similar terms imply. Adaptability in the sense of how a unit may be extended, or with reference to the way in which it might be used for an entirely unrelated purpose at some future date, is different from the flexibility in use which should be a primary feature of plans for standard, multi-purpose accommodation to suit, for example, both male and female patients or different clinical specialities. The following phrases indicate the type of observations frequently made but difficult to interpret:

1. *Hospital staff must allow flexibility in the arrangement and number of beds.*
2. *Hospital buildings must be able to respond to the inevitable future changes in the size and character of the hospital population.*
3. *Buildings should be of varied size, design, and permanence of structure, each closely adapted to the needs of the patients: a domestic setting could be created with shops, amusements, restaurant, etc., looking like a well-developed housing estate. The cost would be high but there would be no duplication of facilities, a few units could be of cheap construction and, as the unwanted facilities could be easily converted, there would be no waste.*
4. *Hospitals should be flexible in construction, size, design, and site.*
5. *Boards should be able to build wisely. But whatever was built must be adaptable (this did not mean cheap or temporary buildings which were very costly to maintain), because future requirements were unforeseen.*
6. *The design of hospital buildings should reflect the variation in staffing and care of each category of patient: for instance each 'acute' hospital population had a substantial number of patients who were ambulant, needed only limited hospital facilities with a minimum supervision, and did not need a ward-type accommodation.*

BLOCKAGE OF 'ACUTE' BEDS

This aspect of the review of literature is directed to the use of 'acute' beds for early admission for investigation and pre-operative procedures and to delayed discharge which may be for a variety of reasons. The latter problem applies particularly to geriatric patients, many of whom should be accommodated either in hospital geriatric accommodation or in local authority residential accommodation for persons in need of care and attention (commonly known in the hospital service as Part III accommodation). In general it would appear that the causes of admission are clearer than the factors affecting discharge.

Reasons given for delayed discharge from 'acute' beds include:

1. *Shortage of beds in geriatric assessment units and units for the long-stay chronic sick: six-month waiting lists for transfer to these units are not uncommon.*

Efforts are being made by the Central Departments to provide additional geriatric accommodation as quickly as possible to bring the present number of geriatric beds up to the suggested bed ratio figures in the Hospital Plans. In Scotland this figure is 15 beds per 1000 of the population over the age of 65 or 1·65 beds per 1000 of the total population. There are certain areas where the shortage of geriatric beds is acute and it is in these, for example, the cities of Glasgow and Edinburgh, that a major effort is currently being made. The problem of keeping up with the demand will remain.

2. *Shortage of local authority residential accommodation for persons in need of care and attention (Part III accommodation).*

This too is a problem which is recognized and most local health and welfare authorities are making efforts to provide additional places in modern homes for old people. It has been suggested, however, that local authorities' standards for admission to their homes are often too high and that accord-

ingly elderly people often fall between being 'unfit' for an old persons' home, 'fit' to be out of hospital, but not fit enough to reside in their own home.

3. *The time taken for medical social workers to arrange for the discharge of patients.*

Relatives may not be co-operative. They may refuse to provide home care or have insufficient accommodation to make it possible. It has been estimated that the absence of relatives or friends to look after people in their own homes accounted for the presence of over half of its patients at one hospital (other social reasons account for 10 per cent). The presence or absence of relatives can be of prime importance; domiciliary services cannot alone provide sufficient attendance for the patient.

4. *Patients are admitted to hospital to relieve relatives or to allow them to go on holiday.*

At the end of the period of stay the relatives may decline to accept the patient back. Because of this, some hospitals are now insisting on an agreement with the relatives that the patient will be discharged from the hospital at the end of a given period.

5. *A patient, whose period of stay in hospital is likely to be protracted, faces the problem, perhaps on financial grounds, of selling or letting his home.*

If the home is sold or let this may greatly aggravate the problem of discharging the patient from a hospital bed. The decision to sell or let may be taken without the patient or his relatives realizing that the Ministry of Social Security may be approached for a supplementary payment.

6. *Elderly hospital patients may decline the offer to be transferred to Part III accommodation as they will have to pay, or that Part III, in their eyes, is not much better than the pre-1948 workhouse of the Poor Law.*

7. *When adaptations or special equipment are required in a person's home to enable him to live there rather than in hospital, the responsibility for taking action rests with the local authority.*

If insufficient priority is given to this the patient remains in hospital for longer than necessary.

8. *Married women, although admitted less than married men, remain longer in hospital because there is no one to care for them at home if they are discharged after the same length of time. Widowed or divorced persons are admitted more often and also remain longer.*

As a general rule, it appears that people who live alone, stay longer, are re-admitted more often to hospital, and also make more use of convalescent beds. Age, sex, and marital status are correlated with admission and length of stay.

9. *The proportion of wealthier people, i.e. those in Classes I, II, and III of the five social classes specified by the Registrar General, who are admitted to hospital is slightly greater than that of the poorer classes, but they remain in hospital for a shorter period of time than poorer classes.*

Home conditions, unsuitable work, unemployment, and non-observation of medical recommendations can affect length of stay. In one area in England poorer classes spend 30 per cent more bed-days in hospital than wealthier people.

Other reasons for unnecessarily long stays and the delayed discharge of patients from 'acute' beds are given in the literature but those set out above may suffice to indicate the extent to which the problems have at least been recognized and discussed.

LIAISON WITH OTHER AUTHORITIES AND HOME CARE

Several writers who have carried out statistical studies of hospital in-patients have stated that with the rising standard of living, housing, and education, a number of patients could

be cared for at home, given the adequate provision by local authorities of domiciliary services (home nurses, health visitors, home helps, meals on wheels, equipment) and the willingness of general medical practitioners to care for patients in their own homes. Some writers have gone so far as to state that beds are often blocked due to the unwillingness or inability of local authorities or general practitioners to look after patients.

Apart from the fact that home care saves hospital beds, and is cheaper, it is also good for these patients who prefer it to hospital care and who may recover more quickly. A family atmosphere with a greater sense of freedom and dignity, home food and no association with sick or dying people underline a preference for home care. In some cases, simple nursing given by relatives is all that is needed, and a further group of patients could probably be looked after at home if a range of services was made available on a domiciliary basis. Even when not in need of medical care, discharged patients often require help, supporting care, and guidance to avoid re-admission; in one survey of discharged patients it was observed that in 70 per cent of the cases the patients did not follow the doctor's recommendations, in particular those referring to rehabilitation.

Good home care is only possible if all the services co-operate with the general practitioner in a position to co-ordinate the application of hospital and local authority services. He should be able to prevent unnecessary admissions and look after patients discharged from hospital. Hospital teams should help in the care of discharged patients. This would be possible if links between the hospitals, general practitioners and local authorities were developed and their responsibilities re-defined to avoid any conflict in these circumstances. The hospital would be able to concentrate on patients who were acutely ill or requiring hospital facilities, for example, for rehabilitation. The community would care for the medico-social cases after discharge from hospital.

SERVICES GROUPED AROUND GENERAL HOSPITAL

A few references have been made in the literature to the question of all specialities and categories of beds being grouped around the general hospital. In the late 1950s it was suggested that difficulties in recruiting staff for mental and chronic sick hospitals could only be overcome by placing these hospitals near enough to the general hospitals to have the same staff serve both and that if the buildings were on the same site they could be connected and make a complete cross-section of the hospital population available to the student, doctor, nurse, and the research worker. This would facilitate transfer of patients between types of bed and from one speciality to another. About this time suggestions were also made that general hospitals should have beds for the mentally ill and chronic sick as it was wasteful to have hospital facilities in separate mental and geriatric hospitals. In the early 1960s in stressing the need for long-range over-all planning in the field of health care in the United States of America, it was stated (35) that a general hospital should be no less in size than 200 beds; that tuberculosis and mental illness were being successfully treated in general hospitals, that the long-term chronic sick and convalescent patients should be accommodated in the general hospital. All this would avoid duplication of equipment and a waste of staff time in travelling between one hospital and another.

PROGRESSIVE PATIENT CARE

Progressive patient care (P.P.C.) is a concept whereby patients are grouped in units according to their degree of illness and need for special care, rather than by their disease or category. It has been described as a radical change in hospital procedure and while its recognition by a specific title has attracted much attention, the basic principles are said to have been practised by the Japanese for centuries and for more than a hundred

years the elements of patient grouping have been carried out in the Nightingale type wards of this country.

Much has been written on this subject, perhaps more than on any other topic covered in our review. It has attracted controversy and been bedevilled by semantics; the details of some categories mean different things to different people. Varied terminology is used by writers, some accepting as many as six stages of P.P.C., the sixth being out-patient care, i.e. return attendances to an out-patient department after a spell as an in-patient. The more popular concept—for hospital care only—is of three stages, intensive care, intermediate care, and minimal care. The three additional stages which Haldeman in the U.S.A. considered necessary to provide the complete health service are long-term, home care, and out-patient care.

Much of the material on P.P.C. has come from the U.S.A. (see Bibliography, Appendix A) and the majority of surveys have concentrated on the intensive care and intermediate care areas. Little is available on the minimal care situation, it seems to have been accepted in an ill-defined way as being part of P.P.C. without investigating the need of the patient. This is surprising as it is generally recognized that up to 30 per cent of hospital patients at any point in time may be in the minimal-care category, whereas 1–2 per cent only are in the intensive therapy group with perhaps a further 10–15 per cent in the intensive nursing care category. That the requirements for intensive therapy should have attracted most attention is explicable on the grounds that at this end of the spectrum of patient care is the most highly specialized life-saving equipment and much of the drama of life and death.

Reasons for the success of P.P.C. in the U.S.A. have been considered to include a high level of staff participation in planning for it: that patients were encouraged by progress through the various stages with 'promotion' to a less acute stage being a 'stimulus' to recovery. From the staff point of view, nurses were given the opportunity to work in areas of care for which they were best suited.

One of the strong arguments for P.P.C. is the opportunity

it provides to make optimum use of available personnel and equipment. There is no claim that the early elements, that is the intensive-care and the intermediate-care areas, can be provided on the cheap. If properly utilized the patient is in the proper maximal care area for the shortest possible time but the high cost of servicing these areas may be offset by savings in the type of accommodation and staff required in minimal-care areas, provided these are established.

INTENSIVE CARE AND INTERMEDIATE CARE

It is convenient in this report to refer to the first two stages of P.P.C. together as less needs to be said about them than on the subject of minimal care. Because of current confusion over the definition of the term 'intensive care' it is worth repeating, however, that it can be broken down into 'intensive therapy' and 'intensive nursing care'. (See p. 4.)

Intermediate care, lying between intensive care and minimal care, equates broadly with the main part of traditional ward practice and consists simply of the care necessary for the patient who is ill but not so critically ill as to require intensive therapy or intensive nursing care, and who, on the other hand, is unable to contribute substantially to his own care.

MINIMAL CARE

On minimal care, some of the literature relates to patients in geriatric units with whom this review is not primarily concerned, some relates to convalescent hospitals and recovery homes mentioned earlier in this chapter. The remainder is mainly descriptive of certain pre-discharge units run as supporting units in association with acute hospitals. Three units of this kind are referred to as illustrative examples.

Torrance House, Kilmarnock. In 1960 (123) and 1961 (144) information was published about a surgical continuation unit, Torrance House, Kilmarnock, to which patients may be

transferred daily from Kilmarnock Royal Infirmary (147 beds). Torrance House, which is approximately two miles from the parent unit, has 44 beds, 28 surgical and 16 medical, and functions on the basis that all patients must be ambulant, able to wash and dress in their outdoor clothes, and capable of walking from the day room to the dining room. No bed pans are given, no meals are served in bed, and all dressings are done in a separate treatment room. The surgical wards with beds for sixteen men and twelve women are divided into 4-bed cubicles. The unit has no resident medical staff, and at the time of writing was staffed by a matron, two sisters, one full-time staff nurse, five part-time staff nurses, one assistant nurse, and four auxiliary nurses. On average, patients were transferred from the Infirmary three days after such operations as appendicectomy, herniorrhaphy, and haemorrhoidectomy. After more major surgery such as cholecystectomy or gastrectomy, patients were retained in the Infirmary for a day or two longer.

The senior nursing staff must be capable and experienced in detecting impending post-operative complications and if any such complications necessitate the patient's return to bed for more than 24 hours, he has to be re-admitted to the parent hospital. It was pointed out that the successful planning of a continuation unit depended on close co-operation and good relations between the unit and the main hospital. This appears to have been achieved, the unit is popular and, from their experience, the authors felt that there was a definite place for this type of unit within the hospital service.

Copthorne, Shrewsbury. Late in 1965, an interim report (124) was published on a common discharge unit of twenty-three beds opened in January 1965 at Copthorne Hospital, Shrewsbury, to serve surgical beds at the Royal Salop Infirmary and at Copthorne Hospital. When first opened, a minimum stay of five days was required but this was likely to be increased to seven days. Because of the five-day limit the average daily bed occupancy was only 12·6, giving an average occupancy of

54 per cent and an average length of stay of 4·33 days. The surgeons at the Infirmary had some reluctance in using the unit as they did not visit Copthorne as a routine, consequently they felt they would lose control of their patients as they did not see them prior to final discharge. It was recognized that if all the 'acute' surgical beds were transferred from the Infirmary to Copthorne the discharge unit would be used to a greater extent and a seven-day stay should mean that medical patients might also benefit from the unit.

The staffing of the unit consisted of only one trained person, a sister, assisted by ward orderlies and nursing auxiliaries; this had worked satisfactorily. There was no night staff on the ward; the night superintendent from the hospital made regular visits and a system of bells had been evolved whereby bell-pushes at the patients' beds were connected to the hospital telephone switchboard. If a patient required assistance in the night, the telephone operator contacted the night superintendent who then visited the unit. Arrangements had also been made whereby a senior nurse from the nearest general ward was available in the event of an emergency and could be called to the unit if the sister was not on duty; again this had worked well on the very few occasions it had been necessary. Between 1964 and 1965 an increase in admissions at Copthorne of some 16 per cent was considered to be almost entirely due to the common discharge ward.

Dryburn, Durham. A number of papers have been published, the most recent in December 1966 (151) about a 22-bed pre-discharge ward at Dryburn Hospital, Durham, for patients of both sexes and from most specialities. The ward, built with a grant of £50 000 from the Trust and in operation since August 1962, has five 4-bed rooms and two single rooms, each room having direct access to a toilet annexe comprising lavatory, hand-basin, and a personal wardrobe for each patient. There are four bathrooms, a dining room, a quiet room for reading and writing, two television and games rooms, and a visitors' room. In deciding on twenty-two beds to serve the 300-bed

hospital (220 beds excluding paediatrics and obstetrics) it was considered that only about half of the patients in the hospital would be discharged through the pre-discharge ward: the main object of the ward is to provide a safety valve to allow 'acute' beds to be available to receive emergencies. Some of the salient features arising from the experience of four years' working are summarized in the following paragraphs.

Patients are seen daily by a senior house officer, but consultants and their assistants visit their patients as they wish; the patients naturally remain in their care. If there are any complications, or if progress is delayed and the present seven days maximum stay is likely to be exceeded, the patient is sent back to the acute ward. In some cases where it had been evident that after two or even three days in hospital discharge would be possible, an extension beyond seven days has been allowed if the ward beds were not under pressure. The proportion of patients having to be sent back to the acute wards has remained constant at about 4 per cent of admissions in each year.

Nurse staffing provides 24-hour cover, the ward being run as a self-contained unit: student nurses are not allocated to this ward. The ratio of nurses to beds is slightly lower than on 'acute' wards. The team for all requirements is 8·2 nurses. The revised establishment consists of one sister, with two part-time staff nurses in the day and one part-time staff nurse at night whose total hours are equivalent to just over two full-time staff nurses. Three state-enrolled nurses and two nursing auxiliaries complete the staff.

Generally speaking, patients preferred the pre-discharge ward to the acute ward at their stage of recovery giving reasons such as 'quieter', 'more restful', 'easier to sleep', or 'not having to see ill patients'. Some young patients found the pre-discharge ward too quiet. The majority of patients preferred communal feeding to eating by their bedside as they had been doing in the acute wards. They also appreciated the 4-bed rooms and the more frequent visiting periods. A majority (69 per cent) liked the mixing of the sexes, which had not caused

the nursing staff any significant problems in management. Contrary to some expectations most patients did not feel the change in the nursing team to be a disadvantage.

For the nurses the ward had proved more interesting than expected. Surgical patients were often transferred within a few days of operation, so that there was a certain amount of nursing at the intermediate care level, although a self-care level was sought as soon as possible. Nursing duties included wound dressings and the removal of stitches, management of intercurrent infections, the continued training of colostomy and diabetic patients, and the charting of blood pressure and apex beat for some medical patients. Patients were taught self-administration of drugs, particularly with a view to cutting down on the time-honoured and time-consuming medicine round. It was considered that nurses for this type of ward should be recruited from those with a special interest in rehabilitation. In order to counter criticism that one of the effects of a pre-discharge ward might be to increase duration of stay, without any change in the real work done by the hospital, records were kept of the duration of stay of patients in the whole hospital both before and after the introduction of the ward. In the first year there was reduced stay for general surgery and gynaecology but in the second and third years the duration of stay decreased in all major specialities.

Although it had been thought the ward would prove a useful link between the hospital and general practitioners, particularly from the point of view of social needs, and a room was allocated for interview purposes, this had not been the case since most patients transferred to the ward had no major medical or social problems. The main conclusions are that the pre-discharge ward had made a valuable contribution to the efficiency of the hospital and the quality of care that it has offered. The use of the beds over four years suggests that for Dryburn the 10 per cent of beds allocated to the pre-discharge role appears to be suitable. It is emphasized that the ward is a pre-convalescent ward with a limited duration of stay; patients admitted to the ward still require the

services that only a hospital can offer, although less intensively. When the time comes to rebuild Dryburn Hospital there will be pressure to provide another pre-discharge ward.

COMMENT

These examples and the fact that other convalescent hospitals and recovery homes exist, indicate that minimum care as such is not a new idea: what is new is practical recognition of this type of care as an integral part of a planned sequence of provision for patient care. There were, of course, many references in the years before the publication of the hospital plans to the need for 'supporting' beds, but few were based on detailed study, many were merely suggestions that such accommodation would be a good thing. It is important to note that suggestions were for additional beds, and not a re-allocation of 'acute' beds so that the re-allocated 'acute' beds and 'supporting' beds together would be no more than the original number of 'acute' beds.

PREVIOUS SURVEYS AND ESTIMATES OF PATIENTS REQUIRING MINIMAL CARE

Studies in the United States on aspects of P.P.C. have been based mainly on reviews of nursing dependency. In the U.S.A. there is a large group usually classified as self-care patients who, in fact, live in hotels, etc., close to the hospital, and accordingly it has been difficult for survey personnel to obtain details of the types of patients accommodated in this way. In a recent survey by Sturdavant and Mickey (165), based on the 500-bed Rochester Hospital, 95 per cent of the hospital's patients are quoted as being non-resident. It is difficult to suppose that 95 per cent of those attending a hospital in the United Kingdom would not require admission; it is more than likely that they would represent the group looked after by their own general medical practitioners.

The surveys carried out in recent years have been:

U.S.A.

Ruth Preston and colleagues in 1961, published in 1964.

U.K.

Operational Research in Nursing, Oxford R.H.B., 1960.

'Study in progressive patient care' by Dr. S. Mackenzie. South-West Metropolitan R.H.B., 1963 (unpublished).

'Study on bed requirements' by Dr. M. Fisher, South-Eastern R.H.B., 1964 (unpublished).

'Report on self-care study' by Dr. W. Lees, Ministry of Health (unpublished).

Statistical information based on the unavoidably subjective comments in the completion of questionnaire forms has given a generally inconclusive picture of the proportion of patients in the various categories. The figures in Table 3 are not strictly comparable because the basis of each survey and definition of care differed but they illustrate the pattern of results in the literature.

Table 3. *Distribution by percentage of patients in different categories of care*

Author	Intensive care	Intermediate care	Minimal or self-care
Preston[1]	10	49	29
Oxford R.H.B.	7	60	33
Mackenzie—Hospital A	2	70	28
B	4	73	23
C	4	85	11
Fisher—Surgical wards	6	33	61
Medical wards	8	48	44
Lees—Study team Assessment	1	72	27
Hospital Assessment	2	76	22

1. Preston had three additional categories, viz. long-term care 8 per cent, observation and ward care 1 per cent, and overnight care 8 per cent.

In some studies the whole range of hospital care was being reviewed, in others the aim was to ascertain the number and

percentage of patients in the minimal- or self-care category. The definition of minimal- or self-care differed: in the Oxford study self-care related to nursing dependency and required that the patient was ambulant, able to wash and feed himself, and use normal toilet facilities; in Lees's study self-care patients were defined as 'patients aged 12–75, up at least 4 hours a day, able to wash, feed and go to toilet by themselves'. The self-care patients who needed special attention were classified apart. Although Fisher's study found that there were no patients in the self-care category, for the purpose of simple comparison of the figures minimal-care could be taken as being similar to, if not in the same category, as self-care. All the figures show a significant group of patients in the minimal- or self-care category.

PRESTON

The basic figures from Preston's survey are shown in Table 3, but she and her colleagues went further and recommended for the major specialities they had surveyed a redistribution of graded in-patient facilities as shown in Table 4.

Table 4. *Preston and colleagues recommended percentage bed allocation*

Speciality	Intensive care	Intermediate care	Self-care
Medicine	13	56	31
Surgery	20	43	37
Obstetrics and Gynaecology	12	42	46

Of course, Preston's interpretation of 'intensive care' differs radically from that by Lees who defined intensive care as for 'critically ill patients who need and can benefit from constant highly skilled nursing and are likely to need urgent medical aid'. On the other hand, Preston possibly included along with the same category of patient determined by Lees, some of

those who were regarded by him as being intermediate-care patients requiring heavy nursing.

OXFORD (162)

The study set up by the Oxford Operational Research Unit in 1959 reviewed items of nursing care given in the four specialities—medicine, surgery, gynaecology, and chest diseases—and was carried out by a group of four matrons and eleven ward sisters. It was a straightforward limited statistical study of patients at given points in time: each patient was classified according to a simple set of rules for 'self-care' and 'intensive-care', those not coming within these two categories were classified as 'intermediate-care'. The study may, however, have been carried out by too many observers and without sufficient definition of the alternative facilities in which the patients might be accommodated, particularly in the 'self-care' group.

MACKENZIE (158)

The study in progressive patient care by Dr. S. Mackenzie of the South-west Metropolitan Regional Hospital Board, as yet unpublished, was carried out in three hospitals in London to ascertain the proportions of patients falling into intensive-care, intermediate-care, and self-care categories. This statistical survey covered over 1100 beds in the three hospitals. Questionnaire forms were completed by ward staff. The criteria for categories of care were much the same as used by Lees, i.e. self-care being ambulant without help, etc., and intensive-care being critically ill patients requiring skilled nursing and possibly urgent medical aid. Mackenzie attempted to note how long each patient stayed in the self-care category and to record the reasons after the patient had been in that category for three days, the house officer in charge of the case being responsible for entering the necessary particulars on the questionnaire form. It had been hoped that this would

indicate what proportion of patients had no apparent nursing dependency and also if those whose departure was delayed for medical reasons could be separated from those with non-medical reasons. A discharge decision date was to have been entered on the form to define the day on which the patient should have been, or could have been, discharged. This part of the survey did not succeed: reasons quoted for this were:

1. Medical and nursing staff found it difficult to define the specific discharge decision date.
2. Not enough interviewers were available to enable the information to be obtained from the ward sister and the doctor since their presence in the ward at the same time was liable to be unpredictable.
3. Insufficient survey and clerical staff was a limiting factor and imposed a system of recording and cross-checking of categories which was not ideal. It was not possible to complete the attempt to analyse the causes of prolonged stay in the minimal care area.

Nevertheless, the statistical results of Mackenzie's survey follow much the same lines as the earlier ones and bear out that there is a substantial group of patients in the minimal- or self-care category.

The study also identified the numbers of patients in this category who remained in it for more than three days after admission. It was shown that the frequency distribution of the number of days that patients remained in this category in both classes of case, i.e. after admission and prior to discharge, varied considerably in different specialities, in different wards, and sometimes between consultants in the same speciality or between wards in the same speciality. There was also some difference between the incidence in male and female patients. Although one of the original objects of the study was not achieved, Mackenzie felt it was possible to indicate certain specialities, consultants or wards where there was an unduly high proportion of patients remaining for long periods in the minimal- or self-care category.

FISHER (155)

This unpublished study was set up by the Scottish South-Eastern Regional Hospital Board with the intention of determining the requirements for geriatric, convalescent, and hostel accommodation in relation to the reconstruction of two teaching hospitals, and also to take account of developments in adjoining areas served by them. The survey was in two parts, first a pilot survey was made of twenty-two patients admitted to two surgical wards and of twenty-seven patients admitted to two medical wards during the first week of a four-week period. These patients were followed through and daily observations of their medical and nursing needs were made by ward nursing and medical staff on assessment forms—one per patient per day. The purpose of the pilot study was to establish whether patients in 'acute' beds could be categorized according to their needs for different accommodation. The results showed that no patients were assessed as suitable for an entirely 'self-care' unit, but that the patient days surveyed could be classified by percentages as shown in Table 5.

Table 5. *Fisher: patient days surveyed classified by percentages*

Speciality	Intensive care	Intermediate care	Minimal care
Surgical	6	33	61
Medical	8	48	44

Following the pilot survey it was decided to go ahead with an assessment over a period of four weeks of patients in other wards of the hospital. By analysing medical and nursing data it was hoped to ascertain self-care and convalescent requirements. Registrars were also asked to give information about the kind of beds most needed.

The size of the study, covering a busy teaching hospital providing district services, gave rise to difficulties. For example, considerable differences of opinion were noted as to the nursing criteria influencing transfer to other accommoda-

tion. In addition, some consultants and registrars in the same specialities disagreed about the information to be recorded on the assessment forms. A precise definition was needed of the services that convalescent and hostel accommodation could offer. The registrar's view as to whether patients should be discharged was also influenced by the current pressure on beds.

Notwithstanding these difficulties, useful general results came out of the larger study, particularly in relation to certain specialities. For gynaecological patients, for example, it was considered that self-care hostels would be useful for minor operation cases, particularly for those patients who lived at a distance from the hospital, and that more convalescent beds would be welcomed. E.N.T. patients were not considered to require self-care or convalescent accommodation as, at the time of the survey, there was said to be no pressure on the 'acute' beds allocated for this speciality. In ophthalmology, self-care hostels would be useful only on certain occasions such as for investigations for glaucoma. In dermatology the ward staff considered that self-care or convalescent accommodation was not appropriate whereas the survey results indicated that 5·7 per cent of the dermatological patients could have been accommodated in self-care units and 9·9 per cent could have been accommodated in convalescent units.

In carrying out this survey Fisher had to depend, first of all, on nursing staff completing the nursing assessment forms, and secondly, she had to depend on registrars doing their part of the work. At the time of the survey it was not possible to specify the facilities which would be provided in the convalescent or self-care areas and this vagueness obviously led to difficulties in understanding, particularly on the part of the clinicians. It was clear that the subjective assessments varied widely, so much so that it was not possible to lay down criteria to indicate the daily medical needs of patients. The survey showed a discrepancy between the patients classified as in 'Intermediate Care' and 'Minimal Care' in the nursing classification as compared with what the clinical staff might consider to be their particular needs. This, to a certain extent,

could depend on the type of work carried out in the particular wards but there were even differences between two wards carrying out the same type of work. One example was that the sister of one ward regarded confinement to bed with the need for a bed bath as a contra-indication to transfer to a minimal care unit. In another ward the sister did not consider this to be so. One unit considered incontinence as a contra-indication while another unit did not.

LEES (157)

The Operational Research Group of the Ministry of Health decided in 1964 to carry out a study in sixteen hospitals into the nursing dependency of patients in order to identify the type of services and level of care patients required. The proportion of patients in intensive-care, intermediate-care with heavy nursing, intermediate-care, and self-care categories was estimated on different days of the week over a period of seven months. Geriatric, paediatric, and obstetric wards were excluded. Intensive care patients were defined as 'critically ill patients who needed and could benefit from constant highly skilled nursing and were likely to need urgent medical aid'. Self-care patients were defined as 'patients aged 12–75, up at least 4 hours a day, able to wash, feed and go to the toilet by themselves'.

Assessment forms for completion by ward staffs required that on the day of the survey the type of care being provided should be stated: if pre-operative care for more than one day the reasons had to be given; investigations, stabilization, and treatment provided also had to be stated; and if the patient had been in the self-care category for more than two days the reason for this had to be recorded. The form also required ward staff to note whether or not the patient required attention of a nurse during the night and, more particularly, whether the patient was strictly in need of full hospital in-patient service, and if not why he was being retained in hospital.

The results of this fairly comprehensive statistical survey showed that 1 per cent of the patients were classified as in need of intensive care, 27 per cent were in the intermediate-care with heavy nursing category, 45 per cent were in the intermediate-care category, and 27 per cent of the patients were in the self-care category. In the pre-operative class, which was 15 per cent of all self-care patients, 85 per cent were admitted more than 24 hours prior to operation. In the observation class—19 per cent of all self-care patients—16 per cent were thought not to justify an in-patient bed. In the pre-discharge class—42 per cent of all self-care patients—28 per cent did not require full in-patient services. By definition, minimal nursing care or self-care did not require basic nursing yet there were a number of patients classified as being in the self-care category who still needed medical supervision or technical nursing skill and observation.

Lees contended that improved bed use was possible, but to achieve it would require a major shift in emphasis from numbers of beds to the necessary facilities, and to improved teamwork between various elements of the service. This would result in a more effective concentration of services in the hospital and more efficient utilization of available medical, nursing, and ancillary staff. He found that there were marked differences from one speciality to another and stated that progressive patient care would have to take into account disease and sex as well as nursing dependency. Finally, he noted that for minimal nursing care patients a number of facilities would need to be developed. These would include improved collaboration between hospital, general practitioner, and local authorities. General practitioners should have direct access to X-ray and laboratory facilities, there should be better use of operating theatres, provision of day-beds, earlier rehabilitation of patients, long-term associated accommodation, and home care. Routine admission and discharge procedures need to be re-assessed and the principles of short stay surgery (periods of up to 48–72 hours) particularly for elective conditions introduced on a more universal scale.

COMMENT

Effective action on what is a growing and extremely expensive problem, i.e. the continued accommodation of minimal care patients in 'acute' beds, is clearly desirable. The existence of the problem is recognizable and indisputable yet in spite of the survey work undertaken, it seems easier to avoid, or at least to postpone, a serious challenge to the number of acute beds and the other problems of organization and administration which are involved. Some re-allocation of beds and scarce skills so that the acutely ill patients can get all the attention they need would appear to be inevitable and should be anticipated before a more critical stage is reached.

It may be that undue emphasis in previous studies was placed on the use of questionnaires and that the approach to the problem was too theoretical. It is pointless to ask a clinician 'How many of your patients could be transferred to minimal care accommodation?', unless the type of accommodation and facilities are specified and medical and nurse staffing to be provided in the minimal care unit indicated together with the physical relationships of the unit to the parent hospital. A different method was adopted for the study set out in the following part of this report.

3

The survey

It was decided that, in the first instance, there should be a general review of the usage of 'acute' beds. At the same time, detailed information would be gathered about the medical and nursing facilities needed by the patients who might be accommodated in 'supporting' beds if they were available. On this basis, a census of patients in a range of Scottish hospitals was undertaken and, for 'supporting' beds related to 'acute' units, it was considered unnecessary to include maternity, paediatric, infectious diseases, respiratory tuberculosis, mental, mental deficiency, and geriatric hospitals.

The types of hospital covered by the survey were:

1. Teaching hospitals;
2. District general non-teaching hospitals;
3. Convalescent, pre-discharge units and recovery homes;
4. Small general hospitals.

There are about 170 hospitals in these categories in Scotland. A total of 42 were surveyed including 8 teaching hospitals, 8 district general non-teaching hospitals, 5 'convalescent' units, and 21 small general hospitals. Apart from the teaching hospitals, of which the sample included all but one of the main teaching centres in Scotland, the selection of units to be surveyed aimed to include hospitals in rural, semi-rural, and urban settings. The survey team carried out a census of the patients in representative wards undertaking general medical, surgical, orthopaedic, and gynaecological work. In addition, a few more specialized units were reviewed. The period during

which these surveys were undertaken was from May 1966 to January 1967. The census covered 4350 staffed beds; this represents almost 30 per cent of the total staffed beds in Scotland in the specialities covered in the survey.

In the wards surveyed, each patient's condition was considered at the bedside and the team was grateful for free access to all the clinical and nursing records. After explaining to the medical and nursing staff the purpose of this census and the kind of facilities which might be provided in the 'supporting' bed unit, each patient was seen and classified in terms of medical dependency and of nursing dependency. Judgements made on each patient's medical and nursing dependency were based on the reviewing officer's knowledge of their particular discipline. In addition, valuable comments concerning those patients most difficult to categorize were obtained from the senior medical and nursing staff at the wards.

This more direct approach confirmed the view that earlier studies had placed undue emphasis on the collection of information by use of questionnaire forms. Even after considerable experience, the allocation of patients to particular categories was not always easy. In such a multi-factorial human situation, exact differentiation is impossible. In some instances elements of 'dependency' may be created by the hospital staff. Doctors may not stop the unnecessary taking of records such as temperatures, pulse, or respiratory rates; nurses may find it easier to keep patients in bed; suitable access to patients' clothing may not be available. Factors of this kind tend to influence and to form subjective opinions which are reflected in the answers given to questionnaires. In addition, ward units are busy areas of a hospital and the completion of forms at the right time may not be possible. Completed in retrospect, the accuracy of the answers can be impaired. Evidence was in fact obtained of one questionnaire being completed a week in advance! Emotional involvement may also influence judgement and estimates by different people in the same, or very similar situations, can leave a wide

margin for personal opinion. There have been many instances of significantly different assessments of the same patients by different people.

Previous studies have set out to ascertain the degree of nursing dependency of the various groups of patients in particular hospital situations with a view to assessing their place in one or other of the three main classifications of progressive patient care, i.e. intensive, intermediate, and minimal care. They referred only to nursing work-load and nursing dependency and did not assess the medical needs of the group of patients who might be accommodated in alternative accommodation to that available in 'acute' wards. The object of this study was an assessment of the need for 'supporting' beds as revealed by the number of patients who might more suitably be accommodated in such beds than in the 'acute' ward unit.

For a minimal care or a 'supporting' bed unit, it was considered that:

1. Patients should be able to feed themselves and use washing and toilet accommodation without assistance.
2. Rehabilitation facilities should be easily accessible. These should cover intensive physiotherapy, occupational therapy and possibly speech therapy.
3. Cafeteria services should be available but with provision for special diets for obese, diabetic, glutein-free, low residue, and possibly peptic ulcer patients.
4. Dressings and injections would be undertaken in the unit.
5. Patients requiring bladder drainage, or having an established colostomy or ileostomy, would be accepted.
6. Oxygen and suction, if required, would be provided by portable machines.
7. Toilets, etc., should allow for patients in wheelchairs.

MEDICAL CATEGORIES

The medical groupings were:

1. *Intensive-care*

Acutely ill patients who have a high level of doctor and nurse dependency. Includes patients requiring intensive therapy and/or intensive nursing care.

2. *Intermediate-care*

Patients recovering from the immediate effects of a serious illness or operation and still requiring medical and nursing supervision although not at the intensive level.

Elderly patients suffering from acute medical or surgical conditions were classified as suitable for admission to intensive or intermediate care wards irrespective of age. It may also be noted that some patients in this 'medical' category were classified as having a low nursing dependency.

3. *Five-day ward*

Patients undergoing relatively minor procedures and requiring services available in an 'acute' ward although for only a few days.

4. *Terminal*

A separate group being nursed in 'acute' wards.

5. *Awaiting operation, or under investigation*

Patients who had been accommodated for more than 24 hours prior to a surgical operation or who were under investigation.

6. *Geriatric*

Patients who would more suitably be accommodated in a unit specially equipped for geriatric work.

7. *Old persons' home*

Patients who might have been accommodated more properly in local authority residential accommodation (Part III).

8. *Minimal-care*

Patients no longer requiring intensive or intermediate care but still requiring supervision by a trained nurse even if this supervision was given at infrequent intervals in the course of a day.

9. *Hostel accommodation*

Patients who might have been dealt with on an out-patient basis, but mainly owing to distance from the acute hospital this was not feasible.

10. *Others*

This group included patients with a particular need for rehabilitation. This might include psycho-therapy and occupational therapy as well as physiotherapy. Five sub-groups of patients were recognized:

Orthopaedic, long-term;
Orthopaedic, elderly fractures;
Rehabilitation and retraining;
Chronic sick, other than geriatrics;
Long-term convalescence.

NURSING CATEGORIES

Patients were classified into three broad groups according to nursing dependency. Sub-division of the full range of need for skilled nursing care must remain to some extent arbitrary. In allocating patients into three broad categories, the decision was based on an assessment against the highest dependency being 100 per cent. In this way, the medium dependency groups were rated between 30 and 70 per cent and the low dependency groups from 0 to 30 per cent.

1. *High dependency*

Patients requiring skilled nursing care 24 hours a day and at frequent intervals. This group included patients in the

intensive therapy and intensive nursing care categories and also some who, though less ill, required 'heavy' nursing care.

2. *Medium dependency*

Patients requiring less constant nursing care and who might or might not have been in the high dependency group; those presenting a heavy nursing load but one which demanded a lesser degree of skilled nursing care than in group 1; patients in terminal states.

3. *Low dependency*

This group comprised patients from several of the medical categories and consisted of those whose nursing dependency was slight. This applied, for example, to patients who were in the 'intermediate care' groups but who were ambulant and required only the renewal of dressings, removal of stitches, or simple medication. For this category, services such as bed-making could be undertaken by non-nursing staff.

Low nursing dependency was frequently noted in patients retained in the 'intermediate care' group to allow continuity of supervision by staff familiar with the immediate preceding acute phase, or in a few cases where the possible appearance of some complication made this desirable. It should, therefore, be noted that the number of patients in the 'low dependency' group as regards nursing are substantially greater than those in the 'minimal care' group in the medical classification.

Details of the findings are given later in the report under the various specialities reviewed and in tabular form in Appendix C.

BED USAGE

The use of beds in hospitals is the main theme throughout this report but some general comments may be made at this stage on important aspects encountered during the survey.

BED NUMBERS

The simple use of figures as a guide to bed usage may be dangerous. Nevertheless, apparent anomalies brought to light by simple statistics are a useful indication of aspects requiring further investigation and explanation. The number of patients on waiting lists does not necessarily indicate priorities for admission. Again, a reduction in waiting lists might be achieved by changing the method of bed use rather than increasing the number of beds available. At the same time, the hospital statistics for 30 September 1966, published by the Scottish Home and Health Department contained interesting data on the allocation of beds for particular specialities and the effect this had on the number of patients per bed on the waiting lists. Some examples of the national figures are:

Speciality	Staffed beds	Number of patients on waiting lists	Patients waiting per bed
General surgery	4264	13 396	3·1
General medicine	4901	1160	0·24
E.N.T. surgery	898	11 829	13·2
Gynaecology	1404	10 144	7·4

Note. The waiting list for E.N.T. surgery includes a large number of young patients waiting for tonsilectomy and removal of adenoids, many of whom may in the natural course of their condition remove themselves from the waiting list.

PRESSURE ON BEDS

This is a very important factor in bed usage. It is clearly demonstrated in gynaecology where, with a total of 1404 staffed beds on 30 September 1966, there was a waiting list of 10 144 patients. This was reflected in the census of patients; some 80 per cent of patients in gynaecological wards were medically classified as 'acute'.

THE CONSULTANT'S APPROACH

It may be said that the most important single influence in the organization of bed usage is the level of interest taken in it as a broad problem by the consultant. The value of supporting beds for acute wards has been demonstrated in some of the specialities; one orthopaedic unit had, for example, a 90 per cent occupancy by 'acute' patients. On the other hand, another unit with more distant supporting accommodation had only 27 per cent of the patients in the 'acute' group. The waiting lists for these two units also demonstrated the great difference between their mode of function. The unit with the high percentage of acute beds had no waiting list, the one with the low percentage had a waiting list of nine patients per available bed.

GERIATRIC SERVICES

The regional organization for geriatric service is important. The usage of hospital beds is directly affected by the degree of co-operation between the various consultants and authorities concerned. Over-all, the percentage of acute beds occupied by patients who might have been admitted to geriatric accommodation was not as large as is commonly supposed (8·8 per cent) but the proportion varied widely in different areas.

REHABILITATION

The efficiency of the organization of rehabilitation services is variable. It affects a multiple group of patients, including rehabilitation following major surgery, multiple injuries, cerebral vascular accident, and the fitting of prostheses.

OTHER FACTORS

The availability of either pre-discharge beds or longer-term convalescent beds has a direct influence on bed usage in the

'acute' hospital, the admission of patients to acute wards for periods of investigation, the geographical situation of the hospital and the nature of its catchment area, the age structure of the patients, and the level of nurse staffing.

Examples of all these influences were encountered during the survey. The value of supporting accommodation was clearly demonstrated in some specialities, particularly perhaps in orthopaedics. Hospitals serving remote areas in which rehabilitation services were not available had to retain patients for longer than average periods. As regards age, the pressure on beds was affected particularly by three groups of elderly patients—fractured femora, more extensive procedures being undertaken in elderly patients, and the longer period of convalescence required with greater demands on nursing services than would be the case for younger persons. As regards nurse staffing, the wide variations encountered, even in acute wards, makes it difficult to isolate particular points of principle. Tradition appears to be a dominant factor and there is no explanation for the great discrepancies encountered between the levels of day and night staffing in terms of the dependency of patients retained in acute wards. The level of staffing appears to relate mainly to availability, the teaching pattern, and finance.

CATEGORIES OF PATIENT

AGE

The age distribution of the 3613 patients covered in the survey is set out in Table 6. The table shows that the age structure of the population in teaching hospitals is much younger than that, for example, in small general hospitals where the percentage (60·4) of patients over 65 years of age is almost double that of the teaching hospitals. Further in the small general hospital 50 per cent of the population was over 70 years of age as against 20 per cent in teaching hospitals and 24 per cent in district hospitals. The figures given above are, of course, influenced by the way in which the smaller

Table 6. *Age distribution*

		Age (years) 0–19	20–29	30–39	40–49	50–54	55–59	60–64	65–69	70–74	75–79	80–84	85–89	90+	Total
All hospitals	No.	238	246	253	425	275	355	436	419	353	283	177	110	43	3613
	%		20·4		11·8	7·6	9·8	12·1	11·6	9·8	7·8	7·9		1·2	100
	%				61·7							38·3			
Teaching hospitals	No.	142	140	158	240	157	194	244	228	157	105	73	40	7	1885
	%		23·3		12·7	8·3	10·3	13·0	12·1	8·3	5·6	6·0		·4	100
	%				67·6							32·4			
District general hospitals	No.	62	73	66	121	76	101	109	108	88	76	32	19	7	938
	%		21·4		12·9	8·1	10·8	11·6	11·5	9·4	8·1	5·4		·8	100
	%				64·8							35·2			
Convalescent hospitals	No.	14	7	14	30	21	40	40	38	49	34	20	24	7	338
	%		10·4		8·9	6·2	11·8	11·8	11·2	14·5	10·1	13·0		2·1	100
	%				49·1							50·9			
Small general hospitals	No.	20	26	15	34	21	20	43	45	59	70	52	27	22	452
	%		13·5		7·5	4·6	4·4	9·5	10·0	13·1	15·0	17·5		4·9	100
	%				39·6							60·4			

general hospitals carries a higher percentage of the patients who ought to be in a geriatric unit than the teaching or general hospital does. Those classified as 'geriatric' were excluded from the survey.

CLASSIFICATION

Patients medically classified as 'acute', i.e. suitable for intensive care, intermediate care, five-day ward patients, awaiting operation or under investigation, and receiving terminal care, represented in teaching hospitals 64·1 per cent of the total number of patients surveyed. In district hospitals the total for the 'acute' group was 59·4 per cent. The number of patients classified at the time of the census as requiring intensive care, i.e. intensive therapy or intensive nursing care, represented 2·7 per cent of the total number of patients surveyed in all specialities. From different specialities the number in this group varied; it ranged from 0·7 per cent in orthopaedics to 4·0 per cent in general surgery and 6·7 per cent in traumatic and head injury units.

The proportion of patients requiring intensive nursing care may vary in the same ward unit from day to day and even throughout a single day. This feature, and the difficulty in allocating certain patients to this category can affect presentation as a percentage. If in the wards visited the patients had represented only those classified as suitable for an 'acute' bed, the intensive care group as a percentage of the 'acute' patients would have ranged from 1·3 per cent in the orthopaedic wards to 6·7 per cent in the surgical wards, with a peak of 22·2 per cent in the traumatic and head injury units: the average including all patients seen in all specialities would have been 4·4 per cent. Almost exactly 50 per cent of the patients surveyed in teaching and in district hospitals were medically classified as being in the intermediate care category; only about half of this group was estimated to have a nursing dependency in the 'medium' category, the remainder being in the 'low' group.

It may be noted that any percentage of intensive nursing care postulated for the planning of ward floors for acute medical or surgical use will be affected by the extent to which it is anticipated that wards of this kind will be used for 'acute' purposes. This will be directly affected by related facilities such as operating theatre time.

BLOCKED BEDS

It has frequently been suggested that 'acute' beds are significantly blocked by patients who might more properly be accommodated in geriatric hospitals or in local authority residential accommodation. This was not borne out by the survey. The percentage of patients of this kind represented only 5·4 per cent in teaching hospitals and 5·3 per cent in district hospitals. In these hospitals only eight cases were encountered (0·3 per cent of the total number surveyed) who could suitably have been transferred to local authority residential accommodation. It is recognized, however, that other factors may affect the number of patients in hospital wards at any given time and who might be suitable for transfer in this way. The standards applied in deciding whether or not a patient might be transferred to Part III accommodation are not clear and hospital staff may have become discouraged if in practice they have been unable to persuade local authorities to accept many patients. In these circumstances some such patients may be discharged to their homes.

NON-ACUTE PATIENTS IN ACUTE WARDS

It was surprising that when the survey results were analysed it was found that 30·5 per cent of patients in teaching hospitals and 36·3 per cent of patients in district hospitals could have been accommodated more suitably in alternative accommodation to that in which they were located. In teaching and district hospitals 20 and 25 per cent of patients respectively were found to be in the minimal care category, i.e. patients

who no longer required acute or post-acute care but still required some supervision by a nurse even if this was infrequent and of a passing nature.

CATEGORIES OF PATIENT BY SPECIALITY

MEDICAL WARDS

Table 7. *Summary of patients in medical wards*

Nursing category	Patients surveyed	Medical categories of patients: 'Acute'[1]	Geriatric hospital	Part III	Minimal care	Hostel accommodation	Others
TEACHING HOSPITALS							
High	31	31	—	—	—	—	9
Medium	188	160	18	1	—	—	9
Low	485	276	44	4	111	7	43
	704	467	62	5	111	7	52
		66·3%	8·8%	0·7%	15·7%	0·1%	7·4%
DISTRICT GENERAL HOSPITALS							
High	20	20	—	—	—	—	—
Medium	101	84	8	—	—	—	9
Low	209	104	6	—	63	5	31
	330	208	14	—	63	5	40
		63·1%	4·2%	—	19·1%	1·5%	2·1%

COMMENT

Acute cases represented 66·3 and 63·1 per cent of the patients surveyed in medical wards in teaching and district general hospitals respectively. In medical wards there was found the largest proportion of patients who could more properly have been accommodated in geriatric hospitals; 8·8 and 4·2 per cent in teaching and district general hospitals respectively. In certain units a reluctance to take in elderly patients was expressed because it was felt their discharge after treatment

1. In this and subsequent tables the 'acute' category of patients includes those classified under the headings 'intensive care', 'intermediate care', 'five-day ward', 'terminal', and 'awaiting operation or under investigation for over 24 hours'.

might prove difficult and that 'acute' work would be prejudiced if it became recognized as predominantly, or developed entirely into a geriatric unit.

Of the 704 patients in eight teaching hospitals only 31 or 4·4 per cent required a high level of nursing care, 188 or 26·7 per cent had a medium nursing dependency and the nursing dependency of the remainder, 485 or 68·9 per cent, was in the low category. In district general hospitals the comparable percentages were 6·1, 30·6, and 63·3. An interesting point is that if all patients other than those medically classified as 'acute' were removed from the medical wards surveyed the nursing dependency percentage distribution for the 'acute' patients would be:

Nursing dependency	Teaching hospitals	District general hospitals
High (70–100%)	6·6	9·6
Medium (30–70%)	34·3	40·4
Low (0–30%)	59·1	50·0
	100·0	100·0

A comparison of these percentages with the earlier ones will show that, on average, medical wards in teaching hospitals diluted with geriatric and supporting bed patients had three out of ten patients with high and medium nursing dependencies. Remove the geriatrics and the supporting bed patients and the effect would be that with the residual 'acute' group there would have become four out of ten patients with high and medium nursing dependencies.

As expected, the survey revealed patients who did not fit easily into a small number of groups. The category 'others' was included and while some patients allocated to it would have been suitable for a minimal care or pre-discharge unit, they have been kept separate. The existence of a group of patients of this kind underlines the diversity of the problem of analysis and the difficulty, even when direct reviews are

made by clinical staff, to fit the various types of patient into a predetermined pattern of needs and dependencies.

The 'others' group contains, for instance, some of the more serious types of illness from which recovery is likely but tends to be protracted. This applies particularly to some of the younger age groups, to some cerebral vascular accidents, and to conditions such as severe myocardial infarctions. It also includes a certain number of young chronic sick whose nursing needs vary, they can be quite high in certain circumstances, although frequently their pure medical needs are minimal; this applies particularly to the young patients with disseminated sclerosis in an advanced form and to other neurological conditions. In the older age groups there are some of the other forms of chronic sickness which were placed in this group, including some chronic chest conditions or cardiac disabilities rendering patients more or less cardiac cripples, and also some with rheumatic and rheumatoid conditions. Again, the nursing needs of such patients varied; in some ways they are facility dependent, requiring special oxygen or suction facilities or being close to certain instruments for the treatment of cardiac arrest or some other similar episode. While they do not always need to be accommodated in acute hospitals, the type of accommodation—sometimes without lifts—and the other facilities offered by many of the present-day convalescent or longer-term hospitals are not suitable, especially for cardiac cases. In the 'others' group were also included some diabetic and obese patients who could probably have been accommodated elsewhere. It is not easy to decide where it is best to house these particular patients, some of whom have no nursing requirement. Some have been in hospital for up to a year, but is it justifiable to hold them in an 'acute' bed? Training diabetics to live with their disability and also the training of other medical disabilities is a form of medical as well as health education; this was brought to notice some years ago by a series published in the *Lancet* on 'Disabilities and how to live with them'. Insufficient appears to be known to the general public about how to live following some form of

medical or surgical catastrophe. Apart from the early stages of the diagnosis and the working out of suitable drug therapy, it seems unnecessary for a person learning to live and adjust to a new kind of diet to do so in an 'acute' bed. Some less busy sphere where there is more time available to explain and to learn about such matters would appear preferable.

Another problem of modern day medicine is where to treat grossly obese patients now found not infrequently in 'acute' wards. Their diet appears to be restricted to fluids and vitamins and, therefore, there is no great dietary or nursing requirement, apart from some medical supervision to avoid any dangerous acidosis or similar occurrence.

SURGICAL WARDS

Table 8. *Summary of patients in surgical wards*

Nursing category	Patients surveyed	'Acute'	Geriatric hospital	Part III	Minimal care	Hostel accom-modation	Others
TEACHING HOSPITALS							
High	35	35	—	—	—	—	—
Medium	89	86	3	—	—	—	—
Low	350	170	10	—	151	1	18
	474	291	13	—	151	1	18
		61·4%	2·7%	—	31·9%	0·2%	3·8%
DISTRICT GENERAL HOSPITALS							
High	18	18	—	—	—	—	—
Medium	63	55	5	—	—	—	3
Low	210	96	6	—	95	3	10
	291	169	11	—	95	3	13
		58·1%	3·8%	—	32·6%	1·0%	4·5%

COMMENT

'Acute' patients represented 61·4 and 58·1 per cent of those surveyed in teaching and district general hospitals respectively and varied from 41 per cent in one hospital to 72 per cent in another.

The percentage distribution of the nursing dependency groups in teaching and district general hospitals was:

Nursing dependency	Teaching hospitals	District general hospitals
ALL PATIENTS		
High	7·4	6·2
Medium	18·8	21·6
Low	73·8	72·2
	100·0	100·0
'ACUTE' PATIENTS		
High	12·0	10·6
Medium	29·6	32·6
Low	58·4	56·8
	100·0	100·0

In surgical wards, therefore, the effect of removing geriatric and supporting bed patients would have been to change an almost three out of ten patients with high and medium nursing dependencies to four out of ten.

The view that surgical beds are blocked by large numbers of elderly persons who should be in either geriatric hospitals or local authority residential accommodation was not confirmed in either teaching or district general hospitals. In the wards surveyed no patients were awaiting transfer to local authority residential accommodation and only twenty-four, representing 3 per cent of the total, could have been cared for more suitably in a geriatric hospital.

It should be noted that the number of patients classified as requiring minimal-care represented approximately 32 per cent of those surveyed in both district general and teaching hospitals. This is a significant proportion and supports those who see a need for purpose-designed accommodation for this group. In one hospital group where patients were accommodated so far as possible according to the stage of their illness a fairly high percentage—72 per cent—of patients were medically classified as 'acute', and only a small proportion

were in the minimal-care category. Efforts towards better utilization of accommodation were, however, exceptional.

The variation in clinical practice leads to wide discrepancies in patients' length of stay. The need to retain similar surgical patients in the units in which they were found did not follow a clear pattern. Duration of stay is a central question in patient-care and bed-usage; in surgery it would appear that the wide range of practice should be capable of a degree of rationalization which would directly affect hospital provision. Reference has already been made to publications on the treatment of hernia on an out-patient basis. This has been practised in only a few units and yet little has been published to suggest why it should not be extended. There may be valid reasons for not carrying out this and similar procedures, particularly in hospitals under pressure, but they are not widely expressed. In the same way, it would appear that some patients now retained in units for traumatic surgery might either be sent home or to supporting units, and returned to the main hospital for treatment as necessary. Even in more simple conditions, such as appendicectomy, there is evidence of disagreement. Some surgeons were prepared to send patients home early and to return for removal of stitches, etc.; others appeared never to have considered this possibility. Obviously, consultants must be left with the ultimate decision as to the disposal of their patients, but there are diversities of practice which have important, far-reaching consequences and which merit clear professional review.

Delays pending operation are frequently referred to as a cause of delay or prolonged stay in hospital, but in the survey, when patients were being kept a day or two pending operation, it appeared that this was deliberate policy. In certain types of operation it was felt that results were better and the risk of sepsis reduced if patients were at least two days in hospital before operation. In a proportion of cases, of course, there was some delay following admission but only occasionally was this of more than two days and it was usually due to difficulties in establishing a diagnosis and the

need for surgery, together, in some cases with the programming of anaesthetists' and operating theatre time.

With advances in surgical and anaesthetic techniques the age-band for major surgery has been extended. As the elderly take longer to recover, it seems necessary to find suitable accommodation for this purpose. At one convalescent unit voluntary statements were made by patients in the older age-groups, that a period of real convalescence had made all the difference to them. They considered that if they had been discharged too early to their own homes, they would have been unable to cope with the everyday problems and in all probability would have had to be re-admitted to the acute hospital.

Problems still exist in association with the fitting of prostheses. The present trend is towards the earliest possible fitting of a prosthesis and because of the short period after operation, this must be conducted within the acute hospital area. In itself this does not constitute a serious problem provided there is adequate co-operation with the limb-fitting officer. Difficulties arise, however, where this procedure has not yet been adopted and patients are either kept in the acute ward or transferred to so-called convalescent units to await their fitting. There can thus be a significant lapse of time before the patient is seen by a limb-fitting officer, and, after provision of at least an initial prosthesis, in being trained how to live with it. Many examples of delays of this nature were seen during the survey. Training is an essential part of the fitting of limbs and this may require a concentrated effort with a considerable stay in hospital accommodation at which the necessary facilities exist. In view of the number of elderly people requiring treatment for peripheral vascular disease—which may involve amputation—this represents a special problem. Only occasionally, however, were delays encountered in the fitting of such items as colostomy belts though here again, a 'training and familiarization' period is necessary under supervision.

ORTHOPAEDIC WARDS

Table 9. *Summary of patients in orthopaedic wards*

Nursing category	Patients surveyed	Medical categories of patients: 'Acute'	Geriatric hospital	Part III	Minimal care	Hostel accommodation	Others
TEACHING HOSPITALS							
High	21	21	—	—	—	—	—
Medium	67	49	4	—	—	—	14
Low	152	61	4	2	46	—	39
	240	131	8	2	46	—	53
		54·6%	3·3%	0·8%	19·2%	—	22·1%
DISTRICT GENERAL HOSPITALS							
High	—	—	—	—	—	—	—
Medium	25	9	8	—	—	—	8
Low	63	15	2	—	21	—	25
	88	24	10	—	21	—	33
		27·2%	11·4%	—	23·9%	—	37·5%

COMMENT

The percentage of 'acute' patients in the teaching and district general hospital orthopaedic wards surveyed was 54·6 and 27·2 respectively. The percentages ranged from 27 to 90 in different hospitals and if it had not been for the latter figure the average would be very much lower. The wide difference appeared to be due to some hospitals having no suitable accommodation for the onward movement of 'elderly fractures', classified by the survey team in the 'others group'. The one unit with a 90 per cent 'acute' group was small in size but had a rapid turnover because after early pinning the patients could be moved to alternative accommodation. Where there were relatively poor facilities for this, the 'acute' group as a percentage of the total patients surveyed fell to below 30 per cent.

The percentage distribution of the nursing dependency groups in teaching and district general hospitals was:

Nursing dependency	Teaching hospitals	District general hospitals
ALL PATIENTS		
High	8·8	—
Medium	27·9	28·4
Low	63·3	71·6
	100·0	100·0
'ACUTE' PATIENTS		
High	16·0	—
Medium	37·4	37·5
Low	46·6	62·5
	100·0	100·0

Orthopaedic patients are dealt with either in special orthopaedic wards or, where this is not established as a separate speciality, in 'acute' surgical wards where the surgeon has an interest in orthopaedics. In the first group, there appeared to be less need to accommodate long-term patients, because as a rule arrangements were available for long-term care to be carried out elsewhere. The result was that they tended to function as fairly acute wards. In general wards, however, with a lack of suitable alternative accommodation, there was a tendency for a greater accumulation of long-term patients, particularly those in the older age-groups. This has a direct effect on bed usage and the admission of elective patients. Without access to supporting beds and not knowing how many acute cases may require to be admitted, this usually means that beds which might have been used for waiting list cases and occupied all of the time, have to be held in reserve.

Apart from the long-term elderly orthopaedic patients referred to elsewhere, other problems arise. There is a tendency for a much older group of patients to be accommodated in orthopaedic wards, especially women. In one ward the team saw a 95-year-old man who had been admitted with multiple injuries from which he had recovered, but after six months he

was still accommodated in the acute ward as it had not been possible to find a place to which he could be discharged. In one surgical ward dealing also with orthopaedics, of fifteen patients seen, seven were over 65 with an average age of 81. Similarly, in a female ward in a district general hospital, out of twenty-seven beds occupied, eight were patients with fractured femora who had ages ranging from 63 to 90 years and had been in the ward for up to five months.

GYNAECOLOGICAL WARDS

Table 10. *Summary of patients in gynaecological wards*

		Medical categories of patients					
Nursing category	Patients surveyed	'Acute'	Geriatric hospital	Part III	Minimal care	Hostel accommodation	Others
TEACHING HOSPITALS							
High	—	—	—	—	—	—	—
Medium	20	19	—	—	—	—	1
Low	49	37	1	—	8	2	1
	69	56	1	—	8	2	2
		81·2%	1·4%	—	11·6%	2·9%	2·9%
DISTRICT GENERAL HOSPITALS							
High	5	5	—	—	—	—	—
Medium	13	13	—	—	—	—	—
Low	65	49	1	—	14	1	—
	83	67	1	—	14	1	—
		80·7%	1·2%	—	16·9%	1·2%	—

On the female side of an acute orthopaedic traumatic ward five beds were occupied by patients aged over 79 and two other beds by patients who would more suitably have been accommodated in a geriatric hospital. Out of the total group of thirty-nine patients accommodated in the ward, alternative accommodation was thought suitable for twenty-six, but of this number fifteen were long-term patients. In various hospitals, comment was made on the need for a dynamic approach to the problem of fractures in the elderly. Rehabilitation should start early and be kept to a high pitch to avoid deterioration, particularly in the frame of mind of the

elderly. Unless strict attention is paid to this aspect there is a fairly steady degeneration and poor results follow.

The proportion of patients requiring minimal care in orthopaedic wards appeared to be rather higher than in some of the other specialities, particularly in the teaching hospitals. The reasons for this are not clear but there is undoubtedly a considerable variation in the approach to orthopaedic problems. Where, for example, early pinning of femora is practised there is a rapid turnover. Where this is not practised the reverse is the case. At the same time there was evidence of lack of thought in the use of acute beds. An extreme example was a patient admitted and kept in hospital for some days for amputation of the distal phalanx of one finger; and this when there were several hundred persons on the waiting list.

COMMENT

The proportion of patients classified as acute was the highest in any of the specialities surveyed, being 81 per cent in both teaching and district general hospitals. The numbers of minimal care cases were correspondingly small though somewhat lower in teaching units than in the others.

The percentage distribution of the nursing dependency groups in teaching and district general hospitals was:

Nursing dependency	Teaching hospitals	District general hospitals
ALL PATIENTS		
High	—	6·0
Medium	29·0	15·7
Low	71·0	78·3
	100·0	100·0
'ACUTE' PATIENTS		
High	—	7·5
Medium	33·9	19·4
Low	66·1	73·1
	100·0	100·0

From the national statistics, and the views of some gynaecologists, there appears to be a relative shortage of beds for this speciality. Possibly owing to the pressure on beds, there appeared to be a constant medical and nursing audit in order to discharge patients as early as possible and there was little evidence during the study of long delays in the discharge of gynaecological patients in spite of the tendency to operate on older people, on whom major operations would not have been carried out some years ago. Opinions were expressed in several areas, however, that the degree of pressure was excessive taking into account the available beds, operating theatre, and anaesthetic facilities. While more prolonged periods of recovery should be available after the 'acute' stage and especially for the first few days after operation where there is a risk of post-operative thrombosis, etc., this need not be provided in the 'acute' ward units. Suitable supporting accommodation in lieu of a proportion of acute beds would also relieve some blockage of beds by gynaecological patients who were ambulant and undergoing radiotherapy. This need was found where no alternative accommodation was available. In this group of patients are some who might be accommodated in a form of hostel, others might require to remain in the hospital complex to permit access to certain facilities and also allow a degree of supervision. Hostel accommodation is at present very limited and to the best of our knowledge is available in Scotland in Aberdeen and Inverness only through the auspices of the British Red Cross Society.

MIXED WARDS AND SPECIAL UNITS

Of the total of 544 patients surveyed in mixed wards and special units, the largest numbers were in urology (151), mixed surgery and orthopaedics (120), radiotherapy (96), traumatic and head injuries (60), and surgical neurology (45).

Table 11. *Summary of patients in mixed wards and special units*

Nursing category	Patients surveyed	Medical categories of patients: 'Acute'	Geriatric hospital	Part III	Minimal care	Hostel accommodation	Others
TEACHING HOSPITALS							
Urology							
High	10	10	—	—	—	—	—
Medium	17	16	1	—	—	—	—
Low	124	74	2	—	34	3	11
	151	100	3	—	34	3	11
		66·2%	2·0%	—	22·5%	2·0%	7·3%
Radiotherapy							
High	5	5	—	—	—	—	—
Medium	5	5	—	—	—	—	—
Low	86	74	2	—	5	5	—
	96	84	2	—	5	5	—
		87·5%	2·1%	—	5·2%	5·2%	—
Surgical neurology							
High	1	1	—	—	—	—	—
Medium	21	18	1	—	—	—	2
Low	23	17	1	—	—	—	5
	45	36	2	—	—	—	7
		80·0%	4·4%	—	—	—	15·6%
Traumatic and head injuries							
High	9	5	—	—	—	—	4
Medium	5	2	1	—	—	—	2
Low	46	11	1	—	14	—	20
	60	18	2	—	14	—	26
		30·0%	3·3%	—	23·3%	—	43·4%
DISTRICT GENERAL HOSPITALS							
Surgery and orthopaedics							
High	11	11	—	—	—	—	—
Medium	18	18	—	—	—	—	—
Low	91	40	1	1	42	—	7
	120	69	1	1	42	—	7
		57·5%	0·8%	0·8%	35·0%	—	5·9%

The percentage distribution of the nursing dependency groups in the above-mentioned specialities was:

Nursing dependency	Teaching hospitals				District general hospitals
	Urology	Radio-therapy	Surgical neurology	Traumatic and head injuries	Surgery and orthopaedics
ALL PATIENTS					
High	6·6	5·2	2·2	15·0	9·2
Medium	11·3	5·2	46·6	8·3	15·0
Low	82·1	89·6	51·2	76·7	75·8
	100·0	100·0	100·0	100·0	100·0
'ACUTE' PATIENTS					
High	10·0	6·0	2·7	27·8	15·9
Medium	16·0	6·0	50·0	11·1	26·1
Low	74·0	88·0	47·3	61·1	58·0
	100·0	100·0	100·0	100·0	100·0

COMMENT

The general pattern is similar to the specialities previously discussed, with one-third of the patients who might more suitably be accommodated in geriatric or 'supporting' type accommodation. There are, of course, exceptions, for example in radiotherapy 87·5 per cent of the patients were recorded as being 'acute'. This was because the bulk of the patients in standard 'acute' beds are five-day patients spending the weekend at home and returning at the beginning of each week for further therapy.

In a regional speciality such as surgical neurology it is understandable that 80 per cent of the patients were classified in the 'acute' category. It was more difficult to understand, however, why in traumatic and head injuries units only 30 per cent of the patients were in the acute phase while the remaining 70 per cent might have been accommodated elsewhere. This may indicate excessive provision of this type of bed in acute units or that such beds are meeting the demand rather than the need and are being blocked by long-term patients who should be accommodated elsewhere though few,

perhaps, in the type of accommodation designed to meet the main need for supporting beds. Taking one example, in an acute head injuries unit, eleven of the twenty-one patients[1] surveyed were regarded as suitable for some form of alternative accommodation. The problem is basically where best to care for long-term survivors of severe head or bodily injuries. Their residual medical and nursing needs are frequently not of an acute character, and when this is so, is it right to retain these patients in highly specialized acute units?

The remaining specialities covered in the review of patients in teaching and district general hospital were gastro-enterology, mixed surgery and gynaecology, and convalescent. For convenience they are grouped here, but detailed analysis of the patients in each speciality is in the statistical tables in Appendix C.

		Medical categories of patients					
Nursing category	Patients surveyed	'Acute'	Geriatric hospital	Part III	Minimal care	Hostel accommodation	Others
High	—	—	—	—	—	—	—
Medium	6	4	2	—	—	—	—
Low	66	40	2	—	15	—	9
	72	44	4	—	15	—	9
		61·1%	5·6%	—	20·8%	—	12·5%

The percentage distribution of the nursing dependency groups was:

Nursing dependency	All patients	'Acute' patients
High	—	—
Medium	8·3	9·1
Low	91·7	90·9
	100·0	100·0

1. See Appendix D.

CONVALESCENT UNITS

Table 12. *Summary of patients in convalescent units*

Nursing category	Patients surveyed	Medical categories of patients: 'Acute'	Geriatric hospital	Part III	Minimal care	Hostel accommodation	Long-term convalescence	Others
High	1	—	1	—	—	—	—	—
Medium	32	10	21	—	—	—	—	1
Low	305	16	41	5	154	—	42	47
	338	26	63	5	154	—	42	48
		7·7%	18·6%	1·5%	45·6%	—	12·4%	14·2%

In the convalescent units visited, the average age structure of patients was significantly higher than in teaching and district general hospitals, 62·9 as against 53·4 and 54·5 respectively, but only slightly lower than the population of small general hospitals where the average age was 63·9. Of the total number of patients in the convalescent units visited, 50·9 per cent were aged 65 and over and this group had an average age of 75·9.

The percentage distribution of the nursing dependency groups was:

Nursing dependency	All patients	'Acute' patients
High	0·3	—
Medium	9·5	38·5
Low	90·2	61·5
	100·0	100·0

COMMENT

Previous reports on the need for convalescent units suggest that the best use was not always being made of them, and that there was a tendency to house elderly patients who were difficult to fit in elsewhere. This was borne out by what was seen of some convalescent units covered in the survey. The

figures in Table 12 above make clear that even in so-called convalescent units only 58 per cent of the patients (minimal-care and long-term convalescence) were in accommodation appropriate to their needs. This is partly explained by the surprising fact that, due to 'pressure' on acute beds at the parent wards, some convalescent units housed 'acute' patients when, at the same time, the 'acute' unit accommodated minimal care patients. Also, some convalescent units were housing a percentage of geriatric patients, partly because of the shortage of this type of bed. In one unit 37 per cent of the patients were in the geriatric category and had been admitted from a few months to over two years previously. In another, 32 per cent were geriatric patients, some of whom had been in from nine to ten months; in this case the unit was described as a continuation unit of an acute hospital. In yet another convalescent unit, a significant number of cerebral vascular accident cases of a long-term nature were accommodated, thus blocking the use of these beds for short-term convalescence. It is all too easy to block active convalescent accommodation with long-stay cases and the census figures tend to substantiate the hesitancy shown by administrators of some convalescent units to admit elderly patients. It appears to be true that once certain elderly patients reach a unit in which there is a general atmosphere of convalescence as against one of full-scale, active rehabilitation, there is a tendency for them to stop progressing; if no active rehabilitation is provided, they regress and become bedfast.

It was noticeable during the survey that even where convalescent or 'supporting' beds were available they were not always being used to provide as good a patient 'fit' as might have been achieved. Frequently the survey team found extra beds in acute wards accommodating a considerable proportion of minimal-care patients while, at the same time, empty beds for minimal-care patients were available in the convalescent unit. Admittedly, in no case were the convalescent or 'supporting' units within the same building—most of them were some distance away. It obviously limited the free use of

'supporting' beds if it was not possible to organize transport for the transfer of patients at short notice and if intermittent medical supervision was impeded by distance. In some 'supporting' units, located at a distance from the parent hospitals, receiving was carried out on two days a week only; this meant that beds could be unoccupied in the supporting unit and unnecessary extra beds occupied in the acute wards.

The provision of a suitable type of minimal-care unit within the perimeter of the acute hospital and preferably attached to it would obviously overcome this difficulty. This type of unit is considered as Part IV of this report.

Use of convalescent units. Convalescent homes or recuperative centres date from an era in which welfare services were not so highly developed as they are today and there were striking differences in the pattern of morbidity and hospital practice. Florence Nightingale, remarkable in so many ways for her prescience, said in 1863:

> It is a rule without any exception that no patient ought ever to stay a day longer in any hospital than is absolutely essential for medical or surgical treatment. What then is to be done for those who are not yet fit for a work-a-day life? Every hospital should have its convalescent branch and every county its convalescent home.

In the nineteenth century most of the poor lacked the rest, good food, and fresh air as provided at convalescent homes, and would have benefited from them even had they not been ill. At that time, therefore, a stay at a convalescent home fulfilled both medical and social needs after illness. This is no longer the case. Only exceptionally does the patient's general or social condition call for a convalescent regime. Medical care in convalescent homes continues any course of treatment prescribed at the parent hospital and provides for any minor ailments arising during the patient's stay in the home. In general, it is rare for such units to have facilities for physiotherapy and occupational therapy.

In considering the possibility of using existing convalescent units to the requirements of a 'supporting bed' unit it has to

be realized that the location, physical layout, equipment, and staffing of many of these units is inappropriate for minimal-care patients who would be transferred at an earlier stage of recovery. Many of the buildings were country mansion houses, awkward to adapt and inconveniently located. Many clinicians are not willing to transfer patients at an early stage of recovery to surroundings outwith the parent hospital and where they may not be able to exercise effective supervision.

The efficiency of convalescent units varies widely. Where the accent is on rehabilitation and return to the previous way of living this affects the whole atmosphere of the unit. Where established and run in a more old-fashioned way as rest homes, with little evidence of a positive and dynamic approach to rehabilitation, the whole tempo becomes inappropriate to the concept of 'supporting beds' forming a direct extension of acute care. On balance, the survey team considered that, mainly because of their dissociation from the parent hospitals, many convalescent units were unsatisfactory for the group of 'minimal-care' patients who would more properly be accommodated in a purpose-designed unit within the hospital complex, or in 'acute' wards suitably adapted for the purpose. Of the larger convalescent homes, some could be used for long-term rehabilitation and retraining and long-term convalescence, provided they were suitably adapted and equipped.

SMALL GENERAL HOSPITALS

Table 13. *Summary of patients in small general hospitals*

		Medical categories of patients					
Nursing category	Patients surveyed	'Acute'	Geriatric hospital	Part III	Minimal care	Hostel accommodation	Others
High	2	2	—	—	—	—	—
Medium	123	70	49	—	—	—	4
Low	327	97	51	7	113	—	59
	452	169	100	7	113	—	63
		37·4%	22·1%	1·6%	25·0%	—	13·9%

COMMENT

Where small general hospitals had an official quota of geriatric beds these beds and the patients occupying them were excluded from the census figures. Patients classified as being more suitably accommodated in geriatric hospitals or Part III accommodation were occupying beds other than geriatric and maternity beds in small general hospitals.

The percentage distribution of the nursing dependency groups was:

Nursing dependency	All patients	'Acute' patients
High	0·4	1·2
Medium	27·2	41·4
Low	72·4	57·4
	100·0	100·0

There is no simple explanation of the somewhat unusual pattern of usage of the small general hospitals covered in the survey. Generally, those in Perthshire and some in the Scottish Borders and Galloway were used for the care of semi-acute or 'intermediate' patients together with 'minimal-care' cases, and this form of usage is what the team expected to find in the small hospitals. The geriatric position, in particular, was not prominent. In other areas and in some hospitals in Perthshire and the Borders, the reverse was the case.

From the figures available, it is clear that the uses to which beds in the small general hospitals are put depends primarily on the attitude and interests of the general medical practitioners using them. In some cases this has led to bed blockage by the liberal admission of patients who would be accommodated more suitably in geriatric units or Part III accommodation. At the time the census was taken the average number of occupied bed days per patient between date of admission and date of census ranged, in the small general hospitals, from 15·6 in an 'acute' unit with no long-term

patients to 637·2 in one small modern hospital, planned on other assumptions, which had become to a large extent a free high-class nursing home for the elderly persons in the area it served.

The average occupied day figure for the small general hospitals covered in the survey was 200·69, which is very high compared with the average duration of stay of thirteen days in all 'acute' hospitals. It is obvious that the small general hospitals are accommodating a higher proportion of long-stay cases, both geriatric and other long-term chronic sick patients, than the teaching and the district general hospitals.

In the hospitals where there was a full-time or part-time surgeon with control over some or all of the beds, the use to which the beds were put for more acute cases was much better than where control was divided only between general practitioners. In the former, it was necessary to turn over beds quickly for acute cases and consequently there were few problems of blockage of beds by geriatric patients. There is no clear explanation of how this was achieved.

A wide variety of what could be called semi-acute cases was found in some of the small hospitals. These included coronary infarctions, acute chest infections, and other medical conditions. Other uses to which these hospitals were put, particularly those in the Northern Region, the Borders, and Galloway, was to accommodate local persons who had been operated on in the main hospital centres and are returned to their home areas for the care required in the post acute stage. This applied also on occasions where patients after investigation in a central unit were returned temporarily to their local hospital to await re-admission to the main hospital for completion of the investigations or other procedures.

With a few exceptions, the amount of surgery undertaken in small general hospitals is rapidly declining and the consensus of opinion appears clearly to be that operations are better carried out in a main centre and, when necessary, the patient could be returned to his local small hospital. It appeared to be common practice only to send patients from

main centres to small hospitals if the period of convalescence was likely to be longer than, say, five days, as it was not considered worthwhile either to the patient or the local unit to transfer patients for less than that period of time.

Other examples of the use of small hospitals were for the admission of elderly or chronic sick patients normally cared for at home but admitted to allow the relatives to have a holiday. There were also instances where an elderly couple had been able to remain independent in their own home, but when the wife became ill and had to be admitted to hospital, her husband was no longer able to fend for himself. In such cases, he might also be admitted to the local hospital.

Surprisingly, there were few examples of the use of cottage hospitals for terminal care. It would appear that patients at this stage are being retained in acute beds at main centres or at home.

Use of small general hospitals. The review of some 450 patients in twenty-one small general hospitals covered a cross-section of this type of hospital, of which there are about eighty in Scotland. The survey team's views on the place of these small general or 'cottage-type' hospitals in the community were governed by a study of the somewhat limited amount of relevant literature—and what they encountered in the survey.

As stated on page 81 the uses to which beds in small general hospitals are put depends primarily on the attitudes and interests of the general medical practitioners using them and the pressures put on general practitioners by their patients. This varies from reasonably intensive working situations similar to parts of district general hospitals to the sleepy, standstill, 'keep 'em in bed', situations typical of the less progressive convalescent or geriatric units. Where the happy medium was encountered, its value was apparent as regards the local general practitioners—sometimes overburdened—the matrons and their nursing staffs, and, not least, the patients whose desire was to receive suitable treatment without delay in familiar surroundings and without inconvenience

to their relatives who might have to travel considerable distances to visit them.

There is, however, little place in small general or cottage-type hospitals for surgery other than of a minor nature. Some small hospitals, remote from district general hospitals, still carry out surgery under conditions which would be looked on unfavourably in urban situations with full consultant services. With less than adequate supplies of blood on hand—should it be needed—and an anaesthetic service provided by general practitioners, as available and on a part-time basis, it is the opinion of the team, after discussions with several consultant surgeons, that such practices are both wasteful of time and potentially dangerous. The trend has been to withdraw much of the consultant surgical service from peripheral hospitals and, in Scotland, surgical work outwith a main centre is generally limited to areas where the general practitioner surgeons may not be replaced when they resign or move out of the area.

Unless the convalescence or 'supporting bed' period of stay at the small hospital is likely to be more than seven days it is considered that the small hospital has no significant part to play as a 'supporting' unit for surgical patients operated on in teaching or district general hospitals. There would be even more disadvantage, both to the patient and to the consultant staff, for the patient to be removed into a remote unit for a limited period immediately following operation than is experienced in the use of detached pre-convalescent units linked to specialist hospitals.

The supply of trained nursing staff for many small hospitals represents an increasing problem, and this is likely to deteriorate rather than improve. It is usually possible to employ adequate numbers of nursing auxiliaries for the tasks not requiring the services of a fully trained nurse, but in hospitals run as 'semi-acute' units the engagement of even the barest minimum of trained staff may be impossible, and consequently matrons of these units are overworked to an unreasonable degree. It is not generally realized that matrons of small

hospitals may be on duty and on call for as many as 156 hours a week, having at most one half day away from their place of work. Nor is it also recognized that these matrons are 'maids of all work' doing, for example, all or most of the skilled nursing, standing in for the cook when she is off duty or sick, turning out during the night to attend to an emergency and, if death ensues, moving the body to the mortuary—before the porter/handyman comes on duty. Persons in this category who will turn their hand to anything at any time are regrettably becoming fewer in number, and it must be recognized, before it is too late, that small hospitals nowadays are not equipped, staffed, or generally geared to provide acute medical services of a specialist type.

The admission of an acute elderly patient to a small hospital can often be the beginning of a problem which has implications that the small hospital is not suited to face. The acute illness may precipitate a situation in which the patient is unable to return home and requires alternative accommodation which is not always available. On the other hand, there is evidence that a determined effort is not always made to find more suitable accommodation for these patients. In some instances help is not sought from the geriatric services in the area in order to assess the future of these patients and also to obtain the help and advice of the geriatrician.

Because of the more concentrated use of specialist knowledge, equipment and facilities at main centres, where, without doubt, the patient gets the best attention and care, and because of the staffing difficulties, the small general hospital of the future appears likely to provide a service for four main classes of patient:

1. The maternity patient with no complications.

2. The ill but not seriously ill patient who can be looked after by his own general medical practitioner. This would include certain respiratory and cardiac conditions, subject to consultant cover and rehabilitation facilities being provided from the district hospital. This applies also to the geriatric

patient who has been assessed by a geriatric physician and is under his care for active rehabilitation with a view to returning to a normal life.

3. The orthopaedic patient transferred to his home area from the acute ward of a teaching or district general hospital so that he might undergo, at the small hospital, active rehabilitation and retraining; this, of course, would apply only to those small hospitals providing a physiotherapy service for both in and out-patients.

4. The fourth group are those in terminal care who have been investigated or operated on at a district hospital. It is considered that this group of patients should be allowed to return to small hospitals of their home areas where they can be visited by relatives and friends.

It should be noted that these four classes do not include the long-term chronic sick who would be more properly accommodated in units specially designed for the purpose.

The hospital plans for Great Britain make clear that the acute hospital services of the future are to be based on major teaching and district general hospitals, with regional provision for certain specialities, such as radiotherapy, neurosurgery, and plastic surgery. If it is right also to centralize those general, surgical, and medical services of a specialized nature on district hospitals, there can be little advantage to the patient to dissipate the services of consultant and other staff in travelling to and from small hospitals to hold out-patient clinics and treat in-patients, when this can be better done at main centres with all the supporting laboratory and diagnostic facilities available there. The only proviso to this is that if adequate supporting facilities such as laboratories, X-ray, E.C.G., are available or are provided in the future through the grouping of, for example, health centres with hospitals, general medical practitioners may be able to treat more acute medical cases to a conclusion in smaller units, if a suitable level of nurse staffing can be assured.

THE NEED FOR HOSTELS

Of the 3613 patients reviewed during the survey only twenty-seven (eighteen in teaching hospitals and nine in district general hospitals) were classified as being persons who could have been accommodated suitably in hostel type accommodation. This represents 0·75 per cent of the patients surveyed and is negligible. There is undoubtedly a vague distinction between the requirements for minimal-care patients and for patients who might suitably be accommodated in a hostel. On the one hand the minimal-care patient requires to be in hospital for medical or nursing reasons or linked to the parent hospital, whereas the hostel patient might equally be in a hotel. On the basis of the figures obtained it can be stated that so far as in-patients are concerned, there is no apparent need for the provision of hostel accommodation, which might well become a 'lagoon' in which patients lay around.

DAY HOSPITALS AND DAY BEDS

The possible use of day hospitals, while not a subject covered by the study, must be referred to, although not necessarily in the context of 'supporting' beds. At the present time day beds/units are used mainly as supporting units for geriatric or psychiatric hospitals, and their use undoubtedly tends to prevent the re-admission of at least a certain group of patients.

The place of day units in general hospitals varies. They may be used for patients undergoing certain types of investigation, either radiological or biochemical. Some minor operative conditions requiring anaesthesia and a range of endoscopic examinations might also be fitted into this group. Some surgeons consider that other forms of surgery might be conducted on a partial out-patient basis; thus, for instance, on herniorrhaphy, some agree that the practice of admission and routine retention in hospital for ten to fourteen days could well be changed to allow a shorter period in the hospital. However, in view of the need for supervision following a

general anaesthetic, some would not regard a day hospital as suitable though a 24-hour period might be sufficient to allow an otherwise healthy patient to have recovered to go home. The use of either day or 24-hour beds in such a setting demands that there should be adequate recovery facilities related to the operating theatre and the 24-hour bed. During the survey a system was seen in a major teaching hospital where patients spent a day in hospital but their period of recovery consisted of sitting in chairs as no proper recovery unit was available. At the same time, one unit in a casualty/accident department had a limited number of day beds which appeared to work successfully. It may be noted that the concept of day beds is included in the Scottish Home and Health Department Planning Note No. 6 on the design and function of out-patient departments.

PARTICULAR ASPECTS OF THE PROBLEM

ELDERLY PATIENTS

In considering the problems of caring for elderly patients in hospitals, two groups require to be identified—those apparently suitable for geriatric hospital accommodation but at present retained in acute wards for the lack of accommodation elsewhere—and a very small group who might be accommodated in local authority residential accommodation (generally known as Part III) or some other type of home.

At the time of the census these two groups represented 5·1 and 0·3 per cent respectively of the total patients surveyed in acute beds. In terms of bed occupancy, however, the patients now in teaching and district hospitals who are suitable for geriatric and Part III accommodation have an effect on utilization of 'acute' beds. The average length of stay of the 142 elderly patients was forty-eight days. With a national average length of stay of fifteen days for 'acute' beds (thirteen in occupancy and two in turnover) the geriatric patients occupied an 'acute' bed on average for more than

three times as long as 'acute' patients. While the view that elderly patients, most of whom are accommodated in medical wards, were seriously preventing the admission of 'acute' patients could not be supported by this survey, it is undoubtedly true that the use of 'acute' beds for long-stay purposes will reduce in some degree the number of admissions from waiting lists.

Apart from the figures already quoted, it is worth-while drawing attention to the proportion of elderly persons in hospital. This, of course, includes those properly accommodated in acute wards and is remarkably high. Of the total number of patients surveyed 38·3 per cent were aged 65 and over. In teaching hospitals 32·4 per cent of the patients surveyed were aged 65 or over and the average age in this group was no less than 73 years. In district general hospitals the percentage was 35·2 and the average age 74, and in small general hospitals the figures were 60·4 per cent and 77 years. It is interesting to note that in the 1961 census of population in Scotland the proportion of the population aged 65 and over was approximately 9·4 per cent. It is also of interest that in 1961 over 95 per cent of persons aged 65 or over in Scotland were living in their own home or with relatives or friends, about 1·5 per cent were in residential accommodation run by local authorities, voluntary organizations or private persons; and 3 per cent were in hospital accommodation of all types.

One group poses a special problem in orthopaedic wards; it comprises the elderly with fractures, particularly fractured femora. This group is becoming more numerous and methods of dealing with such fractures vary considerably. Another group which is difficult to place are elderly patients with cerebral vascular accidents capable of being rehabilitated at least to a certain degree. More is said about these groups in later paragraphs.

REHABILITATION

During the course of the survey it became clear that a considerable proportion of patients in acute hospitals needed rehabilitation and who, at that point in time, were not receiving the level of help and care they required in this respect.

The 'Piercy' Committee Report in 1956 stated that while the principle of applying a 'rehabilitation approach' to hospital treatment (and to medical treatment generally) was accepted and to some degree applied, many consultants and general practitioners were still slow to consider the rehabilitation needs of their patients, and doctors generally needed to be better informed on the scope, nature, and potentialities of rehabilitation. The Committee accepted the view that there was a need for planned convalescence of a more active nature than the old-fashioned type of convalescence, and suggested that this could be achieved either by daily attendance or by residence at special centres.

Of the 3613 patients covered by the survey 424 or 11·7 per cent (almost one in eight) should more properly have been accommodated in long-term accommodation providing comprehensive rehabilitation services. In considering their needs they were grouped into five main categories:

	No. in each category	Percentage of total patients surveyed
1. Orthopaedic, long-term	45	1·2
2. Orthopaedic, elderly fractures	32	0·9
3. Rehabilitation and retraining	142	3·9
4. Chronic sick other than geriatrics	98	2·7
5. Convalescence, long-term	107	3·0

Orthopaedic, long-term. This group of patients has special needs with regard to rehabilitation. This applies not only to the purely physical side as provided by physiotherapists. A

considerable element of mental rehabilitation, in addition to physical re-education, may be required in training such persons to live with their disabilities. It appeared to the survey team that not enough was being done in this field and that more consideration should be given to this problem.

Orthopaedic, elderly fractures. The group of elderly with fractures, particularly fractured femora, is becoming more numerous and methods of dealing with such fractures vary considerably. In some units early pinning with early ambulation is the order of the day; in others different methods are employed with the result that long-term treatment becomes necessary. In teaching and district general hospitals, for example, in the group of patients thought suitable for alternative accommodation, almost 10 per cent of the patients were elderly fractures. It might be that this group would be better accommodated in a suitable unit in a geriatric hospital or hospitals supervised by the combined efforts of a geriatric consultant and orthopaedic consultant. It may be held that the segregation of this group would be unacceptable and that they should remain in an orthopaedic ward, but at the same time it has been represented that younger fracture patients, also requiring long-term treatment, do not fit happily with the elderly group and that this can lead to considerable difficulty.

Rehabilitation and retraining. The largest proportion of patients in this category were those recovering from cerebral vascular accidents. From an early stage in this condition intensive efforts may have to be made towards the patient's rehabilitation and return to normal activities of daily living. This applies particularly to younger people but it does not exclude the elderly. Although all patients for rehabilitation have similar basic needs, the elderly call for a greater amount of time and assistance and impose a greater burden on the rehabilitation services. Whatever their needs, however, they should be close to a well-equipped and well-organized rehabilitation unit. Treatment and suitable accommodation of

the elderly in hospital are essential but if retained unnecessarily in an acute ward this means that a proportion of acute beds are no longer available for patients who would require them for limited periods. The result is that admissions to acute wards for treatment and other operative measures have to be limited and waiting lists tend to build up.

For this group, which is difficult to place, there is a tendency to think only in terms of pure physiotherapy, but as the condition is not solely physical every means possible should be brought to bear in rehabilitation and retraining. All concerned with the full recovery of the patient should encourage the belief that the patient will get better and go out reasonably recovered. This means that all members of the staff associated with such a unit have to play their part in encouraging the patients. This covers feeding, retraining in dressing and in toilet habits, speech therapy, psycho-therapy, and other aspects.

It is wrong to think that a large quantity of expensive equipment is necessary for rehabilitation of this nature, excellent work can be achieved by simple means. The team were impressed in one small unit where an enthusiastic senior nurse was in charge of a group of elderly people, many of them recovering from cerebral vascular accidents. The impression gained, unlike some other units visited, was dynamic and vital, of 'get up and go' and 'where there's life there's hope'. Ninety per cent of the patients were out of bed, dressed in outdoor clothes, clean, learning to feed themselves and to move about. The whole atmosphere of the unit was refreshing and encouraging and was a direct reflection of the enthusiasm of a nurse determined to give her patients something to live for.

Chronic sick other than geriatrics. This group also has a need for special rehabilitation facilities. Some chronic chest patients seen in the survey could have benefited from rehabilitation, and similarly some chronic cardiac cases require long-term rehabilitation and training in how to live. There is a particularly unfortunate group of younger chronic sick with neuro-

logical conditions who, although the future may hold little for them, still survive and need considerable help of a rehabilitative and educative kind. At present, most of these patients are blocking 'acute' beds in neurosurgical units, when they should be in accommodation more suited to their physical needs where specialized rehabilitation facilities would be provided, probably at much less cost than in an 'acute' ward. Similar observations apply to some of the older age-group of chronic sick, particularly those suffering from the late effects of cerebral vascular accidents and who have made only a limited improvement.

Convalescence, long-term. It was noteworthy that in few of the convalescent units surveyed were there any real facilities for rehabilitation. Admittedly, this is not always necessary, but it is frequently an important part in re-establishing the patient and it seems essential that such facilities should be made available and accessible, particularly for those requiring longer periods of convalescence.

Mention has been made previously of this need with reference to post-operative conditions in the elderly. As a group they are generally not suitable for the normal pre-discharge unit in which the duration of stay of the patient is limited. At the same time it is necessary to be clear which type of patient is to be admitted to a long-term unit to avoid it being inundated with long-term chronic sick patients. In other words there must be a good chance of the patient being able to leave the hospital after a period of long-term convalescence and not to become a permanent occupant as was noted in some of the convalescent units visited.

This raises the question of the siting of convalescent units, many of which were country mansions gifted to the service before it was established in 1948. If a convalescent unit is situated in pleasant rural surroundings, this almost certainly means that it is some miles away from the parent hospital. With the current shortage of physiotherapists it may be impossible to provide staff in the convalescent unit to carry out

the necessary rehabilitation. While there is a tendency to think in terms of skilled physiotherapists and a considerable amount of special equipment for rehabilitation, this is not necessarily true. Much rehabilitation can be done by the ward staff themselves. The achievement referred to on page 92 is one example. The encouragement of patients to walk, feed themselves, and to keep moving is as important as relying on skilled but scarce personnel to carry out specific re-educational exercises.

SOCIAL INFLUENCES

It is clear from the review of the literature and information collected during the survey that social conditions exert an important influence on hospital admissions and patients' length of stay. They contribute to the blockage of acute beds, the main reasons being the absence of relatives to look after the patient in his own home; elderly persons admitted to hospital to allow relatives to have a holiday; poor housing conditions; delay by local authorities in providing special equipment in houses and in providing home helps; and, above all, the current shortage of geriatric hospital accommodation.

During the survey, discussions were held with medical social workers at some of the principal hospitals visited. In addition, the survey team met a group of medical social workers to review problems and it was agreed to prepare a simple questionnaire for completion by medical social workers for each new referral (excluding maternity and paediatric patients) to their departments. The results obtained from an analysis of the completed questionnaires are set out in detail at Appendix E.

The discussions with medical social workers in four teaching and four district general hospitals were informal and from a free expression of views the picture which emerged was similar for different hospitals and different areas in Scotland. The average yearly figures for referrals to medical social workers vary between 800–3500 in teaching hospitals and

500–700 in district general hospitals. Statistics of this kind do not, however, indicate the amount of work undertaken. Records may not be directly comparable and, while some cases may take five minutes to settle, others may take months or years. Communications within hospital about patients' social difficulties are generally effective and quick. General practitioners or medical social workers from other hospitals may refer patients to the social department, but the main immediate sources of referral are hospital clinicians, physiotherapists and ward sisters. Geriatric patients are often referred as a matter of routine. In a few instances medical social workers have regular meetings with medical staff; in others, cases are discussed during coffee and tea breaks. It may happen, however, that a patient is referred only at the time of discharge when it is unexpectedly found that the patient had nowhere to go or needed elaborate travel arrangements. This may be due to patients not mentioning their problems earlier. Sometimes the sister does not know that the doctor intends to discharge a patient; often the doctor has to take this decision suddenly when a bed is needed. Ward staff are not always fully aware of the patients' social situation or appreciate fully their needs once discharged. The day staff, for example, may omit to tell the medical social worker that the patient needs attention at night, because only the night staff is aware of the night situation.

The commonest reasons for referral of cases to medical social workers are concerned with further provision for patients. The situation varies from place to place. When the pressure on beds is high or when the medical staff has a policy of early discharge, social workers are faced with problems which are resolved more or less easily depending on the number of convalescent and geriatric beds available and the degree of co-operation from local authorities.

The placing of geriatric patients is the main problem but it is not as extensive as subjective analysis has suggested. The survey of patients classified some 5 per cent of those remaining

in teaching and district general hospitals as being in the category which would be more suitably accommodated in geriatric hospitals or local authority residential accommodation. Because most of the referrals to medical social work departments are in geriatrics and the solution is sometimes difficult, the problem has acquired considerable prominence. It may be that the current geriatric hospital building programme in Scotland will not keep pace with the increasing demand and the problem increase rather than decrease.[1]

Other points of general interest and relevance to the subject may be noted. For example, it was said to be easier to transfer hospital patients in their 70s and 80s to local authority residential accommodation than the 60-year-olds, who, being in hospital at this early age, are regarded as sick persons by local authorities. In one area geriatric patients in the age-group 60–70 are discharged from acute hospitals to lodgings in the country, where special arrangements are made with landladies and an assurance given that the patient will be re-admitted to hospital if any problems arise. There are wide differences in the admission to local authority accommodation of patients from their homes and from hospital. Priority is given to persons living in their own homes; the ratio is said to be about one hospital patient admitted to every five from their own home. This had meant that hospitals may discharge a patient into his home in order that the general practitioner may refer him for admission to local authority accommodation. The policy for admission to local authority accommodation may rest on their own assessment of patients and this may be different from the one made by the hospital.

Where there is insufficient living accommodation on the ground floor of local authority homes and, if there are no lifts, patients with fractured femora, cerebral vascular and cardiac diseases cannot manage stairs and may have to be put on geriatric hospital waiting lists. Voluntary homes for old people are often stricter about the degree of fitness old

1. *General Medical Services in the Highlands and Islands* (Cmnd 3257), H.M.S.O., 1967. 8*s*.

people must have prior to admission. Elderly patients may have to wait to be transferred from an acute ward to a geriatric assessment unit because of the shortage of beds in the latter, and these units, instead of assessing, treating, and discharging patients quickly, may become in fact long-term units as they are unable to dispose of their patients to other accommodation. Geriatric patients (incontinent patients in particular) may also be sent to long-term chronic sick accommodation where they receive no proper rehabilitation to fit them for transfer to local authority accommodation or to return home. A similar observation applies to the elderly who are retained in acute wards where they may not be given treatment suitable to their condition.

The placing of geriatric patients might not be so difficult if relatives were more co-operative. Many relatives are, of course, ready to offer help, even when they could not possibly cope with the patient's condition, but some, to escape from their social responsibilities, may devise economic, space, or health excuses to avoid taking elderly relatives into or back to their home. One example was a 90-year-old, alert and fully continent lady, unable to cope on her own and ineligible for a home help for any long period of time as her family lived nearby, but none of her five children would have her and she was being retained in an acute bed for the time being. Another lady, of 70, although she had helped in the purchase of a family house, had been put out by her daughter-in-law and, after a long stay in hospital for no medical reason, was to be admitted to an old persons' home.

Apart from geriatrics, beds might be blocked by convalescent and young chronic sick patients. Convalescent cases occasionally block beds; some hospitals were ready to keep patients longer while they were waiting for such accommodation, but in some areas because of the shortage of convalescent accommodation, patients were being retained in acute beds for up to six or eight months. The disposal from acute beds of young chronic sick patients was more or less difficult according to the area; it appeared to be a significant problem in the west

of Scotland. It was particularly difficult to find accommodation for the 35–50 age group, children with cerebral defects, and there were long waiting lists for admission to Cheshire Homes.

In many cases patients were referred to social departments because home situations needed to be investigated. Where there are no inside toilet facilities, or running water in the house, home care is impossible and patients have to be kept in hospital longer than it is medically necessary. While rehousing may take six months to a year, this does not cause any blockage of beds as patients have to return to their previous home in order to be re-housed. Local authorities were said to be co-operative in exchanging upper flats for ground-floor accommodation. It was said, however, that the time taken by local authorities to carry out structural alterations or to provide special fittings in patients' homes was often excessive; in some areas the gap between the patient's discharge and the time when work was started was as much as nine months.

Medical social workers also make arrangements for the provision of home helps; in small general hospitals where no medical social worker is available, the home help is contacted by the matron, the district nurse, or the general practitioner. In general, there are not enough home helps but the situation varies from area to area. Two small general hospitals, only a few miles distant, give completely different pictures; one had no difficulty in finding home helps, the other could barely find any at all. The waiting time is between two and five days, but on occasions in Glasgow it has been as long as ten days and this meant retaining the patient in an acute bed for that length of time. Generally speaking the situation is easier in urban areas than rural areas. The amount paid for home help services is based on the income of the family concerned but no one is left without such help because of financial hardship; if necessary the cost is met by the Ministry of Social Security. In some places, after a period of eight weeks at a low rate of payment, the charge is raised to a more economic level and it

is then that the relatives may have second thoughts and attempt, often successfully, to have the patient re-admitted to hospital. Nearly all medical social workers interviewed said that in their experience, local authorities were doing what they could within the financial limits imposed on them; there were nevertheless some instances of lack of co-operation and in one small general hospital it was said openly that the local authorities were not fulfilling their obligations. On the contrary, in other small hospitals, some blockage of beds was due to the fact that general practitioners and patients did not want to use local authority services and found it easier to make use of the hospital facilities.

PATIENTS UNDER INVESTIGATION

Patients admitted to hospital on an elective basis should reach hospital only after all investigations and treatments which can be carried out on an out-patient basis have been completed. From the survey results it appeared that this policy was generally being followed. Of the 3613 patients surveyed, seventy-five only, representing a little over 2 per cent, had been in for more than 24 hours and were awaiting investigation, results of tests or operative treatment. The percentage range was from 1·3 per cent in district general hospitals to 2·6 per cent in teaching hospitals.

While the team did not classify separately those who were undergoing a series of investigations, some of which might take a number of days to complete, there was no apparent blockage of beds for this reason. Examples of the type of patient found in this situation were those with hypertension requiring investigation of renal and cardiac function, ulcerative colitis requiring special investigation not possible on an out-patient basis, genito-urinary investigations calling for cystoscopy, and renal investigation possibly for nephrectomy. Patients having had lumbar punctures required bed rest and supervision for some hours following the procedure, and tests calling for vitamin uptake, etc., necessitated regular collection

and analysis of specimens. Unless requiring a significant amount of nursing care, these patients were generally classified as 'minimal-care' and as such would more properly be accommodated in a 'supporting' bed unit of the kind described later in this report. In this unit they would be provided with sleeping accommodation, nursing supervision, and any necessary samples for tests might be taken there or in the paramedical departments of the hospital.

4

Hypothetical 'supporting bed' unit

It is difficult to reach firm conclusions on 'supporting' beds in the ill-defined pattern of present day practice. An effective influence on hospital planning is unlikely if presented only on the basis of surveys in acute wards and a variety of 'second-line' or other types of 'supporting' bed. Previous surveys have not had a significant effect. It seems clear that the worst answer to this problem will be to provide new accommodation at some intermediate level which will satisfy neither the acute nor the less acute ends of the scale of need. Yet, as mentioned above, pressures of money and staff will accentuate the necessity for some radical re-thinking of the type of accommodation best suited to modern hospital care. Many aspects of the 'supporting bed' problem require further study. These include:

1. A review of the functional links between a supporting bed unit and the parent clinical divisions on the one hand, and a study of the association of the unit with the diagnostic services and facilities for rehabilitation and re-education in problems of daily living.
2. The links between a supporting bed unit, the local authority services and the general practitioners in the area. The potential effect of improved domiciliary services on the hospital load.

3. The effect of a supporting bed unit on the redeployment of trained nurses.
4. A cost analysis.
5. A review of patients' reactions and of the medical reasons for decisions taken on patients' progress and the use of various facilities.
6. Follow-through studies into sequences of dependency including rehabilitation. An assessment of how much rehabilitation might be undertaken on a day basis.
7. A further review of the 'self-care' group to identify different categories in more detail.

So that some aspects of the problem may be brought into sharper focus, a hypothetical 'supporting bed' unit has been planned and costed. This part of the report describes a 100-bed unit which might form a part of a hospital complex. Were such a unit available for study, many of the existing questions of categorization of patients, bed usage, and related problems could be taken from the sphere of speculation and, if not settled, placed on a firmer foundation for discussion.

To formulate a realistic brief, it was necessary to make assumptions concerning the facilities a unit of this kind might provide and define the limits of the patient's disability if they were to be suitably accommodated. These assumptions included:

1. A semi-domestic environment would be suitable for this group of patients.
2. Specialist medical supervision could be satisfactorily maintained only if the unit was suitably located in relation to the parent 'acute' unit.
3. Duration of stay would probably average between seven and fourteen days and the maximum would be unlikely to exceed one month.
4. Skilled nursing services would be mainly of a supervisory character and could be integrated with those of the parent

acute unit; some investigative procedures would be undertaken together with procedures such as dressings and removal of stitches.

5. Liaison with general practitioners and local authority health services would be facilitated.
6. The unit would be linked—possibly by covered ways—to the main diagnostic and treatment areas of the hospital and basic services—heating, lighting, catering, dishwashing, and general supplies would be integrated with those of the hospital complex as a whole.
7. Economies in relation to standard acute ward costs might be expected by planning smaller floor areas per bed, reduced corridor widths, a lower proportion of ancillary rooms to bed areas and a simpler provision of engineering services.
8. A unit of 100 beds might represent a practical proposition in relation to a medium- to large-sized district general or teaching hospital.

TYPES OF PATIENT

1. *General*

(*a*) Men and women patients in varying proportions.
(*b*) Children unlikely.
(*c*) Ambulant or self-propelled in wheel-chairs.
(*d*) Capable of feeding themselves.
(*e*) Capable of going to w.c., bath or shower alone.
(*f*) May be elderly but should conform to categories (*c*), (*d*), and (*e*).
(*g*) A few physically healthy patients may be relatively immobile due, for example, to large plaster casts. These would be in 4-bed groups.

2. *Pre-admission*

(*a*) Ambulant patients may be admitted for serial tests or investigative procedures which require them to be within

walking distance of a laboratory unit or other diagnostic department.

(*b*) Patients whose homes are at a distance and who could not attend for tests prior to admission in the same way as those living in the vicinity.

3. *Pre-discharge*

(*a*) Patients requiring care of mainly domestic character but who still need some medical and nursing supervision or minor treatment following a period in an 'acute' ward unit.

(*b*) Patients undergoing a course of remedial exercises or other rehabilitation at a hospital department—other than those who can attend for this purpose from their homes.

(*c*) Patients being stabilized on a therapeutic or dietary regime.

(*d*) Patients requiring to stay at the hospital for the fitting of an appliance and to receive instructions concerning it.

(*e*) Patients awaiting transfer.

MANAGEMENT AND GENERAL ORGANIZATION

Management of a unit of this kind will require close functional links with the staff from the 'parent' acute wards. At the same time the unit must be encouraged to develop a sense of purpose with the objective of preparing patients for further treatment or for their return to home or working situations. This will entail positive efforts which should be reflected in the pattern of management. It would be wrong to regard the unit as in any way a refuge for patients otherwise difficult to place and it would impair its main purpose to admit long-term patients or the chronic sick. In achieving its targets in the rehabilitation of patients, the location of the unit and its links with various hospital departments will be important.

FUNCTIONAL REQUIREMENTS

'Supporting' accommodation must cater for patients who would spend most of the day dressed in their own clothes. Day spaces would therefore be important elements of the accommodation, as would dining facilities if it was not practicable for patients to use the hospital cafeteria services.

BED AREAS AND TOILET FACILITIES

It was decided that two groups of fifty beds would be envisaged and that a characteristic of this type of accommodation would be that most beds were in 'roomettes' which would provide for sleeping, sitting, and writing. These would occupy a substantially smaller floor area than single-bed rooms in an acute ward; they might have sliding doors and should have suitable fitments for patients' clothing built into and forming part of the dividing partitions. A few single-bed and 4-bed rooms of a more standard type would be included. These would be for patients for whom a roomette would be unsuitable, for example, those with appliances, large plaster casts, or any who might require some degree of segregation. Roomettes might be planned in groups, possibly of six or eight. Each group should have easily accessible w.c. and washing facilities and, unless the additional cost was prohibitive, a wash handbasin in each bed area might be provided.

CAFETERIA

Easy access to the hospital cafeteria would be desirable for both patients and staff. If this was impracticable, a separate cafeteria would have to form part of the unit. If this was necessary, sitting space for some sixty persons would be required and this might be provided in groups of four, six, or eight.

SCHEDULE OF ACCOMMODATION

Bearing in mind the planning assumptions noted above and following discussions at the Scottish Hospital Centre between medical, nursing, and architectural staff, and with a tutor and group of architectural students who were given this brief as a planning exercise, the following schedule of accommodation was prepared.

SCHEDULE OF ACCOMMODATION

No.	Area	Special features and relationships	No.	Areas (approx.) Per unit sq. ft.	Total sq. ft.
A. SHARED ACCOMMODATION					
1	Entrance	Draught-free door from main ward system. Drive-through canopy. Link to main hospital circulation—probably by covered corridor.	1	400	400
2	Porters' station	Alcoved area off the entrance hall.	1	50	50
3	Wheelchair/ Trolley bay	Alcoved area off the entrance hall. Adjacent to 2 above.	1	100	100
4	General office and enquiry point	Easily seen and accessible from 1 above. To include the telephone switchboard for the unit.	1	200	200
5	Doctors' office	These rooms should be grouped together near	1	200	200
6	Administrative sister's office	4 above and opening off or close to the entrance hall.	1	120	120
7	Staff changing-room		1	200	200

No.	Area	Special features and relationships	No.	Areas (approx.) Per unit sq. ft.	Total sq. ft.
B. EACH FIFTY-BED AREA					
8	Single-bed rooms	Each room to contain a suitable divan-type bed, a bedside table, bedside chair, clothing cupboard, general lighting, and reading light. Wash handbasin, if possible.	4	100	400
9	Four-bed rooms	As for standard acute ward but without adjacent toilet (w.c., shower, etc.) and without piped oxygen and suction. Patients' clothes (including outdoor clothing and suitcase) should be accommodated in suitable locker within the curtained area of each bed: this may be incorporated in the partition walls or recessed partially into such walls.	2	420	840
10	Roomettes	Each to contain a bed, chair, clothing cupboard (as at 9 above), bedside table or simple locker, reading lamp, wash handbasin, if possible. A sliding door may be effective in saving space. Roomettes should be planned in relatively small groups, possibly two of 6 or two of 8.	38	80[1]	3040[2]
11	Nurses' station	13 and 14 should be adjacent and inter-connected. Both should	1	50	50
12	Duty room	be close to 11. These rooms and the Nurses'	1	80	80

1. Reduced to 67·5 sq. ft. after 'mock-up' studies.
2. Reduced to 2565 sq. ft. after 'mock-up' studies.

No.	Area	Special features and relationships	No.	Areas (approx.) Per unit sq. ft.	Total sq. ft.
13	Preparation room	Station should conform to the design data sheets related to Planning Note	1	180	180
14	Disposal room	No. 1 on 'Ward Design'.	1	100	100
15	Sluice	Adjacent to 14. Destructor for bedpans, etc. Ventilated cupboard for 24-hour specimens.	1	80	80
16	Treatment room	Reasonably close to 13 and 14 above.	1	180	180
17	Pantry	Reasonably close to 11 above.	1	80/100	80/100
18	Day/dining rooms	Each room should seat 25–30 patients in a semi-domestic environment. To be fitted for TV viewing with individual sound reception.	2	450	900
19	Stores	No special location	2	40	80
20	Bathrooms	Convenient to bed areas	4	40	160
21	W.c.s	The floor area (20 sq. ft.) refers to the w.c. compartment, some additional space will be required for circulation. Each compartment should be 4 × 5 ft and have outward opening doors and a hand-rinse basin. Location—one adjacent to each day room, remainder convenient to the single-bed rooms and groups of roomettes.	8	20	160

No.	Area	Special features and relationships	No.	Areas (approx.) Per unit sq. ft.	Total sq. ft.
22	Washing compartments	20 sq. ft. refers to the actual compartment; some extra circulation space may be required. Each compartment should have a door and suitable shelving for toilet bags. Hooks for dressing-gowns are essential. Convenient to single-bed rooms and groups of roomettes.	12	20	240
23	Showers	To have an adequate drying space, tip-up seat in shower compartment, 'telephone' type shower fitment, non-slip floor. The showers may be in two groups adjacent to the bathrooms.	4	30	120
24	Domestic service room	As in Planning Note No. 1 on 'Ward Design'.	1	80	80
25	Wheelchair bays	Near the nurses' station.	2	60	120

C. ENGINEERING SERVICES

Similar to the requirements given in Hospital Building Note No. 32, Part 2—Pre-discharge (hostel-type) Ward.

D. LAYOUT

A double-storey layout will probably prove convenient. A lift would be required both for patients and, for example, food trolleys.

Mr. I. J. Drummond, an architect at the Scottish Hospital Centre, discussed the brief in detail with a quantity surveyor —Mr. John Liddell of Messrs. James Gentles & Son, Chartered Quantity Surveyors—and undertook to prepare a plan suitable for costing purposes.

Initial investigation of the brief indicated that many economies over the standard acute ward could be made; these included:

1. *Definite economies*
   (*a*) Smaller floor area per bed—100–120 sq. ft. reduced to 80 sq. ft.
   (*b*) Narrower corridor width.
   (*c*) Smaller floor area of ancillary accommodation per patient; approximately thirty patients increased to fifty for same area of nurse-working accommodation.
   (*d*) Reduction in engineering services; no piped medical gases or suction; simpler heating requirements; etc.
   (*e*) Reduction of expensive equipment.
   (*f*) Domestic-type bedsteads.
   (*g*) Domestic-type bathrooms.

2. *Possible economies*
   (*a*) Reduced lift accommodation.
   (*b*) Reduction in over-all building costs if suitable industrialized system is chosen.

In addition, it was anticipated that further economies might be achieved in this type of accommodation due to reduction in the nursing and medical staff per patient, reduced heating and lighting costs due to the intermittent pattern of usage and more economical cleaning and maintenance costs.

To realize fully the potential savings in these areas it was clear that in architectural terms this would require:

1. An optimum ratio of volume to external envelope.
2. Compact planning.
3. Natural ventilation to all areas.
4. Localization of services, for example, nurse-working areas, toilets, etc.

Some pre-design investigation was undertaken including a review of four main categories of accommodation:

1. Halls of residence at universities.
2. School hostels.
3. Psychiatric ward units.
4. Existing pre-discharge type ward units.

In general terms these types of building yielded little new information relevant to the functional requirements of the 'supporting bed' unit as described in the brief. At the pre-design stage it was assumed that as the design was entirely hypothetical and related largely to questions of general feasibility, costing and staffing, problems such as site access, levels, zoning, aspect, prospect, noise, and landscaping did not arise. It was assumed, however, that:

1. The site would be flat;
2. There would be covered access to the existing hospital;
3. There would be easy vehicular access to the new unit;
4. That as patients were ambulant and would not be confined to their bedrooms, orientation was of secondary significance;
5. No particular noise or visual problems required consideration.

It was also decided at this stage that traditional materials and methods of construction would be used for initial costing purposes although the possibility of using an industrialized system would not be ruled out.

Some consideration was given to an alternative proposal that the accommodation should comprise two 40-bed areas and one of 20 beds. At this stage it was thought possible that the 'hostel' type of patient would require a significant number of beds; they would be provided within the 20-bed area. For various reasons, and in particular as the survey data did not confirm this early assumption, and as a two-storey solution appeared to be more feasible in two 50-bed areas, it was decided to pursue the project on that basis.

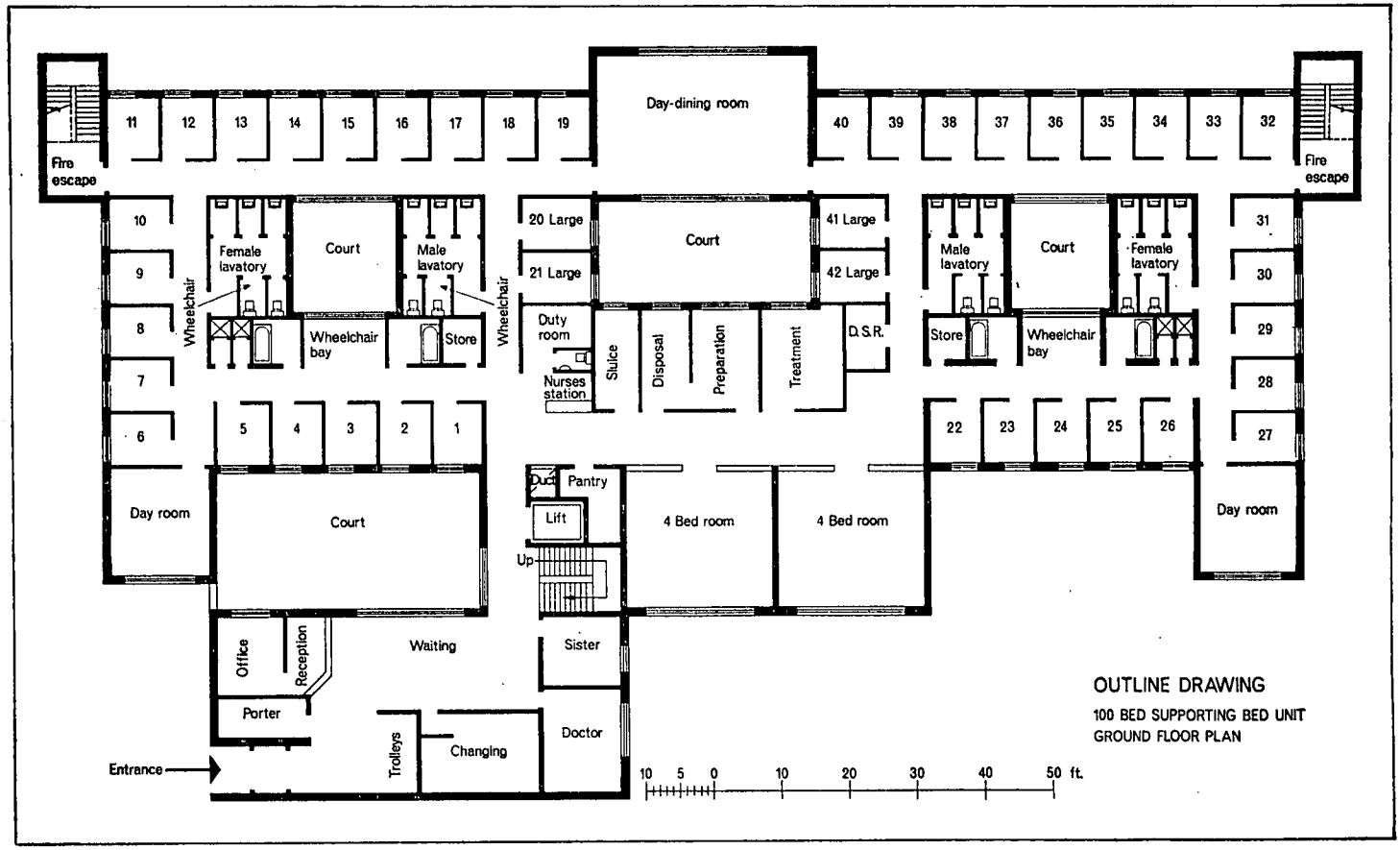
At this stage consideration was also given to the possibility of producing small intimate social groupings of roomettes. It was thought that a reduction of the 50-bed area into smaller groups of five to ten rooms would reduce still further any

institutional character and give an increased degree of flexibility to the plan. This led, however, to a complex planning situation with high circulation area and an extended periphery to the building, all of which would seriously diminish the economic advantages it was hoped to gain.

The solution was conceived as two groupings of twenty-one beds each forming the periphery of the square with a corridor between them and the sanitary facilities which were grouped round a small court to provide natural ventilation. This produced four small groups of rooms in each large grouping, namely, one 7-bed group, two 5-bed groups, and one 4-bed group. Each of the two large groupings of 21 beds was served by two day-rooms giving a total of four per 50-bed area. This was intended to provide a higher degree of flexibility in the use of day-rooms than one large day-room or its equivalent area. The two large 21-bed groups were linked by a nurse-working area which was related to the two 4-bed rooms intended for those patients who would require more nursing attention than those in the roomettes. This area also contains a vertical circulation which was linked at ground-floor level to the entrance area thus allowing supervision of the entrance to the ward from the focal point of nursing activity.

The early layout was examined by the quantity surveyor and it was agreed on his suggestion that a significant economy on external walling would be achieved if the two large bed groups (each of 21 beds) were linked by combining two of the four day-rooms. This alteration also met the requirements of having one day-room capable of seating a reasonably high proportion of patients for dining purposes. Again, some alteration to the shape of the internal courts had the effect of reducing the length of peripheral wall.

The quantity surveyor also suggested and it was agreed that service voids might be restricted to one between the ground and first floors. This would have the advantage of reducing the height of the building, the area of external wall and would also save the cost of a hung ceiling over one complete floor.


Fire escape
11
12
13
14
15
16
17
18
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Day-dining room
40
39
38
37
36
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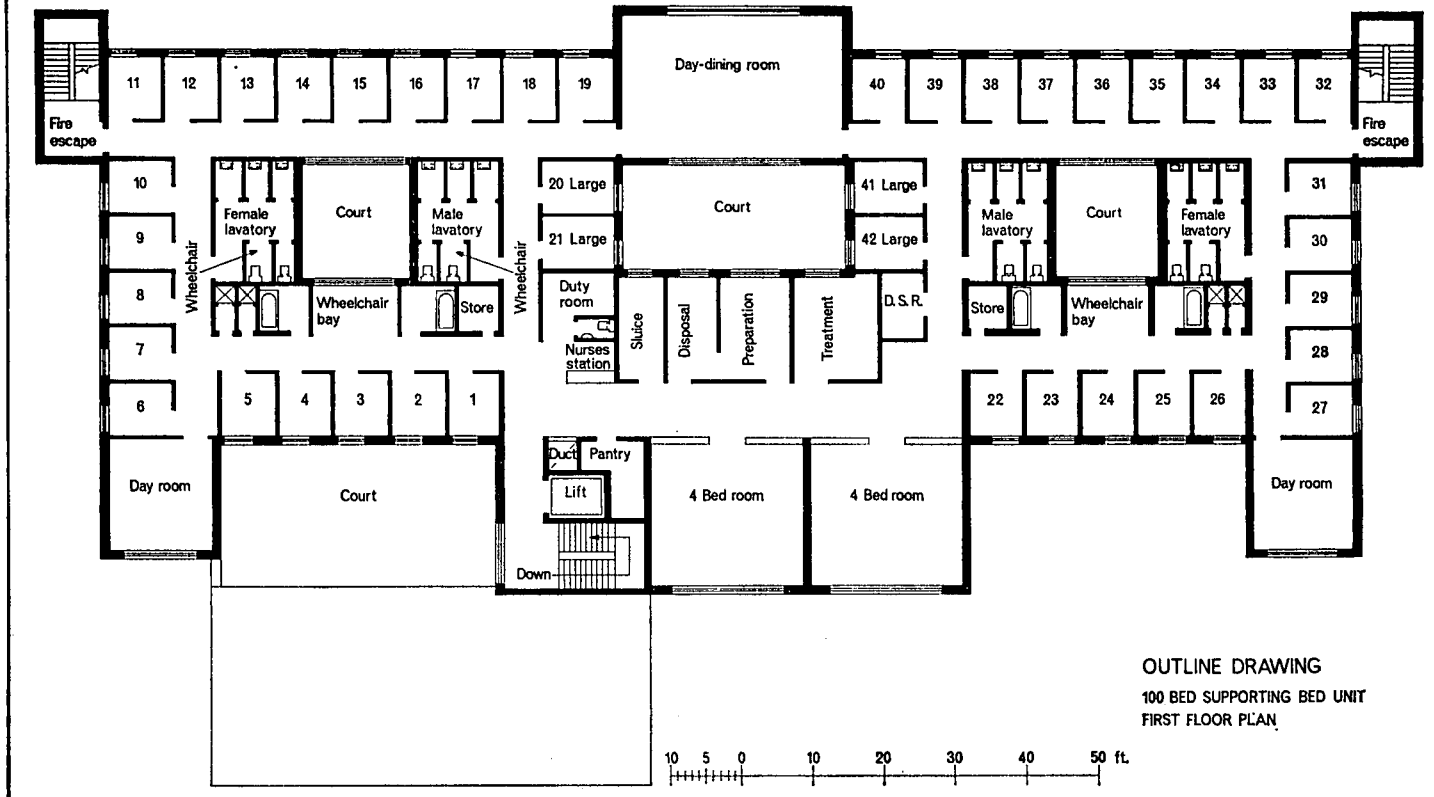
34
33
32
Fire escape
10
9
8
7
6
Female lavatory
Court
Male lavatory
Wheelchair
Wheelchair bay
Store
Wheelchair
20 Large
21 Large
Court
41 Large
42 Large
Duty room
Nurses station
Sluice
Disposal
Preparation
Treatment
D.S.R.
Male lavatory
Court
Female lavatory
Store
Wheelchair bay
31
30
29
28
27
5
4
3
2
1
22
23
24
25
26
Day room
Court
Duct
Pantry
Lift
Up
4 Bed room
4 Bed room
Day room
Office
Reception
Waiting
Sister
Porter
Trolleys
Changing
Doctor
Entrance
10 5 0 10 20 30 40 50 ft.
OUTLINE DRAWING
100 BED SUPPORTING BED UNIT
GROUND FLOOR PLAN

A central feature of the design was the roomette and it was decided to prepare a mock-up of a small bed-sitting room beginning with a size of 80 sq. ft. To minimize external walling, a rectangular room was designed with the short side as the window wall. Several layouts were tried, discussed, and altered; the one finally chosen appeared to make the best use of available space and was acceptable to the medical, nursing, and domestic service interests. Various practical tests were undertaken to ensure the easy use of wheelchairs and the floor area was successfully reduced from 80 to 67·5 sq. ft. A plan and elevations of the roomette are between pp. 116 and 118. While the original plan only provided a limited degree of privacy by means of a curtain across the entrance to the roomette, it was decided after discussion that this was insufficient and a method was devised whereby the wardrobe door could also be used as the door to the roomette. Other points considered in the design of the roomette were:

1. The small size of the room dictated that the bed must be against one wall. This being so, it was essential to have it easily moveable for cleaning and bed-making.
2. The desk, which was originally designed as a reading and writing desk, was developed for use also as a dressing table. A mirror was therefore included.
3. The original design included a locker above the wardrobe and accessible from the corridor for the further purpose of storing suitcases. However, high-level storage of cases was thought to be inconvenient for both patients and staff, and a space was provided beneath the drawers for this purpose.
4. It was decided that, with the provision of cupboards, drawers, and shelves, a bedside locker was unnecessary, as the main function of this would have been storage. A secondary function of the locker is, however, to provide a laying space for objects being used while the patient is in bed; this requirement was met by placing a shelf above the bed and at a distance convenient from the patient whether sitting or reclining.


Fire escape
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Day-dining room
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Fire escape
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7
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Female lavatory
Court
Male lavatory
Wheelchair
Wheelchair bay
Store
Wheelchair
20 Large
21 Large
Court
41 Large
42 Large
Duty room
Nurses station
Sluice
Disposal
Preparation
Treatment
D.S.R.
Male lavatory
Court
Female lavatory
Store
Wheelchair bay
31
30
29
28
27
5
4
3
2
1
22
23
24
25
26
Day room
Court
Duct
Pantry
Lift
Down
4 Bed room
4 Bed room
Day room
OUTLINE DRAWING
100 BED SUPPORTING BED UNIT
FIRST FLOOR PLAN
10 5 0 10 20 30 40 50 ft.

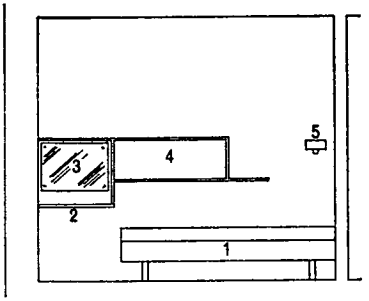
5. The position of the window was carefully considered. The radiator had to be positioned beneath the window to prevent peripheral heat loss and this was a decisive factor since the radiator could only be located in one place on the window wall to avoid cramping the desk area.
6. While considered that a wash handbasin in each room would be an advantage, this was not included for reasons of cost. It was assumed that the patient being ambulant could use central washing facilities which were individually enclosed.
7. Some consideration was given to a fold-down shelf to form a backrest to the bed when used as a couch by visitors. It was decided that this was unnecessary.
8. The choice of floor finish, whether vinyl or carpet, would govern the method of cleaning the room and this in turn would affect the detailed design of wall covings and the type of bed to be used.

Outline drawings of both floors of the hypothetical 100-bed unit are on pp. 113 and 115.

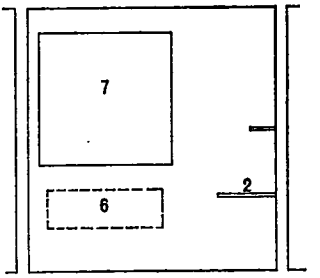
THE OUTLINE DRAWING

The entrance area comprises a reception office, staff changing, doctor's, and sister's rooms, all of which are grouped round the waiting area. This waiting area overlooks a large courtyard which would be suitably landscaped to provide a pleasant environment for patients and visitors. Between the entrance and the bed areas are the vertical communications of the building; staircase, lift, and duct. These give on to a small foyer which provides physical, visual, and acoustic isolation from the entrance area.

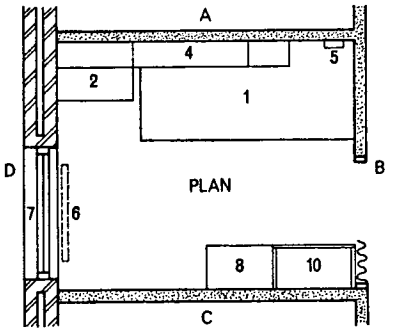
The 50 beds on each floor are divided into two large groups of 21 beds each. The bedrooms are disposed round two groups of toilet accommodation. This facilitates the sub-division of the 21 beds into smaller groups of 9, 5, 5, and 2 beds which, in relation to the two groups of toilets, give a high degree of

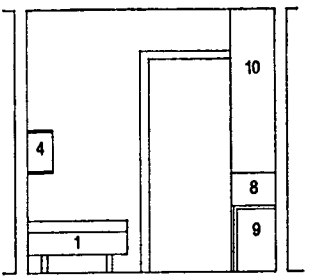


ELEVATION A

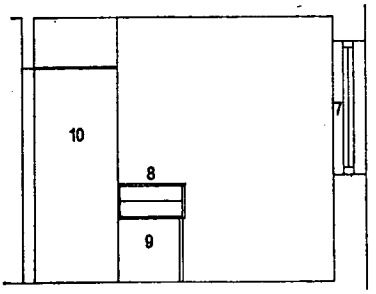


ELEVATION D





ELEVATION B

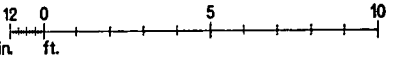


ELEVATION C

1 Bed
2 Desk/dressing table
3 Mirror
4 Shelf unit
5 Bedhead light
6 Radiator
7 Window
8 Drawer unit
9 Suitcase recess
10 Wardrobe

100 BED SUPPORTING BED UNIT

PLAN AND ELEVATIONS OF ROOMETTE



flexibility to the unit. Each 21-bed group has two larger bedrooms, 75 sq. ft., for patients who may be confined to wheelchairs. These rooms are closely related to the nurse-working areas. The remaining 8 beds of the 50 beds are in two 4-bed rooms, also close to the main ancillary rooms.

The nurse-working areas form a link between the two large bed groups and comprise a duty room and nurses' station, sluice, disposal, preparation, and treatment rooms. It is envisaged that the larger part of the nurses' duties will be carried out in this area and, for this purpose, an 8-ft. wide nursing corridor has been provided. A small kitchen has been located opposite the nurses' station. A nurse-call system will be employed and this will be similar to the system used in the ward unit planned by the Scottish Home and Health Department at Falkirk and District Royal Infirmary. An efficient and simple call system in roomettes is particularly important. It is probably from a lack of confidence in the nurse-call provision that patients may forego the normal privacy of a single bed-room and rely on assistance from other patients.

Four internal courts are included to provide natural lighting and ventilation to the nurse-working areas and the toilet accommodation. Whilst this is their primary function, they also serve to provide external views from the corridors, the dining room, the waiting area, and the four large bedrooms. Since these courts are rather small they would require careful landscaping to satisfy this latter function. It was assumed that the courts would be raised to ground-floor sill level. Landscaping might be achieved mainly by the use of hard materials and plants chosen for their ability to thrive in a relatively sunless environment.

THE SERVICES

Services to the new unit would be limited to heating services, hot and cold water, and electricity. On the plan the plant requirements for these services are confined to the vertical circulation core. The calorifier plant and electricity switch-

board are situated at basement level whilst the feed and expansion tanks, water storage tanks, and lift motor room are located on the roof. The basement and the roof plant rooms are linked by a vertical duct. This duct feeds into a ceiling void between ground-floor and first-floor level. All service runs feeding down to ground floor and up to first floor are located within this void.

VENTILATION

With the exception of the duty room and kitchen, which would require small extract fans, all rooms are naturally ventilated.

HEATING

Rooms which will be more or less in constant use, for example, entrance area, 4-bed rooms, nurse-working areas, toilet accommodation, and day rooms, will be heated by a hot-water radiator central heating system. The bedrooms which will have a more intermittent usage will be heated by hot-water radiators on the outside walls to offset fabric heat loss, and for quick boost heating will contain either electric radiators or small warm-air fan blowers.

STRUCTURE

The structure is load-bearing brick walls supporting precast reinforced concrete slabs.

FIRE REGULATIONS

Fire regulations were carefully considered in the planning of the unit. Each large group of bedrooms has a fire escape at the outer corner. The main staircase gives on to a fire-protected lobby from which access may be gained to two compartments. This arrangement would appear to satisfy the fire regulations.

FINISHES

In general, finishes will be simple and inexpensive. Load-bearing walls are brick plastered, non-load-bearing walls 3-in. breeze plastered. The choice of floor finish will depend on a feasibility study between vinyl flooring and carpeting. The ground-floor ceiling will be an acoustic tile hung ceiling, whilst the upper-floor ceiling will be plastered direct to the concrete.

ERECTION

Whether the structure is in traditional building—as used in the following cost plan—or uses an industrial building system, the lack of complication in building and services should facilitate rapid erection.

BUILDING COSTS

The following was supplied by Mr. John Liddell, F.R.I.C.S.

Floors areas. The scales of accommodation required are much reduced from that of 'acute' wards and are also much reduced from pre-discharge (hostel type) accommodation as defined in Hospital Building Note 32, Part 2. The reduction of accommodation and of circulation would therefore minimize the building costs required as compared to the building costs of either 'acute' ward unit accommodation or hostel-type ward accommodation.

The accommodation afforded on the plan for the 100-bed unit is 23 480 sq. ft., representing:

Accommodation	15 018 sq. ft.
Circulation	6440 sq. ft.
Communication	2022 sq. ft.

It was considered that cost allowances could be most closely related to that afforded for Building Note 32, Part 2, i.e. for pre-discharge (hostel-type) wards.

HOSPITAL BUILDINGS

ELEMENTAL ESTIMATED COST

Department/ accommodation: Hypothetical 100-bed supporting unit

Gross floor area 23 480
Rate per sq. ft. £5. 1*s*. 4*d*.

	Total cost £	Cost per sq. ft. of gross floor area *s*. *d*.	Element unit quantity	Element unit rate *s*. *d*.
NON-CONSTRUCTIONAL				
1. Preliminaries and insurance	14 871	12 8	12·5%	—
2. Contingencies	5968	5 1	5·0%	—
STRUCTURAL				
3. Work below ground-floor level	7044	6 0		
4. Frame (load-bearing walls)	3522	3 0	S.Y.	100 0
5. External walls and openings	5870	5 0	S.Y.	60 0
6. External doors and windows	4696	4 0	S.F.	38 0
7. Roof construction	3718	3 2	S.Y.	55 0
8. Roof covering and screeds	2642	2 8	S.Y.	40 0
9. Upper-floor construction	3228	2 9	S.Y.	55 0
10. Staircases	2348	2 0		
PARTITIONS				
11. Internal partitions	3718	3 2	S.Y.	30 0
12. Internal doors exclude dual-purpose wardrobe bedroom	2348	2 0		
FINISHINGS				
13. Wall finishings	7044	6 0	S.Y.	19 0
14. Floor finishings	4989	4 3	S.Y.	40 0
15. Ceiling finishings	2935	2 6	S.Y.	18 0 & 30 0
16. Decorations	2935	2 6	S.Y.	6 0
FITTINGS				
17. Fittings single room wardrobe and desk	4207	3 7	No. 100	@ £42
18. Furniture and furnishings	nil	nil	not included	
SERVICES				
19. Plumbing	7044	6 0		
20. Sanitary fittings and wastes	2348	2 0		
21. Mechanical engineering 22. Electrical engineering 23. Equipment	26 317	22 5	22%	
24. Lifts	To be added as required			
25. Builders work for engineering	1208	1 0		
ADD For future fluctuations (if required)				
TOTAL	119 000	101 4		

	Area per patient (sq. ft.)	
	Building Note 32 (Part 2)	Hypothetical 100-bed plan
BASIC ACCOMMODATION		
Group A.	21·33	14·96
Group B. Day-rooms and dining space	50	22·56
Group C. Bedrooms, etc.	140·44	112·66
	212	150
Circulation	85	64
Communication	30	20
Per patient	327 sq. ft.	234 sq. ft.

Even discounting the saved area in Group A type of accommodation, the saved area per patient in Group B and C and circulation is 77 sq. ft. or 28 per cent.

Cost allowances. The construed rate per sq. ft. from Building Note 32 Part 2 is £5. 2*s.* 2*d.* per sq. ft.

On this basis a notional cost was prepared for a hypothetical unit of 100 'supporting beds'.

Accommodation	15 018	
Circulation	6440	
	21 458 @ £5. 2*s.* 2*d.*	£109 614
Communication (excluding lift)	2022 @ £4. 10*s.* 0*d.*	£9099
	Say	£119 000

Cost plan. An elemental cost has been prepared on the notional limit of £119 000: this is shown on p. 121. Based on approximate quantities for traditional building this figure is considered to be very practicable. Mechanical and electrical engineering elements (21–23) represent 22 per cent of the notional cost and this is a greater allowance than is afforded in Building Note 32, Part 2. Contingencies to the extent of 5 per cent of the cost have been afforded.

COST PER BED

Building Note 4	Building Note 32 (Pre-discharge hostel type)	Supporting bed unit
£1732 including 10 per cent for communications is the construed limit based on 100 beds	£1650 including 10 per cent for communications but based on 30 beds	£1190 with measured communications based on 100 beds

STAFFING

Much of the effectiveness of a supporting bed unit as an element of selective patient grouping will depend on the validity of the assumption that staffing by nurses can be light. It is suggested that the basic care of ambulant patients admitted to the supporting bed unit should be primarily non-nursing in character. In this respect, the type of unit envisaged in this report would differ from pre-discharge wards or units for continuation care such as Torrance House and the Dryburn unit.

As the patients admitted to the supporting bed unit will require some medical and nursing supervision and care, even though this will be minimal in amount, it will be essential for the unit—which will replace 'acute' beds—to be linked to the parent hospital. This will allow the convenient transfer of patients, easy access by clinicians, and direct association with various hospital departments and services. This background is important in relation to such questions as the allocation, relief and supervision of staff.

STAFFING IN 'ACUTE' WARDS

Current nurse-staffing levels in existing 'acute' ward units are variable. No recognized norms have been set and the

pattern changes not only with the pressure of clinical work but also, and possibly to a greater extent, with the availability of different grades of nursing staff and the influence of training requirements. Examples of staffing observed in three medical and three surgical wards over a 24-hour period were:

No. of beds	Sisters	Staff nurses	Enrolled nurses	Student nurses	Pupil nurses	Nursing auxiliaries	Total	Nurse/bed ratio
MEDICAL ('ACUTE')								
27	1	5	—	5	—	3	14	1:1·85
24	1	2	2	4	2	—	11	1:2·2
25	1	2	1	2	2	1	9	1:2·8
SURGICAL								
20	1	2	—	6	—	2	11	1:1·8
24	1	3	—	5	1	—	10	1:2·4
28	1	3	—	3	—	2	9	1:3·1

In all these units 1 to 3 domestics were also present during 24 hours.

PROPOSED STAFFING OF 'SUPPORTING' BED UNIT

The suggested staffing for a 100-bed 'supporting' bed unit as described in this report might be as follows.

Departmental Sister	1
Clerkess	1
Registered nurses or enrolled nurses	4
Nursing auxiliaries	8
Domestics (full-time equivalents)	10

This staffing arrangement gives a nurse/patient ratio of 1:7·7.

Approximately six full-time domestic staff might be employed on bed-making and general cleaning of the room-ettes and 4-bed areas and adjoining corridors. The remaining domestic staff employed on a part-time basis (four full-time equivalents) would be responsible for general cleaning of all other areas.

It may be noted that in relation to both the 'acute' and the 'supporting' bed units the estimates of staff would require adjustment to cover annual and sick leave, etc.

CONCLUSIONS

While it will clearly be necessary to conduct a practical experiment in purpose designed accommodation before firmer assumptions of the staffing implications can be made, it would appear that the following broad conclusions may be drawn.

	Anticipated reduction
1. Total staff (including domestics)	50%
2. All nursing staff	60%
3. Trained nursing staff	70%

The comparative annual nursing and domestic staff costs as between four 24–25-bed 'acute' wards of the type illustrated above and the 100-bed supporting unit would be as follows:

	Four 24–25-bed acute wards		100-bed supporting unit	
	No.	Cost £	No.	Cost £
Nursing				
Departmental sister	—	—	1	1 095
Ward sister	4	4 200	—	—
Staff nurse	12	9 400	4	3 025
Enrolled nurse	2	1 350		
Student nurse	16	7 280	—	—
Pupil nurse	4	1 760	—	—
Nursing auxiliary	6	3 640	8	4 850
	44	£27 630	13	£8 970
Domestic	6	3 420	10	5 700
Clerical	—	—	1	600
Total numbers and costs	50	£31 050	24	£15 270

It should not be assumed from the above figures that there would be substantial cost savings if a 100-bed supporting unit replaced four 'acute' wards. There would be no question of

redundant nursing staff. The establishment of such a unit will mean that the skills of a hospital's total complement of trained nursing staff could be more effectively utilized in the care of acute patients (i.e. intensive and intermediate care) in a smaller number of 'acute' wards. Indeed, the acceptance of positive efforts of this kind to release skilled nursing time may be a pre-requisite to the development of units for intensive therapy, which the public will increasingly demand.

MOCK-UP OF ROOMETTE

As mentioned on p. 114 the roomette was a concept central to the idea of a supporting bed unit. It had to be a practical proposition so a full-size mock-up of a roomette was built to test its suitability as judged by a wide variety of hospital personnel whose advice was sought. These advisors included doctors, nurses, and domestic staff who were able to get from the mock-up, a real impression of the design intention to an extent which would have been impossible with drawings or models.

The mock-up was designed to give instant adaptability as to size and was equipped with a bed and chair, and simulated built-in furniture made from polystyrene sheet material which lent itself to rapid alteration. A wheelchair was used to test the manoeuvring space available as the room was progressively modified.

The walls were formed of hardboard sandwich panels connected with timber tongues. These panels were sized to permit 3-in. increments in length on the range of anticipated sizes and one panel was fitted with braces and castors so that it could be moved independently of adjacent walls. Panels were marked in imperial and metric measures so that sizes could easily be verified.

This 'instant mock-up' permitted considerable alterations to be made in a moment, and the final size and proportions of the room and the detailed design of the fittings were

reached after much testing of alternative arrangements. The experience of doing this cheaply is likely to lead to the development of the mock-up components so that other rooms where there are uncertainties in user requirements can be tested and progressively modified in the same way.

5

Summary and discussion

The findings of the survey team, based on a census of over 3600 patients occupying about 30 per cent of the 'acute' beds for medicine, surgery, orthopaedics, and gynaecology in Scotland has added confirmation to previous reports that a group of patients now retained in 'acute' wards do not require a level of medical and nursing attention normally associated with these units. The findings may be summarized in two main parts, viz, the case for a purpose-designed supporting bed unit, and the follow-up work which might be undertaken as a result of the survey.

A PURPOSE-DESIGNED SUPPORTING BED UNIT

The survey showed that some 30 per cent of the patients surveyed in teaching hospitals and 36 per cent of those in district general hospitals could have been accommodated more suitably in alternative accommodation. Within this group the major proportion were those who, while in hospital for a variety of reasons, shared a low degree of doctor and nurse dependency and were accordingly classified as minimal-care patients. While the proportion of such patients varied between specialities, they represented approximately one-quarter of all the patients surveyed in 'acute' wards; this in

turn represents some 3900 patients in Scotland at any one time. It would appear that this group is unlikely to decrease significantly in the future.

Minimal-care patients do not require the full nursing facilities available in an 'acute' ward. Patients between two stages of an operation, or under observation and investigation, or convalescent or ambulant but in need of treatment whilst living away from the main hospital, might be treated in more suitably designed accommodation than is available in 'acute' wards—if they are able to wash, feed, and go to the toilet by themselves. A simple, more domestic environment, minimum medical and nursing care, adequate day-rooms, and access to diagnostic and rehabilitation facilities and to a cafeteria would appear to represent the main requirements. With the high cost of 'acute' ward accommodation and the pressing problem of optimum deployment of skilled nursing staff, there can be little justification for the continued use—and new provision—of 'acute' ward accommodation for those marginally dependent patients who still require hospital care.

The survey team could not investigate all aspects of this complex problem in the time available. From consideration of the interplay of many factors and the extensive literature, sufficient information was obtained, however, to indicate that making every allowance for patients in border-line categories, the numbers involved justified accommodation purpose-designed to provide a more domestic environment. Such accommodation should be directly linked to the parent hospital and replace an equivalent number of 'acute' beds. There will be no advantage in cost or in the distribution of skilled nursing staff to provide 'pre-discharge' units at existing hospitals as additional accommodation.

It would not be suggested that types of accommodation could be designed to provide an absolute fit for all the different categories of patient encountered in ward units at present or anticipated in future. The proportions will change within the lifetime of the buildings being planned and, in addition, there will always be a number of patients whose condition makes it

difficult to allocate them with confidence to any particular group. It is clear, however, that the trend towards a greater provision at the intensive end of the spectrum of medical care is likely to continue and that this will require concentration of skilled nursing staff. The planning requirements for intensive nursing care and intermediate care areas have been fully explained in writing,[1] and illustrated in practice in the Scottish Home and Health Department's development unit at Falkirk and District Royal Infirmary. The less intensive area, however, remains ill-defined.

The trend towards a reduction in the length of stay of patients in hospital will affect this issue and an increased turnover in individual ward units on the medical side may have fewer repercussions on other departments than in surgery where this could mean a greater load particularly on the operating theatres. Again, it may be argued that with a shortened duration of stay it would be inappropriate for the patient to spend only a few days in a 'pre-discharge' unit. This would largely depend, of course, on the ease with which the transfer between the acute and the supporting bed could be made. Given an easy transfer to the 'supporting bed' unit, however, many patients now retained in 'acute' wards for the whole of even a ten-day period might be more suitably accommodated for the latter part of their stay in a simpler environment and would appreciate both an individual 'roomette', and a less highly organized regime. These aspects can only be clarified by practical experience.

An increased provision of hostel accommodation has been suggested in the past but in this survey the number of patients entirely independent of medical or nursing care but retained in acute beds because of their domestic circumstances or geographical position was extremely small. While patients of this kind, i.e. a hostel group, could be accommodated in a 'pre-discharge' or 'minimal care' unit, the reverse does not apply. Hostel accommodation may have a more appropriate

1. Scottish Home and Health Department, Ward Design. Edinburgh: H.M.S.O. (reprinted 1964), Hospital Planning Note No. 1.

place in relation to out-patient work or to accommodate patients' relatives.

The suggestion to have purpose-designed accommodation for the group of patients requiring 'minimal care' may also be questioned by some on the grounds that this would be inflexible and might, in fact, become poor quality 'acute' accommodation. Flexible usage is an important principle and has been achieved in recent ward designs for 'acute' areas. It is considered that the 'pre-discharge' or 'minimal care' area should be regarded as a continuing entity and planned for this purpose with the emphasis on flexibility within its design, rather than envisage a multi-purpose 'acute' and 'supporting' unit which would cater poorly and inflexibly for the 'acute' patient and inappropriately for those ambulant patients requiring only a slight degree of medical and nursing attention. It would be necessary, of course, to assume that bed management was at a high level, that criteria for admission and the limited facilities provided in the 'supporting' area were recognized and accepted and that no attempt was made to use the accommodation for purposes other than those for which it was designed.

Apart from the dominant questions of cost and staffing, another important aspect of the selective grouping of patients relates to health education and rehabilitation. So long as the traditional ward atmosphere and accommodation is retained, it will be difficult to break from the tradition of dependency on the part of the patient. A more active environment for the patient at this stage and less dependency on others would be salutary; it would represent a sort of compulsory weaning of patients, yet retain them in an area of the hospital in which it was possible for the necessary degree of medical and nursing supervision to be available on a more appropriate scale. It would allow more intensive rehabilitation at a time when patients were most receptive to it.

The value of having a 'mixture' of patients in an acute ward unit is sometimes suggested. The assumption is that this dilutes and varies the nurses' work and may prevent ill

effects from having to deal entirely with more acute and dependent patients. There is evidence of subjective thinking on this point. Without taking all the factors into account, ward sisters may fear that their units would become too active. It should be noted, however, that an improvement in nurse staffing might be made possible by the introduction of other categories of staff in the 'pre-discharge' ward. Again, the reduction in nurse dependency from early ambulation and the assistance available to nursing staff from services such as 'topping up' of supplies, central dishwashing, central meals service, and in the re-organization of ward clerical work, must be recognized. In this connection it should be noted that in the intermediate-care group—who would be retained in 'acute' wards—the survey revealed a relatively low level of nursing dependency.

The planning of a 'supporting bed' unit, as set out in Chapter 4, was a hypothetical exercise to provide cost information which could be used in future discussion on the feasibility of building and staffing such a unit. For this purpose the scheduling and designing had to be realistic and workable. The outline drawing presented in the report is not a prototype. A 'supporting bed' unit could take various physical shapes; it could be single storey or, in a very restricted site, it could be three or more storeys high. It is also possible to conceive of a unit of this type being incorporated as the upper floors of a multi-storey acute ward block. As explained in the report, the size of 100-beds is arbitrary. The number of beds would depend on the requirements of the hospital to which it was to be attached but it could be that for a district general hospital of 400–500 beds of the type presently classified as 'acute', a 100-bed supporting unit would form part of the total complex. It is clear that the extent of various economies to be obtained will depend on the factor of size: this in turn may depend on the degree to which the grouping of the parent 'acute' beds is achieved. In terms of building costs it appears that a 100-bed unit could be built for approximately two-thirds of the cost appropriate to a standard ward unit as set

out in Hospital Building Note No. 4 for acute ward units. The relative simplicity of the building and lack of complicated equipment suggest that the running costs would also be significantly lower than for an 'acute' unit.

Given the necessary domestic staff, the level of nurse staffing which would be necessary in a 'supporting bed' unit of 100 beds would produce a nurse/patient ratio of about 1:8. This compares with ratios of up to some 1:2 which are now experienced in 'acute' wards. It should not, of course, be assumed that there would be substantial staff cost savings if a 100-bed supporting unit replaced three or four 'acute' wards. It would mean, however, that the hospital's total complement of trained nursing staff could be more effectively utilized in the care of acute patients in a smaller number of 'acute' wards, and would release skilled nursing time to allow the development of units for intensive therapy.

FURTHER STUDIES

In Parts 2 and 3 of this report various references are made to particular aspects of the problem of bed usage. Some of these may be re-stated in relation to possible future studies.

1. Clinicians must be left with the ultimate decision as to the location in which their patients should be treated or in which investigations should be undertaken, but diversities in practice or duration of stay were encountered in the survey. These have far-reaching consequences and merit further professional review. There are also areas of work in which greater rationalization would directly affect hospital provision, for example, a greater emphasis on out-patients' surgery would influence hospital waiting lists; more diagnostic investigation prior to admission would affect the patient's length of stay.

2. A need for a more dynamic approach to hospitalization of the elderly was noted and in particular for those who have sustained fractures. The attitudes and reactions of the

elderly might deteriorate less if the rehabilitative approach was started earlier and better sustained. Once elderly patients reach a unit in which there is a general atmosphere of passive convalescence there is a tendency for them to regress, become bedfast and 'block' beds.

3. The residual medical and nursing needs of long-term survivors of severe head or bodily injuries are frequently not of an 'acute' character. When this is so, difficult problems arise. Is it right to retain these patients in highly specialized 'acute' units? If not, what type of accommodation is most suitable for them?

4. Problems remain in association with the fitting of prostheses. Delay in fitting can mean excessive lengths of stay in 'acute' accommodation. This justifies more detailed examination.

5. Links between hospital and general practitioners might be improved by the liaison which a unit would facilitate if it catered specifically for the investigation of patients prior to admission to an 'acute' ward, and provided for their care and rehabilitation before returning to their homes and work. This type of integration would also relate to certain local authority services. These aspects require further examination and the experience of practical trials.

APPENDIX A

Bibliography

ESTIMATES OF BED NEEDS

1. ABEL-SMITH, B. 'Hospital planning and the structure of the hospital service', *Medical Care* (Jan./March 1964), **2**, 47–51.
2. —— 'Hospital planning in Great Britain', *Hospitals* (Chicago: 1 May 1962), **36**, 30–5.
3. AIRTH, A. D., and NEWELL, D. J. *The Demand for Hospital Beds* (Newcastle: King's College, 1962).
4. BAILEY, N. T. J. 'Statistics in hospital planning and design', *Applied Statistics* (Nov. 1956), **5**, 146.
5. BARR, A. 'The population served by a hospital group', *Lancet* (30 Nov. 1957), **ii**, 1105–8.
6. BURKENS, J. C. 'The estimation of hospital bed requirements', *World Hospitals* (April 1966), **2**, 110–13.
7. CHESTER, T. E. 'Health and hospital services in the United States: a comparative analysis', *Hospital* (London: 1960), **56**, pt. 1 (Sept.), 731–9; pt. 2 (Oct.), 848–55.
8. DEPARTMENT OF HEALTH FOR SCOTLAND. *Scottish Hospitals Survey: General Introduction to the Reports* (Edinburgh: H.M.S.O., 1945).
9. —— *Scottish Hospitals Survey* (Edinburgh: H.M.S.O., 1946). 5 vols. (Report on the eastern region; report on the northern region; report on the north-eastern region; report on the south-eastern region; report on the western region).
10. —— *Hospital Plan for Scotland* (Edinburgh: H.M.S.O., 1962) (Cmnd. 1602).
11. FERGUSON, T., and MACPHAIL, A. N. *Hospital and Community* (London: O.U.P. for N.P.H.T., 1954).
12. FORSYTH, G., and LOGAN, R. F. L. *The Demand for Medical Care: A Study of the Case-load in the Barrow and Furness Group of Hospitals* (London: O.U.P. for N.P.H.T., 1960).
13. GODBER, G. E. 'The physician's part in hospital planning', *British Medical Journal, Supplement* (4 April 1959), 115–18.
14. GRAY, Sir A. M. H., and TOPPING, A. *The Hospital Services of London and the Surrounding Area* (1945), op. cit. 26.
15. 'A hospital plan for 1966 (correspondence)', *Lancet* (5 March 1966), **i**, 545–6.

16. 'A hospital plan for 1966 (points of view)', ibid. (1966), i (5 Feb.), 308–10; (26 Feb.), 478–9.
17. 'How many beds? (annotation)', ibid. (4 Aug. 1962), ii, 237.
18. KLARMAN, H. E. 'Some technical problems in area-wide planning for hospital care', in *Medical Care Research* edited by K. L. White (London: Pergamon, 1965), pp. 11–23.
19. LOGAN, R. F. L., and FORSYTH, G. 'Assessment of future hospital needs', *Hospital* (London: June 1960), **56**, 463–72, 488.
20. MCKEOWN, T. 'Fundamental problems in hospital planning', *British Medical Journal, Supplement* (4 April 1959), 122–4.
21. —— 'The future planning of hospital services', *Hospital* (London: July 1959), **55**, 581–8, 608.
22. MACKINTOSH, J. M. et al. 'An examination of the need for hospital admission', *Lancet* (15 April 1961), i, 815–18.
23. MCQUEEN, R. J. C. 'Long-range planning for hospital expansion', *Hospital Administration* (Chicago: 1961), **6**, 25–36.
24. MINISTRY OF HEALTH. *The Hospital Building Programme: A Revision of the Hospital Plan for England and Wales* (London: H.M.S.O., 1966) (Cmnd. 3000).
25. —— *A Hospital Plan for England and Wales* (London: H.M.S.O., 1962) (Cmnd. 1604).
26. —— *Hospital Survey of England and Wales* (London: H.M.S.O., 1945). 10 vols. (London and surrounding area; Berks., Bucks., and Oxon.; Eastern area; South-western area; South Wales and Monmouthshire; Sheffield and East Midlands area; West Midlands area; Yorkshire area; North-western area; North-eastern area).
27. —— *Memorandum on the Development of Consultant Services* (London: H.M.S.O., 1950).
28. NEWELL, D. J. 'Problems in estimating the demand for hospital beds'. In *Medical Care Research* edited by K. L. White (Oxford: Pergamon, 1965), pp. 25–35.
29. NORRIS, V. 'Role of statistics in regional hospital planning with special reference to the Birmingham hospital region', *British Medical Journal* (19 Jan. 1952), i, 129–32.
30. NUFFIELD PROVINCIAL HOSPITALS TRUST. *Hospital and Community: I. Hospital-treated Sickness amongst the People of Stirlingshire* (London: The Trust, 1948).
31. —— *Hospital and Community: II. Hospital treated Sickness amongst the People of Ayrshire* (London: The Trust, 1949).
32. —— *Report on the Planning of Hospital Services in the Berks., Bucks. and Oxon. region* (London: The Trust, 1947).
33. —— *Towards a Measure of Medical Care: Operational Research in the Health Services a Symposium* (London: O.U.P., 1962).
34. —— and BRISTOL UNIVERSITY. *Studies in the Functions and Design of Hospitals.* (London: O.U.P., 1955) (Northampton survey, pp. 151–8; Norwich survey, pp. 158–85).
35. ROURKE, A. J. J. 'Determining the need for health care facilities', *Hospitals* (Chicago: 16 Oct. 1962), **36**, 48–51.

36. SCOTTISH HOME AND HEALTH DEPARTMENT. *Health Statistics: Analysis of Forms Stats. H.S.10 for six months ended 31st March, 1966* (Edinburgh: The Department, 1966).
37. —— *Review of the Hospital Plan for Scotland* (Edinburgh: H.M.S.O., 1966) (Cmnd. 2877).
38. WAIND, A. P. B. 'Needs and beds (correspondence)', *Lancet* (22 April 1961), **i**, 884.
39. WECKWERTH, V. E. 'Determining bed needs from occupancy and census figures', *Hospitals* (Chicago: 1 Jan. 1966), **40**, 52–4.

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40. ABEL, A. L., and LEWIN, W. 'Report on hospital buildings', *British Medical Journal, Supplement* (4 April 1959), 109–14.
41. BARR, R. 'Hospital admissions and social environment', *Medical Officer* (1958), **100**, 351–4.
42. BROTHERSTON, J. H. F. 'The use of the hospital: review of research in the United Kingdom', *Medical Care* (July/Sept. 1963), **1**, 142–50; (Oct./Dec.), 225–31.
43. CAMPBELL, R. C., and DUDLEY, H. A. F. 'Hospital stay of patients undergoing minor surgical procedures', *Lancet* (22 Aug. 1964), **ii**, 403–5.
44. CARTWRIGHT, A. *Human Relations and Hospital Care* (London: Routledge and Kegan Paul, 1964).
45. 'The cottage hospital (annotation)', *Lancet* (26 Feb. 1966), **i**, 475–6.
46. COTTRELL, J. D. 'The consumption of medical care and the evaluation of efficiency', *Medical Care* (Oct./Dec. 1966), **4**, 214–36.
47. CRAWFORD, W. B. S. 'Demand for medical care (correspondence)', *British Medical Journal* (21 May 1960), **i**, 1568.
48. CROMBIE, D. L., and CROSS, K. W. 'Serious illness in hospital and at home', *Medical Press* (14 Oct. 1959), **ccxlii**, 316–43.
49. DAVIDSON, A. I. G. et al. 'A day room in a general surgical unit', *Lancet* (9 April 1966), **i**, 809–10.
50. DEEBLE, J. S. 'An economic analysis of hospital care', *Medical Care* (July/Sept. 1965), **3**, 138–46.
51. DONABEDIAN, A., and ROSENFELD, L. S. 'Follow-up study of chronically ill patients discharged from hospital'. In *Medical Care Research* edited by K. L. White (Oxford: Pergamon, 1965), pp. 123–38.
52. DONALD, B. L. *Manpower for Hospitals: A Study of Problems in Some West European Countries* (London: Institute of Hospital Administrators, 1966).
53. 'Early discharge after hernia operations' (Bedford General Hospital). *Nursing Times* (16 Sept. 1966), **62**, 1234.
54. FARRER-BROWN, L. 'Hospitals for today and tomorrow', *British Medical Journal, Supplement* (4 April 1959), 118–22.

55. 'Five day ward at West Middlesex Hospital', *Nursing Times* (15 Sept. 1961), **57**, 1202.
56. FORSYTH, G., and LOGAN, R. F. L. 'Medical technology and the needs of chronic disease: a review of some British studies on the organization of medical care services', in *Medical Care Research* edited by K. L. White (Oxford: Pergamon, 1965), pp. 65–78.
57. FRIEDMAN, J. W., and WEINER, T. 'A small proprietary hospital closes its doors', *Hospitals* (16 Aug. 1966), **40**, 46–51.
58. FRY, J. 'A general practitioner's views of hospital planning', *British Medical Journal, Supplement* (4 April 1959), 124–6.
59. GODBER, G. E. 'Bed resources', *The Hospital* (June 1957), **53**, 412–24.
60. GOODMAN, N. M. *Alternatives to Hospital Care* (Strasbourg: Council of Europe, 1963).
61. INSTITUTE OF ALMONERS. 'The problem of convalescence', *Almoner* (July 1954), **7**, 129–40.
62. —— *Report of a Survey of Convalescent Facilities in England and Wales* (London: Tavistock House, 1947).
63. KING EDWARD'S HOSPITAL FUND FOR LONDON. *Recovery Homes: A Report of an Inquiry into the Working of Recovery Homes and their Value to the Hospital Service* (London: The Fund, 1954).
64. —— Hospital Administrative Staff College. *Hospital Bed Occupancy* (London: The Fund, 1954).
65. LEHMAN, K. B. 'Incorporating rehabilitation into extended care', *Hospitals* (Chicago: 16 Nov. 1966), **40**, 85–100.
66. LIVERPOOL REGIONAL HOSPITAL BOARD and UNITED LIVERPOOL HOSPITALS. 'The recovery home in the hospital service', (unpublished, 1953).
67. MCKEOWN, T. 'The concept of a balanced hospital community', *Lancet* (5 April 1958), **i**, 701–4.
68. MACKINTOSH, J. M. 'Matching facilities to needs of long-term patients', *Hospitals* (Chicago: 16 April 1966), **40**, 85, 89.
69. MCLACHLAN, G. (ed.). *Problems and Progress in Medical Care: Essays on Current Research* (London: O.U.P. for N.P.H.T., 1964).
70. MCQUEEN, R. J. C. 'Long-range planning for hospital expansion', *Hospital Administration* (Chicago: 1961), **6**, 25–36.
71. MILLARD, J. B. 'The work of a medical rehabilitation unit within the hospital service', *Public Health* (London: March 1964), **78**, 144–50.
72. MINISTRY OF HEALTH. *Convalescent Treatment: Report of a Working Party (Chairman: N. M. Goodman)* (London: H.M.S.O., 1959).
73. —— *On the State of the Public Health: Being the Annual Report of the Chief Medical Officer for the Year, 1952* (London: H.M.S.O., 1953) (Cmnd. 9009), pp. 191–2.
74. —— *On the State of the Public Health: The Annual Report of the Chief Medical Officer of the Ministry of Health for the Year, 1964* (London: H.M.S.O., 1965).

75. —— Central Health Services Council. *The Field of Work of the Family Doctor: Report of the Standing Medical Advisory Sub-Committee* (*Chairman: Annis Gillie*) (London: H.M.S.O., 1963).
76. Ministry of Labour and National Service. *The Rehabilitation, Training and Resettlement of Disabled Persons: Report of the Committee of Inquiry* (*Chairman: Lord Piercy*) (London: H.M.S.O., 1956) (Cmnd. 9883).
77. Newell, D. J. 'Emergency admissions and the pre-discharge ward', *Hospital* (London: Jan. 1962), **58**, 13–15.
78. Newsholme, A. *International Studies on the Relation between the Private and Official Practice of Medicine* (London: Allen and Unwin, 1931).
79. Nightingale, F. *Notes on Hospitals*, 3rd ed. (London: Longmans, Green, 1863).
80. Northern Regional Hospital Board. *Hostel Investigation for In-patients* (Unpublished, 1964).
81. Oxford Regional Hospital Board. Operational Research Unit. *The Work of a Cottage Hospital in a Rural Community* (*Chipping Norton*) (Oxford: The Board, 1965).
82. Paige, D., and Jones, K. *Health and Welfare Services in Britain in 1975* (Cambridge: C.U.P., 1966).
83. Political and Economic Planning. *Report on the British Health Services: A Survey of the Existing Health Services in Great Britain with Proposals for Future Development* (London: P.E.P., 1937).
84. Scottish Home and Health Department and Joint Consultants Committee. Scottish Working Party. *Alternatives to Traditional Hospital Care: Report of Committee D* (Unpublished, 1965).
85. Sheffield Regional Hospital Board. *Final Report of Ad Hoc Committee on Rehabilitation* (Sheffield: The Board, 1962).
86. —— *A Report following an Enquiry into the Possibilities of Recovery Homes* (Unpublished).
87. 'Short-stay surgery: experimental five-day treatment scheme to defeat staff shortage', *Nursing Times* (1 Sept. 1961), **57**, 1121–2.
88. Smith, J., and Weymes, C. 'Medical management of hospital bed use', *Health Bulletin* (Edinburgh: Jan. 1961), **19**, 7–9.
89. Stainer, J. G. C. 'Cottage hospitals: modernise or demolish?', *Hospital* (London: May 1966), **62**, 212–15.
90. Stallworthy, J. A. 'Hotels or hospitals?', *Lancet* (9 Jan. 1960), **i**, 103–6.
91. 'Wycombe general hospital', *Hospital* (London: Dec. 1966), **62**, 595–6.
92. Young, J. P. 'Stabilization of inpatient bed occupancy through control of admission', *Hospitals* (Chicago: 1 Oct. 1965), **39**, 41–8.

Blockage of 'acute' beds and liaison with other authorities and home care

93. BOYD, R. V., and SHELDON, B. B. 'Geriatrics: some social hazards', *Practitioner* (Feb. 1966), **196**, 283–8.
94. BROCKINGTON, F., and LEMPERT, S. M. *The Social Needs of the Over-80's: The Stockport Survey* (Manchester: Manchester U.P., 1966).
95. BROCKLEHURST, J. C. 'Co-ordination in the care of the elderly', *Lancet* (18 June 1966), **i**, 1363–6.
96. CARSTAIRS, V. 'Dundee and Angus hospitals: in patients 65 and over'. (Unpublished survey for Scottish Home and Health Department. Health service research unit, 1966).
97. —— and PATTERSON, P. E. 'Distribution of hospital patients by social class', *Health Bulletin* (July 1966), **xxiv**, 59–65.
98. CONSUMERS' ASSOCIATION. 'Home helps', *Which?* (Dec. 1966), 390–3.
99. COSIN, L. 'Organizing a geriatric department', *British Medical Journal* (27 Dec. 1947), **ii**, 1044–6.
100. DONABEDIAN, A. D., and ROSENFELD, S. 'Follow-up study of chronically ill patients discharged from hospital', in *Medical Care Research* edited by K. L. White (London: Pergamon, 1965), pp. 123–38.
101. EDGE, J. R., and NELSON, I. D. M. 'Survey of arrangements for the elderly in Barrow-in-Furness: 2', *Medical Care* (Jan./March 1964), **2**, 7–23.
102. GALLOWAY, J. 'Effective domiciliary care', *Lancet* (23 April 1966), **i**, 921–3.
103. HOCKEY, L. *Feeling the Pulse: A Survey of District Nursing in Six Areas* (London: Q.I.D.N., 1966).
104. HOWELL, T. 'The chronic sick problem', *Medical Care* (Jan./March 1966), **4**, 7–11.
105. KAY, D. W. K., *et al.* 'Special problems of the aged and the organization of hospital services', *British Medical Journal* (22 Oct. 1966), **ii**, 967–72.
106. KEMENY, J. 'Geriatrics', *Hospitals' Association Journal* (Balmain: N.S.W., Nov. 1965), **34**, 4–8.
107. LOWE, C. R., and MCKEOWN, T. 'The care of the chronic sick. 1. Medical and nursing requirements', *British Journal of Social Medicine* (July 1949), **3**, 110–26.
108. —— 'The care of the chronic sick. 2. Social and demographic data', ibid. (April 1950), **4**, 61–74.
109. —— 'The care of the chronic sick. 3', *British Medical Journal* (Feb. 1950), **i**, 323–7.
110. —— 'The care of the chronic sick. 4. A comparison of data from hospitals in the Stoke-on-Trent area with data from Western Road Infirmary, Birmingham', *British Journal of Social Medicine* (July 1950), **4**, 137–42.

111. —— 'The care of the chronic sick. 5. Investigation of 393 patients seeking admission to a hospital for the chronic sick', *British Medical Journal* (23 Sept. 1950), ii, 699–702.
112. MACPHAIL, A. N., and BRADSHAW, D. B. 'Delayed in hospital', *Lancet* (8 July 1967), ii, 89–91.
113. MORRISON, S. L., and RILEY, M. M. 'The use of hospital diagnostic facilities by general practitioners', *Medical Care* (July/Sept. 1963), 1, 137–42.
114. NORTON, D. 'Geriatric nursing problems', *Nursing Times* (23 Feb. 1962), 58, 236–8.
115. —— *et al. An Investigation of Geriatric Nursing Problems in Hospital* (London: National Corporation for Care of Old People, 1962).
116. PARKER, J. *Local Health and Welfare Services* (London: Allen and Unwin, 1965).
117. PEAKE, G. 'Meeting the changing needs of the community for nursing service', *International Nursing Review* (May/June 1961), 8, 35–41.
118. 'Progressive patient care in a geriatric department', *Nursing Times* (1 June 1962), 58, 701–2.
119. REVANS, J. 'Integration of the general practitioner with the hospitals', *Medical Care* (Jan./March 1964), 2, 41–7.
120. ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH. *The Care of the Elderly in Scotland* (Edinburgh: The College, 1963).
121. SCOTTISH EDUCATION DEPARTMENT and SCOTTISH HOME AND HEALTH DEPARTMENT. *Social Work and the Community: Proposals for Reorganising Local Authority Services in Scotland* (Edinburgh: H.M.S.O., 1966) (Cmnd. 3065).
122. SCOTTISH HOME AND HEALTH DEPARTMENT. *Health and Welfare Services in Scotland: Report for 1964* (Edinburgh: H.M.S.O., 1965) (Cmnd. 2700).

PROGRESSIVE PATIENT CARE

123. BAIRD, I., and RALSTON, G. J. 'A surgical continuation unit' (Torrance House, Kilmarnock), *Nursing Times* (5 Aug. 1960), 56, 954–5.
124. BIRMINGHAM REGIONAL HOSPITAL BOARD. Shrewsbury Hospital Management Committee. *Lewis Motley Ward (Common Discharge Unit), Copthorne Hospital: Interim Report for 1965* (Birmingham: The Board, 1966).
125. CONNOR, R. J. *et al.* 'Effective use of nursing resources: a research report', *Hospitals* (Chicago: 1 May 1961), 35, 30–9.
126. CROSSLING, F. T., and HUTCHISON, J. 'Experience in the use of a recovery room during the past four years', *Scottish Medical Journal* (July 1961), 6, 327–32.
127. EXTON-SMITH, A. N. 'Progressive patient care in geriatrics', *Lancet* (3 Feb. 1962), i, 260–3.

128. GARDNER, E. K., and ROCHFORD, J. D. 'The anaesthetist's domain: the recovery ward and the intensive therapy unit', *Hospital* (London: Nov. 1961), **57**, 680–4.
129. GOSSOP, P. 'Solving "the nursing problem": some ideas (including group assignment in progressive nursing care)', *Nursing Mirror* (28 July 1961), **112**, 1403–4.
130. HALDEMAN, J. C., and ABDELLAH, F. G. 'Concepts of progressive patient care', *Hospitals* (Chicago: 1959), **33**, pt. 1 (16 May), 38–42, 142–4; pt. 2 (1 June), 41–6.
131. 'How to allocate progressive care beds', *Modern Hospital* (Feb. 1963), **100**, 78–83.
132. KELLOGG FOUNDATION. *The Planning and Operation of an Intensive Care Unit* (Battle Creek, Mich.: The Foundation, 1966).
133. LEVINE, E. *et al.* 'Diversity of nurse staffing among general hospitals', *Hospitals* (Chicago: 1 May 1961), **35**, 42–8.
134. MACKENZIE, S. 'Progressive patient care', *Hospital* (London: Dec. 1962), **58**, 790–6.
135. MCGHEE, A. *The Patient's Attitude to Nursing Care* (Edinburgh: Livingstone, 1961).
136. MCQUEEN, R. J. C. 'Long-range planning for hospital expansion', *Hospital Administration* (Chicago: 1961), **6**, 25–36.
137. 'Patients over 65 receive more nursing care', *Hospitals* (Chicago: 16 Feb. 1967), **41**, 23a–b.
138. PRESTON, R. 'Add meaning to your hospital census', *Nursing Outlook* (July 1962), **10**, 466–8.
139. PRESTON, R. A. *et al.* 'Patient care classification as a basis for estimating graded inpatient hospital facilities', in *Medical Care Research* edited by K. L. White (London: Pergamon, 1965), pp. 37–48.
140. 'Progressive patient care (annotation)', *Lancet* (29 Aug. 1959), **ii**, 223.
141. 'Progressive patient care (conference)', ibid. (7 July 1962), **ii**, 42.
142. 'Progressive patient care in a geriatric department', *Nursing Times* (1 June 1962), **58**, 701–2.
143. 'Progressive patient care in an Irish hospital: The Mid-Ulster Hospital, Magherafelt', ibid. (27 Oct. 1961), **57**, 1386–8.
144. RALSTON, G. J., and SCOULAR, G. H. 'A surgical continuation unit – Torrance House, Kilmarnock', *Health Bulletin* (Edinburgh: April 1961), **19**, 21–4.
145. RAVEN, R. W. 'Progressive patient care', *British Medical Journal* (6 Jan. 1962), **i**, 43–4.
146. REYNOLDS, K. M., and COTTERILL, C. P. 'Recovery ward in an orthopaedic hospital', *Nursing Times* (14 July 1961), **57**, 890–2.
147. U.S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE. Public Health Service. *Elements of Progressive Patient Care* (Washington: The Department, 1962).
148. —— Public Health Service. *The Progressive Patient Care Hospital: Estimating Bed Needs . . .* (Washington: The Department, 1963).

149. WEEKS, L. E., and GRIFFITH, J. R. (eds.). *Progressive Patient Care: An Anthology* (Ann Arbor: Univ. of Michigan, 1964).
150. YAW, R. 'Intensive care: a hospital state of mind', *Hospitals* (Chicago: 16 Feb. 1961), **35**, 65–7.
151. ZINOVIEFF, A. *et al.* 'The pre-discharge ward' (Dryburn Hospital, Durham), *Lancet* (10 Dec. 1966), **ii**, 1293–7.

PREVIOUS SURVEYS

152. ABERCROMBIE, G. F. 'Discussion on the right patient in the right bed', *Proceedings of the Royal Society of Medicine* (April 1964), **54**, 285–7.
153. —— 'Recent work of the emergency bed service', *Lancet* (19 Sept. 1959), **ii**, 398–400.
154. ANDERSON, O. W. 'Research into hospital use and expenditures', in *Medical Care Research* edited by K. L. White (Oxford: Pergamon, 1965), pp. 3–9.
155. FISHER, M. 'Study on bed requirements' (Edinburgh: Jan.–Sept. 1964, unpublished).
156. KIDD, C. B. 'Misplacement of the elderly in hospital: a study of patients admitted to geriatric and mental hospitals', *British Medical Journal* (8 Dec. 1962), **ii**, 1491–5.
157. LEES, W., and BIDDULPH, C. 'Survey of progressive patient care' (unpublished, *c.* 1965).
158. MACKENZIE, S. 'Progressive patient care survey' (South-west Metropolitan Regional Hospital Board, 1963, unpublished).
159. MINISTRY OF HEALTH and GENERAL REGISTER OFFICE. *Report on Hospital In-patient Enquiry, 1956–1961; 1962, pt. 1* (London: H.M.S.O., 1961–6).
160. NEW ZEALAND. DEPARTMENT OF HEALTH. *Patient–Nurse Dependency* (Wellington, N.Z.: Dept. of Health, 1963–5) (Special report series).
161. OXFORD REGIONAL HOSPITAL BOARD and UNITED OXFORD HOSPITALS. *10,000 Admissions in the Oxford Area* (Oxford: The Board, 1960) (Studies on the hospital in-patient enquiry report, 1).
162. —— Operational Research Unit. *Measurement of Nursing Care* (Oxford: The Board, 1967).
163. PRESTON, R. A. *et al.* 'Patient care classification as a basis for estimating graded inpatient hospital facilities', in *Medical Care Research* edited by K. L. White (London: Pergamon, 1965), pp. 37–48.
164. SOLON, J. *et al. Nursing Homes, Their Patients and Their Care* (Washington: U.S. Dept. Health, Education and Welfare, 1957) (Public health monograph, 46; P.H.S. publication, 503).
165. STURDAVANT, M., and MICKEY, H. C. 'An experiment in minimal care: pt. 1, determining elegibility and demand', *Hospitals* (Chicago: 16 Feb. 1966), **40**, 72–8, 124.

APPENDIX B

List of hospitals visited

WITH NUMBER OF PATIENTS SURVEYED

TEACHING HOSPITALS

	Number of patients surveyed
Aberdeen Royal Infirmary	216
Dundee Royal Infirmary	285
Maryfield Hospital, Dundee	160
Royal Infirmary, Edinburgh	293
Western General Hospital, Edinburgh	344
Royal Infirmary, Glasgow	264
Victoria Infirmary, Glasgow	114
Southern General Hospital, Glasgow	209

DISTRICT NON-TEACHING HOSPITALS

Royal Northern Infirmary, Inverness	121
Raigmore Hospital, Inverness	150
Victoria Hospital, Kirkcaldy, Fife	117
Mearnskirk Hospital, Newton Mearns, Renfrewshire	76
Victoria Auxiliary Infirmary, Philipshill, by Busby, Lanarkshire	42
Dumfries and Galloway Royal Infirmary, Dumfries	139
Vale of Leven Hospital, Alexandria, Dunbartonshire	122
Falkirk and District Royal Infirmary, Falkirk, Stirlingshire	171

CONVALESCENT AND/OR PRE-DISCHARGE UNITS

Glen o' Dee Hospital, Banchory, Kincardineshire	48
Sidlaw Hospital, Auchterhouse, by Dundee	34
Corstorphine Hospital, Edinburgh	105
Canniesburn Auxiliary Hospital, Glasgow	98
Grove Hospital, Irongray, Dumfries	53

SMALL GENERAL HOSPITALS

Ross Memorial Hospital, Dingwall, Ross-shire	21
Belford Hospital, Fort William, Inverness-shire	35
Culduthel Hospital, Inverness	41
Town and County Hospital, Nairn	12
Peterhead Cottage Hospital, Aberdeenshire	11
Jubilee Hospital, Huntly, Aberdeenshire	35
Chalmers Hospital, Banff	50

Seafield Hospital, Buckie, Banffshire	35
Turner Hospital, Keith, Banffshire	19
Blairgowrie and Rattray Cottage Hospital, Blairgowrie, Perthshire	12
St. Margaret's Hospital, Auchterarder, Perthshire	11
Crieff Cottage Hospital, Crieff, Perthshire	11
Aberfeldy Cottage Hospital, Aberfeldy, Perthshire	7
Selkirk Cottage Hospital, Viewfield, Selkirk	12
Hawick Cottage Hospital, Hawick, Roxburghshire	23
Kelso Cottage Hospital, Kelso, Roxburghshire	13
Peebles War Memorial Hospital, Peebles	15
Coldstream Cottage Hospital, Coldstream, Berwickshire	11
Castle Douglas and District Hospital, Castle Douglas, Kirkcudbrightshire	34
Newton Stewart Hospital, Newton Stewart, Wigtownshire	17
Garrick Hospital, Stranraer, Wigtownshire	27

OTHER HOSPITALS VISITED

Pre-discharge unit, Dryburn Hospital, Durham
Chipping Norton Cottage Hospital, Chipping Norton, Oxon
Dundee Women's Hospital, Dundee
Fitness Centre, Bridge of Earn Hospital, Perthshire
Hunter Hospital, Kirkcaldy, Fife
Thomas Hope Hospital, Langholm, Dumfriesshire
Torrance House, by Kilmarnock, Ayrshire

APPENDIX C

Statistics of patients surveyed

CLASSIFICATION OF PATIENTS SURVEYED

TABLE 1. A. TEACHING HOSPITALS

	Totals			Surgery			Orthopaedics			Gynaecology			Medicine			Radiotherapy			Urology			Surgical neurology			Gastro-enterology			Trauma head injury and orthopaedics			Convalescent surgery and orthopaedics		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Patients surveyed																																	
Number	947	938	1885	240	234	474	132	108	240	—	69	69	322	382	704	46	50	96	113	38	151	29	16	45	14	13	27	32	28	60	19	—	19
Percentage of males and females	50·2	49·8	—	50·6	49·4	—	55	45	—	—	100	—	45·7	54·3	—	47·9	52·1	—	74·8	25·2	—	64·4	35·6	—	51·8	48·2	—	53·3	46·7	—	100	—	—
Average age	52·2	54·6	53·4	55·4	52·1	53·8	39·4	50·1	47·8	—	45·8	45·8	55·8	58·5	57·3	58·9	58·4	58·7	54·6	43·7	51·9	39·3	43·3	40·8	49·5	52·3	50·9	34·5	55·4	44·3	44·5	—	44·5
Aged 65 and over: number	285	325	610	90	67	157	21	51	72	—	9	9	104	156	260	23	19	42	41	6	47	1	1	2	1	4	5	3	12	15	1	—	1
% of total	30·1	34·6	32·4	37·5	28·6	33·1	15·9	47·2	30·0	—	13·1	13·1	32·3	40·8	36·9	50·0	38·0	43·8	36·3	15·8	31·3	3·5	6·3	4·4	7·1	30·8	18·5	9·8	42·9	25·0	5·3	—	5·3
average age	72·3	73·7	73·1	73·0	72·0	72·6	73·6	77·5	76·3	—	72·3	72·3	72·0	73·2	72·7	71·8	71·6	71·7	71·5	76·0	72·1	67·0	75·0	71·0	70·0	72·3	71·8	75·7	77·6	77·2	69·0	—	69·0
Patients classified medically as requiring 'acute' beds																																	
Intensive care	30	14	44	13	8	21	1	1	2	—	—	—	10	2	12	—	2	2	3	—	3	—	—	—	—	—	—	3	1	4	—	—	—
Intermediate care	497	448	945	121	99	220	64	47	111	—	39	39	206	207	413	5	8	13	57	24	81	24	12	36	6	7	13	7	5	12	7	—	7
Five-day ward patients	56	52	108	2	9	11	5	3	8	—	10	10	3	1	4	37	29	66	9	—	9	—	—	—	—	—	—	—	—	—	—	—	—
Terminal care	23	37	60	7	9	16	2	2	4	—	4	4	9	18	27	1	2	3	2	—	2	—	—	—	—	2	2	2	—	2	—	—	—
Awaiting operation or under investigation	28	22	50	15	8	23	3	3	6	—	3	3	5	6	11	—	—	—	4	1	5	—	—	—	1	1	2	—	—	—	—	—	—
Total: number	634	573	1207	158	133	291	75	56	131	—	56	56	233	234	467	43	41	84	75	25	100	24	12	36	7	10	17	12	6	18	7	—	7
% of total patients surveyed	66·9	61·1	64·1	65·8	56·8	61·4	56·7	51·9	54·5	—	81·2	81·2	72·4	61·3	66·3	93·4	82·0	87·5	66·3	65·8	66·3	82·8	75·0	80·0	50·0	76·9	63·0	37·5	21·3	30·0	36·8	—	36·8
Patients classified medically as being more properly accommodated in:																																	
A geriatric hospital	32	63	95	9	4	13	4	4	8	—	1	1	14	48	62	1	1	2	2	1	3	1	1	2	1	1	2	—	2	2	—	—	—
Local authority residential accommodation (Part III)	2	5	7	—	—	—	—	2	2	—	—	—	2	3	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total: number	34	68	102	9	4	13	4	6	10	—	1	1	16	51	67	1	1	2	2	1	3	1	1	2	1	1	2	—	2	2	—	—	—
% of total patients surveyed	3·6	7·2	5·4	3·7	1·7	2·7	3·1	5·6	4·2	—	1·5	1·5	4·9	13·4	9·5	2·2	2·0	2·1	1·8	2·6	1·9	3·4	6·3	4·4	7·1	7·7	7·4	—	7·2	3·3	—	—	—
Patients classified medically as being more properly accommodated in alternative accommodation																																	
Total: number	279	297	576	73	97	170	53	46	99	—	12	12	73	97	170	2	8	10	36	12	48	4	3	7	6	2	8	20	20	40	12	—	12
% of total patients surveyed	29·5	31·7	30·5	30·5	41·5	35·9	40·2	42·5	41·3	—	17·3	17·3	22·7	25·3	24·2	4·4	16·0	10·4	31·9	31·6	31·8	13·8	18·8	15·6	42·9	15·4	29·6	62·5	71·5	66·7	63·2	—	63·2
Nursing dependency classification of all patients																																	
High: 70–100%—number	68	44	112	25	10	35	11	10	21	—	—	—	16	15	31	1	4	5	8	2	10	1	—	1	—	—	—	6	3	9	—	—	—
% of total	7·2	4·6	5·9	10·5	4·3	7·4	8·4	9·3	8·8	—	—	—	4·9	3·9	4·4	2·2	8·0	5·2	7·1	5·3	6·6	3·4	—	2·2	—	—	—	18·7	10·7	15·0	—	—	—
Medium: 30–70%—number	205	209	414	54	35	89	26	41	67	—	20	20	90	98	188	2	3	5	16	1	17	14	7	21	—	1	1	2	3	5	1	—	1
% of total	21·7	22·3	22·0	22·4	15·0	18·8	19·7	38·0	27·9	—	28·9	28·9	27·6	25·6	26·7	4·3	6·0	5·2	14·1	2·6	11·3	48·3	43·7	46·7	—	7·8	3·7	6·3	10·7	8·3	5·3	—	5·3
Low: 0–30%—number	674	685	1359	161	189	350	95	57	152	—	49	49	216	269	485	43	43	86	89	35	124	14	9	23	14	12	26	24	22	46	18	—	18
% of total	71·1	73·1	72·1	67·1	80·7	73·8	71·9	52·7	63·3	—	71·1	71·1	67·5	70·5	68·9	93·5	86·0	89·6	78·8	92·1	82·1	48·3	56·3	51·1	100·0	92·2	96·3	75·0	78·6	76·7	94·7	—	94·7
Total patients surveyed	947	938	1885	240	234	474	132	108	240	—	69	69	322	382	704	46	50	96	113	38	151	29	16	45	14	13	27	32	28	60	19	—	19

	Totals			Surgery			Orthopaedics			Surgery and orthopaedics			Surgery and gynaecology			Gynaecology			Medicine		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Patients surveyed																					
Number	442	496	938	176	115	291	42	46	88	56	64	120	—	26	26	—	83	83	168	162	330
Percentage of males and females	47·1	52·9	—	60·5	39·5	—	47·7	52·3	—	46·7	53·3	—	—	100	—	—	100	—	50·9	49·1	—
Average age	52·9	56·0	54·5	54·1	57·7	55·5	44·6	65·3	55·4	43·9	52·4	48·5	—	54·2	54·2	—	45·6	45·6	56·6	59·2	57·9
Aged 65 and over: number	146	184	330	67	46	113	10	25	35	11	23	34	—	7	7	—	12	12	58	71	129
% of total	33·0	37·1	35·2	38·1	40·0	38·8	23·8	54·4	39·8	19·6	35·9	28·3	—	26·9	26·9	—	14·5	14·5	34·5	43·8	39·1
average age	73·1	74·1	73·7	73·2	73·9	73·5	73·4	77·7	76·5	71·0	73·4	72·6	—	77·3	77·3	—	72·9	72·9	73·3	73·2	73·2
Patients classified medically as requiring 'acute' beds																					
Intensive care	20	13	33	8	2	10	—	—	—	5	1	6	—	—	—	—	—	—	7	10	17
Intermediate care	220	237	457	83	49	132	15	7	22	30	28	58	—	19	19	—	52	52	92	82	174
Five-day ward patients	6	17	23	5	3	8	—	—	—	—	—	—	—	1	1	—	12	12	1	1	2
Terminal care	10	22	32	5	9	14	—	1	1	—	1	1	—	—	—	—	2	2	5	9	14
Awaiting operation or under investigation	5	7	12	3	2	5	—	1	1	1	3	4	—	—	—	—	1	1	1	—	1
Total: number	261	296	557	104	65	169	15	9	24	36	33	69	—	20	20	—	67	67	106	102	208
% of total patients surveyed	59·1	59·6	59·4	59·0	56·5	58·1	35·7	19·6	27·3	64·3	51·6	57·5	—	76·9	76·9	—	80·7	80·7	63·1	62·9	63·1
Patients classified medically as being more properly accommodated in:																					
A geriatric hospital	9	30	39	4	7	11	1	9	10	—	1	1	—	2	2	—	1	1	4	10	14
Local authority residential accommodation (Part III)	—	1	1	—	—	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	—
Total: number	9	31	40	4	7	11	1	9	10	—	2	2	—	2	2	—	1	1	4	10	14
% of total patients surveyed	2·0	6·3	4·3	2·3	6·1	3·8	2·4	19·6	11·4	—	3·1	1·7	—	7·7	7·7	—	1·2	1·2	2·4	6·2	4·2
Patients classified medically as being more properly accommodated in alternative accommodation																					
Total: number	172	169	341	68	43	111	26	28	54	20	29	49	—	4	4	—	15	15	58	50	108
% of total patients surveyed	38·9	34·1	36·3	38·7	37·4	38·1	61·9	60·9	61·4	35·7	45·3	40·8	—	15·4	15·4	—	18·1	18·1	34·5	30·9	32·7
Nursing dependency classification of all patients																					
High: 70–100%—number	31	23	54	15	3	18	—	—	—	9	2	11	—	—	—	—	5	5	7	13	20
% of total	7·0	4·6	5·8	8·5	2·6	6·2	—	—	—	16·1	3·1	9·2	—	—	—	—	6·1	6·1	4·2	8·0	6·1
Medium: 30–70%—number	90	134	224	32	31	63	3	22	25	3	15	18	—	4	4	—	13	13	52	49	101
% of total	20·4	27·0	23·8	18·2	26·9	21·7	7·1	47·8	28·4	5·4	23·4	15·0	—	15·4	15·4	—	15·6	15·6	30·9	30·2	30·6
Low: 0–30%—number	321	339	660	129	81	210	39	24	63	44	47	91	—	22	22	—	65	65	109	100	209
% of total	72·6	68·4	70·4	73·3	70·5	72·1	92·9	52·2	71·6	78·5	73·5	75·8	—	84·6	84·6	—	78·3	78·3	64·9	61·8	63·3
Total patients surveyed	442	496	938	176	115	291	42	46	88	56	64	120	—	26	26	—	83	83	168	162	330

	Totals			Northern region			North-eastern region			Perthshire			Borders			Galloway		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Patients surveyed																		
Number	188	264	452	56	53	109	56	94	150	20	21	41	25	49	74	31	47	78
Percentage of males and females	41·6	58·4	—	51·4	48·6	—	37·3	62·7	—	48·8	51·2	—	33·8	66·2	—	39·7	60·3	—
Average age	62·4	65·1	63·9	60·9	56·8	58·9	66·8	69·3	68·3	64·5	70·8	67·7	68·8	68·6	68·7	50·6	59·5	56·0
Aged 65 and over: number	108	165	273	27	24	51	39	63	102	12	17	29	18	37	55	12	24	36
% of total	57·4	62·5	60·4	48·2	45·3	46·8	69·6	67·0	68·0	60·0	80·9	70·7	72·0	75·5	74·3	38·7	51·1	46·2
average age	76·0	78·5	77·5	73·0	75·2	74·0	77·6	80·3	79·3	78·3	76·8	77·4	75·4	78·2	77·3	76·2	78·5	77·7
Patients classified medically as requiring 'acute' beds																		
Intensive care	2	—	2	—	—	—	—	—	—	—	—	—	1	—	1	1	—	1
Intermediate care	56	56	112	25	21	46	14	13	27	2	6	8	7	8	15	8	8	16
Five-day ward patients	—	22	22	—	10	10	—	6	6	—	—	—	—	4	4	—	2	2
Terminal care	3	21	24	1	4	5	1	5	6	1	2	3	—	5	5	—	5	5
Awaiting operation or under investigation	3	6	9	—	—	—	2	2	4	—	—	—	1	1	2	—	3	3
Total: number	64	105	169	26	35	61	17	26	43	3	8	11	9	18	27	9	18	27
% of total patients surveyed	34·0	39·8	37·4	46·7	66·0	56·0	30·4	27·7	28·7	15·0	38·1	26·9	36·0	36·7	36·5	29·0	38·3	34·6
Patients classified medically as being more properly accommodated in:																		
A geriatric hospital	25	75	100	7	7	14	10	37	47	—	1	1	3	14	17	5	16	21
Local authority residential accommodation (Part III)	3	4	7	—	—	—	3	4	7	—	—	—	—	—	—	—	—	—
Total: number	28	79	107	7	7	14	13	41	54	—	1	1	3	14	17	5	16	21
% of total patients surveyed	14·9	29·9	23·7	12·5	13·2	12·8	23·2	43·6	36·0	—	4·8	2·4	12·0	28·6	23·0	16·2	34·0	26·9
Patients classified medically as being more properly accommodated in alternative accommodation																		
Total: number	96	80	176	23	11	34	26	27	53	17	12	29	13	17	30	17	13	30
% of total patients surveyed	51·1	30·3	38·9	41·1	20·8	31·2	46·4	28·7	35·3	85·0	57·1	70·7	52·0	34·7	40·5	54·8	27·7	38·5
Nursing dependency classification of all patients																		
High: 70–100%—number	1	1	2	—	—	—	—	—	—	—	—	—	—	1	1	1	—	1
% of total	0·5	0·3	0·4	—	—	—	—	—	—	—	—	—	—	2·1	1·4	3·2	—	1·3
Medium: 30–70%—number	46	77	123	20	11	31	12	26	38	3	4	7	5	17	22	6	19	25
% of total	24·5	29·2	27·2	35·7	20·8	28·4	21·4	27·7	25·5	15·0	19·1	17·1	20·0	34·6	29·7	19·4	40·4	32·1
Low: 0–30%—number	141	186	327	36	42	78	44	68	112	17	17	34	20	31	51	24	28	52
% of total	75·0	70·5	72·4	64·3	79·2	71·6	78·6	72·3	74·7	85·0	80·9	82·9	80·0	63·3	68·9	77·4	59·6	66·6
Total patients surveyed	188	264	452	56	53	109	56	94	150	20	21	41	25	49	74	31	47	78

TABLE 1. D. CONVALESCENT HOSPITALS

	Total		
	M	F	T
Patients surveyed			
Number	156	182	338
Percentage of males and females	46·2	53·8	—
Average age	58·4	66·9	62·9
Aged 65 and over: number	59	113	172
% of total	37·8	62·1	50·9
average age	74·8	76·4	75·9
Patients classified medically as requiring 'acute' beds			
Intensive care	—	—	—
Intermediate care	7	6	13
Five-day ward patients	2	—	2
Terminal care	1	6	7
Awaiting operation or under investigation	3	1	4
Total: number	13	13	26
% of total patients surveyed	8·3	7·1	7·7
Patients classified medically as being more properly accommodated in:			
A geriatric hospital	16	47	63
Local authority residential accommodation (Part III)	1	4	5
Total: number	17	51	68
% of total patients surveyed	10·9	28·0	20·1
Patients classified medically as being more properly accommodated in alternative accommodation			
Total: number	126	118	244
% of total patients surveyed	80·8	64·9	72·2
Nursing dependency classification of all patients			
High: 70–100%—number	—	1	1
% of total		0·6	0·3
Medium: 30–70%—number	8	24	32
% of total	5·1	13·2	9·5
Low: 0–30%—number	148	157	305
% of total	94·9	86·2	90·2
Total patients surveyed	156	182	338

PATIENTS CLASSIFIED AS BEING SUITABLE FOR 'ALTERNATIVE' ACCOMMODATION

TABLE 2. A. TEACHING HOSPITALS

	Totals			Surgery			Orthopaedics			Gynaecology			Medicine			Radiotherapy			Urology			Surgical neurology			Gastro-enterology			Trauma head injury and orthopaedics			Convalescent surgery and orthopaedics		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Total number of patients suitable for alternative accommodation	279	297	576	73	97	170	53	46	99	—	12	12	73	97	170	2	8	10	36	12	48	4	3	7	6	2	8	20	20	40	12	—	12
Average age	48·7	52·6	50·7	51·0	52·4	51·8	36·6	55·9	45·6	—	46·8	46·8	56·1	53·7	54·7	40·0	54·6	51·7	57·3	43·8	53·9	46·3	39·0	43·1	49·7	35·0	46·0	34·6	52·6	43·6	42·7	—	42·7
Aged 65 and over: number	79	85	164	24	31	55	8	21	29	—	2	2	26	21	47	—	1	1	18	2	20	—	—	—	—	—	—	2	7	9	1	—	1
average age	71·4	72·9	72·2	71·8	72·0	71·9	72·8	76·2	75·3	—	66·0	66·0	71·9	71·5	71·7	—	77·0	77·0	70·5	65·5	70·0	—	—	—	—	—	—	66·0	74·4	72·6	69·0	—	69·0
Nursing dependency: High	2	2	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	4	—	—	—
Medium	8	20	28	—	—	—	6	10	16	—	1	1	2	7	9	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	—	—	—
Low	269	275	544	73	97	170	47	36	83	—	11	11	71	90	161	2	8	10	36	12	48	4	3	7	6	2	8	18	16	34	12	—	12
Minimal care patients: number	194	187	381	66	85	151	23	23	46	—	8	8	55	56	111	1	4	5	27	7	34	—	—	—	4	—	4	10	4	14	8	—	8
% of alternative accommodation group	69·5	62·9	66·2	90·4	87·6	88·8	43·4	50·0	46·5	—	66·6	66·6	75·3	57·7	65·3	50·0	50·0	50·0	75·0	58·4	70·8	—	—	—	66·7	—	50·0	50·0	20·0	35·0	66·7	—	66·7
Average age	49·5	50·3	49·9	50·7	50·9	50·8	37·0	49·5	43·2	—	46·7	46·7	54·7	52·1	53·4	52·0	59·0	57·6	56·6	35·9	52·3	—	—	—	50·7	—	50·7	26·5	38·5	29·9	44·5	—	44·5
Aged 65 and over: number	54	45	99	19	25	44	4	7	11	—	2	2	18	10	28	—	1	1	12	—	12	—	—	—	—	—	—	—	—	—	1	—	1
average age	71·6	71·7	71·6	72·2	71·4	71·7	68·8	73·0	71·5	—	66·0	66·0	72·3	72·1	72·2	—	77·0	77·0	70·7	—	70·7	—	—	—	—	—	—	—	—	—	69·0	—	69·0
Nursing dependency: High	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medium	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Low	194	187	381	66	85	151	23	23	46	—	8	8	55	56	111	1	4	5	27	7	34	—	—	—	4	—	4	10	4	14	8	—	8
Patients who could be in hostel accommodation: number	7	11	18	1	—	1	—	—	—	—	2	2	3	4	7	1	4	5	2	1	3	—	—	—	—	—	—	—	—	—	—	—	—
% of alternative accommodation group	2·5	3·8	3·1	1·4	—	0·6	—	—	—	—	16·7	16·7	4·1	4·1	54·1	50·0	50·0	50·0	5·6	8·3	6·3	—	—	—	—	—	—	—	—	—	—	—	—
Average age	54·1	48·9	50·8	83·0	—	83·0	—	—	—	—	57·0	57·0	52·7	39·0	44·9	28·0	50·3	45·8	55·0	65·0	58·3	—	—	—	—	—	—	—	—	—	—	—	—
Aged 65 and over: number	3	2	5	1	—	1	—	—	—	—	—	—	1	1	2	—	—	—	1	1	2	—	—	—	—	—	—	—	—	—	—	—	—
average age	74·3	69·5	72·4	83·0	—	83·0	—	—	—	—	—	—	71·0	74·0	72·5	—	—	—	69·0	65·0	67·0	—	—	—	—	—	—	—	—	—	—	—	—
Nursing dependency: High	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medium	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Low	7	11	18	1	—	1	—	—	—	—	2	2	3	4	7	1	4	5	2	1	3	—	—	—	—	—	—	—	—	—	—	—	—
'Others'—i.e. orthopaedics, long term and elderly, rehabilitation, chronic sick, convalescence: number	78	99	177	6	12	18	30	23	53	—	2	2	15	37	52	—	—	—	7	4	11	4	3	7	2	2	4	10	16	26	4	—	4
% of alternative accommodation group	28·0	33·3	30·7	8·2	12·4	10·6	56·0	50·0	53·5	—	16·7	16·7	20·6	38·2	30·6	—	—	—	19·4	33·3	22·9	100	100	100	33·3	100	50·0	50·0	80·0	65·0	33·3	—	33·3
Average age	46·1	57·5	52·5	49·7	62·5	58·2	36·2	62·4	47·6	—	37·0	37·0	61·8	57·8	58·9	—	—	—	60·7	52·5	57·7	46·3	39·0	43·1	47·5	35·0	41·3	42·6	56·1	50·9	39·0	—	39·0
Aged 65 and over: number	22	38	60	4	6	10	4	14	18	—	—	—	7	10	17	—	—	—	5	1	6	—	—	—	—	—	—	2	7	9	—	—	—
average age	70·7	74·4	73·1	67·0	74·0	71·2	76·3	77·9	77·6	—	—	—	71·0	70·7	70·8	—	—	—	70·4	66·0	69·7	—	—	—	—	—	—	66·0	74·4	—	—	—	—
Nursing dependency: High	2	2	4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	4	—	—	—
Medium	9	19	28	—	—	—	6	8	14	—	1	1	2	7	9	—	—	—	—	—	—	1	1	2	—	—	—	—	2	2	—	—	—
Low	67	78	145	6	12	18	24	15	39	—	1	1	13	30	43	—	—	—	7	4	11	3	2	5	2	2	4	8	12	20	4	—	4

TABLE 2. B. DISTRICT NON-TEACHING HOSPITALS

	Totals			Surgery			Orthopaedics			Surgery and orthopaedics			Surgery and gynaecology			Gynaecology			Medicine		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Total number of patients suitable for alternative accommodation	172	169	341	68	43	111	26	28	54	20	29	49	—	4	4	—	15	15	58	50	108
Average age	51·8	54·6	53·2	51·9	53·1	52·4	43·1	61·6	52·7	37·7	43·3	41·0	—	57·8	57·8	—	52·5	52·5	59·9	58·9	55·9
Aged 65 and over: number	55	57	112	21	11	32	6	13	19	2	5	7	—	1	1	—	3	3	26	24	50
average age	72·4	73·6	73·0	72·4	71·6	72·1	73·0	76·5	75·4	68·0	75·2	73·1	—	78·0	78·0	—	74·7	74·7	72·5	72·4	72·5
Nursing dependency: High	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medium	6	14	20	2	1	3	—	8	8	—	—	—	—	—	—	—	—	—	4	5	9
Low	166	155	321	66	42	108	26	20	46	20	29	49	—	4	4	—	15	15	54	45	99
Minimal care patients: number	124	114	238	60	35	95	10	11	21	16	26	42	—	3	3	—	14	14	38	25	63
% of alternative accommodation group	72·1	67·5	69·8	88·2	81·5	85·6	38·5	39·3	38·9	80·0	89·7	85·7	—	75·0	75·0	—	93·3	93·3	65·5	50·0	58·3
Average age	51·1	50·4	50·8	51·5	52·3	51·8	38·3	54·0	46·5	35·6	41·0	38·9	—	57·0	57·0	—	50·9	50·9	60·4	55·0	58·3
Aged 65 and over: number	39	26	65	18	8	26	2	2	4	1	4	5	—	1	1	—	2	2	18	9	27
average age	71·4	73·2	72·1	71·8	70·6	71·4	67·0	77·5	72·3	65·0	73·0	71·4	—	78·0	78·0	—	75·0	75·0	71·8	73·7	72·4
Nursing dependency: High	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medium	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Low	124	114	238	60	35	95	10	11	21	16	26	42	—	3	3	—	14	14	33	25	63
Patients who could be in hostel accommodation: number	2	7	9	—	3	3	—	—	—	—	—	—	—	—	—	—	1	1	2	3	5
% of alternative accommodation group	1·2	4·1	2·6	—	6·9	2·7	—	—	—	—	—	—	—	—	—	—	6·7	6·7	3·5	6·0	4·6
Average age	43·5	52·4	50·4	—	49·0	49·0	—	—	—	—	—	—	—	—	—	—	74·0	74·0	43·5	48·7	46·7
Aged 65 and over: number	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1	—	—	—
average age	—	74·0	74·0	—	—	—	—	—	—	—	—	—	—	—	—	—	74·0	74·0	—	—	—
Nursing dependency: High	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medium	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Low	2	7	9	—	3	3	—	—	—	—	—	—	—	—	—	—	1	1	2	3	5
'Others'—i.e. orthopaedics, long term and elderly, rehabilitation, chronic sick, convalescence: number	46	48	94	8	5	13	16	17	33	4	3	7	—	1	1	—	—	—	18	22	40
% of alternative accommodation group	26·7	28·4	27·6	11·8	11·6	11·7	61·5	60·7	61·1	20·0	10·3	14·3	—	25·0	25·0	—	—	—	31·0	44·0	37·1
Average age	54·2	64·9	59·7	55·0	61·4	57·5	46·1	66·6	56·7	56·3	63·0	59·1	—	60·0	60·0	—	—	—	60·6	64·9	62·9
Aged 65 and over: number	16	30	46	3	3	6	4	11	15	1	1	2	—	—	—	—	—	—	8	15	23
average age	74·8	74·0	74·3	76·0	74·3	75·2	77·0	76·3	76·2	71·0	84·0	77·5	—	—	—	—	—	—	74·3	73·7	72·3
Nursing dependency: High	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medium	6	14	20	2	1	3	—	8	8	—	—	—	—	—	—	—	—	—	4	5	9
Low	40	34	74	6	4	10	16	9	25	4	3	7	—	1	1	—	—	—	14	17	31

	Totals			Northern Region			North-eastern region			Perthshire			Borders			Galloway		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Total number of patients suitable for alternative accommodation	96	80	176	23	11	34	26	27	53	17	12	29	13	17	30	17	13	30
Average age	56·9	63·9	60·1	55·0	66·2	58·6	59·8	69·8	64·9	63·6	73·3	67·6	69·2	61·3	64·7	39·2	44·9	41·7
Aged 65 and over: number	44	48	92	9	8	17	13	16	29	9	10	19	10	11	21	3	3	6
average age	74·3	76·4	75·4	68·8	73·8	71·1	76·7	79·8	78·4	77·6	77·6	77·6	74·2	74·5	74·3	71·0	68·3	69·7
Nursing dependency: High	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medium	2	2	4	—	1	1	2	1	3	—	—	—	—	—	—	—	—	—
Low	94	78	172	23	10	33	24	26	50	17	12	29	13	17	30	17	13	30
Minimal care patients: number	62	51	113	5	2	7	13	13	26	16	9	25	12	15	27	16	12	28
% of alternative accommodation group	64·6	63·7	64·2	21·7	18·2	20·6	50·0	48·1	49·1	94·1	75·0	86·2	92·3	88·2	90·0	94·1	92·3	93·3
Average age	56·2	58·9	57·4	50·8	46·5	49·6	56·1	66·2	61·1	67·3	71·4	68·8	67·9	59·5	63·2	38·2	42·9	40·2
Aged 65 and over: number	29	25	54	1	1	2	7	6	13	9	7	16	9	9	18	3	2	5
average age	74·9	74·5	74·7	76·0	68·0	72·0	75·6	75·0	75·3	77·6	77·0	77·3	73·1	74·3	73·7	71·0	68·0	69·8
Nursing dependency: High	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medium	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Low	62	51	113	5	2	7	13	13	26	16	9	25	12	15	27	16	12	28
Patients who could be in hostel accommodation: number	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% of alternative accommodation group	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average age	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Aged 65 and over: number	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
average age	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nursing dependency: High	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medium	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Low	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
'Others'—i.e. orthopaedics, long term and elderly, rehabilitation, chronic sick, convalescence: number	34	29	63	18	9	27	13	14	27	1	3	4	1	2	3	1	1	2
% of alternative accommodation group	35·4	36·3	35·8	78·3	81·8	79·4	50·0	51·9	50·9	5·9	25·0	13·8	7·7	11·8	10·0	5·9	7·7	6·7
Average age	58·3	72·9	65·0	56·2	70·6	60·9	63·5	73·2	68·6	5·0	79·0	60·5	84·0	75·0	78·0	55·0	69·0	62·0
Aged 65 and over: number	15	23	38	8	7	15	6	10	16	—	3	3	1	2	3	—	1	1
average age	73·0	78·4	76·3	67·9	74·6	71·0	78·0	82·6	80·9	—	79·0	79·0	84·0	75·0	78·0	—	69·0	69·0
Nursing dependency: High	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medium	2	2	4	—	1	1	2	1	3	—	—	—	—	—	—	—	—	—
Low	32	27	59	18	8	26	11	13	24	1	3	4	1	2	3	1	1	2

TABLE 2. D. CONVALESCENT HOSPITALS

	Total M	F	T
Total number of patients suitable for alternative accommodation	126	118	244
Average age	56·8	62·7	—
Aged 65 and over: number	41	60	101
average age	74·2	74·6	—
Nursing dependency: High	—	—	—
Medium	—	1	1
Low	126	117	243
Minimal care patients: number	77	77	154
% of alternative accommodation group	61·1	65·3	63·1
Average age	55·6	63·6	59·6
Aged 65 and over: number	26	39	65
average age	72·8	74·2	73·6
Nursing dependency: High	—	—	—
Medium	—	—	—
Low	77	77	154
Patients who could be in hostel accommodation: number	—	—	—
% of alternative accommodation group	—	—	—
Average age	—	—	—
Aged 65 and over: number	—	—	—
average age	—	—	—
Nursing dependency: High	—	—	—
Medium	—	—	—
Low	—	—	—
'Others'—i.e. orthopaedics, long term and elderly, rehabilitation, chronic sick, convalescence: number	49	41	90
% of alternative accommodation group	38·9	34·8	36·9
Average age	57·4	61·1	59·1
Aged 65 and over: number	15	21	36
average age	76·6	75·4	75·9
Nursing dependency: High	—	—	—
Medium	—	1	1
Low	49	40	89

DISTRIBUTION OF PATIENTS CLASSIFIED AS 'OTHERS' IN TABLE 2

TABLE 3. A. TEACHING AND DISTRICT NON-TEACHING HOSPITALS

	Teaching hospitals												District non-teaching hospitals											
	Totals			Orthopaedics			Medicine			Others			Totals			Orthopaedics			Medicine			Others		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Patients classified as 'others'	78	99	177	30	23	53	15	37	52	33	39	72	46	48	94	16	17	33	18	22	40	12	9	21
Orthopaedics, long-term: number	15	7	22	15	7	22	—	—	—	—	—	—	13	4	17	11	4	15	—	—	—	2	—	2
% of patients classified as 'others'	19·2	7	12·4	50·0	30·4	41·5	—	—	—	—	—	—	28·3	8·3	18·1	68·6	23·5	45·5	—	—	—	16·7	—	9·5
Average age	26·0	50·7	33·9	26·0	50·7	33·9	—	—	—	—	—	—	42·0	59·8	46·2	40·7	59·8	45·8	—	—	—	49·0	—	49·0
Aged 65 and over: number	—	2	2	—	2	2	—	—	—	—	—	—	2	2	4	2	2	4	—	—	—	—	—	—
average age	—	80·5	80·5	—	80·5	80·5	—	—	—	—	—	—	66·5	73·0	69·8	66·5	73·0	69·8	—	—	—	—	—	—
Nursing dependency: High	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medium	6	4	10	6	4	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Low	9	3	12	9	3	12	—	—	—	—	—	—	13	4	17	11	4	15	—	—	—	2	—	2
Orthopaedics, elderly fractures: number	2	14	16	2	10	12	—	—	—	—	4	4	5	5	10	2	4	6	—	—	—	3	1	4
% of patients classified as 'others'	2·6	14·1	9·1	6·7	43·5	22·6	—	—	—	—	10·3	5·6	10·9	10·4	10·6	12·5	23·5	18·2	—	—	—	25·0	11·1	19·1
Average age	80·5	77·9	78·2	80·5	77·9	78·3	—	—	—	—	77·8	77·8	80·4	82·0	81·2	85·5	81·5	82·9	—	—	—	77·0	84·0	78·8
Aged 65 and over: number	2	14	16	2	10	12	—	—	—	—	4	4	5	5	10	2	4	6	—	—	—	3	1	4
average age	80·5	77·9	78·2	80·5	77·9	78·3	—	—	—	—	77·8	77·8	80·4	82·0	81·2	85·5	81·5	82·9	—	—	—	77·0	84·0	78·8
Nursing dependency: High	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medium	—	4	4	—	4	4	—	—	—	—	—	—	2	—	2	—	—	—	—	—	—	2	—	2
Low	2	10	12	2	6	8	—	—	—	—	4	4	3	5	8	2	4	6	—	—	—	1	1	2
Rehabilitation and retraining: number	31	31	62	11	4	15	5	17	22	15	10	25	7	28	35	2	7	9	3	14	17	2	7	9
% of patients classified as 'others'	39·7	31·3	35·1	36·6	17·5	28·3	33·3	45·9	42·3	45·5	25·6	34·7	15·2	58·3	42·9	12·5	41·2	27·3	16·7	63·6	42·5	16·7	77·8	42·8
Average age	43·0	58·6	53·3	38·3	56·3	43·1	66·4	61·5	62·6	45·1	54·6	48·9	42·4	66·9	61·9	31·0	68·1	59·9	52·3	67·8	65·1	39·0	63·7	58·2
Aged 65 and over: number	8	12	20	2	2	4	4	8	12	2	2	4	—	19	19	—	5	5	—	11	11	—	3	3
average age	69·0	69·8	69·5	72·0	75·0	73·5	69·0	68·4	68·6	66·0	70·0	68·0	—	73·6	73·6	—	73·4	73·4	—	73·5	73·5	—	74·3	74·3
Nursing dependency: High	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medium	—	3	3	—	—	—	—	3	3	—	—	—	—	4	4	—	—	—	—	4	4	—	—	—
Low	31	28	59	11	4	15	5	14	19	15	10	25	7	24	31	2	7	9	3	10	13	2	7	9
Chronic sick other than geriatric: number	8	27	35	—	1	1	5	14	19	3	12	15	10	7	17	1	2	3	6	4	10	3	1	4
% of patients classified as 'others'	10·3	27·3	19·7	—	4·3	1·9	33·3	37·8	36·5	9·0	30·8	20·8	21·7	14·6	18·1	6·3	11·8	9·1	33·3	18·2	25·0	25·0	11·1	19·1
Average age	43·4	53·1	50·9	—	55·0	55·0	54·2	58·4	57·3	25·3	46·8	42·5	56·3	51·3	54·2	57·0	45·0	49·0	56·7	60·8	58·3	55·3	26·0	48·0
Aged 65 and over: number	1	9	10	—	—	—	1	5	6	—	4	4	3	2	5	—	—	—	2	2	4	1	—	1
average age	81·0	72·2	73·1	—	—	—	81·0	73·0	74·3	—	71·3	71·3	71·3	66·0	69·2	—	—	—	73·0	66·0	69·5	68·0	—	68·0
Nursing dependency: High	2	—	2	—	—	—	—	—	—	2	—	2	—	—	—	—	—	—	—	—	—	—	—	—
Medium	1	4	5	—	—	—	1	4	5	—	—	—	2	2	4	—	—	—	2	1	3	—	1	1
Low	5	23	28	—	1	1	4	10	14	1	12	13	8	5	13	1	2	3	4	3	7	3	—	3
Convalescence, long-term: number	22	20	42	2	1	3	5	6	11	15	13	28	11	4	15	—	—	—	9	4	13	2	—	2
% of patients classified as 'others'	28·2	20·2	23·7	6·7	4·3	5·7	33·3	16·3	21·2	45·5	33·3	38·9	23·9	8·3	15·9	—	—	—	50·0	18·2	32·5	16·7	—	9·5
Average age	62·8	49·8	56·6	57·5	22·0	45·7	64·8	45·7	54·4	55·5	53·8	54·7	62·3	58·8	61·3	—	—	—	65·9	58·8	63·7	46·0	—	46·0
Aged 65 and over: number	11	6	17	—	—	—	2	2	4	9	4	13	6	2	8	—	—	—	6	2	8	—	—	—
average age	69·1	74·3	70·9	—	—	—	70·0	75·5	72·8	68·9	73·8	70·4	74·7	67·0	72·8	—	—	—	74·7	67·0	72·8	—	—	—
Nursing dependency: High	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medium	1	—	1	—	—	—	1	—	1	—	—	—	2	—	2	—	—	—	2	—	2	—	—	—
Low	21	20	41	2	1	3	4	6	10	15	13	28	9	4	13	—	—	—	7	4	11	2	—	2

	Totals			Northern region			North-eastern region			Perthshire			Borders			Galloway		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Patients classified as 'others'	34	29	63	18	9	27	13	14	27	1	3	4	1	2	3	1	1	2
Orthopaedics, long-term: number	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% of patients classified as 'others'	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average age	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Aged 65 and over: number	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
average age	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Nursing dependency: High	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medium	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Low	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Orthopaedics, elderly fractures: number	—	1	1	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—
% of patients classified as 'others'	—	3·5	1·6	—	11·1	3·7	—	—	—	—	—	—	—	—	—	—	—	—
Average age	—	85·0	85·0	—	85·0	85·0	—	—	—	—	—	—	—	—	—	—	—	—
Aged 65 and over: number	—	1	1	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—
average age	—	85·0	85·0	—	85·0	85·0	—	—	—	—	—	—	—	—	—	—	—	—
Nursing dependency: High	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medium	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Low	—	1	1	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—
Rehabilitation and retraining: number	6	11	17	—	5	5	5	3	8	—	2	2	1	—	1	—	1	1
% of patients classified as 'others'	17·6	37·9	27·0	—	55·6	18·5	38·5	21·4	29·6	—	66·7	50·0	100	—	33·3	—	100	50·0
Average age	71·8	68·8	69·9	—	71·4	71·4	69·4	62·0	66·6	—	72·5	72·5	84·0	—	84·0	—	69·0	69·0
Aged 65 and over: number	4	8	12	—	4	4	3	1	4	—	2	2	1	—	1	—	1	1
average age	80·0	73·9	75·9	—	73·8	73·8	78·7	82·0	79·5	—	72·5	72·5	84·0	—	84·0	—	69·0	69·0
Nursing dependency: High	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medium	—	1	1	—	1	1	—	—	—	—	—	—	—	—	—	—	—	—
Low	6	10	16	—	4	4	5	3	8	—	2	2	1	—	1	—	1	1
Chronic sick other than geriatric: number	26	11	37	18	2	20	7	7	14	—	1	1	—	1	1	1	—	1
% of patients classified as 'others'	76·5	37·9	58·7	100	22·2	74·1	53·9	50·0	51·9	—	33·3	25·0	—	50·0	33·3	100	—	50·0
Average age	57·9	75·3	63·1	56·2	71·0	57·7	62·7	72·3	67·5	—	92·0	92·0	—	88·0	88·0	55·0	—	55·0
Aged 65 and over: number	11	9	20	8	2	10	3	5	8	—	1	1	—	1	1	—	—	—
average age	70·5	81·4	75·4	67·9	71·0	68·5	77·3	82·2	80·4	—	92·0	92·0	—	88·0	88·0	—	—	—
Nursing dependency: High	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medium	2	1	3	—	—	—	2	1	3	—	—	—	—	—	—	—	—	—
Low	24	10	34	18	2	20	5	6	11	—	1	1	—	1	1	1	—	1
Convalescence, long-term: number	2	6	8	—	1	1	1	4	5	1	—	1	—	1	1	—	—	—
% of patients classified as 'others'	5·9	20·7	12·7	—	11·1	3·7	7·6	28·6	18·5	100	—	25·0	—	50·0	33·3	—	—	—
Average age	22·5	75·7	62·4	—	51·0	51·0	40·0	83·3	74·6	5·0	—	5·0	—	70·0	70·0	—	—	—
Aged 65 and over: number	—	5	5	—	—	—	—	4	4	—	—	—	—	1	1	—	—	—
average age	—	80·6	80·6	—	—	—	—	83·3	83·3	—	—	—	—	70·0	70·0	—	—	—
Nursing dependency: High	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Medium	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Low	2	6	8	—	1	1	1	4	5	1	—	1	—	1	1	—	—	—

TABLE 3. C. CONVALESCENT HOSPITALS

	Total M	F	T
Patients classified as 'others'	49	41	90
Orthopaedics, long-term: number	4	2	6
% of patients classified as 'others'	8·2	4·9	6·7
Average age	52·3	62·5	55·7
Aged 65 and over: number	—	—	—
average age	—	—	—
Nursing dependency: High	—	—	—
Medium	—	—	—
Low	4	2	6
Orthopaedics, elderly fractures: numbers	—	5	5
% of patients classified as 'others'	—	12·2	5·5
Average age	—	74·2	74·2
Aged 65 and over: number	—	5	5
average age	—	74·2	74·2
Nursing dependency: High	—	—	—
Medium	—	1	1
Low	—	4	4
Rehabilitation and retraining: number	16	12	28
% of patients classified as 'others'	32·6	29·3	31·1
Average age	51·1	66·4	57·7
Aged 65 and over: number	2	9	11
average age	76·0	74·0	74·4
Nursing dependency: High	—	—	—
Medium	—	—	—
Low	16	12	28
Chronic sick other than geriatric: number	6	3	9
% of patients classified as 'others'	12·3	7·3	10·0
Average age	68·0	54·0	63·3
Aged 65 and over: number	3	1	4
average age	73·3	85·0	76·3
Nursing dependency: High	—	—	—
Medium	—	—	—
Low	6	3	9
Convalescence, long-term: number	23	19	42
% of patients classified as 'others'	46·9	46·3	46·7
Average age	59·8	55·3	57·8
Aged 65 and over: number	10	6	16
average age	77·7	76·8	77·4
Nursing dependency: High	—	—	—
Medium	—	—	—
Low	23	19	42

APPENDIX D

Acute head injuries unit

MEDICAL CONDITION OF ELEVEN OF THE TWENTY-ONE PATIENTS SURVEYED

No.	Sex	Age	Diagnosis	Condition
1	F	46	Cervical spinal injury	In respirator and stryker bed with tracheotomy for 6 months. Required skilled care at intervals.
2	F	48	Brain stem injury	Tube thread, tracheostomy suction, in for 2½ years. Requires skilled supervision.
3	M	20	Brain stem injury, multiple injuries	In 3 months, basic nursing required.
4	F	22	Concussion, severe brain damage	In 9 months, needs special unit.
5	F	18	Concussion, laceration, and chronic brain damage	In 1 year, needs special unit.
6	F	65	Multiple injuries	In 6 months, requires special unit.
7	M	14	Fractured skull, frontal brain damage	In 2 months, gross psychiatric problem.
8	F	16	Concussion	In 6 months, now psychiatric problem.
9	F	80	Concussion	In 2 months, gross psychiatric problem.
10	M	22	Compound fracture of skull	In 1 month, now requiring intensive rehabilitation.
11	M	38	Bilateral subdural haematoma	In 3 months, requiring long-term rehabilitation.

APPENDIX E

Social influences

SURVEY OF REFERRALS TO MEDICAL SOCIAL WORKERS

During the course of the main study several problems concerning bed blockage due to social factors arose in discussions with medical social workers at some of the principal hospitals visited. It was decided therefore to meet with a group of these workers, and resulting from that meeting a questionnaire form was agreed for use in a smaller survey—in time—of all referrals to medical social work departments in six major hospitals: these hospitals are listed on page 173. A copy of the questionnaire form completed for each new referral, excluding obstetric and paediatric cases, during the period 12 December 1966 to 10 February 1967, is on page 172.

Criteria for deciding which cases were blocking a bed

Each completed questionnaire form was separately analysed. The reason for referral was first considered and where this was for social investigation or care of children it was found possible to discard all of these as not being a cause of bed blockage. The place from where the patient was admitted as well as the marital state and the age were taken into account. Next, the lengths of time between admission and referral and discharge were examined carefully. Diagnosis correlated with age was also taken into account and each case was discussed with a doctor before it was finally determined whether or not it was the cause of bed blockage. Generally speaking, where

less than seven days elapsed between referral and discharge, these cases were not considered to be causing bed blockage.

Bed blockage

The main interest of this smaller but no less important survey was to ascertain whether or not the blockage of 'acute' beds for social reasons was the major problem it had been said to be by various persons encountered during the census of patients. The results showed that during the survey period of sixty-one days, when it might be expected that on average four persons would have occupied each of the 4000 beds in the hospitals covered in the survey, there were 666 referrals, or an average of one referral to some twenty-five patients discharged from the 4000 beds. Of the 666 referrals, 111 only were regarded as causing bed blockage so that the ratio of bed blockage cases to discharges was 1:150. It might be said therefore, that the problem as illustrated in the earlier conversations, is an exaggerated one.

General points arising from the analysis of the questionnaire forms showed that patients referred to medical social work departments had a slightly higher average age than that for patients covered in the main census. It also showed that their average length of stay in hospital was much higher than the thirteen days considered to be the average length of stay throughout the country for patients occupying 'acute' beds.

When comparing the total number of cases (666) referred to the social work departments and the smaller number (111) considered to be blocking beds, it was found that patients in the latter group were significantly older; the percentage of patients aged 65 and over being much greater. A higher percentage of widowed patients was found amongst those blocking beds. The information in general about patients' social class was either missing from the completed questionnaire or was not available to the medical social worker, therefore no correlation could be established between this factor and the blockage of beds.

Understandably, a greater percentage of patients considered

to be blocking beds had not been discharged from hospital when the survey ended on 10 February 1967. Those discharged went primarily to nursing homes and convalescent units, as opposed to 'Own Home' where most referrals go. The average length of stay for those patients was longer; they also waited longer before they were referred to medical social workers; and more time elapsed between the date of referral and the date of discharge than was the case for the total number of referrals.

Differences between the sexes were rarely significant although more females than males appeared to be referred to medical social work departments. With the exception of Glasgow, slightly more females than males were blocking beds and they were older than the males. Females stayed longer in hospital, were referred later and a longer time elapsed between referral and discharge. More females were admitted from their own homes and from relatives, while more males were admitted from lodgings. On a percentage basis more females were discharged to their own home and about the same percentage of males and females went to nursing homes and convalescent units.

For nearly all the factors analysed, some differences were found between each hospital. The difference between the two Glasgow hospitals, Royal Infirmary and Southern General, were such as would require further analysis. For example, as already mentioned, there was no explanation for the higher percentage of patients blocking beds in the Southern General and also the fact that more males than females were blocking beds in both hospitals and that males were older in both of these hospitals.

SCOTTISH HOSPITAL CENTRE

Nuffield Study on 'Supporting' Beds

Patient's name (or case number):.....
Date of admission to hospital:.....
Diagnosis:.....
Date of referral to medical social worker:.....
Age:..... Sex: F..... M.....
Marital state: S..... M..... W..... D.....
Occupation:.....

Tick here

Admitted from: Own home.....
Relative's home.....
Private nursing home.....
Local authority residential accommodation (Part III).....
Voluntary home.....
Geriatric hospital accommodation.....
Other hospital.....
Other (state which).....

Reasons for referral

Absence or unwillingness of relatives.....
No accommodation to go back to.....
Unsatisfactory home conditions.....
Home help needed.....
Special equipment, fitting or alteration in home.....
Supply of prostheses.....
Other (state which).....

Action taken

Waiting for
(1) Geriatric hospital accommodation.....
(2) Part III accommodation.....
(3) Voluntary home accommodation.....
(4) Private nursing home accommodation.....
(5) Convalescent accommodation.....
(6) Young chronic sick accommodation.....
(7) Rehousing.....
(8) Special equipment, alteration in home.....
(9) Prosthesis.....
(10) Home help.....
Other (state which).....
.....
Difficulty regarding local authorities policy (state which).....
.....

Date of discharge.....
To where discharged.....

Hospitals covered in survey period 12 December 1966 to 10 February 1967

Approved bed complement
(excluding obstetric and paediatric beds)

Aberdeen Royal Infirmary	735
Woodend Hospital, Aberdeen (excluding geriatric unit in Glenburn Wing)	243
Royal Infirmary, Edinburgh	970
Western General Hospital, Edinburgh	414
Royal Infirmary, Glasgow (including Canniesburn Auxiliary Hospital)	1008
Southern General Hospital, Glasgow	773
	4143

General information

	Male	Female	Total
1. Total No. of referrals to medical social workers	285	381	666
2. No. resulting in blockage of 'acute' beds	50	61	111
Average age of patients blocking beds	67·3	69·7	68·6
,, length of stay in days of 66 patients discharged during period of survey	40·8	49·4	45·4
,, length of stay in days of 45 patients not discharged at end of survey period	48·2	63·1	56·5
,, length of time in days between date of admission and date of referral to medical social worker	23·1	31·8	27·9
,, length of time in days between date of referral and:			
(*a*) date of discharge for 66 patients	17·0	18·9	18·0
(*b*) end of survey for 45 patients	26·4	31·7	29·5

Admission and Discharge Data

	All referrals			Cases blocking beds		
	Male	Female	Total	Male	Female	Total
Admitted from						
Own home	229	319	548	40	47	87
Relative's home	10	30	40	2	8	10
Lodgings	15	9	24	4	1	5
Geriatric hospitals and Part III accommodation	5	—	5	2	—	2
Nursing homes and other hospitals	9	14	23	1	5	6
Voluntary homes and hostels	9	6	15	1	—	1
Other sources	8	3	11	—	—	—
Discharged to						
Own home	95	136	231	10	9	19
Relative's home	10	26	36	—	4	4
Lodgings	5	1	6	1	—	1
Geriatric hospitals and Part III accommodation	1	1	2	1	—	1
Other hospitals	15	16	31	5	1	6
Nursing homes and convalescence	57	78	135	9	14	23
Voluntary homes and hostels	8	5	13	2	2	4
Chronic sick accommodation	—	1	1	—	1	1
Terminal cases accommodation	1	1	2	1	1	2
Other sources	1	1	2	—	—	—
Deceased	18	16	34	2	3	5
Not discharged at end of survey	74	99	173	19	26	45

Reasons for referrals

	All referrals			Cases blocking beds		
	Male	Female	Total	Male	Female	Total
No relatives	11	39	50	5	19	24
Lack of accommodation	35	33	68	14	5	19
To make arrangements for accommodation in other hospitals or homes	40	43	83	16	19	35
a home help service	13	65	78	3	9	12
discharge	39	23	62	7	4	11
financial assistance	49	27	76	1	1	2
Social investigation	29	49	78	—	—	—
Difficulties and support, e.g. anxiety on admission or long stay or serious diagnosis	57	66	123	1	3	4
Care of children	2	25	27	—	—	—
Structural alterations or special equipment in patient's own or relative's home	3	4	7	2	1	3
Other reasons	7	7	14	1	—	1
Total referrals	285	381	666	50	61	111