HOSPITAL ADMINISTRATIVE STAFF COLLEGE

Hospital Bed Occupancy

A Report
of the First Study Group set up by the
Administrative Staff College.

KING EDWARD'S HOSPITAL FUND FOR LONDON

1954

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2, PALACE COURT, LONDON, W.2.

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HOSPITAL BED OCCUPANCY

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FORMS

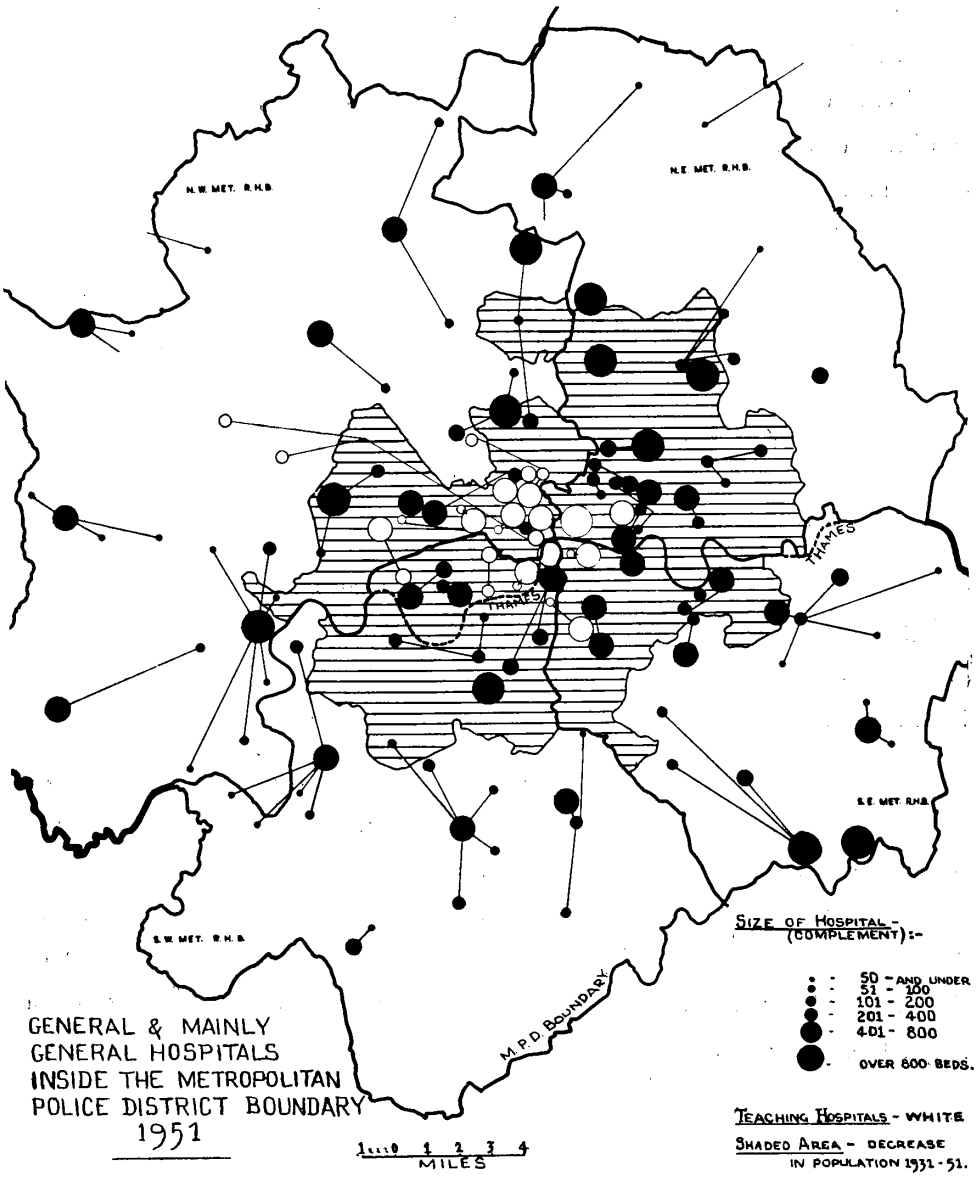
INTRODUCTION

During the past two years, some of the most important and frequently recurring problems raised at discussions in the Hospital Administrative Staff College were related to hospital bed occupancy. In order to provide some material on which to base lectures and discussions for the courses held at the College, a special group was invited to make a study of this subject. This work has been limited to the General hospitals of Greater London, excluding the Teaching hospitals as they have specific problems of their own.

The Study Group and the Staff College have borne in mind throughout that the interests of the patient in hospital must remain paramount and that the adoption of any recommendation in their report should never be allowed to affect adversely the welfare of the individual patient.

Generous assistance has been given to this group by many officers, in hospital, Regional Board and Ministry of Health. This help has come in several forms : in answering a questionnaire, in sending personal comments or useful literature, in trying out procedures submitted for opinion, and in the discussion of the early drafts of this study during refresher courses at the College. The group is indebted to the Ministry of Health also for the SH.3 figures quoted from 1951 hospital returns.

This study is necessarily incomplete and a number of the suggestions made must await the verdict of further experiment before they can be stated as firm conclusions. We should therefore be grateful if our readers would help both by sending their frank comments and by allowing us to study any papers and statistics describing their own investigations in this field. The Staff College would make available the information collected in this way to those engaged in the furtherance of hospital bed economy.



GENERAL & MAINLY GENERAL HOSPITALS INSIDE THE METROPOLITAN POLICE DISTRICT BOUNDARY

1951

I

THE EXTENT OF THE PROBLEM

" A discrepancy between excess supply and unsatisfied demand ."

1. So, in 1945, was the situation of London's hospitals described in the Hospital Survey by Sir Archibald Gray and Dr. Andrew Topping. The beds in existence " appreciably exceeded " the need and yet the need was not being adequately met. The situation appears to be much the same to-day—relatively low occupancy in one hospital and long waiting lists at another nearby. One of the most important issues before the non-teaching hospitals of Greater London is the smoothing out of such discrepancy in relation to the General beds.

2. The Ministry's Summary of the hospital statistical returns (SH.3) for 1951, listed 113* Wholly or Mainly General hospitals within the Metropolitan Police District. These hospitals showed a complement of 33,363 beds for which the average occupancy was 70 per cent., and on the 31st December, they were keeping waiting lists totalling 54,486.

3. For a variety of reasons this official complement for 1951 may have been in excess of the true working complement; and therefore the contrast between 70 per cent. occupancy for London* and 80 per cent. for the whole of England and Wales may not be significant. Fortunately, the hospital statistics for 1953 will enable a more accurate comparison to be made. These new figures promise a more realistic bed complement and an average daily number of available beds instead of the number for the last day of the year only.

4. Before any firm conclusions are drawn as to the adequacy of the General hospital facilities provided for London, an attempt should be made to secure a fuller use of present accommodation. With the introduction of some of the recommendations in this booklet, it might be possible to meet the present total demand within the Metropolitan Police District and to reduce to more reasonable proportions the current waiting list for beds.†

THE DISTRIBUTION OF DEMAND

5. It is true that many patients now have to wait a long while before they secure admission to hospital, but probably the core of London's problem lies rather in the uneven distribution of demand than in any general shortage of supply.

This belief is supported by :—

(*a*) the waiting list figures, which show a wide divergence of pressure, and

(b) the bed-use figures, which show that high and low occupancy is found in hospitals of every size.

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* This number includes a few listed as Children's hospitals, but excludes all Teaching hospitals.

† The 1952 hospital statistics were not available whilst this paper was being prepared. A preliminary study of the figures does not appear to indicate any major change in the general situation as described here.

It is possible also that some evidence of local unevenness of demand could be found in the large number of cases handled annually by the Emergency Bed Service, many of them being patients unable to gain admission to their nearest hospital.

A SURVEY OF WAITING LISTS

6. The total waiting lists at the end of 1951 for the 113 hospitals, amounted to 54,486 patients. Five-sixths of this figure, that is, 45,109 patients, were awaiting entry to five main departments of the hospital, namely, General Medicine, General Surgery, Gynaecology, Orthopaedic Surgery and Ear, Nose and Throat.

Almost one half of these patients, however (22,352), were E.N.T. cases, leaving 22,757 between the remaining four departments.

7. Closer examination of the distribution of these 22,757 shows that :—

(a) Taking numbers of patients alone regardless of size of hospital, *one-half* were awaiting admission to only *sixteen** of the 113 hospitals.

(b) When relating length of list to number of beds allocated, *twenty-two* of the 113 hospitals are revealed to be under extreme pressure from waiting list demand. These hospitals, with more than three waiting list patients per bed—again about *half the total* for the same four departments—divide equally into two distinct types :—

(i) Eleven hospitals under 100 beds, mostly small cottage hospitals on the periphery, still popular, but usually showing a relatively low occupancy, and

(ii) Eleven hospitals between 100 and 300 beds, the majority of which are amongst the most fully occupied hospitals in London.

Clearly there are certain objections to this use of waiting list figures as an index of pressure. For example, three surgical waiting list patients per bed would not signify the same degree of pressure as three orthopaedic patients with a longer average length of stay. However, the point at issue is the wide *variation* of pressure and, until accurate measurements are possible, the present waiting list figures cannot be ignored.

LOCAL CHARACTERISTICS

What are some of the possible reasons for this inequality of demand ?

8. One factor may lie in certain migratory trends which have affected the ratio of population to beds in many localities. There has been a decrease of population in the central area where the hospital density is great, and an increase in the outer ring where hospitals are further apart—about a million people being involved in this move over the period 1931 to 1951.

9. Further, the catchment of the individual hospital is often affected by the extending web of bus, rail and tube routes, which are progressively tapping new sources of patients. The Gray/Topping Report gave as a main reason for the

* Four hospitals in each of the four Metropolitan Regions had more than 500 patients awaiting admission to the four departments named.

unsatisfied demand the influx of patients from neighbouring counties where hospital building has not kept pace with the growth of population. It is reasonable to believe that this situation still obtains and that the distribution of such patients amongst London hospitals is influenced by the proximity of the hospitals to the principal road and railway routes.

10. Despite the general belief that occupancy percentage rises with the size of a hospital, at least in terms of its available beds, it would seem that this is not necessarily applicable in London. There is always a more important factor than size. If the significant reason for high pressure in a particular hospital is not one of those mentioned in this section, it will usually be found in the special characteristics of the hospital.

11. Another point which at first sight might be thought to affect the local demand for beds is the individual hospital's legacy from the past. In particular it is worth recalling the contrast between certain Voluntary and certain Local Authority hospitals in the pre-war days. How, for example, Voluntary hospitals tended to be more selective in their admissions and how Municipal hospitals were obliged to admit patients from a more clearly defined geographical area. It is well to remember, however, that some of the differences between the two types of hospital were already lessening before the Appointed Day.

12. Under the National Health Service Act these trends have been accelerated and the dual traditions successfully merged in many Groups, a fact which will greatly ease the task of smoothing out the uneven demand for beds. Although many of the larger Local Authority hospitals have not yet experienced the same degree of waiting list pressure as certain of the medium sized Voluntary hospitals, it is interesting that seven of them are among the sixteen hospitals mentioned in paragraph 7 (a).

THE POPULARITY OF HOSPITALS

13. Finally, in the study of the uneven distribution of demand, mention must be made of ' popularity '—the reputation a hospital has in the mind of the family doctor, the private consultant and the general public. Although it cannot be assessed statistically, this factor is very real and can considerably affect the size of the out-patient figures, the numbers on the waiting list and the occupancy of the beds.

14. In this respect, the role of the general practitioner is all-important. For the treatment of his patients he bases his choice of consultant and hospital on personal knowledge and preference gained from long experience with all types of case.

15. To the mind of the new patient, however, several other issues may occur : the pleasant or forbidding external aspect of the hospitals under consideration ; the hearsay of friends or relatives concerning the standard of nursing and catering ; what he has been told of the kindly or casual attitude of staff to patient, indeed of the general atmosphere in the hospital.

II

BETTER USE OF THE AVAILABLE BEDS

16. In order to assess possible gains resulting from the use of vacant available beds* a first necessity is that the appropriate terms and measurements should be precisely and uniformly applied, for instance, the time of bed count, the definition of the beds, cots and patients to be counted, the evaluation of the various indices of bed-use.

17. The second need is for bed-use figures which are given in departmental form. It is important to see at a glance the points at which action should be taken. The annual occupancy percentage for the whole hospital does not show which departments have most empty beds.

> For example, at a particular hospital the picture may be : that the Maternity and Children's Wards are accounting for half the total vacancy in the hospital ; that three of the specialities with waiting lists are working to capacity ; and that only one department appears to be a promising field for immediate improvement of occupancy figures.
>
> If this is the situation, information of this kind should be thrown into full relief by the bed statistics, not concealed by them.

18. A third requirement is an index of vacancy which is more explicit than a percentage, more readily visualised by the staff concerned and more directly related to the turnover of patients and their length of stay.

THE TURNOVER INTERVAL

19. A measurement which fills these latter needs is the Turnover Interval. Since bed vacancy is essentially nothing more than the sum of the days that beds lie empty between patients, one simply divides the total vacant (available) bed-days by the discharges and deaths for each department. This Turnover Interval then is the *average number of days a bed lies vacant between successive patients.*

20. A Turnover Interval of, say, three days for a certain department means that each time a bed falls vacant, it is, on average, three days before the next patient is admitted to it. This is a figure against which the Admissions Officer can measure progress from day to day and from case to case. It focuses attention on the particular problems of each department, whether it be the effect of the weekend on the relation of admission dates to operating sessions, or the difficulty of forecasting discharges, or the tendency for emergencies to come at exceptionally irregular intervals. Whenever a vacancy takes longer to fill than the current turnover interval for that department, the Admissions Officer will be carefully noting the reasons with a view to forestalling their recurrence.

21. If the departmental total of empty bed-days is divided by the number of discharges and deaths, the effect of the average length of stay is shown, as longer stay cases, obviously, mean fewer discharges.

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* The beds which are unoccupied at the time but fully staffed and available in all other respects for the treatment of patients.

As an extreme example, one department might deal with very short-stay patients (average length of stay three days) and show a gap of only a third of a day between patients. Another department might by contrast deal with cases staying on average fifty-four days, with a Turnover Interval of as much as six days. Both would have the same occupancy percentage of 90, yet from the point of view of admissions procedure the first would be discharging and admitting on the same day in the majority of cases and the second would spend on average six days over each discharge. Nevertheless, the first department would have treated 110 patients per bed in the year against six patients in the second department.

22. Thus Turnover Interval may be found to possess a real advantage over percentages, particularly when shown with the average length of stay. These two figures together provide a basis for first comparison between any one department and its counterpart in other hospitals, and if pressure from waiting list and other sources is taken into account the comparison can be made closer. Perhaps the Regional Boards might find Turnover Interval a useful addition to Column (e) Part 2 of the present SH.3 form. This would give a double figure, say 2/16, where the figure 2 would be the Turnover Interval for that department, and 16 the average length of stay.

If, for example, against a certain department one hospital showed a Turnover Interval of 2 days and an average length of stay of 16 days, i.e., 2/16, and another hospital showed 1/16, it would suggest that some real significance might be attached to the difference in Turnover Interval, especially if both were under waiting list pressure. If, however, the length of stay were also dissimilar, 2/16 and 1/20 for instance, then one should not be too hasty in passing judgment on the admission procedure, but should look also for other underlying causes.

23. If percentages are to be used at all, care should be taken to avoid the fallacy that can occur where additional beds are made available. Certain hospitals attain total or departmental percentages of 100 and over by showing the number of occupied beds against an official bed allocation which takes no account of extra beds erected and beds borrowed from other departments, an unfair figure for both the borrowing and the lending departments.

24. As a final comment, the percentage method deals with large figures: the counting of the occupied beds. The Turnover Interval, however, deals with much smaller figures: the vacant beds. Another advantage is that in the calculation of Turnover Interval it is not necessary to adjust the departmental allocation for the use of extra beds and borrowed beds, for they are occupied and it is the vacant bed only that is relevant.

SEASONAL FLUCTUATIONS

25. That there are considerable fluctuations in departmental pressure from season to season is well known. Too often, however, the relatively slack periods are accepted as inevitable and little is done to forestall a loss in bed economy by forward planning so as to use the expected vacancy in certain departments for the clearing of waiting list arrears in others, or even for the more active use of holiday periods in general.

BED-USE FACTORS ILLUSTRATED

There are 3 basic factors : Turnover ; Length of Stay ; Turnover Interval. They are calculated for each department separately and are *averages* for a specific period, usually the calendar year or quarter. If used as monthly figures they are unreliable, particularly for long stay cases. They describe the work done in the *available* beds only ; the unavailable bed-days must be subtracted first.

Taking as an example the annual figures for a theoretical department with 30 beds, from which 540 patients were discharged and where the total available bed-days were 10,800 and the occupied bed-days 8,640 :—

TURNOVER (T) is the average number of patients treated per bed and is obtained by dividing the average number of available beds into the total discharges and deaths for the department :—

$$\text{e.g. } \frac{540}{30} = 18 \text{ patients per bed per year.}$$

LENGTH OF STAY (LS) is the average number of days these patients occupy a bed and is obtained by dividing the discharges and deaths into the total occupied bed-days :—

$$\text{e.g. } \frac{8{,}640}{540} = 16 \text{ days per patient.}$$

TURNOVER INTERVAL (TI) is the average number of days these beds lie vacant between successive patients and is obtained by dividing the number of discharges and deaths into the total (available) vacant bed-days for the department :—

$$\text{e.g. } \frac{2{,}160}{540} = 4 \text{ days.}$$

It must be realised that the value of all these figures can be compromised if the discharges include a considerable proportion of *single-day* patients. It is almost preferable therefore that any large number of such patients should be accounted for separately.

The percentage occupancy does of course take into account these factors ; unfortunately, by reducing them to one figure, their separate identity is lost. It can be shown that this percentage is given by the formula

$$\frac{\text{LS}}{\text{TI} + \text{LS}} \times 100.$$

Therefore, the occupancy of the department quoted above will be :—

$$\frac{16}{4 + 16} \times 100.$$

However, any factors which chance to produce this same fraction of 16 over 20 will also denote an 80 per cent. occupancy. Thus this index of performance would equally apply to a department with TI = 2 and LS = 8, or another with TI = 8 and LS = 32, and so on.

The mind tends to accept 80 per cent. occupancy as a common and therefore reasonable figure and yet if the Length of Stay in a certain ward were 32 days, the average gap between patients would be no less than 8 days. A matter for concern rather than complacency, if at the same time there were a long waiting list, for it should be all the easier with long-stay patients to arrange admissions well in advance.

26. Much of this loss could be avoided in the coming season by careful scrutiny of the figures for the corresponding period of the previous year. Annual returns are inadequate for this purpose ; they reveal neither the periods of relative slackness in a department nor the periods of peak pressure. The total picture may easily suggest a satisfactory bed allocation, whereas what is really needed is the temporary addition of a few beds in one season and a possible loan of beds to another department at some other time of the year. Quarterly bed-use statistics are greatly preferable to annual returns and, to facilitate internal planning, they should include not only the Return described in the following paragraphs but also the Analysis of Demand, the Return of Unavailable Beds, and the Analysis of Admissions, as outlined in paragraphs 67, 81 and 123.

27. Some committees insist on monthly bed statistics. There are, however, certain good reasons for suggesting that quarterly statistics may be better suited to the more positive approach described in this booklet. One relevant argument is that monthly figures, especially with the longer stay cases, tend to fluctuate out of all proportion to the underlying circumstances. To insist on full discussion of monthly figures in committee is to risk loss of time by debating reasons for chance fluctuations which have no real significance.

THE RETURN OF THE AVAILABLE BEDS

28. A quarterly statement of statistical data describing the use made of the Available beds in each hospital is strongly recommended. The four figures suggested as being most useful for internal planning are the discharges and deaths, vacant available bed-days, turnover interval and average length of stay, shown on a separate line for each department. It is superfluous to include figures giving the original data from which the second column is derived.

29. On the sample form shown here, separate lines can be given if necessary for males, females, and children. Where it may be difficult to show certain vacancy figures by department, such as in the case of ' pool ' beds and ward units of ' unclassified ' beds, a separate line should be used for these entries. Generally speaking, however, the classification suitable for the Committee can be, and should be, the same as is needed for the Ministry's Returns.

30. At the end of the first year it will be easy to show on a similar form, with four lines for each department, the complete seasonal record. Column 3 will then show at a glance the departments and seasons where beds might be more fully used. Statistics should be so arranged as to indicate the points at which enquiry should start with a view to securing an improvement in bed-use.

31. The entries to be made in the right hand columns involve the following considerations :—

(i) Firstly, it is clear that no appreciable savings can be achieved in those departments and seasons where the turnover interval is already less than one day. These can be left aside for the moment.

(ii) Secondly, in those departments with a turnover interval of more than one day, consideration should be given to those with current waiting list pressure. If

the figure in column 2 is divided by that in column 4, one gets the theoretical number of additional patients who could be treated, as shown on the specimen form—first entry (a). This would presuppose, however, the possibility of reducing the turnover interval to zero. Although the turnover interval can well be less than one day (indeed, this is often achieved and without hardship to the patient) it is surely sufficient in the early stages if the main departments aim at a turnover interval of one day.

(iii) If, however, the figure in column 1 is first subtracted from that in column 2, which would allow for a turnover interval of one day only for each of the patients discharged,

and if the remainder is then divided by a new figure, the figure in column 4 *increased by one*, to allow for a turnover interval of one day for the proposed additional patients,

then the number which can be entered in column 5 will be a target the hospital can reasonably hope to attain at the first attempt. This is illustrated in the second entry (b) on the specimen form.

In column 6, a brief note should be written on the steps to be taken to effect this economy, e.g., improvement of procedure for calling patients in. For an illustration of what the figures might be when the appropriate action has been taken, see the third entry on the specimen form, line (c).

(iv) Lastly, there is the department which shows a turnover interval of more than one day and which is *not* under waiting list pressure. Could not some use be made of this vacancy by another, over-burdened, department? To discover this, one would again proceed as in paragraph (iii) above, allowing for the reduction of turnover interval to one rather than zero, but using the average length of stay figure for the *borrowing* department.

32. In this arithmetic, the emphasis is laid on additional treatments effected and not on the mere saving of bed-days. Each target figure shown in column 5 will of course need careful assessment for its effect on other projected savings. Theatre facilities in particular may need consideration before the first pencilled entry can be firmly inked in as a practical project.

33. In the following sections of this Chapter, some of the implications of the suggested reductions in turnover interval are explored. The integration of such measures may depend, however, on the steps taken to decrease the number of 'unavailable' beds and the general length of stay figures. These three lines of approach are co-ordinated in Chapter VI.

ADMISSIONS

34. A preliminary to economy in the use of beds in a particular department may then be an attempt to reduce the turnover interval by increasing the rate of admissions and discharges, and not, of course, by retaining patients in bed until the next are ready. The real achievement in the last three years is in fact indicated by the steadily mounting discharge* figures, not by the occupancy percentage, which

* A word of caution is needed here about the interpretation of figures purporting to measure the success of the hospital service. One survey has shown that 100 hospital discharges were related to only 80 patients, i.e., that many patients were being admitted several times in the year. Examples can be quoted of as many as 20 re-admissions in the year for a particular condition. A more significant figure would be the number of individual patients treated to a conclusion.

..... Hospital

Return of AVAILABLE BEDS for the Quarter

..... to .....19...

Department and Beds Allocated.	(1) No. of Discharge and Deaths.	(2) Vacant Available Bed-days.	(3) Turnover Interval. *	(4) Average length of Stay. †	(5) Suggested Measures. Target figure of additional patients to be treated.	(6) Remarks.
(a)	200	600	3	20	30	
(b)	200	600	3	20	$\frac{600-200}{20+1} = \frac{400}{21}$ = 19 approx.	
(c)	219	approx. 219	1	20	No Action. (See (i) and (iii), paragraph 31).	
TOTALS						

* To the nearest half-day.
† To the nearest whole day.

has remained fairly steady. Not only have more beds become available, but a number of the more active General hospitals have shown a marked shortening of the average length of stay and an increased turnover of patients.

35. As a next step, the individual hospital must be prepared to give detailed attention to its various admission problems—the emergency patient, the waiting list patient and the booked case.

In default of fuller definition, it may be said that :—

Emergency Admissions are those, from whatever source—E.B.S., General Practitioner, Casualty or O.P.D.,—for whom a bed must be found at very short notice, that is, usually without the hospital having time to co-ordinate the admission with the discharge of a present in-patient ;

Waiting List patients are those whom the hospital, having postponed its decision as to the date of admission, then calls forward according to a system of priorities that takes into account not only medical but social urgency, and the length of time already on the list ;

the **Booked Case,** in the wider application of the term, lies between these two, for here a date of admission is agreed between doctor and patient at the time of consultation, suiting as far as possible both the convenience of the patient and the anticipated availability of hospital facilities.

36. All three types of admission can be difficult to organise without either wasting beds on one hand, or turning away patients on the other.

In an attempt to avoid the latter, it is all too easy to make excessive reservations for emergencies, or to over-estimate the number of waiting list patients who will accept admission when called forward, or to exercise undue caution in the booking of cases ahead.

37. Conversely, in attempting to secure higher occupancy, a system may be evolved which results in hardship and inconvenience to the patients :—

Inadequate provision for emergencies in a General hospital may indicate a shirking of responsibility which places undue pressure on other hospitals, and may lead to serious criticism if patients are refused admission ;

sending for too many waiting list patients may lead to the turning away on arrival of patients who have gone to considerable trouble to make the necessary arrangements ;

and the same can happen with booked cases in even greater degree because of the longer notice they have received.

EMERGENCY ADMISSIONS

38. The reservation of the appropriate number of beds for emergencies is a difficult subject, the full discussion of which is not possible here.

A large Casualty Receiving Ward, where all immediate admission are held before transfer to the appropriate department, may have certain disadvantages from the point of view of medicine and nursing. Chiefly, however, it tends to make the allocation for emergencies too rigid. As the flow of emergency admissions varies considerably, it is generally found better to use such accommodation as a fluid, or buffer, ward on the lines suggested in paragraph 127 (g). Where this has

not been possible, it has been found a good arrangement for this unit to be under the care of someone of senior status so as to facilitate the transfer of patients to the General wards.

> An example of a different procedure is that used at one London hospital. Here a small number of side wards are employed to give flexibility to the bed allocation. Emergency admissions are always sent straight to the ward where they are to be treated and, if all the available beds are full at the time, one of the patients nearing discharge is transferred to the side ward to make room.

39. The reservation of beds in the general wards for the admission of emergency cases is usually a more satisfactory arrangement than the large Casualty Ward. The actual number of beds reserved can be varied at will, over the days of the week and the changing seasons, after careful scrutiny of the previous year's records. This is perhaps a fair example of the need for applying the information already in the possession of the hospital; too often the figures are there but no use is made of them.

40. Whatever the arrangements for emergency admissions, the risk of patients being turned away should be guarded against most carefully. Many committees make the wise rule that no patient arriving at the hospital in need of immediate admission should be turned away.

41. A special register should be kept in which entries are made of every request for immediate admission, showing details of the type of case, who made the request, whether it was accepted or refused, and the reasons for refusal. This would also apply to requests from other hospitals for the transfer of patients. If all requests are passed through the one office, the recording of the data is the matter of a moment and in any case a sound administrative procedure.

42. Such a register is a valuable pressure-gauge of hospital demand and, used as a guide to the reservation of an adequate number of emergency beds, is as important to internal planning as are the waiting list returns (see form opposite paragraph 68). It should be carefully studied each week by a responsible officer.

THE BOOKED CASE

43. Many hospitals are now " booking " cases instead of putting them on the waiting list. Where this can be done it is a great advantage to the patient, as an admission date fixed at the time of consultation enables difficulties to be discussed and gives the patient time to make the necessary domestic arrangements. A friendly atmosphere is established, the patient is reassured and the formal summons by letter or telegram, which inevitably is somewhat alarming, is avoided.

44. No doubt many hospital departments feel they have no option in this matter, the very numbers of those at present awaiting admission making it quite impossible to adopt the practice of ' booking ' patients. It will, however, often be possible to book admissions in the summer months for certain departments, even though pressure in the other seasons may necessitate the full waiting list procedure.

45. It will be argued that the advance booking of cases is more wasteful of beds than the short notice letter or telegram, for, while the former is based on a fairly general estimate of the future discharge rate, the latter is based on figures related to forecasts of individual discharges.

46. This will not always be so in practice. It presupposes that medical staff are unable to make close estimates of bed availability in advance and that waiting list technique is necessarily efficient. Information on this latter point was gathered from a number of hospitals and it was found that 10 per cent. was a common refusal rate for waiting list patients and that certain wards such as Gynaecological, Paediatric and Female Medical, found as many as one in four patients not accepting the admission dates offered in certain months of the year.

WAITING LIST ADMISSIONS

47. Wherever the full waiting list procedure has to be applied, every endeavour should be made to allow for the patient's personal problems.* It is the moment at which the patient is told he will have to come in that is vital, for so much can be done at this juncture to make or mar the success of the system.

48. Far more is involved in preparing for the admission of a patient from the waiting list than merely checking the address, next of kin and other personal data. A clear routine must be evolved for completing the waiting list card in respect of provisional diagnosis or reason for admission, the degree of priority that should be given and a note of the investigations, etc., which will be necessary. It should not be left to any general clerk to collect such information from the patient's notes; this is a responsible task and should be closely supervised by the R.M.O. or Admissions Officer. (See paragraphs 62, 63.)

49. If the refusal rate is to be kept low, information must be recorded about the length of warning needed in each case so that, for example, arrangements can be made for the care of children or invalids at home, or so that a man's business or his employment will not suffer unncessarily. The dates of projected holidays should be noted and the times when the patient may be away from the district through his work.† A frank estimate of the probable delay must be given to the patient, and preferably to his general practitioner as well.

50. Despite all precautions, the occasional breakdown will occur: the patient may have an intercurrent illness at the time of being called in, or, particularly in the case of a housewife, admission may be frustrated by the illness of some other member of the family. It is therefore a good practice to make a note of those patients who are willing to be called in by telegram or telephone at very short notice. This is the only justifiable use of the telegram; it should never be used as a routine for patients who have waited long periods.

51. If patients are kept on a list for twelve or eighteen months and then receive a forty-eight hour notice to come into hospital, it is little wonder the refusal rate is high. The longer the list, the more patients there will be who have changed address, received treatment elsewhere or no longer require it, quite apart from the wastage due to inadequate warning.

52. In an attempt to avoid a high refusal rate from patients sent for, some hospitals make a practice of writing to them every three months to make sure they still wish to remain on the list. A more economical method is to write to them when they are nearing the top of the list. Generally speaking, however, the results of long

* It is at this stage that the services of an Almoner can be invaluable.

† Complexities of this kind must not become a reason for the postponement of admission in favour of a more straightforward case.

waiting lists are so grave, that it is more important to spend effort on reducing rather than on perfecting them. In London, where there are vacant beds within easy reach, there is much to be said for writing to the general practitioner if his patient has been on the list for, say, six months and is not yet nearing the top, offering help in arranging admission elsewhere. This is greatly preferable to a series of notes to the patient which give no precise indication of when help will come.

CALLING-IN LETTERS

53. The subject of admission leaflets to waiting list patients was well dealt with in the Central Health Services Council's pamphlet on Reception and Welfare. A number of hospitals are now using excellent printed leaflets, but a point deserving attention is the need for the privacy of a sealed envelope at this important juncture in the patient's treatment. The 'trade circular' appearance of some hospitals' letters invites the possibility of later postal delivery or less speedy measures to locate the patient if he is not at home. Finally, it is important that the leaflet should contain a clearly set out request for the patient to notify the hospital immediately whether he is accepting the bed or not, and that this instruction should not be obscured by the other data.

54. It is clearly unprofitable to write again to a patient who has refused admission or who has not replied. Instead, the patient's doctor should be informed; he can often deal with the situation at once. The responsibility for the medical care of the patient outside the hospital rests with the General Practitioner and he must be consulted.

THE ADMISSIONS OFFICE

55. Of great value in the attainment of a higher admission and discharge rate is the concentration in one office of accurate information on the current bed-state, on the forecasting of discharges and on the reservation of beds. Here, too, should be the admission and discharge data and the occupancy statistics.

56. The geographical situation of this room is of considerable importance. It should be sited so that the admission* and discharge of all in-patients can be completely and conveniently controlled from it—an added insurance against inaccurate bed-state information. It should also be easy of access to the medical staff. In most hospitals these two conditions are best fulfilled by the room being adjacent to the entrance of the main building.

57. This room serves both as an information centre for questions on bed occupancy and as the point from which the admission of patients is arranged. Here the lists should be kept of patients warned to come in. If these lists are kept in a convenient form, such as on visible index trays, they can easily be taken into the clinic sessions. They are, therefore, best kept separately under individual consultants, preferably in chronological order, using coloured signals to show priority.

It is a further advantage if the room used by the medical secretariat and also the Consultants' Room are adjacent to the Admissions Office so that all the diaries and detailed knowledge concerning the patients are near at hand.

* It is realised that often the accident cases will enter the hospital by a different route from the waiting list cases, but the Admissions Office should automatically be notified of their arrival.

BEDBOARDS

58. Dealing with the fluctuating pressure of emergency admissions demands much give and take between firms and great ingenuity in fitting in the exceptional case. For such reasons, as well as for its help in reaching quick decisions and in the subsequent explanation of these decisions to those affected, the comprehensive bedboard has often been recommended. In a busy General hospital where the beds are allocated to many specialities it is almost impossible for one person to keep a clear picture of the current bed-state in mind, let alone the forecast for the immediate future, without some such visual aid. A point in favour of the bedboard is that it enables relief officers to carry on satisfactorily when the doctor normally in charge is off duty or called away.

59. A subsidiary but by no means unimportant use of the bedboard, is that the Group Chairman and others can see at a glance the present bed situation and also grasp more easily some of the admission difficulties encountered. The psychological advantages of an efficiently kept bedboard in stimulating team spirit and maintaining interest in the fullest use of the beds may be considerable. This underlines the importance of its being so sited that the staff concerned have easy access.

60. It goes without saying that each hospital will suit the design of its bedboard to the solution of its chief occupancy problems and there may well be certain categories of bed (particularly those not available for inter-departmental loan) which need not be shown in detail. Experience goes to show, however, that full value is only obtained from this method if provision is made for the recording of advance bookings, also of forecasted discharges, and if the system is such that the data shown are in fact accurate up to the minute. If, for example, every move has to be preceded by several exploratory telephone calls, much of its tactical value is inevitably lost.

61. The statistical possibilities of bedboards have not yet been fully explored. Some bedboards have hooks representing beds, from which paper discs are hung showing the name of the patient at present in that bed. If the date is entered on the disc whenever a patient is admitted or discharged, and in the case of the empty bed the date of falling vacant and the date filled, the discs could easily be sorted after removal from the bedboard. They could then readily be used for periodic analysis of length of stay or turnover information, or for the further investigation of admission problems in particular wards or departments.

THE ADMISSIONS OFFICER

62. Making the fullest use of the beds is very much the concern of the whole Medical Committee, but no group of men can in practice take responsibility for the detailed day-to-day decisions involved in a busy hospital: fitting in emergency cases, making arrangements for the immediate borrowing of beds and, above all, taking quick action on the use of extra beds or the delay of patients written for. If such responsibility is divided, there can easily come occasions where ' too many cooks spoil the broth.'

63. Ideally, one medical officer should have complete responsibility for co-ordinating the admission of all cases. His best tactical point would be the office*

* This might well be the logical vantage point for the Medical Records Officer too.

described above, which for the present purpose is the nerve-centre of the hospital. True enough, the choice of which waiting list cases are to be admitted must be left in the hands of the department concerned, but there is much to be gained from channelling the procedure through this one officer so that he and his clerical staff have the complete picture of the situation at all times.

FLEXIBILITY OF BED ALLOCATION

64. The Admissions Officer will be in a position to deal with the minor day-to-day fluctuations in the demand for beds. The major variations in pressure, however, require the concerted teamwork of all the senior medical staff in close harmony with the Matron and Administrator. For example, a decision to use a large Casualty Ward as a fluid unit for the service of either the surgical or the medical department as the need arises, or a decision to use a whole group of paediatric beds for a couple of months to clear, say, the E.N.T. waiting lists, is a matter upon which the Medical Committee will wish to deliberate.

> The wider subject of the too rigid allocation of beds between consultants calls for separate consideration. In some cases bed allocation has not been changed since the War, even though the pattern of hospital admissions has altered. As stated by a Working Party of Group Secretaries: "The question of the optimum relationship between consultants' sessions, the number of beds allocated to a consultant and the theatre accommodation is deserving of early and thorough investigation."

65. The over-all planning of medical services is indisputably a Regional Board function, but a hospital is free to make a short term re-allocation of beds in order to allow for the temporary vacancy in one department to be used for the easing of waiting list pressure in another. This might apply particularly during seasonal lulls and holiday periods when wastage all too often occurs. When it seems that short term adjustments are insufficient, then obviously an approach must be made to the Board.

66. The Ministry Circular RHB.(53)91 of 15th August, 1953, firmly suggests that Medical Committees should "maintain a continuous review of all hospital facilities in the Group to *ensure their most effective employment.*" Particular mention is made of three subjects which should be kept constantly under review, even when these subjects have not been specifically referred by the Management Committee: allocation of beds; criteria to be followed in deciding upon the admission of patients on the waiting lists; arrangements to be adopted for emergency admissions.

67. This continuous review is greatly assisted by having the bedboard information, as already suggested, located where the medical and senior lay staff will frequently pass. The major projects, however, involving temporary changes in the use of beds for more than the individual case should be based on a scrutiny of the bed-use figures proposed in paragraph 28. Additional information which will be needed at this stage is the pressure from emergency cases and from waiting list sources. The former can be obtained from the register referred to in paragraphs 41 and 42; the latter from a more detailed analysis than is normally made of the waiting list figures. A return such as that shown overleaf would show the essential data.

..... Hospital

ANALYSIS of DEMAND for beds for the Quarter

..... to .....19...

Department of..... (Beds allocated .....)

Waiting time in *months*.*												
	U	S	R	U	S	R	U	S	R	U	S	R
Male.												
1– 3 incl.												
4– 6 ,, ...												
7–12 ,, ...												
over 1 yr.												
TOTALS												
Female.												
1– 3 incl.												
4– 6 ,, ...												
7–12 ,, ...												
over 1 yr.												
TOTALS												
Children.												
1– 3 incl.												
4– 6 ,, ...												
7–12 ,, ...												
over 1 yr.												
TOTALS												
GRAND TOTALS ...												

Grand Total previous Quarter : _____

Patients since removed from list : _____

Patients since added to list : _____

Grand Total waiting list as at .....: _____

Total Emergency Admissions† _____

Emergency cases refused : _____

* e.g. A patient who has waited 3 mths. 1 day falls within the period 4–6 incl., etc.

† See paragraph 112, categories c—g.

U = Urgent. S = Soon. R = Routine.

ANALYSIS OF DEMAND

68. Whatever the design of the form used, it is vital to show the breakdown of each waiting list by length of wait and by degree of urgency, and wherever possible to give separate figures for suitable sub-divisions such as hernia or varicose veins. Most hospitals will find it worthwhile to show certain lists separately for male and female, particularly where there is the possibility of the borrowing of beds between departments.

69. The essential feature of this return is, of course, the upward or downward trend rather than the total figure itself. It is important to show the numbers removed since the last count, whether by admission, transfer to other hospital, or as a result of ' vetting ' the lists. It is equally important to show the numbers added. As soon as figures are available for several complete years, the seasonal pattern of demand will stand out clearly and interpretation of the trends will be easier.

70. It is the *analysis* of the length of wait that is so valuable. It is not sufficient just to give the time waited by the one person longest on the list. One must see at a glance how the main body of the ' routine ' cases is faring and be able to check whether some of them are waiting so long that they have to be upgraded in medical priority.

71. This more detailed picture of waiting list and emergency load is necessary for study at officer level and in Medical Committee. Under any one of the main departmental headings some new problem may be revealed and, although the very short lists can of course be shown on a single sheet in much simpler form, the separate sheet for major lists is initially to be recommended. Before the figures reach the main Management Committee, however, it should be possible to reduce the scope of the analysis considerably and show all departments in a single schedule.

72. The action which should be taken as a result of the figures provided by the two Quarterly Returns outlined in paragraphs 28 and 67, will depend in part on the recommendations of the next two chapters. Furthermore, major schemes for the more economical use of beds must often be adjusted to Group and Regional Board policy. (See Chapter VI.)

* * * * *

IN SUMMARY

73. This chapter has been confined to the preparation of data for making fuller use of beds shown as ' available.' The statistics suggested are for those directly concerned with Occupancy at hospital level for it is upon them that success depends. What figures should be passed to higher authority is not relevant to this context and none of these recommendations should be taken as favouring the establishment of an arbitrary statistical yardstick. Although departmental turnover interval and length of stay figures tell more of performance than the all-inclusive percentages, it would be disastrous if such figures became scoring points in a kind of inter-hospital competition. For instance, no true comparison of occupancy can be made without reference to the waiting list pressure or to the figures of the emergency demand. Furthermore, each hospital has its own slightly different proportion of more difficult cases or emergency cases, its own slightly different tempo of medical treatment, its own special nursing problems.

74. The highest occupancies or the shortest turnover interval are neither ends in themselves nor evidence of effective use of the beds. The reduction of long waiting lists is the major objective and the increased number of patients successfully treated to a conclusion is the most important index of achievement. Each hospital has its part to play—one may have to take more long-stay cases, another, more emergencies—and one must be sure that figures are not allowed to become improperly a motive for any modification of medical treatment.

75. Out of enthusiasm for greater economy, nothing should be done which would endanger the high standard of nursing and medical care or which would react against the interests of the patient. Too frequent use of extra beds in the ward is but one example of the first possibility; too early a discharge to unsatisfactory home surroundings, a case of the latter danger.

76. The plea for reducing long waiting lists that is made in this study is based on the concern felt for the interests of one large group of patients, the so-called 'routine' cases whose treatment is so often postponed. With the long-wait patient not only is there a risk of medical or psychological deterioration, but all too frequently a lowering of the mental or manual working capacity this country can ill afford.

III

THE "UNAVAILABLE" BED-DAYS

77. In the 113 hospitals mentioned earlier in this study, no less than two beds out of every eleven were classed as unavailable on the last day of 1951—some 6,000 out of a complement of 33,000. Including the vacant *available* beds as well, there were in all about $3\frac{1}{2}$ million unoccupied bed-days in Greater London during that year. Despite the introduction of Costing Returns, it is probably true to say that many hospitals keep no detailed day-to-day figures showing the split of unoccupied beds into the categories of available and unavailable. On the face of it, these $3\frac{1}{2}$ million bed-days a year might have accommodated all the current waiting list patients several times over,* yet this still remained the most vaguely defined area of bed economy.

BED COMPLEMENT

78. Here then was an obvious field for investigation, but where were the boundary posts ? There was neither an accurate complement figure nor a precise measurement of the availability of beds, except for the one day in the year on which the count was made. It was recognised that some hospitals still showed on their ' complement ' beds that had not been opened since the War. Indeed, some of these ' beds ' are still not in use nor likely to be for a long while ; perhaps the ward concerned has been turned into a physiotherapy unit, perhaps the whole block is so badly damaged that major reconstruction would be necessary.

79. The Regional Boards and the Ministry of Health, for the purposes of long term planning and Civil Defence, will naturally keep themselves well informed on the matter of the total potential capacity of present hospital premises. For the purpose of making fuller use of a hospital's present resources, however, the figure used for bed complement should be the realistic working complement of the year in hand. One cannot deprecate too strongly the inclusion of units unlikely to be used during the current year for the nursing of patients, such as wards diverted to out-patient work or for staff quarters, or the seriously war-damaged wards.

> It is just possible that, here and there, hospitals do not count beds within their complement which might properly be included, for example, staffed ' accident ' beds used for patients to whom the full admission procedure applies ; or certain isolation beds ; or ' sick staff ' beds which are not within the residential quarters.

AVAILABLE OR UNAVAILABLE ?

80. The opposite boundary mark, that of the figure of available beds, has already been clarified in that the average daily figure for the year is now required by the Ministry of Health. A full daily count of the beds must be kept, distinguishing clearly between the ' vacant available ' and the truly ' unavailable ' beds.†

* With the average length of stay for General hospital patients at just under 16 days, in theory some 200,000 additional patients might have been treated.

† This was in fact practised by London hospitals before the Appointed Day.

A further step forward has been the inclusion in the SH.3 Return for 1953 of the numbers of extra beds erected. This will prevent the anomaly of occupancy percentages exceeding one hundred. The 1954 figures are expected to show these extra beds separately from the normally available beds, which will give an interesting additional index of pressure.

THE RETURN OF UNAVAILABLE BED-DAYS

81. The key to possible economies will be found in the type of form shown opposite. This is the quarterly analysis of unavailable bed-days, given for each department, with separate columns for the following :—

1. Staffed beds temporarily unavailable on account of :—

(a) Infection.
(b) Repairs, redecoration or cleaning.
(c) Other causes—please specify.

2. Beds unused for lack of staff (medical, nursing and domestic) due to :—

(d) Difficulty of recruitment.
(e) Lack of residential accommodation.
(f) Other causes (including short staffing due to sickness, holidays, etc.) —please specify.

3. Unstaffed beds out of use for reasons other than lack of staff :—

(g) ' Transfer beds ' for use when other beds are temporarily unavailable because of repairs, redecoration, etc.
(h) For major structural alterations actually in progress.
(i) Other causes (including isolation beds)—please specify.

It is realised that some entries under the last three headings cannot be shown departmentally if the beds concerned are not included in the allocation for any one particular speciality. In this case they would be entered on a separate line at the bottom of the form as illustrated.

Although beds may be unavailable for more than one reason, they would, of course, only be entered under the one category most relevant.

The above are sub-divisions of the headings already in official use but no separate entry for ' emergency fever reserve ' beds has been shown as the form is designed for the Wholly or Mainly General hospital.

82. It is important that there should be instituted a recognised procedure for declaring a bed to be ' unavailable.' This responsibility should ideally be vested in one person only. There should be a daily routine for bringing such action to the notice of the Matron and the medical and lay staff concerned. Any considerable change in the situation should be reported to the Medical Staff Committee. Nursing shortages due to sickness and holidays must of course be fully offset by the temporary closure of the appropriate number of beds, otherwise the quality of nursing will be endangered. Such decisions should not be left to the ward staff, however, but should be undertaken by the Matron in concert with the Administrator and the Admissions Officer.

..... Hospital

Return of UNAVAILABLE BED-DAYS for the Quarter

..... to .....19...

Department and bed allocation.	Unavailable bed-DAYS in respect of :—									Comments or explanations (in particular ref. columns c, f, i.).
	1 Staffed beds temporarily unavailable on account of :—			2 Beds unused for lack of staff— (medical, nursing, domestic) due to :—			3 Unstaffed beds out of use for reasons other than lack of staff :—			
	a	b	c	d	e	f	g	h	i	
'Transfer' ward (30 beds for ninety days)							2,700			

GRAND TOTAL of UNAVAILABLE Bed-days .....

Notes of projects :—

INTERPRETATION OF THE FIGURES

83. Unfortunately this time it will not be possible to divide the departmental totals by the average length of stay and to say: here is the number of additional patients that can be treated. Some of the reasons in paragraph 81 will not lend themselves to immediate remedial action without extra expenditure, but this fuller analysis of the gap between availability and complement is essential to the planning of appropriate counter-measures.

84. The Quarterly Analysis of Unavailable Beds may enable the Management Committee to distinguish more clearly between those economies it can reasonably hope to achieve with its present resources and those long-term savings which would need help from higher authority. These figures should receive as careful attention as the two Returns mentioned in paragraphs 28 and 67. Where it seems practicable to effect future improvements in bed-use an asterisk or other mark should be placed against the figure in question and a note entered at the foot of the form describing the measures proposed and giving some estimate of the projected saving in bed-days.

> For instance, a large figure of unavailable bed-days appearing in column (b) might result in a decision to employ outside labour for redecorations and cleaning, or a large figure in column (e) might lead to arrangements for certain staff to live out.

85. Some of these projects for the reduction of wastage through the 'unavailability' of beds will need correlation with the savings projected on the Quarterly Return described in paragraph 28. If there is, for example, a reasonable chance of making more beds available to a particular department, the target figure on that first Quarterly Return can be raised and an appropriate note added in cross reference.

REDECORATION AND CLEANING

86. The incidence of unavailable beds will vary greatly from hospital to hospital and little can be said here which would be of general application. Problems of maintenance, however, affect all hospitals, though some are more fortunate in the modernity of the main fabric than others. Periodically, all wards will need a thorough cleaning. At less frequent intervals they will require to be redecorated, and it may be assumed that in most hospitals a few wards are dealt with each year as part of a complete redecoration programme spread over several years. It is reasonable to expect that these necessary tasks cannot be carried out without increasing the number of unavailable* bed-days.

87. Some hospitals are able to keep the wards open whilst cleaning or redecoration is in progress, but this is not to be recommended as a general practice because of the inconvenience suffered by patients and staff. Furthermore, it is often forgotten that this method absorbs more man-hours; it can only be done in sections, the patients have to be screened from the workmen, and newly finished work must be protected from damage.

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* Redecoration will of course be needed from time to time in the main operating theatre as well, but this will affect the figures for occupied bed-days, rather than for unavailable bed-days.

88. The permanently unstaffed ' transfer ' ward, to which each ward in turn transfers patients, staff and equipment while cleaning or redecoration is in progress, is not an economical arrangement except perhaps in a very large hospital. Although it is convenient in that the flow of patients through the department concerned is not interrupted, the hospital is faced with a constant debit of unavailable beds, for whenever the transfer beds are brought into use an equal number of beds become unavailable elsewhere.

89. In general, the number of bed-days lost will of course depend upon the time taken to complete the cleaning of each ward. It is obvious that a large team of workmen with suitable equipment can do the work more quickly, but it is not always realised that this is more economical than spreading the work over a longer period of time merely in order that the hospital maintenance staff may be kept fully occupied throughout the year. One advantage of employing an outside contractor is that manpower can be concentrated on finishing the ward maintenance within the few weeks when there is the minimum demand for beds. Strict adherence to a timetable agreed with the medical and nursing staff will help to reduce the number of empty beds prior to the closing of the ward and ensure that the beds are filled immediately the ward is re-opened.

90. Accurate quarterly occupancy and waiting list figures are an aid to the choice of the most suitable season for maintenance in each of the major units concerned, and no doubt careful co-ordination of medical and nursing staff holidays can lessen the impact of these interruptions. Further, it will often be practicable to secure the help of the Emergency Bed Service and of neighbouring hospitals in tiding over these periods of upheaval.

91. The reduction of the number of unavailable bed-days, where this figure is large, calls for a high degree of liaison between officers. The Ministry Circular RHB.(53)91 emphasises the importance of the administrative officer attending Medical Committees, if possible as Secretary. There is, however, one other officer of the hospital of whom insufficient mention is generally made in the discussion of these problems. No one person in the hospital has a more complete picture of the bed situation than has the Matron. Her aid should be sought whenever there is consideration of measures for a more economical use of the beds.

PRESSURE AND AVAILABILITY

92. The study of figures relating to the 113 hospitals shows that on December 31st, 1951, half of the 6,000 unavailable beds were related to 31 of the larger hospitals and were classed as unavailable due to *lack of staff*.

> Of these 31 hospitals, twelve, each over 600 beds complement, accounted for 2,277 beds unavailable due to lack of staff; this was nearly a quarter of their total complement and over a third of the total unavailable beds for all the 113 hospitals.

93. Are all of these beds closed purely because of lack of staff ?* Is it not significant that none of the 31 hospitals showed any real pressure from waiting list sources ?

* It is of course realised that the country's resources in nursing staff are unevenly distributed, both quantitatively and qualitatively.

Where, for example, hospitals lie close together in parts of London affected by de-population, it is quite conceivable that some of this unavailability may be related to a lack of local demand. Furthermore, some of the ex-Local Authority hospitals have increased their turnover of patients to an extent sufficient in itself to account for an apparent contraction of demand. Where local demand appears thus to decrease, it would seem only too reasonable to staff just that number of a hospital's beds necessary to meet this decreased load and to devote the surplus accommodation to purposes such as physiotherapy of which the hospital may have been deficient.

94. In the wider context of the bed requirements of Greater London, however, the use to which this large number of unavailable beds should be put in the future may call for a fresh approach. Only by bringing more of the unavailable beds into the general pool of London's resources will it be possible to remove " the discrepancy between excess supply and unsatisfied demand." Lack of pressure at a particular point should not be a valid reason for beds remaining unstaffed which could suitably be used to meet the unsatisfied demand from the wider periphery. As will be described later, certain London hospital groups, having effectively dealt with their own waiting list arrears, are already making arrangements to help those further afield.

95. In some cases it is possible that portions of the ' excess ' accommodation would be suitable for providing harder-pressed neighbouring hospitals with annexe beds, thus giving them that extra flexibility in bed-use which would enable them to increase their turnover. Even if the hard-pressed hospital belongs to a different Group administratively, it should not be impossible for its neighbours to be associated with it functionally, as indeed already happens with one London Teaching hospital. Until something nearer a 90 per cent. use is being made of the beds " permanently retained at the hospitals for the treatment of in-patients " any claims made for large scale extensions to the hospital service will inevitably invite criticism.

IV

GENERAL ECONOMIES IN BED USE

FACTORS WHICH MAY AFFECT THE AVERAGE LENGTH OF STAY

96. The latest figures for Wholly General hospitals given by the Ministry of Health show an annual turnover of 19 patients per available bed, which means that the ' average length of hospital time ' related to each patient is about 19 days.* This latter figure is made up of 3.26 days for the average turnover interval and 15.71 days for the average length of stay.

> Not only is there between hospitals a wide variation *either side* of this figure of 19 days of hospital time per patient, there can be considerable variation *within* this figure as the two components—turnover interval and length of stay—can themselves vary. For instance, the 19 days per patient might be composed of, say, one day turnover interval and 18 days for length of stay, or 2 and 17 days, or 3 and 16 days, and so on.
>
> The need for keeping these two figures separate was emphasized in Chapter II. Variations between hospitals in their average length of stay for the same speciality may be related to important differences in the type and severity of case dealt with at each.

97. If it were possible here and there to effect any slight saving of time, either at the beginning or end of treatment for certain types of case, it would be reflected in the departmental average length of stay figures which are shown for the first time on the 1953 SH.3 figures. Any such shortening of the average length of stay in hospital, however small, would over the course of a year amount to a very real contribution which can properly be added to the savings already projected in the last two chapters.

USE OF DIAGNOSTIC FACILITIES

98. In the matter of reducing the average length of stay, the interval between admission and the inception of treatment might sometimes be lessened through a more detailed forward planning of the diagnostic preliminaries. This calls for forethought at the time a decision is made to put a patient on the waiting list. There are certain categories of case where the consultant is able to indicate at this early stage the nature of some of the preliminary tests that will be necessary on admission.

99. If a note of such requirements can be entered on the patient's waiting list card, the admissions officer can give the necessary warning to the X-ray or Pathological Departments so that the patient can be examined either as an out-patient just prior to admission, or immediately on admission.

100. It is well known that the work of the diagnostic departments has grown considerably in recent years and it is possible that here and there projects for an

* 365 divided by 19 = 19.2 (days). These figures are quoted from the Chief Medical Officer's Report for 1952.

increased turnover of patients could only be met adequately by an extension of these services to cover a full seven-day week. Despite the probable additional expense the hospital would probably still show a reduction in the total cost per patient treated.

THE CONSULTANT AND GROUP STAFFING

101. Enquiries have shown that delay can also occur at the start and at the close of a patient's stay in hospital, if the visits of the consultant are infrequent. It is of course recognised that where there is a shortage of operating facilities it is pointless to bring a patient in prematurely just for the sake of higher occupancy. In the case, however, where a consultant visits a hospital, say, only twice a week, there can all too easily be occasions when a bed-day or so is not profitably used, the patient either not being called in till a day later, or his full treatment not being initiated until the consultant arrives. Likewise, in view of the importance of the final occasion of discharge, it can happen that a consultant feels it necessary to delay the departure of a patient until his next visit, which may be several days ahead.

Such considerations suggest that the general arrangement of consultant sessions may have a considerable and cumulative effect on the length of stay figures.

102. The Ministry of Health Memorandum on "The Development of Consultant Services" (1950), points out that "each region is composed of a group of hospital districts of varying sizes and populations, each district representing the catchment area of a group of hospitals. The hospitals may be grouped for administration under one or more Management Committees since it is sometimes necessary to divide a functional group into two or even more administrative units. With the main hospitals so provided, smaller or special hospitals in the area are commonly associated. Within this group of hospitals in each district there should be available most kinds of consultant service. Even the smallest such district will require at least one locally resident physician, surgeon, obstetrician and anaesthetist. The smaller groups will depend to some extent on their larger neighbours for visiting consultants of other kinds and all will rely on regional units for the more highly specialised services."

103. These views as expressed in the Ministry's Memorandum are gradually gaining acceptance and in numerous districts consultants with major specialities are being given a sufficient number of sessions to make necessary their attendance within the group on most days of the week. This practice makes it possible for a consultant to see any patient admitted to his wards within a short time of admission and so to start treatment without delay and, as soon as treatment has been completed, to arrange for the patient's discharge. Residence within a reasonable distance of the hospital to which a consultant is attached makes him readily available to deal with emergencies and accessible to the local general practitioners.

Group staffing may be helpful in another way. It may be that the hospital at which a consultant sees out-patients has a long waiting list whereas another hospital in which this consultant has beds, has little or none. It may then be possible for the consultant to arrange for the transfer of some of his patients with consequent reduction in the waiting list of one hospital and improvement in the bed occupancy of the other.

THE PATIENT'S DISCHARGE

TRANSFER FROM THE ACUTE HOSPITAL

104. The long term effects of providing suitable accommodation for recovery and for convalescence should be to reduce the future demand for beds by lessening the likelihood of relapse in the patient. The immediate effect on the hard-pressed hospital is to secure a higher turnover of patients and greater flexibility in the use of beds. Sometimes such accommodation may already lie within reach, at no greater cost than the re-allocation of local hospital resources and the adaptation of existing premises—even a seasonal arrangement of this sort might be worth while.

105. The experience of the London hospitals consulted by this Study Group regarding the use of convalescent homes varied greatly. Some hospitals found the Regional Board contractual arrangements expeditious, but others found the process too complicated for any saving of bed-days to be effected at the General hospital. Those who had their own direct access to convalescent accommodation deemed themselves fortunate.

106. Similar advantages may be found to accrue to the hard-pressed Group making use of a recovery bed unit. Although the turnover of patients is directly affected such measures are not discussed here, as a recent publication by King Edward's Hospital Fund for London deals with this subject in full.

DISCHARGE TO THE PATIENT'S HOME

107. The suitability of home conditions for convalescence varies greatly and is dependent on the type of case in question. One difficulty may be that where there has been no previous outside almoner work, the hospital staff are not aware of the degree of suitability of domestic conditions in the individual case. It is occasionally still true that even when home nursing and domestic help facilities are provided by the Local Health Authorities, the necessary close liaison with the hospital has not always been established.

108. There is no doubt about the difficulty of the work involved in ensuring that an early discharge to the home is effected under all guarantees of safety to the patient. With the present shortage of almoners, it is often better to concentrate on specific categories of patients as is done in most of the Early Discharge schemes already working. This is clearly much easier in a favourably placed geographical area served by one, rather than several, Local Health Authorities.

THE TOTAL IN-PATIENT DEMAND

109. Certain wider aspects of in-patient demand inevitably came to mind during this Study. It was thought that some categories of patients now treated in the hospital wards might equally well be treated in the Out-Patient Department, or

in their own homes. As it is not possible to assess the effect of such suggestions on the individual hospital, they are briefly listed here, without comment :—

(a) Would a fuller use of out-patient services, including the out-patient or casualty theatre, and ancillary departments avoid the necessity of admitting certain cases as in-patients ?

(b) If such facilities were put more directly at the service of the G.P.—either in hospitals or in Health Centres—would this lessen the need for in-patient treatment ?

(c) Would a strengthening of the Local Health Authority Services, particularly District Nurses and Home Helps, enable certain patients to be treated safely at home, especially selected Paediatric cases ?

(d) Would, in addition, an extension of the arrangements for domiciliary visiting by consultants lead to a further reduction in the demand for beds ?

110. The treatment of chronic sick in the acute General hospital throws up special problems which are regarded as lying outside the scope of this study, despite their effect on the occupancy figures.

V

SOURCE OF ADMISSION and LOCAL DEMAND

111. Information on the mode of admission of patients and on their geographical source lies ready at hand, yet is all too rarely applied to the better development of local hospital facilities. In London, each hospital attracts only a portion of the public demand and on closer inspection that portion will be found to vary widely in composition and geographical spread. All the factors of popularity and location mentioned in paragraphs 8–15 will be at work.

ANALYSIS OF ADMISSIONS

112. The nine categories which will be found most useful are the following :—

(a) Waiting list.
(b) Booked case.
(c) Immediate—G.P.
(d) ,, —O.P.D. or other consultant.
(e) ,, —Casualty (including Accident).
(f) ,, —E.B.S.
(g) Transfer (in-patient) from hospital, convalescent home, etc.
(h) Staff.
(i) Born in hospital and treated as in-patient.

A patient who, though already on the waiting list or booked to come in, is admitted as an emergency should be entered under categories (c)–(f) as appropriate.

This information can be easily collected from the Admission and Discharge Register or the admission slips. It is the same as that required for the Hospital In-Patient Enquiry and can be of additional use in dealing with legal or other queries concerning individual patients.

113. Quarterly aggregation of these figures will reveal the seasonal fluctuations in each category. They can be shown as simple percentages of total admission, or on graphs, and should enable better provision to be made to meet peak periods of demand. A hospital, or a department, having to accommodate a large share of Immediate admissions, as compared with the first two categories, has very different occupancy problems from one where the proportions are reversed. The Committee, in considering measures arising out of the bed-use figures set forth in Chapter II, should be careful to bear this in mind.

GEOGRAPHICAL DISTRIBUTION

114. A simple sketch map of the geographical source of in-patients can be of value and interest to the hospital in assessing the part it plays in the community. Any knowledge which relates the work of the hospital more closely to the people and the areas it serves cannot be without its good effect, however difficult to define. No doubt much of the success of the Part III and Part IV Services is owed to the more intimate relationship that the officers, by the very nature of their daily task, establish between themselves and the community.

115. The sketch map could be used to show the distribution of all admissions for the year, excluding perhaps category (h) Staff and obvious cases of multiple re-admissions.* Alternatively, it might be of greater interest to plot only the admissions under categories (a) to (d). A hospital drawing patients from afar would then clearly do so because of factors mentioned in paragraphs 8–15 and not because of a large intake, for instance, of E.B.S. cases or road accidents. In either case an inset diagram such as is given opposite will be useful in showing the relative importance of the different categories.

116. A tracing could be taken of the London postal district boundaries from any suitable large-scale map. The admissions can be quickly totalled, using a column for each postal district likely to be needed. In a pilot investigation, two persons were able to sort up to a thousand entries in the hour, working from the file copy of the Admission slips.† Having converted these sums into approximate percentages of the total, one would shade or colour the postal districts accordingly, darker for the larger figures and lighter for the smaller ones, probably omitting everything under $2\frac{1}{2}$ per cent.

117. One advantage of the traced sketch-map for discussions at officer level, is that it lends itself better than the closely printed commercial map to the inclusion of other details of interest : the main thoroughfares ; the location of G.P. surgeries ; brief notes explaining how, for example, an influx of patients from a greater distance is linked with a particular specialist, or a former member of the medical staff ; or a rehousing scheme, and so on.

THE LOCAL POPULATION

118. Paragraph 8 mentions some of the wide changes that have occurred over the last twenty years in the distribution of London's population. Each Hospital Management Committee will, however, be concerned to know and to foresee such changes in much greater detail as regards its own neighbourhood. Individual housing estates, in building or in plan ; longer term projects for slum clearance ; the probable changes in the proportions of the residential, business or industrial elements in its district ; all these will provide background to the problems discussed in the next chapter.

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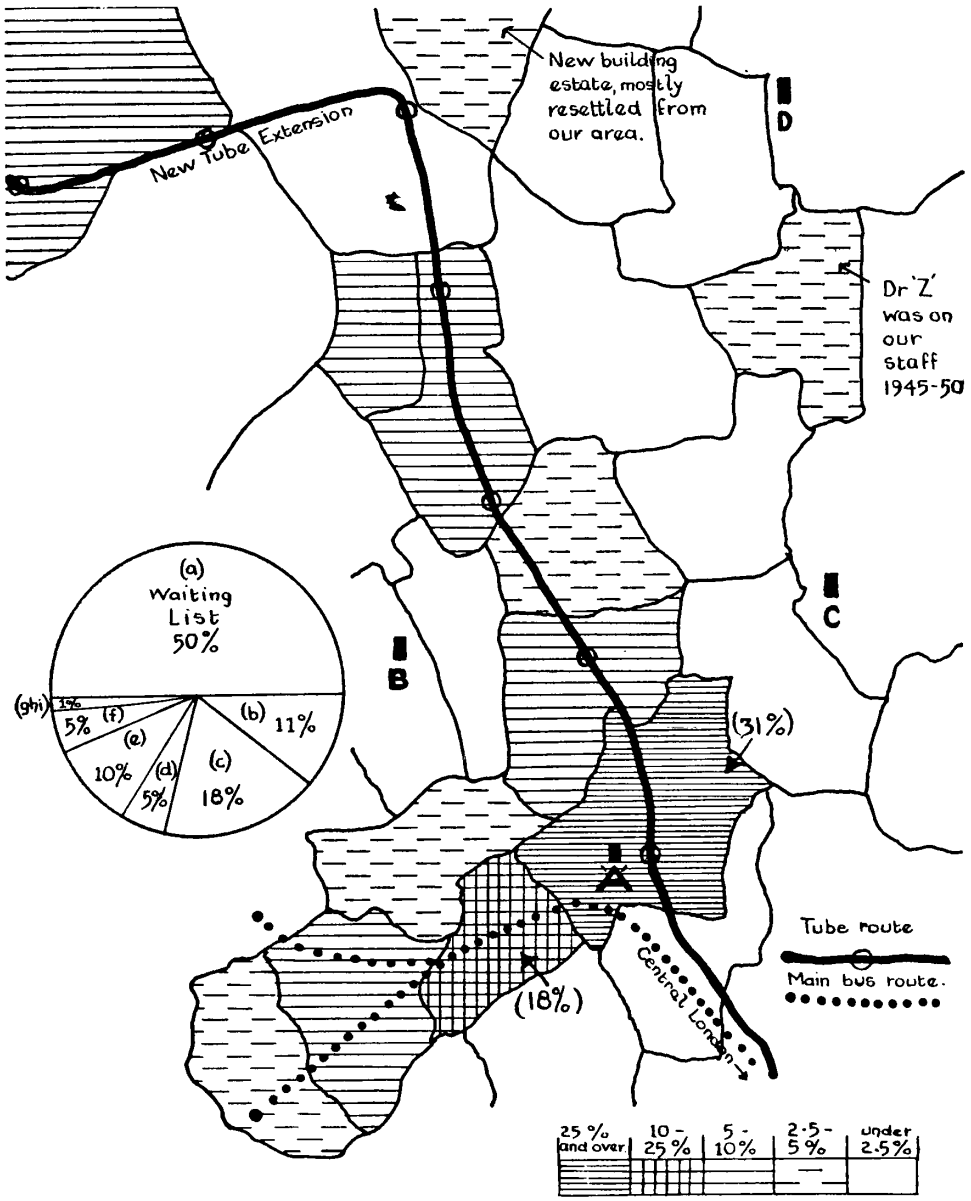
* See footnote to paragraph 34.

† If it is thought that a sample would be sufficient, it would be easier to take the first so many admissions at the beginning of each month, choosing a number that would amount to about a quarter of the year's total. Alternatively, the figures for a consecutive three-monthly period might be used, September–October–November, for example.



CATCHMENT OF HOSPITAL "A"

B.C.D.—Other hospitals in area.

119. As London grows, new subsidiary centres of population and commercial activity begin to form in the outskirts, usually on sites of former villages and isolated towns, which often combine with the convergent pattern of the communications system to create natural nodal points of hospital demand. Note should be taken therefore of the main daily movements of the working population into, out of, or through the area, and a watch kept for the effect of any recent extensions of the bus or tube network which might tap new sources of patients.

* * * * *

120. Ideally, Medical and Management Committees should make a review of the part played by their own hospitals in meeting local demand, if possible every year or at the very least, every five years. In many hospitals it will be quite easy to extract figures for the source of admission in respect of previous years as well and there is little doubt that the possession of a first map will tempt many to do this.

VI

INTEGRATION OF EFFORT

121. Basic information for tackling the major problems having been gathered and any helpful suggestions on minor procedures implemented, what is now required is good staff work to ensure that recommendations reach the Committee in a form likely to result in positive decisions rather than in passive review.

122. Here it is pertinent to ask how often the monthly submission of figures has resulted in their constructive use. It may well be that a major *quarterly* study of bed occupancy problems will prove more effective than the routine monthly agenda item ; * it is at least worth a trial. At the outset it may be wise to press for a specific allocation of time on the agenda, so that both Medical Advisory Committee and the main Executive Committee can give adequate attention to this important subject.

* * * * *

123. The four Quarterly Returns on which the Committee might base its decisions are :—

1. *The Return of Available Beds* (see paragraph 28).
   A departmental statement of discharges, vacant beds, turnover interval, length of stay ; with targets for an increased turnover of patients.
2. *The Analysis of Demand* (see paragraph 67).
   Departmental waiting lists (sub-divided in certain cases) showing degree of urgency, length of wait, numbers added and subtracted during the quarter, together with the requests for immediate admission.
3. *The Return of Unavailable Beds* (see paragraph 81).
   A departmental analysis of unavailable bed-days under nine separate headings.
4. *The Analysis of Admissions* (see paragraph 112).
   A breakdown, by mode of admission, into the nine categories used by the Hospital In-patient Enquiry.

Some graphs and diagrams may help the committee members and medical staff concerned to see the significant data at a glance and grasp the essentials of new measurements such as the turnover interval.

124. These four Returns, with their supporting explanatory notes, must now be carefully studied in conjunction. Although emphasis has been laid on departmental target figures for fuller bed-use, rather than on general resolutions, the task does not end with the submission of statistics to committee. The recommendations must be presented in the form of specific projects. Anything less than this would be to waste all the good work that has gone into the diagnosis of the problem.

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* Paragraph 27 drew attention to the drawbacks of monthly figures both in their statistical unreliability and in the amount of clerical work involved.

125. Some of the specific projects can be introduced without reference to higher authority. Essentially these will be departmental projects and might include measures such as : shortening the turnover interval in a speciality by tightening up on admissions procedure ; the temporary re-allocation of beds between specialities to relieve waiting list pressure not only in the individual hospital, but as between hospitals in the Group ; specific plans for earlier discharge or transfer to other accommodation in the Group. In this connection Group staffing could be a help (See paragraph 101.)

LONG TERM PROJECTS

126. Approval of a departmental project in Committee should be followed by a careful briefing of the officers concerned, for success will depend on the close co-operation of many individuals : medical, nursing, admissions, records and other staff. Often a short written description of the project will be helpful in ensuring that all those affected are fully aware of what is expected of them.

127. Certain other projects would require Regional Board approval and assistance, or would involve special negotiations with other authorities, or would entail more preparatory work or investigation. These could be put separately to committee as Long Term projects. The following are random examples, not necessarily suited to any one particular hospital :—

(a) A general overhaul of waiting list procedure, not only to lower the refusal rate, but to give longer warning to incoming patients.
(b) Examination of the adequacy of convalescent home accommodation in conjunction with the Regional Board.
(c) Examination of the use of recovery beds to relieve pressure on a hard-pressed General hospital.
(d) Closer contact with Local Health Authorities in the matter of Home Nursing and Home Help facilities.
(e) Examination of means for reducing the loss of bed-days on the cleaning and redecoration programme for wards and theatres. (See paragraphs 86–90.)
(f) Examination, in conjunction with the Regional Board, of the adequacy of present theatre and ancillary facilities.*

FLEXIBILITY OF BED ALLOCATION

(g) To examine the possibility of adapting a ward to serve as a ' fluid ' or ' buffer ' ward, taking patients from whichever of the main departments is under greatest pressure at the time.
(h) To examine the possibility of partitioning a main ward so that a portion of it could be used for patients from another department under great pressure at the time.
(i) To examine the possibility of introducing one or two cubicles near the entrance to a ward to be used, as is already done with side wards, for the nursing of patients of the opposite sex from that in the main ward.

In all such projects, as in the statistical returns suggested, the emphasis is laid on the numbers of additional patients it is hoped to treat, not on additional occupied bed-

* This may well be a major factor in the fuller use of beds at a particular hospital. Several authorities have stated that there is a widespread shortage of such facilities.

days, less still on the more abstract objective of higher percentage occupancy. (It is quite possible to deal with an increased annual turnover of patients and yet to show a lower percentage occupancy, provided the turnover interval and average length of stay figures fall sufficiently.)

UNITY OF ADMINISTRATION

128. Paragraph 91 referred to the Ministry's suggestion that the administrative officers might usefully act as secretaries to the Medical Committees and drew attention to the wisdom of securing the collaboration of the Matron in all matters of bed economy. The successful launching of a bed occupancy project involves more than lucid presentation to committee. The three hospital partners, medical, nursing and administrative, should work as closely together for the preparatory stage of these projects as of necessity they must for their fulfilment.

129. In contrast to much of the country, the Health Service of Greater London is administered by a multiplicity of authorities—Hospital Management Committees, Undergraduate and Postgraduate Teaching Hospital Boards, Regional Hospital Boards, Local Health Authorities and Executive Councils—over one hundred in all. Good officer liaison is needed to ensure that the full measure of ' comprehensive ' services promised in the Act is co-ordinated for each patient as appropriate to his needs. Committee members and officers should pursue their efforts in this direction most energetically.

130. The material gathered on the lines suggested in Chapter V should enable the Management Committee to examine the performance of their individual hospitals, as well as of the whole Group, against the background of local demand. They will know by this time the general debit or credit of the Group, i.e., either that waiting list arrears are still too great to be dealt with unaided, or that there are still under-occupied or unstaffed beds in the Group.

131. Efforts to solve waiting list problems will lead Management Committees into the discussion of mutual aid between Groups, not necessarily adjoining Groups. This will involve close co-operation with the Regional Board who will no doubt welcome the suggestions and projects of those with first hand local knowledge, especially when supported by reliable data. Only at Regional Board level can local effort be properly dovetailed into the wider plans for London as a whole and for the new centres of population beyond.

SOME WIDER ASPECTS

132. A ' discrepancy between excess supply and unsatisfied demand ' appears statistically in the form of considerable numbers of vacant and unstaffed beds on the one hand with large waiting list figures on the other. When these two numbers are given as totals for a large area it is important to know to what extent the discrepancy is related

(a) to different departments in the same hospital or same Group,

(b) to the same departments, but in nearby hospital Groups, or

(c) generally to hospitals in districts further apart—as for example the inner suburbs and the outer periphery of London.

Discrepancy of type (a) can fairly easily be overcome by greater flexibility in the use of present resources, as has been suggested in the preceding pages.

133. Some of the latter types of discrepancy will however persist until, in the interests of the patient, more radical steps are taken towards inter-Group co-operation. Where lists are long there is repeated postponement of admission for the less urgent cases in deference to the claims of those needing immediate treatment. However, both from the human and from the national point of view, it is vital that quicker treatment should be available to many cases now listed as ' routine.' Apart from the loss to the country's productive capacity, there are many conditions for which immediate treatment can be wholly effective, whereas delay in admission can lead to deterioration, to the stage where hospital treatment becomes longer, more expensive and, above all, less successful.*

UNSATISFIED DEMAND

134. Should the over-long lists be limited in some way ? At the moment there can sometimes be an opposite tendency, a vicious circle where satisfied demand attracts even greater demand, leading to a still more uneven use of resources. The consultant whose in-patient waiting list builds up to excess soon finds himself working longer hours in the clinic and starting what is virtually a waiting list for out-patient appointments. Before long a new clinic session is needed and again the in-patient list grows. The longer the lists in one hospital, the lower may be the occupancy of beds in a close neighbouring hospital. Moreover, this development can here and there expose the hospital service to possible criticism on the score that long waits and crowded clinics may lead to an undesirable use of private pay beds.

135. The weakness of the present situation lies partly in the fact that for many years long lists have been taken for granted, and partly in the fact that there is no generally accepted measurement of what constitutes exceptional pressure. Moreover, the lists as now published include not only an unknown quantity of ' dead wood ' in the form of multiple entries, cases already treated elsewhere, patients moved to other towns and so on, but also an unknown number of patients who have only been on the list a day or so and will be treated very soon. Furthermore, the published figures only show the numbers as on one particular day of the year.

136. It would be an easy matter to prune the lists of the ' dead wood ' and even to substitute for the 31st December figure an *average of the four quarterly figures* now returned to the Regional Boards. It would be much harder to arrive at a satisfactory method for reducing the figures so as to show only the *significant* arrears of demand. For instance, an arbitrary limitation, such as only showing the numbers already over three months on the list, would not bring out the differences in pressure which depend on the number of beds available in the department concerned, or on the average length of stay for that condition.

137. Nevertheless a Hospital Management Committee possessing the fuller analysis† of its own waiting lists, cannot lightly escape the duty of setting some appropriate limit to the length of time waited for its beds and of taking some action

* Lancet, 20th February, 1954. Professor A. P. Thomson : In the Birmingham Region alone, " over 10,000 patients await admission for the treatment of piles, varicose veins, hernia, or prolapse . . ." In London 18 months is still a common waiting time for each of these conditions.

† See paragraphs 68–71.

when this limit is exceeded. In some cases, it might suffice to make arrangements for the treatment of less urgent cases in other hospitals of the Group or to advise the general practitioners to send some of their cases to a nearby Group.

The exercise of sound judgment in controlling excessive length of wait would give some more definite meaning to a patient's name being on a hospital list. He would in effect have some guarantee that he was going to be treated reasonably soon and would no longer be tempted to have his name on more than one hospital list.

138. However, some of the twenty-two hospitals mentioned in paragraph 7, and some of those further afield, may not be able to deal with the hard core of their waiting list problem within their own Group resources or by appeal to local practitioners. It is here that the possibilities of inter-Group liaison might profitably be explored.

INTER-GROUP LIAISON

139. Inter-Group liaison for the spreading of waiting list load and generally for the fuller use of present resources does of course exist already. In one example of successful co-operation, the officers of three Management Committees have worked together to secure the early treatment of more than a thousand waiting list patients a year. This has involved movement *into* London, a distance of some thirty miles, and the use of beds here which are surplus to the immediate local demand.

140. In another part of the country special machinery is already provided that meets the problem. For example, it is understood that the Hospitals Services Committee of the South Western Regional Hospital Board has appointed seven Sub-Committees, called Clinical Area Committees, which in addition to their other functions, make valuable contributions to the solution of local bed occupancy problems. These Committees include one or two members of the Regional Board itself and, apart from medical staff from the hospitals in the area, include members appointed after consultation with the Local Health Authorities, the Executive Councils and the Management Committees concerned.

141. Inter-Group liaison in London might then take at least two different forms. In some cases it could lead to a mutually beneficial alliance between a group in the relatively over-hospitalised central area and a less fully provided group further out, resulting in the re-opening of some of London's many unstaffed beds. In other cases it could be that the officers of several adjoining Groups would meet, say quarterly, to discuss the bed occupancy problems of some wider sector of the Metropolis. If this wider area coincided happily with one, or even two, of the L.C.C. Local Health Divisions, the road to closer co-operation with other branches of the Service would be made smoother at the same time.

142. This latter example might easily develop into an informal local liaison Group which would profitably include a General Practitioner, a Medical Officer of Health, a nursing member and an officer from any General Teaching hospital in the area. If their discussions led to constructive ideas on the common problem, the active support of a Regional Member or officer would no doubt be sought. There need be no extra paper work, no formal presentation of reports to participating bodies; there could only result a closer team work in the interests of the patient and a broadening of the local horizon for which the Service is now ripe.

ALPHABETICAL INDEX

(by paragraphs)

APPENDIX

It may be of interest to the reader to refer to the Ministry of Health definitions concerning certain of the terms used in this Study.

(1) **Wholly General Hospitals** were defined in the 1951 Summary of Hospital Statistics as providing for :—" Medical and surgical cases, including children, gynaecological and obstetric cases, but with no specific allocation of beds for the chronic sick or less than 5 per cent."

(2) **Mainly General Hospitals :—**

" Mainly (more than 50 per cent.) general cases as in (1), but also having a specific allocation of beds for the chronic sick."

The 1951 figures quoted in Chapter I of this Study included both categories of hospital, without distinction. The Definitions which will be valid for the 1953 figures when they appear will be extended

in the case of (1) above : " provided that the average number of beds occupied by mental, mentally defective and chronic sick patients do not in aggregate exceed 10 per cent. of the total average daily occupancy of the whole hospital, and that the average number of beds occupied by those three categories and also by patients in the departments of diseases of the chest and infectious diseases and by convalescents do not in the aggregate exceed 25 per cent." ;

and in the case of (2) above : " as in (1) but with the aggregate number of beds occupied by the types of patient mentioned exceeding the percentages there mentioned but not exceeding 50 per cent."

(3) **Bed Complement** was defined in the 1951 Summary of Hospital Statistics thus :—

" This is the number of beds permanently retained at the hospital for the treatment of in-patients including private pay-beds. It excludes :—

(1) Labour as distinct from maternity beds,
(2) beds in reception wards,
(3) temporary beds (whether proper hospital beds or stretchers),
(4) observation or recovery beds in out-patient departments used only for a few hours,
(5) cots for newly-born infants in maternity departments,
(6) non-sick beds in joint-user hospitals.

The definitions for the 1953 figures will exclude a further category :—

(7) bed accommodation diverted for an indefinite period to other uses (e.g., offices, stores, physiotherapy departments, staff dormitories) or out of use because of bomb-damage, etc.

During the preparation of this Study it was felt that some further specification of item 4 might be useful, e.g., beds located in X-ray, Physiotherapy, Blood Transfusion Department, B.M.R. Room, etc., also beds or couches in Casualty used either as part of the process of admission or for out-patients. (The question of counting beds reserved for " special care babies," or for healthy mothers lodged at the hospital during the treatment of their babies, has been dealt with at length in the 1953 SH.3 Notes).

(4) **Available Beds** were not separately defined in the Notes to SH.3 in 1951 as their number was obtained, for the last day of the year only, by subtracting UNAVAILABLE BEDS from the Complement figure. The Definition suggested by this Study Group was :—

An available bed is a bed which is staffed and is either occupied by an in-patient or is ready in every respect if required for the immediate use of an in-patient.

For 1953 the Ministry of Health require the AVERAGE DAILY NUMBER OF AVAILABLE BEDS and this figure *includes* beds temporarily set up and occupied (the " Extra " beds).

It is expected that the SH.3 Returns for 1954 will show a separate entry for temporary or extra beds.

(5) **Unavailable Beds.** The various categories of unavailable beds are listed in paragraph 81, the headings used by the Study Group being sub-divisions of those used for SH.3 purposes, and the Ministry's specifications still applying.

(6) **Occupied Bed-Days.** In 1951 the average daily bed occupation was calculated by dividing the total of the daily numbers of in-patients by the number of days in the year.

This figure necessarily included bed-days in respect of extra beds although these were not included then in the figure for available beds, thus giving rise on occasions to bed occupancy percentages exceeding 100.

This situation has been rectified in respect of the 1953 and 1954 figures, see item 4 above.

(7) **An In-Patient** was defined in the Notes for the 1951 statistics as being " a person occupying a bed in the in-patient department of the hospital at a fixed hour of the day. A patient in a temporary bed in the in-patient department is counted. Infants born in a maternity ward are not counted as separate in-patients. Sick staff receiving hospital treatment in their own living quarters are not included as in-patients, but if they occupy a bed which is included in the hospital's normal bed complement, they are counted as in-patients."

In the 1953 Notes it is further defined that an in-patient is " a person who has gone through the full admission procedure of the hospital." A further distinction is made in the matter of infants to ensure the counting of " Special Care Babies."

The 1953 Returns include a special (optional) entry for the numbers of " Healthy persons who were lodged at the hospital with in-patients "—this would include healthy mothers admitted with babies who are receiving hospital care.

It must be realised that certain patients will not be recorded as " in-patients " if they were not occupying a bed at the time of the count although they had gone through the full admission procedure. These patients will therefore be included in the figure for " Discharges and Deaths " but not in the figure for Occupied bed-days. It has been suggested on page 8 of this study that any appreciable number of single-day patients should be separately shown because otherwise the significance of bed-use factors might be lost. It is expected that this will be included in the 1954 Returns.

(8) **Bed-Use Factors : Turnover, Turnover Interval, Length of Stay.**
These are described on page 8.

(9) **Source of Admission** of patients. The nine modes of admission, similar to those used in the Hospital In-Patient Enquiry, are listed in paragraph 112. (Paragraph 35 also refers.)

Printed by
GEO. BARBER & SON LTD.,
Furnival Street, London E.C.4
(A63385)