Psychiatric Manpower and the Work of the Consultant

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We are familiar with the idea that the distribution of consultants should be guided by 'norms' supported by the College. Current norms have been derived from what is (or rather was at the time), not from knowledge of how consultants spend their time, still less on the basis of estimates of morbidity or demand. As Russell[1] noted, a norm of one consultant for 70,000 people was developed using simple arithmetic when there were 700 consultants available to forty-nine million people. From this starting point, one consultant to 60,000 or 40,000 or 25,000 people suggests the possibility of an improved service, but it cannot be assumed that the service is better simply because more people are providing it. Evaluation of the consultant's contribution to a service requires, among other things, knowledge of what the consultant actually does with his time.

Also, it would be a mistake to think that the 'targets' derived from the Report of the Resource Allocation Working Party[2] imply that service will be improved for either 'gaining' or 'losing' regions or districts, simply by redistributing resources. RAWP 'norms' are derived from a particular political philosophy, without reference to estimates of service quality.

The recommendations on manpower of the Short Report[3] are also ideologically based, though in a different sense. These plans are based on an ideology which says that service 'should be' provided by 'fully trained' doctors; this notion, doubtless, has elements derived from political philosophy. The assumption that service is 'better' if only fully trained doctors provide it is unproven, though it is easy to make a prima facie case for investigating it.

The Short Report also had a second aim, now familiar, of pointing to a solution of the 'manpower' problem of imbalance between junior and senior doctor numbers. The main proposal was to increase consultant numbers (and thereby also supposedly achieving the other aim of improved service provided by fully trained doctors) to (roughly) a 1 : 1 consultant : trainee ratio. Observation suggests that some Health Authorities have separated the manpower and service aims of the Short recommendations, and are striving to implement the former without reference to the latter. This allows the achievement of a 1 : 1 consultant : trainee ratio as a major goal. Simple arithmetic dictates that this can be done either by increasing consultant numbers or by decreasing trainee numbers. It would be surprising if these alternatives did not have very different effects on the nature of the service which could be provided.

The purpose of this paper is to explore the extent to which psychiatric staffing needs, and by extension 'norms', can be derived from the simple proposition that 'seeing patients personally' is the basis of clinical psychiatric practice. I will examine this notion in relation to two clinical contexts, namely an out-patient clinic, and an acute in-patient unit. I shall then briefly consider the work of a catchment area psychiatrist.

Note that I am not concerned with whether or not psychiatric services are 'effective', or with whether or not psychiatrists 'help' people, still less with whether or not 'psychotherapy works'. It is simply the idea that acceptable psychiatry is based on seeing the patient at least once and for some kind of assessment.

An out-patient clinic

How long should it take a psychiatrist to 'see' a patient? Let us assume that the assessment of a new out-patient in a first consultation, involving history taking and psychiatric examination, cannot be completed in much less than one hour. In many instances, perhaps, several interviews lasting several hours might be required for a full assessment; but for the purposes of argument we shall explore the implications of allocating one hour for all initial out-patient consultations.

What of second and subsequent visits? Experience suggests that the length of these will depend on whether or not treatment is attempted. 'Treatment' in this sense means an attempt to do something; questions of effectiveness are not at issue here. I assume that initial assessment is the basis of a psychiatric out-patient service, and should precede attempts at treatment. Treatments requiring dialogue (the psychological treatments, synonym psychotherapies) may be more or less time consuming, and require repeated visits.

Relations between the numbers of new patients who can be seen in a clinic, the number and length of revisits, and the numbers of staff available to see the patients, are easily set out as follows:

Let T = number of weekly clinic hours available for seeing patients

   p = number of professionals seeing patients during clinic hours

   N = number of new patients seen weekly

   c = average length of new patient consultation (hours)

   x = average number of revisits made by each patient

   t = average length of revisit consultation

Now $T.p = N.c + N.t.x$ (1)

Rearranging, $N = \dfrac{Tp}{c + t.x}$ (2)

Clearly, more new patients can be seen (N is greater) as they are each seen more briefly (c is reduced); they reattend less or more briefly (t and x are reduced), if more clinics are held (T increases); or more people are available to see patients (p increases).

Evidently, if T, p, c and t are constant, N varies with x in the form

$$N = \frac{K_1}{K_2 + K_3.x}$$ (3)

In equation (3), $K_1 = Tp$ and is the total professional time

available in the clinic; $K_2 = c$, the unit time given to new patients; and $K_3 = t$, the unit duration of revisit consultation.

Note that N decreases *rapidly* as the length of revisits increases; no treatment requiring two or more sessions of thirty or more minutes duration can be provided if more than two new patients are to be seen by one person, or four by two. Few serious attempts at psychological intervention would be expected to succèed in as short a time as this. A 'brief therapy' of ten 30-minute sessions can only be provided in a clinic wherein three or more new patients are seen weekly if six people are available to see patients.

On this view the crucial variable is the number of people available to see patients. Evidently, if T, c, x and t are constant, N varies with p in the form:

$$N = \frac{Kp}{K+K}$$

and the relationship is simple; halve p and you halve N. Or, double p and twice as many patients can be seen in the same way.

The analysis does not entail that any of the professionals must be doctors. But there is very little information available about the circumstances in which doctors (of any grade) or members of any *particular* profession should see patients, compared with circumstances in which professionals seeing patients may be interchangeable. This means for example that the removal of a clinical psychologist or a community psychiatric nurse from an out-patient team may have effects as drastic as the removal of a trainee from it. At the same time it cannot be assumed that a doctor in a clinic *can* be replaced by a member of some other profession without detriment to the service.

In many psychiatric services out-patient activity is still arranged in a traditional way whereby a consultant and one or two trainees see large numbers of patients very briefly. The numbers of patients who can be seen, especially by a relatively small number of staff, increase dramatically when each is only seen very briefly.

It appears that relation between numbers of staff available and numbers of patients to be seen in a given time, may have potent, even prepotent, effects on out-patient practice. Consultants often have to choose between seeing fewer new patients (reducing N) in order to see some for longer in treatment. If more than the briefest waiting list is unacceptable, as it often is for psychiatrists, then the choice may be between seeing people briefly both at initial visits and subsequently, and having an acceptably short waiting list; and seeing people at length at the expense of a long waiting time. Unless a large enough number of professionals is available to see patients, a psychological treatment service cannot be provided.

One implication of all this can be stated thus. If one of, say, three doctors is removed from a clinic, then only two-thirds the numbers of patients can be assessed and treated, unless they are to be seen less often or more briefly at each visit. This is so whatever the status of the doctors or indeed if one or more of them is a non-doctor person seeing patients. Experience suggests that psychiatrists often respond to reduced staff numbers by seeing people for shorter and less frequent sessions, preferring this to having a longer waiting list. Decisions about staffing out-patient clinics should be informed by knowledge of the treatments to be provided in them, and by knowledge of the total number of people of all statuses and professions who may be available to see patients. Without such information it is scarcely possible to plan rationally an out-patient clinic service.

An in-patient unit

We turn now to consider the care of in-patients. As this paper focuses upon medical staffing, especially involving junior doctors, we consider how trainee psychiatrists may and to some extent do use their working time. We discuss also the work which is required of a doctor employed in an in-patient unit, and then explore relations between the work required and the time available in which to do it. The discussion can also apply to a day hospital unit.

Junior psychiatrist timetables

(In this section I am indebted to doctors in the Guy's psychiatric training scheme who kindly provided diaries about their use of time.)

The doctors' total working week (Monday to Friday, excluding 'out of hours' work) can be designated T, and divided into five components, as follows:

A. Face to face contact with patients individually or as couples or in families or groups.
B. 'Parapatient activity'—this category includes activities concerned with patient care such as ward rounds, ward groups, dealing with phone calls about patients, talking with relatives, preparing summaries, writing case notes, and arranging investigations for patients.
C. Educational activities.
D. Personal functions.
E. Travel between work locations.

Evidently, $T = A+B+C+D+E$ (4)

Data provided by fourteen Guy's trainees during randomly selected weeks will give some idea of the order of magnitude of these variables. The mean value of T was 46.5 hours (range 41–55). The mean values of the components of T were A—17.2; B—17.2; C—5.5; D—5.1; and E—1.5 (range 0–4). While more data from trainees are obviously required to establish how representative these figures are, they do suggest the following points of present relevance:

1. Trainees in psychiatry may work well over a notional 40-hour week, exclusive of out of hours duty.
2. Trainees may spend as much time in parapatient activity as in face to face contact with patients which may occupy roughly one third of their time. (In fact, all the trainees studied here saw out-patients as well as in-patients. The 17.2 'A' hours included, on average, 11.1 hours with in-patients and 6.1 hours with out-patients. So face to face contact with in-patients might occupy roughly one quarter of a trainee's time.)

3. Educational activities occupy approximately two sessions of the trainee's time. This accords with College guidelines.
4. Trainees may spend very little time in personal functions, few having a full lunch hour for instance.
5. Some trainees may spend the equivalent of one session weekly travelling from one work location to another.

The work to be done

The analysis resembles that presented previously for an out-patient clinic.

In an in-patient unit, let number of beds = N.

These would be occupied by different kinds of patient, say acute and chronic, who might utilize different amounts of doctor time. Acute beds might be empty, or occupied by new admissions, or already admitted patients requiring reviews of various kinds.

If the acute beds include m empty beds, n new admissions and s 'review' cases, and there are t chronic beds, then clearly

$$N = m+n+s+t \qquad (5)$$

Of interest here is the way doctors can use their time in seeing patients (i.e. in A, equation (4)). Therefore, let the time required to adequately deal with an admission be y and with a review case z.

To simplify the argument we will assume that there are no chronic beds and that the acute beds are full (m = t = 0). (This will allow us to explore more easily relations between N, n, s, y and z, and suggest ultimately how many doctors may be required to 'see' how many patients and at what length in an in-patient setting.)

Therefore, $N = n+s$

and, if all 'seeing patient' (A) hours are used,

$$A = n.y+s.z$$

Substituting, $A = n.y+(N-n)z$

Rearranging,

$$y = \frac{A}{n} - \frac{(N-n)z}{n} \qquad (6)$$

This equation indicates relations between the length of time available to clerk a new patient (y) and the time for which each already-admitted patient can be seen (z) in terms of different numbers of beds with which the doctor is involved (N) and the admission rate (n).

It can be seen from equation (6) that in a 10-bed unit with two admissions a week, each admission can be seen for two hours and the other patients for an hour each by a doctor able to give twelve hours' face-to-face contact with the patients. This arrangement approximates to that found in some units which are known to attempt to provide some regular personal doctor time for in-patients, even though this level of provision of personal doctor time would be regarded by many as insufficient to allow intensive in-patient assessment or treatment.

If the number of beds for which the doctor has responsibility increases, or the admission rate increases, then the time for which each new patient can be seen, or the time which can be allocated to already admitted patients, or both, diminishes

rapidly. If a doctor is in charge of twenty beds, then with two admissions weekly as much as half an hour is available to each 'review' patient only if new cases are seen for no more than one hour. If the admission rate increases to four a week, then review patients can scarcely be seen for fifteen minutes a week each.

Experience suggests that the times available to doctors seeing new admissions and review patients (y and z in equation (6)) vary considerably from one unit to another. Whatever the optimal or ideal values for these variables may be, only minimal case taking and review standards can be maintained if new admissions can be seen for no more than one hour each, and review patients for only fifteen minutes weekly. It is not at all uncommon for one junior doctor to be in charge of approximately twenty in-patients in a unit with two to four admissions weekly. Whether or not the patients in such units recover is not at issue here; what is evident is that those that recover are very likely to do so without more than the briefest of face-to-face meetings with a unit junior doctor.

It is also important to note that a doctor in charge of twenty beds including four admissions weekly may work the same number of hours, to a full working week, as one in charge of ten beds with two admissions weekly. Both might well work the same number of 'face to face with patient hours' (A in equation (4)), taken here to be twelve hours because this figure emerged from the survey made of the actual timetables of Guy's trainees), simply by seeing more new or review patients for longer (though not, on reasonable criteria, excessively). All of the Guy's trainees were busy, most working well over forty hours weekly, exclusive of 'on-call' work.

It would appear that whether or not a junior doctor is 'busy' or gainfully occupied in an in-patient unit does not depend principally on the number of beds or admissions he or she deals with, so long as these exceed minimum levels. (The minima are well below those applying in most British units.) Whether or not the doctor is busy depends much more on the activities and procedures expected of him or her; if expectations are that new admissions can be satisfactorily assessed in fifteen minutes and need only be seen subsequently cursorily or not at all, then an almost indefinite number of patients can be 'cared' for by a single doctor. By contrast, it is clear that a doctor can only be responsible for what may seem a surprisingly small number of beds, and a low admission rate, before it becomes impossible for any patient to be conversed with at any length, either on admission or subsequently. Relations between numbers of beds and admissions to be cared for, and the time it takes to talk with patients, contribute to profound dissatisfaction among doctors and patients in services wherein expected opportunities for conversation between doctors and patients are simply not available.

It is helpful to approach this matter from the point of view of a unit as a whole. For the sake of simplicity and clarity, we can assume that y =z (equation (6)), and that both equal one hour. This represents the notion that every patient in a unit should talk to a doctor (or, as we shall see, to someone) for one hour a week. On these bases, and if the total weekly 'talking to patients' time required in the unit is H, then H = N. That is, the number of 'talking to patient' hours required on a

unit equals the number of beds on the unit, if each patient is to receive one hour weekly of personal staff time.

Many doctors work in units where N is much greater than 10–20. In many acute day hospitals, for instance, the number of patients 'on the books' may be 40–80. One doctor working in such a unit simply cannot talk personally at any length with more than a small proportion of the patients. What often happens, of course, is that patients are 'talked to' by non-doctor members of the 'team'. So we could say that if every patient is to have access to a staff person for one hour a week, then the number of 'staff people hours' needed must equal the number of patients in the unit (N). If it is usual for a full-time staff person to talk to patients for about fifteen hours weekly, then for thirty patients, two staff who can talk to patients are needed; for forty-five patients, three staff; for sixty, four; and so on. The number of doctors required in a unit obviously depends on what the doctor is to do, and also on the number of competent other professionals in the unit, and what they can do, and these must be known before the need for doctors can be estimated with confidence.

In some units, the value of H (total weekly 'talking to patients' time) exceeds N (number of patients in the unit). We found that in one forty-place day hospital, three doctors provided 48 hours for work with individual patients. The doctors were a consultant whose main locus of work this was, and a medical assistant and registrar based whole time at the day hospital. We did not study the extent to which the doctors might have been interchangeable or replaceable by non-doctors. Evidently, if one or more of the doctors is redeployed, then either nobody talks to the patients, or a non-doctor does it: up to a point this is true whether the 'redeployed' doctor is the consultant, a trainee, or a non-trainee junior. The disposition of trainees should be informed by knowledge of what non-trainees, as well as non-doctors, can do in the units concerned.

A catchment area

Finally, we will briefly consider how many doctors might be required to serve a catchment area of a defined size. A convenient starting point is Birley's[4] estimate that a catchment of 60,000 might generate in one year 215–300 in-patient admissions, with a length of stay of five to seven weeks, and that in out-patients there would be five new patients weekly and

thirty reviews. Birley suggested that forty day places would also be needed, but did not suggest the admission rate.

For this amount of in-patient work, approximately fifteen 'talking to patient' hours will be required weekly, if each of 250 acute in-patients is to be seen for two hours on admission and for one hour weekly for each of three post admission weeks. For five new out-patients each seen for one hour, and thirty review patients each seen for thirty minutes, twenty hours will be required.

So for acute in-patients and out-patients, approximately 35 hours of doctor time might be required, and on the basis of the figures given by Guy's trainees this might be provided by two trainees without other commitments. Additional doctors would be needed for any medical contribution to other time-consuming catchment area service responsibilities, such as the care of long stay, day, and liaison patients and the assessment of or consultations about people at home or in community placements. It seems likely therefore that psychiatric (medical) staffing needs to be increased substantially if the service is *actually* to be based on what has traditionally been *supposed* to be its foundation, namely personal conversation between patients and doctors trying to help them. No doubt some of the 'talking to patients' which doctors might do in a psychiatric service can be done as well by non-doctors, but the circumstances in which this is true await systematic study. This would seem to be an urgent topic for research in view of the proliferation of plans for community teams of variable composition and unspecified levels of competence.

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[2]RESOURCE ALLOCATION WORKING PARTY (1976) *Sharing Resources for Health in England* (RAWP Report). London: HMSO.

[3]SOCIAL SERVICES COMMITTEE (1981) *Fourth Report: Medical Education with Special Reference to the Number of Doctors and the Career Structure in Hospitals* (Short Report). London: HMSO.

[4]BIRLEY, J. L. T. (1973) The ghost in the machine. In *Policy for Action* (eds. R. Cawley and G. McLachlan). London: Nuffield Provincial Hospitals Trust and Oxford University Press.

National Health Service Training Authority

Members might be interested to know that the National Health Service Training Authority is to produce a substantive document entitled *An Outline for a National Training Strategy* which should be available in the Autumn. If any members are interested in organizing Management Training Courses, then funds may be available from the NHSTA and enquiries should be made to Mr R. W. Deardon, Chief Executive, National Health Service Training Authority, St Bartholomew's Court, 18 Christmas Street, Bristol BS1 5BT.

PROFESSOR C. P. SEAGER
Chairman, Working Party on Management Training

College Prizes for 1985

The following prizes have been awarded in 1985:

Gaskell Medal and Prize: Dr M. S. Keshavan, King's College Hospital, Denmark Hill, London SE5; *Bronze Medal and Research Prize:* Dr M. D. Kopelman, Institute of Psychiatry, De Crespigny Park, London SE5.