

Acute medical admissions: results of a national audit

ABSTRACT—The rising number of emergency admissions and the increasing specialisation of medicine sometimes cause problems in the organisation of care for patients admitted as emergencies to medical beds. A multidisciplinary working group from general practice and the hospital sector identified five main areas in which problems occurred—communication, appropriateness of referral, finding beds, waiting by patients, and the organisation of clinical care. Guidelines and standards were suggested. We then carried out an audit of acute care in 42 hospitals with 400 or more acute beds. The most significant problems that emerged were the suboptimal involvement of consultants in acute care, the frequent lack of appropriateness of the admitting specialty to the patient's condition, and confusion about policies for admitting elderly patients.

There are many tensions in the system of acute medical admissions in the UK. Most hospitals are under pressure from a continuing rise in the numbers of patients needing admission or being referred for admission as an emergency [1]. Referring general practitioners have difficulty in making contact with the relevant junior doctor. There is a potential mis-match in expertise between an experienced general practitioner and a junior admitting doctor. Lists of available beds are inadequately maintained. Another problem is that, with the increasing subspecialisation of medicine, a patient with, for example, an acute gastrointestinal bleed may be admitted under the care of a consultant whose primary interest is in, say, cardiology, simply because it is his or her night or weekend on duty.

Nearly 90% of those currently in medical beds have been admitted acutely [2]. The most frequent reasons for acute admission are myocardial infarction, stroke, cardiac failure, acute exacerbations of chronic pulmonary disease and asthma, and deliberate self-harm with drug overdose [3,4]. This paper is not, however, concerned with the clinical management of patients. Guidelines for specific diagnoses have been published elsewhere [eg 5,6], and many others are available. Here we are concerned with the organisation of admission to acute medical beds. We report some of the difficulties surrounding acute medical admissions and describe a proforma we have used as a basis for a national audit of the organisation of acute care.

Concerns about the organisation of services

As we were unable to find published trials to suggest that one system of organising acute medical care was better than another, we organised a workshop attended by hospital physicians, general practitioners, junior doctors, a representative of the Emergency Bed Service and others.

Areas of concern highlighted by the working group fell broadly into the categories shown in Table 1.

Communication

Problems identified by the general practitioners on the working group included difficulty in contacting the junior doctor on call, difficulty in contacting consultants for informal advice, and the frequent failure of hospitals to notify them when a patient sent in for admission had been sent home without having been admitted. The reasons for patients being sent home were often not effectively communicated to either the patients or their general practitioners. General practitioners were also concerned that they were not informed when patients died either in the Accident and Emergency (A&E) department, or shortly after admission. On their side, hospital doctors felt that difficulties arose when general practitioners had told their patients that they would be admitted, and the hospital team then decided that admission was not necessary. Hospital doctors were also concerned about the quality of clinical information provided by telephone or by referral letter.

Recommended standards relating to communication

Hospitals should have dedicated telephone lines available to general practitioners for calls relating to emergency admissions, and the numbers should be made available to all local general practitioners. Switchboards must have an up-to-date list of those on call and how to get in touch with them. Consultants' secretaries should hold the timetables of consultants, and how to get in touch with them on different days of the week. No preregistration house physician (HP) should be responsible for receiving calls and deciding about admissions. When a patient referred for acute admission is sent home from the A&E department, or dies shortly after an acute admission, the general practitioner should be informed immediately by telephone, e-mail or fax, and a letter should follow. A note of the telephone call and a copy of the letter or fax should be available in the case records.

When patients are sent home from the A&E department, the responsible doctor should give them a clear

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Table 1. Areas of concern

- Communication
- Inappropriate referrals
- Problems with beds
- Waiting by patients
- Organisation of medical care

explanation as to why they have not been admitted, and what the future plans are for their management. The reasons and the proposed plan should be communicated to the general practitioner by telephone, and confirmed by letter or fax.

Hospitals and their local general practitioners should jointly agree minimum standards for the content of referral letters or other communications. Consideration should be given to the development and use of a proforma suitable for an admission. Guidance about the content is available [7]. Medical registrars or senior house officers (SHOs) might find a similar proforma useful when receiving telephone calls about a proposed admission.

Inappropriate referrals

The meaning of 'appropriateness' is central to debates about the quality of medical care, and to the allocation of resources [8]. In this context we consider inappropriate a referral for admission to acute care of a patient who could be equally well or better managed at home, or in a less costly bed such as in a nursing home [9,10]. A protocol is available for assessing appropriateness of admission to, and days of care in, acute hospital beds. This has been found to have face validity and high inter-reviewer reliability [11].

Many factors contribute to inappropriate referrals for admission, including waiting for outpatient appointments, lack of non-acute beds for rehabilitative care, pressure from patients and their relatives for admission, and a lack of professional consensus as to what symptoms should result in immediate referral for admission.

Recommended standards for referrals

It is not possible to draw up practice guidelines for a list of symptoms or disorders that must result in referral, this obviously being at the discretion of the primary care team. However, hospital physicians and their local general practitioners should jointly develop local guidelines which must be evidence-based [12], but which also reflect local resources.

Problems with finding beds

In many areas the number of beds available for acute medical care is now insufficient for the needs of the

local population, so that the bed occupancy rates are consistently too high to give an effective emergency service. Information on bed availability is also frequently inaccurate, so that doctors may inadvertently refuse referrals at a time when beds are available in their hospital. Because of such pressure on beds, medical patients are often placed on a number of different wards, including surgical wards. Such 'outliers' add considerably to the workload of junior medical staff, and may have an impact upon the quality of care delivered.

As the Audit Commission pointed out in a study on acute admissions [2], some doctors may inappropriately delay discharge of patients until just before their own take day in order to 'save' the bed. Other causes of delayed discharge may be timing of consultant rounds and inadequate discharge planning [13,14]. Finally, it has been recognised for years that there are more acute medical admissions on Mondays and Fridays than on other days of the week [15], and that in the UK there are more acute medical admissions in the winter than in the summer. However, many hospitals consistently fail to make appropriate organisational arrangements.

Recommended standards for finding beds

All hospitals should have a designated bed manager, and data on the bed state must be accurate within defined limits. It should not be the responsibility of medical staff to find beds. If the hospital does have admissions policies for particular groups of patients (eg patients over a certain age), then this policy must be made clear in writing to all medical staff on appointment. As the Audit Commission also stated, hospitals should explore the establishment of observation/admission wards, plan investigations coherently and plan the discharge of patients [2,13].

Waiting by patients

The interval between arrival of the patient at the A&E department and first being seen by a doctor, and the interval between the decision to admit and arrival on the ward, are both subject to delay. Delays may be due to excessive workload of the A&E doctors, the on-call team, or the support services, or due to difficulties in ascertaining the bed state. Obviously some patients will require stabilisation before they are fit to be moved from the A&E department, and others may require appropriate investigation such as brain scanning on the way to the ward.

Recommended standards for monitoring waiting times

Time should be noted for all entries in the medical records. Purchasers of care should set local standards for maximum waiting intervals.

Organisation of medical care

There is concern that on some days the number of admissions may be excessive for the number of junior doctors on duty, particularly when the doctors also have clinical commitments such as outpatient clinics. Consultants should play a more prominent role in acute medical care than is sometimes the case. Some hospitals are developing systems such that one physician is responsible for the care of all patients admitted acutely in one week, keeping a closer eye on the care of those admitted as emergencies, and providing greater continuity [16].

With the increasing specialisation in medicine, it is recognised that a patient may be admitted under a consultant whose primary speciality is inappropriate for the patient's condition, and that policies for dealing with these situations are needed.

How best to organise the care of elderly people admitted acutely has been the subject in part of a College report [17]. Sometimes geriatric medicine and acute general medicine are fully integrated; sometimes an age-related policy applies, so that all those aged more than 75, for example, are admitted under the care of a consultant in geriatric medicine. There are advantages and disadvantages to both systems, but junior staff must clearly know the local policy.

Recommended standards for the organisation of medical care

The minimum seniority of a doctor making the decision to admit or to discharge from the A&E department should be SHO. The same applies to decisions made by telephone consultation with general practitioners.

Consultants and members of their team who are primarily responsible for acute admissions should not have onerous duties scheduled for their take day. In particular, registrars and SHOs responsible for admitting patients as emergencies should not have an outpatient clinic scheduled for that day.

The median number of daily admissions should be monitored, and if this regularly exceeds a certain level (which requires local definition, perhaps in association with Regional Advisers of the Royal College of Physicians) then staffing patterns should be reviewed.

Every patient admitted should be seen by a consultant within 24 hours. There is much to be said for the physician on take performing an evening ward round. If circumstances occasionally prevent this, consultants should take the initiative and contact their junior staff by telephone in the course of the evening, but in any event consultants should make it absolutely clear that their junior staff can consult them at any time to seek their advice. Medical records must be available at night and at weekends. Referrals to other speciality teams should be through the consultant on take. The availability of emergency investigations should be the

same whether they are required by day or at night or at weekends.

There should be a written policy about the local relationship between general medicine and geriatric medicine and about any catchment area policies.

Development of audit review criteria

Following the workshop and the development of the standards, the authors devised proformas which allowed easy focus on whether or not a hospital was fulfilling these standards. The different sections of the audit, as modified slightly after piloting in seven hospitals, are available from the Publications Department of the Royal College of Physicians. The topic areas are shown in Table 2 and a sample page in Table 3.

Methods

A list of all hospitals with 400 or more acute beds was extracted from the *Hospitals Year Book*. The sample was stratified according to regional health authorities and a random sample of sixty hospitals (the number chosen reflected our resources) was obtained using random number tables. The names of the Directors of Medicine (DoM) (or equivalent) and the clinicians in charge of medical audit in the hospitals were obtained. A pack of audit proformas (Table 2) was sent to each with an accompanying invitation to participate in a national audit. The audit was to be carried out by members of the hospital clinical audit departments, supported by medical staff. The pilot study had demonstrated that the case-note audit was most reliably completed by auditors with a medical or nursing background, so this was stipulated.

Participants were provided with guidelines on how to conduct the audit (included with the proformas). These had been tested in the pilot study and adjusted to correct any ambiguities or misunderstandings. The audit consisted of a mixture of semi-structured inter-

Table 2. Sections of the proforma* for auditing acute medical admissions

A.	Information identifying hospital; information about numbers of beds, numbers of different grades of medical staff, etc
B/C.	Audit of case notes
D.	Review of records of patients sent up for admission by general practitioner and not admitted, or who died
E.	Interview with clinical director of medicine or senior physician
F.	Interview with consultant in charge of Accident and Emergency department
G.	Interview with junior medical staff
H.	Interview with hospital switchboard supervisor

* The full proforma is available from the Royal College of Physicians

Table 3. Interview with hospital switchboard supervisor

A.	Does the hospital have any dedicated telephone lines for the emergency referrals? If yes, how many?	<input type="checkbox"/> yes <input type="checkbox"/> no
B.	When did the local general practitioners last receive a written circular about these numbers?	_____
C.	Does the hospital switchboard have an up to date list of all on-call rotas and details of how to contact individuals on the rotas? (The rota should be inspected, and comments about how up to date they are written here):	<input type="checkbox"/> yes <input type="checkbox"/> no

D.	Does the hospital switchboard have timetables for all consultants indicating where they may be reached during the working week? (The timetables should be inspected, and comments about how up to date they are written here):	<input type="checkbox"/> yes <input type="checkbox"/> no

E.	Does the hospital switchboard have a list of consultants' home telephone numbers?	<input type="checkbox"/> yes <input type="checkbox"/> no

views and case-note reviews. The interviews could be conducted at any time over a three-month period in 1993, but the main part of the case-note audit was to be done on all acutely admitted medical patients who were in hospital beds on a specific day, ie a census. In the event that numbers were unmanageable, auditors took random samples of patients using the Patient Administration System. Subjects for interview included the director of medicine, a consultant in A&E, all junior doctors of registrar grade and below, and the hospital switchboard supervisor. The case-note audit obtained information about the patient's diagnosis, the specialty of the admitting team, whether patients were referred to another specialist after admission, the quality of the medical records and the appropriateness of admission and days of care (not reported here).

Results

Forty-six of the 60 hospitals agreed to conduct the audit and 42 sent in the completed forms, giving an overall response rate of 70%. Participating hospitals included 31 district general hospitals, nine teaching hospitals and one which described itself as an acute unit associated with a teaching hospital. The average number of beds per hospital was 641 and the average number of medical beds was 186. The time taken to complete the audit ranged from 13 to 140 hours (median 44 hours). The time taken reflected the number of patient records reviewed in the case-note audit, which ranged from 0 to 257. Hospitals completed all sections with the following exceptions: one hospital was unable to do the case-note audit owing to pressures on time but agreed to complete all other

sections; several hospitals found that it was not possible to identify patients who had been referred to A&E and then discharged; only hospitals with observation wards could complete the whole audit. There were hospitals which did not have A&E departments (these were on another site) and therefore did not complete the interview with the consultant in A&E.

Beds and staff

The number of acute medical admissions per day ranged from 8 to 47 with a mean of 19 and a median of 18. The ratio of number of medical beds to average daily medical admissions varied widely, from 3.9 to 19.5.

The number of junior doctors resident on take for acute medical admissions varied from two to ten, with only two hospitals having more than five doctors resident at any one time. The average number of admissions per day per resident junior doctor varied from 3.5 to 10.8, median figure 5.0. In nine hospitals the most senior doctor ever resident on call for acute medicine was a SHO and in a further ten hospitals this was the most senior doctor resident on some days.

Process for referral and admission

Catchment area. The directors of medicine of 11 hospitals reported that their hospital had a catchment policy, but only two placed any geographical restriction on patients' place of residence. It was rare for all doctors from a given hospital to have the same understanding about its catchment area policy. Practice therefore varied from firm to firm and even from doctor to doctor. This was equally true of hospitals

which reported that they had a policy and those which did not.

Grade of junior doctor responsible for accepting patients and for admitting and discharging them. Table 4 shows that although only nine (<25%) of the DoMs reported that HPs were responsible for accepting telephone referrals, in practice HPs were doing this in nearly double this number of hospitals. Fifteen (35%) DoMs overestimated the grade of doctor taking this responsibility in their hospital. The disparity was even greater for admitting patients, with 35 (90%) DoMs believing that only SHOs and above were admitting patients whereas HPs were admitting in 34 (81%) hospitals. However, 26 DoMs thought SHOs were taking the responsibility for discharging admitted patients, whereas in practice this was unusual, the registrar being responsible for discharging patients in almost all participating hospitals.

Finding beds

In only eight out of the 42 hospitals did the DoMs report that junior doctors were meant to be responsible for bed-finding during usual working hours, but this number doubled at nights and at weekends. In practice, junior doctors reported being involved in bed-finding during usual working hours in 24 hospitals, and at nights and at weekends in 31 hospitals.

Over half the hospitals (22/42) reported that they had a bed manager, but this person's duties were often confined to the hours between 9 am and 5 pm.

Organisation of medical care

Role of consultants. Eleven hospitals had a written policy regarding how soon after admission a patient should be seen by the consultant. For ten the maximum time was 24 hours, and for one it was 48 hours. In five hospitals all the junior doctors reported that their patients were usually seen within 24 hours, and in ten hospitals more than half the junior doctors reported that this was the case. However, in 27 of the 42 hospitals (64%), less than half the junior doctors reported that their patients were usually seen within 24 hours. In seven hospitals at least one junior doctor reported that their patients were not necessarily seen by a consultant at all.

The response of junior doctors to the question about whether they were usually contacted by their consultant at some stage during a take day showed that well under half benefited from this support. In 16 of the 42 hospitals, half or more of the juniors reported regular contact from their consultant either with themselves or with another member of their team.

Commitments of junior doctors on take days. Only six DoMs reported that there was a policy regarding the commit-

Table 4. Referral/admission process

Query		Results and comments	
Who usually accepts telephone referrals? (most junior person mentioned)		According to Director of Medicine:	According to junior doctors:
	HO	9	16
	SHO	21	18
	Registrar	9	4
	Bed bureau	1	3
What is the lowest grade permitted to:		According to Director of Medicine:	According to junior doctors:
a)	admit?		
	HO	4	34
	SHO	31	7
	Registrar	4	1
	NR	3	-
b)	discharge?		
	SHO	26	3
	Registrar	9	38
	SR/Cons	4	1
	NR	2	-
Number of hospitals where junior doctors are responsible for bed finding:		According to Director of Medicine:	According to junior doctors:
a)	in hours	8/42	24/42
b)	out of hours	16/41	31/42

NR, not reported

ments of junior doctors on take days and five of these related to releasing doctors from outpatient commitments. In three of the latter, juniors nevertheless did undertake clinics on take days. In all but two hospitals, therefore, take day commitments did not vary from ordinary working days.

Admission of elderly people. Arrangements at the interface between general and geriatric medicine varied enormously. Some hospitals had totally integrated medical admissions—geriatric and general medical teams taking all patients admitted during their respective takes. Others had no geriatric team at all. Twenty-six DoMs reported that their hospital had a written policy on the admission of elderly people; 15 of them had an age-related policy, five a needs-related policy and six either a mixture of the two or some other way of making these decisions. In practice, the junior doctors of 23 hospitals were operating an age-related policy, four hospitals were operating a needs-related policy and in seven it was not at all clear what was happening. In a number of the hospitals where age-related policies were said to be in operation, the age threshold above which patients should be admitted to a geriatric bed varied between doctors. The successful function of the written policies depended in 12 of 23 of the hospitals on the availability of geriatric beds. In most of these hospitals, junior doctors complained that there were rarely enough available beds.

Availability of investigations and medical records at nights and at weekends. Nineteen of the 42 DoMs reported that there were limitations on out-of-hours investigations at their hospital, but in 34 (80%) hospitals more than half the junior doctors reported limitations. The most common limitation cited by senior physicians was on CT scans which were available only at the request of a consultant, or not available. Problems most commonly cited by junior doctors included the availability of CT scans, cardiac enzymes, liver function tests, radiology and ultrasound. Other problems mentioned included long delays, especially when samples had to be sent to another site, and a general reluctance by laboratory staff to do investigations out of normal working hours. Many juniors said they were continually under pressure to justify their requests for out-of-hours investigations and some admitted to having to embroider the case in order to get tests done. Investigations outside normal working hours were routinely monitored in all but five hospitals.

Medical records were not available out of hours in nine of the 42 hospitals.

Accident and Emergency departments.

Patient waiting times (time between arrival and being seen by a doctor; and between decision to admit and arrival on a ward. Most A&E departments had written standards on patient waiting times and many of these mentioned

The Patient's Charter as a source for these standards. Thirty-seven departments had a policy for documenting times in patients' notes and 33 monitored waiting times. Twenty-six of them were able to give a proportion of cases in which the standards were met; in all but three, standards were being met in 75% or more of cases.

Sending home from A&E patients referred by general practitioner (GP). When asked who could send home from A&E patients referred by GPs for potential admission, 29 consultants said that it had to be a member of the medical team and nine said it could be the casualty officer, who in all but one case was an SHO. In practice, according to the audit of such patients in the 30 hospitals participating in this section of the audit, rather more departments than this are in the habit of discharging patients who have been seen by the casualty officer alone. In 13 of the 30 hospitals, more than half the patients had been discharged in this way. In one hospital, more than half the patients had been discharged by a HP. In ten hospitals, HPs were discharging a proportion of these patients.

Communication with GPs. Twenty-three of the 38 hospitals with A&E departments had written policies for informing GPs about patients sent home. All stated that GPs should be informed. Methods for achieving this varied. Some sent letters generated by a computer; others gave every patient a letter to take to the GP; others sent a copy of the A&E notes. Nineteen of the hospitals with policies had arrangements for monitoring whether they were being carried out.

Review of patients' medical records

A total of 3,385 case notes were examined by 41 hospitals. Details of the cases are given in Table 5. Sixty-nine per cent were admitted under a general medical firm, and 30% were admitted under a care of the elderly team. The rest were admitted by other specialties, surgery for example, and subsequently transferred to a general medicine or care of the elderly team. Sixty per cent were on general medical wards, 28% on care of the elderly wards, 5% on specialist medical wards, 2% on surgical and 5% on other wards.

Diagnosis. It was possible to classify the patients' diagnoses by system in 2,496 (74%) cases. In 834 (25%), the diagnosis was either multiple or non-specific, and in a further 55 (1%) no diagnosis was given. Seventy-six per cent of classifiable diagnoses were within the systems of cardiology, respiratory medicine or neurology, the most common diagnoses being myocardial infarction, cardiac failure, chest infection, chronic obstructive airways disease and cerebrovascular accident, as in previous studies [3,4]. A further 13% were gastroenterology patients, mostly

Table 5. Audit of case notes: patient details, diagnosis and admitting speciality

Number of case notes examined:	Total	3,385	
	Range	19–257	
	Median	76	
Age:			Range of hospital means:
	Range	15–100	
	Mean	70	56–78
	Median	73	
Sex:	Male	1,578 (47%)	
	Female	1,773 (53%)	
	NR	34	
Days in hospital:			Range of hospital means/medians:
	Range	1–605	
	Mean	13.7	7.3–37.3
	Median	7	3–19
Specialty of admitting firm:			
	Medicine	2,284	(69%)
	Care of elderly	973	(30%)
	Other	20	(1%)
NR	108		

NR, not reported

with gastrointestinal haemorrhage, jaundice and other liver complaints.

Appropriateness of admitting firm. Twenty-one per cent of patients for whom the principal diagnosis and admitting firm could be ascertained were admitted by a firm whose specialty was relevant to their diagnosis (range: 7–60%). A further 9% (range: 0–35%) were referred to an appropriate specialty after admission. The referral rate for all patients was 19%, with a range between hospitals of 0–45%. Referral rates were examined by age of patient and whether they were admitted under a general medical or care of the elderly team. While there were no significant differences in referral rates between age groups, patients who were admitted under general medical firms were much more likely to be referred or transferred following admission (22%) than those admitted under a care of the elderly firm (12%) ($p < 0.001$). Referral rates were also higher in teaching hospitals (22%) than in district general hospitals (18%) ($p < 0.05$). Significance was tested using the chi-squared test.

Discussion

One of the main limitations of audit from case notes is that the results are only as good as the documentation. If it is the documentation of known events that is being audited, conclusions may be drawn about the quality of documentation. If, however, it is the events themselves that are being audited, for example, whether a patient has been seen by a consultant, it is

not possible to say whether lack of documentation means that the patient has not been seen or whether the patient has been seen but the fact has not been recorded. The results of these parts of the audit should therefore be considered in the light of this limitation. The collection of information from more than one source, as in the case of the interviews with both the DoMs and several of their junior staff, has advantages in obtaining a more accurate picture of hospital activity. It is the disparity in the information obtained from these two sources that has produced some of the most interesting results of this study. Even here, however, problems have arisen, in particular over the matter of consultant contact with junior staff. Although we asked junior doctors if they were regularly contacted by their consultants, it is possible that some said not, unaware that another member of the admitting team had been telephoned by the consultant. In the reported instances in which patients were not seen by a consultant at all, it is possible that the 'regular' consultant physician was on holiday—but this only underlines the point that arrangements to provide consultant cover must be made. The physician standing in must take on the responsibilities of his absent colleague, including post-take ward rounds and support of the junior staff.

We found considerable variations in the organisation and process of acute medical care. While some hospitals performed well in respect of some of the standards proposed, in no hospital was this true of all the areas studied. It is therefore no surprise that Britten and Shaw [18], in their survey of patients'

experiences of emergency admissions, reflected many of the problems identified in this paper. The most significant problem areas were communication with GPs, suboptimal involvement of consultants in acute takes, policies for admitting elderly patients, limitations on out-of-hours investigations and the frequent lack of appropriateness of the admitting specialty to the patient's condition.

Few hospitals had agreed standards for the content of GP referral letters. In many hospitals GP referrals were being accepted and seen by very junior doctors, many of whom were not aware of their hospital's catchment or admission policies. In nearly three-quarters of hospitals junior doctors are responsible for bed-finding on at least some days each week. In general, medical patients were less often on surgical wards than has been suggested by anecdotal report.

Consultants' support of their junior staff varies considerably. Such support must be one of the central features of good acute care, and should, we suggest, be a topic for frequent audit.

A factor which confounds the work of junior doctors, and is therefore likely to affect patient care, is confusion at the interface between general medicine and geriatric medicine [17]. Most hospitals have age-related policies for elderly patients whereby all patients over a certain age are referred to the care of the elderly team, providing beds are available. While this policy works well in some hospitals, according to the junior doctors, in many the policy is hampered by lack of geriatric beds. One of the advantages of an age-related policy is that it is simple to carry out; a needs-related policy requires a more sophisticated procedure. However, the danger is that the simplicity of an age threshold may lead both to the inappropriate referral of acutely ill patients to the elderly team (in one hospital this meant transfer to another, non-acute site where the ECG machines allegedly did not work and where there was no specialist cover) and to the withholding of geriatric expertise from patients who need it, because they are 'not old enough.' In some hospitals the age threshold is as high as 80 years. In addition to this, the dependency on bed availability on the geriatric wards means that the kind of care that a patient receives is often more a matter of chance than design. What causes the main problem for junior doctors is the unpredictability of their workloads (if there are no geriatric beds the medical team has to admit all medical patients) and that acute beds are taken up for long periods of time by patients who should have been moved on to care in residential or nursing homes, or discharged home. There was evidence of ill-feeling in several hospitals as a result of these factors.

One area which clearly causes difficulties in many hospitals is the general discouragement of investigations out of hours. All essential investigations should be equally available at all times, but in practice this is difficult to achieve because of the high cost of investi-

gations out of hours. The general rule about investigations out of hours is that they should not be requested unless it can be shown that the results will affect patient management. This is not always a clear decision. The tendency of doctors to practise more defensive medicine the more junior they are further complicates the matter.

The current organisation of medical care in the United Kingdom is such that the proportion of patients admitted by a firm with skills appropriate to clinical need will always be low. This is because whereas patient diagnoses are concentrated in the three specialties of cardiology, respiratory medicine and neurology, doctors on call for acute medicine are spread among five or six specialties that exclude neurology. The likelihood of a condition being considered to require specialist care appears to be inversely related to how common it is. The most obvious example of this is stroke. It is almost unheard of for neurology firms to admit patients with acute strokes and it was, in our sample, rare for such patients to be referred to neurology once they were admitted. The nearest these patients come to specialist care is to be referred, in a few hospitals, to a rehabilitation specialist once the acute period is over.

It is tacitly assumed that specialist care is better than generalist care, and indeed in the case of acute asthma there is evidence to support this [19]. Is it reasonable to assign certain conditions to 'general medicine' for no better reason than that they are common? Is it possible to reconcile increasing specialisation with the evidence that an average of 70% of acute medical admissions never see a specialist suited to their condition whilst on the ward? Can generalists ever offer the same quality of care that specialists can, however many guidelines are distributed and however diligent they are with their continuing medical education in relation to common medical problems outside their specialty? Within our present limitations on consultant staffing, probably the best that can be done is to ensure prompt review of an acutely admitted patient by the admitting consultant physician, and prompt referral to the relevant specialist team [20].

Our audit suggests that in many hospitals policies are made or assumed to be in practice by the senior members of the organisation, but junior members are operating either in ignorance of the policies or under practical constraints that make implementation very difficult. As our audit has shown that most acute care is provided by junior doctors who are often not working directly for consultants whose specialty is relevant to the care of the disorder with which the patient has been admitted, organisational issues are clearly of paramount importance. Individual hospitals participating in this national audit, and others, will wish to audit themselves from time to time in the light of these findings. The authors will welcome suggestions for improvement of the proformas. The present version is available from the Royal College of Physicians.

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References

- 1 Capewell S. The continuing rise in emergency admissions: explanations and responses must be properly evaluated. *Br Med J* 1996;**312**:991-2.
- 2 Audit Commission. *Lying in wait*. London: HMSO, 1991.
- 3 Bakhai A, Goodman F, Juchniewicz H, Martin A, et al. How easy is it to contact the duty medical doctor responsible for acute admissions? *Br Med J* 1990;**301**:529-31.
- 4 Lemrow N, Adams D, Coffey R, Farley D. The 50 most frequent diagnosis-related groups (DRGs), diagnoses, and procedures: statistics by hospital size and location. DHSS Publication No (PHS) 90-3465. Hospital Studies Program Research Note 13, Agency for Health Care Policy and Research, Rockville, MD: Public Health Service.
- 5 British Thoracic Society. Guidelines for management of asthma: a summary. *Thorax* 1993;**48**(2).Supplement S1-S24.
- 6 Joint Working Group of the Research Unit of the Royal College of Physicians and the British Paediatric Association. Guidelines for the management of convulsions with fever. *Br Med J* 1991;**303**:634-6.
- 7 Newton J, Eccles M, Hutchinson A. Communication between general practitioners and consultants: what should their letters contain? *Br Med J* 1992;**304**:821-4.
- 8 Report of a Joint Working Group prepared for the Director of Research and Development of the NHS Management Executive. What do we mean by appropriate health care? *Quality in Health Care* 1993;**2**:117-23.
- 9 Victor CR, Chicha A. Is hospital the right place? A survey of 'inappropriate' admission to an inner London NHS Trust. *J Public Health Med* 1994;**16**:286-90.
- 10 Coast J, Inglis A, Frankel S. Alternatives to hospital care: what are they and who should decide? *Br Med J* 1996;**312**:162-6.
- 11 Gertman P, Restuccia J. The Appropriateness Evaluation Protocol: a technique for assessing unnecessary days of hospital care. *Med Care* 1981;**19**:855-71.
- 12 Field MJ, Lohr KN. *Guidelines for clinical practice: from development to use*. Washington DC: National Academy Press, 1992.
- 13 Department of Health. *Discharge of patients from hospital*. London: HMSO, 1989.
- 14 Houghton A, Bowling A, Clarke KD, Hopkins A, Jones I. Does a dedicated discharge coordinator improve the quality of hospital discharge? *Quality in Health Care* 1996;**5**:89-96.
- 15 Hopkins A. Acute medical admissions. *Guy's Hospital Reports* 1963;**112**:175-82.
- 16 Worth RC, Youngs GR. Consultant physician of the week: a solution to the bed crisis. *J R Coll Physicians Lond* 1996;**30**:211-12.
- 17 Report of a Working Group of the Royal College of Physicians. *Ensuring equity and quality of care: The interface between geriatric medicine and general (internal) medicine*. London: Royal College of Physicians, 1994.
- 18 Britten N, Shaw A. The patient experience of emergency admissions. In: Morrell DC, Green J, Armstrong D, et al. *Five essays on emergency pathways: a study of acute admissions to London hospitals*. London: King's Fund Institute, 1994.
- 19 Bucknall C. Differences in hospital asthma management. *Lancet* 1988;**i**:748-50.
- 20 Report of a Working Group of the Royal College of Physicians. *Future patterns of medical practice*. London: Royal College of Physicians (in press).

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