Report to the Council of the Association of Surgeons of Great Britain and Ireland

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In 1988 a fellowship from the *British Journal of Surgery* allowed me to evaluate surgical care in district general hospitals in Britain. I visited four hospitals, where the hospitality was memorable. In most instances I concentrated my attention on general surgery, but I also saw a fair amount of urological surgery and non-cardiac thoracic surgery. Support services and resources were generally good. I was surprised by the small numbers of computed tomographic scanners, which have become an integral part of community surgical practice in the United States. I was struck by the variable patterns of leadership within the surgical community at the respective hospitals and how this impacted on morale and teaching.

In this report I comment on four specific topics—clinical care, education, research, and trauma care—as seen by an informed, critical, but essentially friendly outside observer.

Clinical care

Each of the four district general hospitals served a population of around 175 000 to 250 000. The staffs consisted of four consultant surgeons, one senior registrar, one or two additional registrars, and several house officers. Medical students were usually present from three nearby medical schools. Some students were on rotation from Germany and were of varied quality.

I was impressed with the quality of the consultants, particularly those who had finished their training within the past 10 years. Their practice of surgery and the quality of care they provided were of a high standard and up to date. The senior consultants may have had more variability in their training, and this was reflected in their ability to provide up to date quality care.

In general the younger consultants at the four hospitals were better trained and more experienced than a comparable group of general surgeons in community hospitals in the United States. Most of the junior people were surgeons who had been passed over for teaching positions in academic centres and some had had considerable research experience. Most consultants were committed at least nine elevenths of their time to the district general hospitals and had operating lists on at least four half days a week. Three half days were spent in clinics, which often included endoscopy.

In one instance the surgeons were allowed to treat private patients in a different hospital. This provided them with supplemental income and contributed to their overall contentment with surgery.

The patient load seemed to me extensive. General surgeons tackled endocrine, gastrointestinal, vascular, and (in two hospitals) urological procedures. (The other two hospitals had specialists in urology.) I was struck by the variability in the consulting physicians

who referred patients to the surgeons. Some took an intense interest in their work, particularly the gastroenterologists. This contrasted with some of the general practitioners, who referred patients who seemed to me poorly managed, misdiagnosed, or inappropriately treated. In many instances I believe that this led to poor outcome. The surgeons explained that this was due to the high workload imposed on general practitioners, but I thought poor training certainly contributed. I thought that some of these general practitioners were unaware of the importance of timeliness of surgery in certain disease processes. The documentation of quality of care varied among the institutions. Two conducted regular audits in which the staff met to discuss complications in a meaningful way. Two other institutions did audits on a haphazard basis with no direction. The contrast among the four institutions was remarkable.

One hospital audit showed more than 1000 admissions over two months. Operations were performed on four fifths of these patients, and roughly a quarter of the operations were emergency procedures. The consultants operated on only one of the emergency cases; the rest were left to the registrars and senior surgical house officers. Not surprisingly, many of the deaths and complications occurred in the emergency cases. This undoubtedly reflects the nature of the disease process, but it also reflects inexperience even among the senior registrars in handling difficult cases such as ruptured aortic aneurysms at night.

At another hospital the surgical audit disclosed an equally distressing picture of emergency surgery. In contrast with the previous hospital, the consultants were frank in their discussion during the audit. They admitted that the results probably would have been better if the registrars had received more supervision at night.

Several consultants expressed dismay and frustration in dealing with the waiting list. At one hospital it was estimated that several thousand people were waiting for surgery. During their wait many patients would die, but not necessarily from the disease process for which they were waiting for surgery. Many patients would be moved on to an urgent or emergency list during their waiting period. One hospital's list consisted of about 30% of patients waiting for routine procedures and 65% for emergency care. Many general practitioners had ways of circumventing the list by interdepartmental transfers.

Several problems were voiced consistently by the consultants with whom I spoke. Many were frustrated by the long lists and their inability to spend more time teaching the house officers or doing research, or both. They were universally unhappy about their inability to care for private patients and thus supplement their income. At the one hospital where surgeons could see private patients they seemed more content, but it created some problems with the house officers.

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Education

There were striking variations among the hospitals in their ability to provide education for students, registrars, and senior registrars. I spent a fair amount of time with the registrars at the four hospitals and had several private conversations with them, in which their uncertainty, frustration, and unhappiness with the current system became obvious. Almost all of the house officers, registrars, and senior registrars were acutely aware of the pyramid within the British system. They were concerned about the two tiered system, in which registrars were not likely to succeed if trapped within district general hospitals for a long time. The second tier offered easier positions, usually associated with a university, and was not as service oriented. The holders of those positions had the opportunity to do research and publish and therefore increased their chances of a consultant's post. All the junior staff talked of the shortage of consultant posts and the increasing age at which people were appointed to these posts. Consultants were staying in their posts longer, the average being 25 years. The average age at retirement was more than 62, and only 560 consultants (a fraction of whom were surgeons) were replaced each year.

I heard several suggestions for reform and improvement. Junior staff wanted longer contracts of up to five years, with the contract being combined with a university. Almost all registrars and senior house officers wanted accountability to a surgical tutor. They wanted to meet with the tutor on a regular basis to get direct feedback on how they were progressing. Many registrars urged that the Royal College of Surgeons should assess surgical departments, focusing on quality. All registrars with whom I spoke preferred quality to quantity in research. Almost all would argue that the present system favours a lengthy bibliography to a short but quality listing of published articles.

Many of the problems that I observed regarding education were similar to those in the United States—specifically, fragmentation and “turf” issues among specialties. Both have a negative impact on education. I was particularly struck by the loss of critical care management by surgeons. In almost all the hospitals this was carried out by the anaesthetists or chest physician. In two hospitals most of the postoperative care in the intensive care unit was provided by the anaesthetist or chest physician, and only the care of the wound was left to the surgeon. I think that this led to confusion and a disjointed effort. More importantly, however, the surgeons had essentially abandoned responsibility for ventilator management and (certainly in two hospitals) parenteral nutrition. It will be difficult if not impossible for them to recover these functions.

I believe that it is imperative for surgeons to be skilled in and familiar with pulmonary physiology and the support of the circulation. This will not happen if the care is provided by consultants in other specialties. Furthermore, I think that the general surgeon is optimally suited to provide total care within the intensive care setting. A typical example would be a patient who has had multiple trauma and requires an intracerebral pressure monitor, a ventilator, and management of oliguria, liver failure, and nutrition. A similar argument could be made for a patient who develops complications after surgery for an aortic aneurysm or to the pancreas. I am particularly concerned about the abandonment of nutrition to non-surgeons.

Research

Research was consistently poor in all four district general hospitals. I saw no bench research, and I would

have been surprised if I had. Almost all of the research presented to me was of a clinical nature. Some of it was pure nonsense. Many students participated in reviews of patient data that would never be considered for publication. By their own admission it was a waste of time and effort; it was poorly supervised, poorly thought out, and lacked direction. Some residents had taken part in high quality research at university hospitals, and they commented on the difference it made when somebody had sat down with them to work out a hypothesis and a plan to prove it. Surprisingly, no randomised trials were being carried out at any of the hospitals—yet the clinical material was so plentiful that it would have been easy to set up meaningful clinical trials, either with drugs or with different surgical techniques.

Trauma care

I have an interest in trauma care and was particularly keen to examine the system in Britain. In general I thought trauma care was fragmented, disorganised, and that the results were poor. I was aware that my impression was being documented by a committee from the Royal College of Surgeons,¹ so my comments below are brief.

Prehospital care of the victims of accidents seemed suboptimal. Transport times were protracted, reflecting the lack of modern technology in prehospital transport. I refer specifically to the use of helicopters, especially in rural areas, which have been shown to be greatly beneficial in West Germany. Advanced life support techniques were not being taught to pre-hospital personnel. Medical control was completely lacking, with no input by surgeons. The patient was usually taken to the nearest hospital without regard to surgical availability.

In the accident and emergency department general surgeons were not present until called by the casualty surgeon. In one hospital the general surgeon was not welcome in the emergency department and was perceived as a threat to the casualty surgeon. Yet at another hospital there was excellent cooperation between the casualty surgeons and the general surgeons. There were delays in resuscitation and operative care in all the hospitals I visited. In some instances it was possible to document poor outcome as a result of either inadequate resuscitation or delays in operative management.

Critical care was a particularly vexing issue, as in many instances trauma was not managed by a surgeon but by a physician or anaesthetist. I am convinced that the lack of surgical input in the intensive care setting is a detriment, not only to patient care but also to the educational and research components of a teaching hospital. Rehabilitation did not start until late in the care of the patient, if at all.

Overview

I believe that district general hospitals provide good basic care and in many instances excellent care. In contrast with the United States, nobody is denied care because he or she is indigent. I was impressed with the quality of the junior consultants and of the senior registrars awaiting consultant posts. The most obvious problem is the waiting list. This affects quality of life. The classic example is the older patient who is unable to walk because of degenerative joint disease and yet must wait two years for a total hip replacement. I sensed that the National Health Service is unwilling to increase the number of consultants and, paradoxically, the consultants themselves are content with the current system. It seems unlikely that any immediate changes will be made. The pyramid will simply grow larger.

In any report of this kind I offer these caveats. The first is the rapidity of my visit, which did not allow an exhaustive study but instead simple perceptions. I did, however, have a unique opportunity to talk with the house officers and registrars on several occasions without the presence of any consultants. Similarly, the consultants were more than willing to be open with me during our conversations. Another caveat is that a single case does not represent a series. Though I had an opportunity to review at least two audits and saw some patients, this was but a glimpse of the total picture. A third caveat is that this report represents my views alone. It does not reflect the views of the Association of Surgeons of Great Britain and Ireland, nor does it reflect the views of the Royal College of Surgeons of England.

Recommendations and conclusion

I believe that it is imperative that senior registrars should have supervision with certain complex cases, particularly accident and emergency surgery late at night, when senior judgment and experience may make an important difference. This will be difficult to achieve. Only a limited number of consultants are available to be on call. There is also a feeling within the system that once a person has done his or her "tour in the trenches" and is appointed consultant he or she should not have to take night duty again. By regionalising care the patient needing emergency treatment could be transferred to a centre where a consultant was available on a 24 hour basis. By concentrating the night time surgery and trauma care consultants would have to take a night call only once every two weeks.

Measurement of the quality of care was sporadic and in general not done well. My first recommendation would be to ensure that there was a law that made any review of quality of care undiscoverable in a court of law. Secondly, I believe that the Royal College of Surgeons or the Association of Surgeons should develop model quality assurance programmes to be carried out in every district general hospital on a consistent basis. I believe that some information could be pooled and kept in a registry. This would allow one hospital to compare its results with similar institutions. I believe that surgical audits should be done on a regular basis. The registrars should present each death and complication, and the discussion should be initiated by them, for I believe that they will be "a fair witness" in most instances.

As regards education, I believe that as a first step there should be a reduction in the numbers of registrars

and senior registrars in the pyramid. The only way to do away with the two tier system would be to divide all posts between university hospitals and district general hospitals. This would be impossible as long as the current number of registrars remains unchanged. Another recommendation is to institute immediately twice yearly evaluations of each registrar's performance at his or her particular hospital by the chief of surgery. The registrar's perception of his or her training is that it is almost all service, a period of necessary "slave labour." This perception is partly accurate and must be changed.

I strongly recommend that registrars should spend time in the intensive care setting and that they should manage the entire range of their patients' problems during the time that the patient is in the intensive care unit. There is no better laboratory for teaching the physiology of surgery.

I believe that more should be done to encourage worthwhile research within district general hospitals. Realistically I think that this should be focused on randomised studies. Some of these studies could be multi-institutional, but I would not take away the chief of surgery's freedom of doing individual studies within the district general hospitals. Each registrar during his or her training should participate in setting up or carrying out a randomised study related either to drug treatment or to surgical procedures. I believe that there is no limitation to the number and type of studies that could be done.

I believe that Britain is in need of regionalised trauma centres. I do not believe, however, that the casualty surgeons should be the central focus of trauma care. This belongs rightfully to the general surgeon, who should be available in designated trauma centres to coordinate resuscitation, operative care, and all postoperative care, including critical care.

In summary, there are considerable differences between a district general hospital in Britain and a community hospital in the United States. In many ways I have not emphasised the strengths of district general hospitals but have tended to highlight the weaknesses. In defence of this approach I believe that by examining our weaknesses and correcting them we improve patient care immensely.

I sincerely enjoyed the opportunity and honour of being a fellow of the *British Journal of Surgery*.

1 Anderson ID, Woodford M, de Dombal FT, Irving M. Retrospective study of 1000 deaths from injury in England and Wales. *Br Med J* 1988;296:1305-8.

ANY QUESTIONS

What action should be taken after someone—for example, a refuse collector or a child—accidentally sustains a needlestick injury when the source of that needle is not known?

Accidental penetration with a used needle or a syringe may carry a risk of transmitting several infectious agents, but for practical purposes consideration should be given to hepatitis B virus and HIV. Hepatitis B is more infective under such circumstances, and little can be done beyond first aid for HIV.

While there is general agreement on prophylaxis for hepatitis B after known accidental percutaneous exposure to hepatitis B virus,^{1,2} little information is available on the risk of infection after needle penetration when the source is not known. The risk of hepatitis B virus is probably minimal in areas of the world with low prevalence of the virus—for example, northern and western Europe, North America, Australia, and New Zealand—but the pressure of defensive medicine in the face of current litigation may suggest that prophylaxis for non-immunised subjects should be considered.

Thus whenever immediate protection is required immunisation with hepatitis B vaccine should be combined with simultaneous administration of specific hepatitis B immunoglobulin at a different site. A single dose, 500 IU for adults and 200 IU for children, is sufficient. The course of active immunisation with hepatitis B vaccine must be completed. Prophylaxis must be given as soon as possible after exposure and within 48 hours. Passive immunisation beyond seven days after exposure is of uncertain value and should not be undertaken.

Finally, strict regulations are in force for the safe disposal of needles and syringes used in medical and laboratory practice, but needles discarded by intravenous drug abusers present a real risk to the general public and to children in particular.—ARIE J ZUCKERMAN, *professor of microbiology, London*

1 Deinhardt F, Zuckerman AJ. Immunization against hepatitis B: report of a WHO meeting on viral hepatitis in Europe. *J Med Virol* 1985;17:209-17.

2 Anonymous. Recommendations for protection against viral hepatitis. *MMWR* 1985;34:313-35.