Health Care Delivery System in Australia and Its Effect on Surgical Education and Training

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Abstract. Surgical education and training in Australia and New Zealand are based on 6-year undergraduate medical curricula covering the scientific foundations of medical practice. One-year rotating internships are required in all states of Australia to allow medical graduates to satisfy statutory requirements for completing basic medical education prior to gaining credit for training within a specialty. The Royal Australasian College of Surgeons defines the duration and content of training as well as the standards of supervision and guidance that enable surgical trainees to satisfy the requirements leading to Fellowship of the Royal Australasian College of Surgeons. Licensing authorities in several states and the Commonwealth of Australia recognize the award of Fellowship of the Royal Australasian College of Surgeons as sufficient evidence of competence to practice as a specialist surgeon. No formal process of recertification of surgical competence has yet been promulgated in Australia.

The total annual health expenditure of 23.4 billion Australian dollars (1987–1988) includes the cost of hospitals, nursing homes, medical services, the pharmaceutical, dental, and other health professions, community and public health, and other health services. Australia spends 8.1% of its gross domestic product on health care in comparison with 11.2% in the United States (1989). Funds for health expenditure are derived from three sources: federal government 35.88%, state government 33.45%, and private sources 30.67%. The latter include health insurance funds, individuals, and funded compensation schemes. Australian hospital admission rates and doctor visits per person per year are 50% higher than in the United States. Because of the increasing use of physicians’ services attention is being directed toward justification of expenditure in the various components of the health care system. Spending on public hospitals is limited by state government budgets. The volume of medical services funded by the Federal Medicare Benefits Scheme does not have the same financial restraints [1].

Health care delivery systems in Australia have thus evolved toward a blend of federally subsidized (from taxation) fee-for-service private practice and hospital-based care. Uninsured patients can access public hospital services, and insured patients can access both private and public hospitals. Surgical training programs are based in the public teaching hospitals. Few private hospitals have resident training programs.

Australia has 10 medical schools, each with a department of surgery. There are therefore few full-time academic career opportunities for surgeons in Australia. Most surgeons are engaged in private practice. Each state has large hospitals that provide for both insured and uninsured patients. In addition, nonprofit hospitals established by religious orders operate private hospitals within major cities. On the whole, surgical training is based almost exclusively in government-funded hospitals and has exploited to a minimal extent surgical training opportunities in private hospitals. As a consequence, total training opportunities for trainees are reduced.

Responsibility for delivering health care in Australia is divided among state and federal governments and private organizations. The Medicare agreements between the Commonwealth Government and state governments determine annual financial grants to state government administered public hospitals, in which most of the specialist training programs are based. From those financial grants the public hospitals provide both inpatient and ambulatory care services on a no charge to the patient basis.

Primary medical care is provided principally by family medical practitioners working in privately owned practices. Public hospital emergency departments provide just 6% of consultations for primary or emergency care compared with 94% provided by general practitioners in free-standing private practices. A few emergency departments have been developed in private hospitals. The former service is provided without charge to the patient; the latter is provided on a fee-for-service basis.

Attending or visiting surgeons and full-time consultant surgeons working in teaching hospitals are responsible for the guidance and supervision of surgical trainees. The Royal Australasian College of Surgeons (RACS) provides a detailed guide to the standards expected of surgical trainees [2]. These standards specify objectives to be met, the volume of clinical experience, and the responsibilities of surgical mentors. Trainees are employed by teaching hospitals on a salaried basis. Trainees take an active part in managing patients admitted to the hospital under the consultant surgeon’s care. Programs of training are approved by regional surgical training boards of the Royal Australasian College of Surgeons. Programs providing a full range of surgical experience incorporate 6- to 12-month rotations over 4 years. During that time, trainees usually rotate from major metropolitan hospitals to
Surgical Training in Australia

Egerton: Surgical Training in Australia

There is some concern that this practice may compromise learning about hour-by-hour evolution of pathophysiologic changes and conflict with the principle of continuous responsibility. In reality, shared responsibility for the surgical care of patients is part of modern surgical practice. Being accountable to surgical mentors and the numerous opportunities for supervised clinical experience during basic and advanced surgical training offset any perceived disadvantages of trainees not having continuous personal responsibility for patients.

During both elective and emergency operations consultant surgeons are available to supervise trainees to the extent that supervision is required based on the experience level of the trainee. For insured patients the attending surgeon is more likely to be the operating surgeon.

The Royal Australasian College of Surgeons approves a limited number of training posts based on surgical workload, educational facilities, and the supervision provided by surgeons. Programs of training are subject to periodic site visits conducted on behalf of the Royal Australasian College of Surgeons. These visits are performed by practicing surgeons appointed for the purpose. During site visits the surgical workload for which the trainee takes primary responsibility is critically reviewed from the contents of trainees’ log books, and issues of concern to the trainees and surgeons are raised. Evidence of a regular audit of outcome and trainees’ active participation in educational activities are required. Trainees practice presentation skills by clinical reviews and more formal clinical research projects. Prior to completion of surgical training all trainees are required to present the results of personal clinical research to a refereed journal or to a scientific meeting.

Entry to Surgical Training

All medical graduates are required to complete at least 1 year of rotating internship. If completed to the satisfaction of hospital medical staff, this first postgraduate year qualifies medical graduates for registration as medical practitioners by state licensing medical boards.

Those who commence surgical training customarily complete another 2 years of rotation principally through surgical units. This phase is described as basic surgical training. Experience in emergency medicine and intensive care is required. At about the end of the third postgraduate year potential surgical trainees must pass the Part I examinations conducted by the Royal Australasian College of Surgeons and receive favorable reports from their surgical mentors. A uniform assessment system for this stage of training is being introduced across Australia.

Examinations for Fellowship

The Part I examinations conducted by the Royal Australasian College of Surgeons three times yearly have two components. The first consists of multiple choice questions on anatomy, physiology, pathology, and pharmacology relevant to the practice of surgery. The second part tests aspects of psychomotor and communication skills and is described as an Objective Structured Clinical Assessment (OSCA). In multiple centers throughout Australia, New Zealand, and South East Asia candidates proceed through 20 stations at 6-minute intervals. Approximately half of the stations involve clinical tasks during which the performance of candidates is scored by direct observation. A panel of practicing surgeons in each center participates in the process. Half the stations involve smaller hospitals for a period of 1 year during which time more general surgical experience can be accumulated.

Such rotations provide a variety of highly specialized units, such as neurosurgery, vascular surgery, and orthopedics, as well as more general surgical experience. During the year prior to completion of surgical training, most trainees are allocated experience in metropolitan teaching hospitals.

The number of operations performed annually in a representative teaching hospital over a 5-year period is shown in Figure 1. Although the number of operations has remained relatively constant, the introduction of day surgery practice has diverted 10% to 15% of the surgical workload away from the main operating theaters. Surgical trainees are now becoming involved in day surgical care as well as inpatient care. The proportion of more complex procedures performed in the teaching hospitals has increased. Smaller general hospitals have increased their workload in general surgery. The surgical experience is shared between trainees in general surgery and those who are planning to enter specialized programs in urology, orthopedics, and other disciplines.

Selection and Conditions of Employment

Surgical trainees are appointed by hospital authorities on the advice of a selection board on which are represented members of the consultant surgical staff of the teaching hospitals. The conditions of employment of surgical trainees are governed by industrial agreements concerning rate of pay, hours of duty, and time off duty. These agreements influence hours on duty per week. Negotiated conditions of employment allow adequate periods of sleep after long shifts. Penalty rates of pay apply after 44 hours have been worked in 1 week. Surgical trainees have become accustomed to sharing responsibility with their colleagues and are not bound to remain continuously on duty for longer than 16 hours as a general rule. Surgical training in Australia and New Zealand differs in this respect from what is reported in North America [3].

The 24-hour cover for patients in surgical units is shared among several trainees rather than being the sole responsibility of one individual. There is some concern that this practice may compromise learning about hour-by-hour evolution of pathophysiologic changes and conflict with the principle of continuous responsibility. In reality, shared responsibility for the surgical care of patients is part of modern surgical practice. Being accountable to surgical mentors and the numerous opportunities for supervised clinical experience during basic and advanced surgical training offset any perceived disadvantages of trainees not having continuous personal responsibility for patients.

Fig. I. Annual operations in a teaching hospital (inclusive of general and peripheral vascular surgery, gynecology, urology, orthopedics, otorhinolaryngology, and ophthalmology). (From the Royal Brisbane Hospital Operating Theater Annual Report.)