Prevocational medical training in Australia: where does it need to go?

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ABSTRACT

- The workplace remains the most important learning environment for junior doctors in their postgraduate years.
- There is no national curriculum to guide the education of prevocational doctors.
- The apprenticeship model is under threat, and is not sustainable in the future without significant changes to the system.
- Supervision is crucial for junior doctors' learning and for safe, quality patient care.

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There is widespread concern about medical workforce shortages in Australia and how to address our future health care needs.[1,2] The length of specialist medical training has come under question, and answering this question is likely to require an examination of the full continuum of medical education, from undergraduate through prevocational to vocational training.[1,2] In my role as Director of a medical education unit, I deal with the early postgraduate years, where the focus of questions about training should be: What are the competencies required of a junior doctor? How should these competencies be taught? How do we determine that the competencies have been acquired?

The award of a Winston Churchill Memorial Fellowship allowed me to travel overseas to compare prevocational medical education in Australia with that of the United Kingdom and Canada. In 10 weeks I interviewed over 65 medical educators, including senior academics, policy makers and medical staff. This article challenges Australian medical educators to consider what is happening internationally in order to contribute to a national coordinated approach which will clearly articulate the education and supervision required for prevocational doctors and the infrastructure necessary to achieve these outcomes.

Australia — the current situation

The first two postgraduate years (PGY1 and PGY2) for doctors in Australia currently comprise broadly based prevocational training. Most would agree that this is an important time in which graduates consolidate what has been learnt as an undergraduate and develop the necessary skills in safe patient care.

The traditional model of medical education in Australia sees medical students graduating and starting their medical careers as interns in approved training posts, which must be accredited by the relevant Postgraduate Medical Council (PMC). Most of these posts are in teaching hospitals. The 12 months of internship (PGY1) should be a closely supervised period of training before registration. In PGY2, doctors continue to work under supervision with increasing levels of responsibility, in a broad range of health care settings, many of which are training positions deemed acceptable for basic training by colleges.

The apprenticeship model is the norm, relying on senior clinicians to supervise the day-to-day practice of PGY1 and PGY2 doctors, and ensure quality health care. This supervision has been shown to be crucial for workplace learning.[3,4] However, the changing health care environment is putting the apprenticeship model under threat. Increased patient throughput, reduced lengths of stay, increased patient complexity and workforce shortages are threatening the ability of the apprenticeship model to address all the learning needs of PGY1 and PGY2 doctors.[5] Patients have become more knowledgeable about their conditions and more demanding about the standard of the health care they receive.

The apprenticeship model relies on senior clinicians to monitor junior doctors' competencies. An important question is whether the supervision given to junior doctors is adequate to ensure that competency is established. Most of the supervision by senior clinicians is provided by sessional Visiting Medical Officers (VMOs), the great majority of whom also work in the private sector. It is not these individuals, but registrars, who undertake the bulk of day-to-day work-related supervision.[6] Mid-term and end-of-term formal feedback by supervisors is a general requisite of accrediting postgraduate councils. However, anecdotally, Medical Education Officers and Directors of Clinical Training report varying levels of compliance with this in most hospitals, particularly for PGY2 trainees. End-of-term global rating scales of generic attributes are the usual tools used to provide feedback on the progress of individual PGY1 or PGY2 trainees to the hospital.

PMCs have been established in each state and territory with overarching responsibility for PGY1 and PGY2 training. The Confederation of Postgraduate Medical Education Councils (CPMEC) coordinates the activities of the individual councils. PMCs vary in their roles, including the way they accredit PGY1 and PGY2 posts, allocate PGY1 and PGY2 doctors to training posts, and provide educational resources to support training initiatives. A broad set of national guidelines has been developed through Commonwealth funding, initially by the Australian Medical Council (AMC) and updated in 2003 by the CPMEC.[7] However, these generic guidelines have not been linked to an agreed national curriculum. Thus, the apprenticeship model and its supervisors are left to their own devices to determine such curriculum components as:

- the knowledge, skills and attitudes that junior doctors should have;
- how these are best learnt, by what stage, and what level of supervision is required; and
- the assessment procedures required to determine competency.

The United Kingdom approach

In August 2005 the United Kingdom's Foundation Programme was introduced, under the guidance of the General Medical Council (GMC). This government initiative has resulted in the develop-

1 Elements of the United Kingdom Foundation Programme[8]

- Learning objectives which focus on the attainment of clinical competencies
- Mandatory 3-month rotations in acute medicine and surgery in Foundation Year 1, and a 3-month rotation to general practice in Foundation Year 2
- Trainees are also offered experiences in settings such as primary care and mental health
- Generic curriculum elements (eg, use of evidence, time management, communication, information technology and working in teams)
- Trainees are required to keep a portfolio of evidence, which is monitored by their educational supervisors ◆

2 Foundation year assessments in the United Kingdom*[9]

Mini clinical-evaluation exercises (mini CEX)†

- Rating scale to assess knowledge, skills and attitudes
- Assesses doctor–patient interaction
- Immediate feedback given to the trainee

Direct observation of procedural skills (DOPS)†

- Rating scale to assess procedural skills from a list of clinical skills outlined in the curriculum

Case-based discussions (CBD)†

- Patient notes form the basis of the discussion, which aims to assess clinical decision making and application of knowledge as described in the notes

Mini peer-assessment tool (Mini PAT)‡

- A type of 360° appraisal, which involves eight different assessors (including other health professionals)
- Centrally collated and returned to the supervisor to provide feedback to the trainee

* Each assessment is to be completed by a different observer from different areas of the curriculum. † Assessed six times. ‡ Assessed twice. ◆

3 Foundation years structures in the United Kingdom

- Postgraduate Medical Education Training Board established to be responsible for accreditation and quality assurance
- Postgraduate Deaneries at each National Health Service Trust are responsible for the implementation of the program
- Foundation Year Directors appointed for each of the Trusts to oversee the program locally and support the Educational Supervisors who are responsible for approximately three or four foundation-year doctors ◆

ment of a curriculum which must be implemented by all National Health Service (NHS) trusts. It is a 2-year program of general training which bridges "the transition between medical school and early postgraduate medical training".[8] Elements of the Foundation Programme are outlined in Box 1. The following key points are noteworthy:

- The curriculum is learner-centred, with much of the responsibility for achieving objectives resting with the trainee.
- A crucial element of the Foundation Programme is assessment. Trainees will be required to undertake a series of structured assessments (Box 2),[9] and it is their responsibility to ensure completion of these in order to satisfactorily complete the requirements of the Foundation Programme and be eligible to enter advanced training programs.
- A central office for collation of assessment results has been established, which will allow junior doctors who are performing poorly to be identified, and provide feedback to supervisors on their performance.
- In the past 2 years, successful pilot programs have been implemented to trial the assessment methods and establish validity and reliability.[10]

While the results of the Foundation Programme will not be known for some time, the program has sound underlying educational philosophies and defensible competency assessments. Clear structures have been established (as outlined in Box 3) to facilitate implementation of the curriculum. The importance of the supervisor's role has been recognised, and considerable time and resources have been put into training supervisors in both curriculum components and the assessment requirements.

Questions remain, such as the roles of other health professionals in supervising or assessing trainees, and the time required to complete the compulsory assessments. These may well affect the feasibility of this ambitious program. However, the clarity of expectations in terms of competencies required, and the guidance in how to assess these provides a positive example for Australia.

The Canadian model of postgraduate training

Comparing the Australian and Canadian systems is difficult because there is no prevocational training in Canada. However, the implementation of the CanMEDs competencies in the early postgraduate years is relevant, as most of the Australian medical colleges have adopted the CanMEDs. The Canadian system (outlined in Box 4) is vocationally oriented from graduation.

Each postgraduate university program has its own curriculum and assessment procedures, which are approved by the appropriate medical college. The curriculum is mapped to the CanMEDs — "a framework of core competencies for all specialists".[11] Each program is responsible for ensuring education and competency assessment in each of seven essential roles of specialist physicians determined under CanMEDs: medical expert; communicator; collaborator; manager; health advocate; scholar; and professional. A number of clinicians indicated the need to better define the CanMEDs competencies so that it is clear to educational supervisors what they mean, and so that they can therefore identify ways to teach and assess them.

As with the UK system, there are clear structures in place to ensure implementation of the individual curricula. Senior medical staff are appointed as educational supervisors by the university, and there is obvious prestige in undertaking these positions. In terms of curricula, the assessments of individual competencies are not as clearly defined as in the UK. The quality of the In Training Evaluation Report (ITER) and its ability to identify issues of concern accurately depends largely on the information provided by the educational supervisor. Effort is required to gather information on the doctor's performance from a number of sources throughout the training period to better inform the ITER. Work is currently under way in many programs to identify specific competencies for assessment.

4 The Canadian system

- In 1992, universities were given responsibility for postgraduate training and the general intern year was abolished
- The specialty area is chosen in the final year of undergraduate training
- Applications are made to an individual university postgraduate program (eg, orthopaedic surgery), and once successful, students undertake their training in the accredited hospitals of that university
- The Royal College of Physicians and Surgeons and the College of Family Physicians of Canada accredit the postgraduate training programs
- The Postgraduate Dean at the University is responsible for the individual program, and there is a hospital program director
- Consultants are remunerated through the university for their role as postgraduate educational supervisors
- In addition to workplace experience, most programs provide junior doctors with formal education in areas such as ethics, patient safety, communication and law ◆

Australia — where to from here?

The focus of this article has been on prevocational medical education. However, medical education is a continuum,[12] and the prevocational years cannot be viewed in isolation. The role of the clinician in education and supervision spans this continuum, so many of the issues I have identified as problems for prevocational years are likewise problems for undergraduate and vocational medical education.

The common strengths of the UK and Canadian systems are the clarity that exists in terms of curricula, and the infrastructure to support their implementation. Unfortunately, these are precisely the areas where the current Australian system is weak. Key recommendations for aligning Australian prevocational medical education with international models are summarised in Box 5.

There is a need for a national curriculum for the PGY1 and PGY2 years. Medical educators need to have a clear understanding of what competencies are to be achieved in the first two postgraduate years, how to teach them and how to assess them. It is indefensible to leave what is experienced and learned by prevocational doctors up to chance. A defined curriculum does not detract from the rich opportunistic learning that occurs in the workplace, but does ensure that a minimum standard is achieved.

The CPMEC has recognised this need and is currently facilitating a national curriculum project. The resulting national curriculum needs to consider the Australian health care environment, including individual state and territory differences, so that it is practical and able to be implemented. While lessons can be learnt from our international colleagues, it would be a mistake to suggest entire programs could be implemented in Australia without major adaptations.

The CPMEC needs to take a leadership role in facilitating the adoption of this national curriculum by all stakeholders. PMCs are in the ideal position to provide the necessary accreditation processes to ensure that the providers of prevocational medical education implement the required elements. However, this accreditation process needs to have "teeth" or it will not be respected, nor result in change. The "teeth" need to come from government commitment, at both state and federal levels, to a national prevocational curriculum. Governments need to commit the funding to make the necessary infrastructure changes. Without clear structures within the health care system to support the implementation of curriculum, the status quo will continue.

The structures required are similar to those in the UK and Canada, with clearly designated educational supervisors. Senior medical staff need to be recognised for their roles as supervisors and educators. It is not sustainable to rely on "the voluntary contributions of many clinicians who teach".[13] The roles of educator and supervisor need to be recognised as being just as important as clinical and research roles. Unlike the UK and Canadian systems, Australia does not have large numbers of full-time senior medical staff within the teaching hospitals. Government and health service providers need to recognise that quality education and supervision take time, and to allocate appropriate funding, as was recognised by the Productivity Commission report.[2]

The CPMEC can lead the way at a prevocational level, but a national body responsible for medical education must be established to oversee the continuum, if the fragmented nature of medical education in this country[13] is to be remedied.

Communication across the continuum of medical education is vital to ensure rational use of diminishing resources. The same people are often involved in supervising medical students, prevocational doctors and college trainees. In the UK, the Foundation Programme has already resulted in some universities and colleges aligning their assessment processes to similar methods. This has the advantage of allowing the clinicians involved in assessment across the continuum to concentrate their expertise rather than requiring them to master a large set of tools.

While there is some evidence that such communication is occurring,[14] universities, PMCs, colleges and health departments need to ensure that this communication results in a sharing of expertise, knowledge, and resources which is not limited by funding arrangements. Establishment of a national medical education body has been suggested,[13] which should be a federal initiative with state subcommittees. It should have representation from all stakeholders, but must transcend differences in state and federal objectives.

Conclusions

The workplace remains the most important environment for junior doctors to learn in their postgraduate years. A number of key

5 Recommendations for Australian prevocational medical education

- Government commitment to a national curriculum for doctors in their first and second postgraduate years, which includes:
  - ➢ clear learning outcomes
  - ➢ assessment processes which are valid, reliable, acceptable and defensible
- Funding for adequate supervision within the health care system
- Accreditation of the national curriculum by Postgraduate Medical Councils
- Establishment of a national medical education body to facilitate:
  - ➢ improved communication across the continuum of medical education
  - ➢ integration of various curricula
  - ➢ rational use of limited training resources
  - ➢ support and training of medical educators ◆

ingredients in workplace learning have been identified. One of the most important of these is supervised practice.[4] The current apprenticeship model relies on experienced medical staff to act as supervisors. We need to provide national support for them in this crucial role by: having a clearly defined curriculum; recognising the role; providing resources to allow them to undertake the role; and making health care providers accountable for implementing a system in which they can act as supervisors. Further research is required into appropriate assessment of work performance,[15] but we are not in a position to implement assessment procedures when we haven't clearly defined the desired learning outcomes.

While the UK and Canadian systems are not appropriate to implement here in Australia, their medical education structures are allowing them to lead the way in competency education and assessment. We have an obligation to our junior doctors not to be left behind.

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Competing interests

None identified.

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