

Symbiosis: a new model for clinical education

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INTRODUCTION

The concept of a symbiotic curriculum was first articulated in the PRISMS model of medical education for the twenty-first century¹. PRISMS denotes medical education that is:

- Product focused
- Relevant
- Interprofessional
- Shorter and smaller
- Multisite
- Symbiotic.

A symbiotic curriculum is predicated on a mutually reinforcing relationship between medical schools and health services, where both gain. Students benefit from excellent learning opportunities while medical school staff and students contribute to and enhance the health

services in which they are engaged.

Some of the principles of symbiosis have been implicit in approaches to medical education for some time but they are increasingly difficult to maintain in large tertiary academic medical centres. The case mix of these centres is concentrated in the higher levels of tertiary care, with a predominance of acute and emergency illness. Patients frequently undergo complex technological interventions but, at the same time, have relatively short periods of time in hospitals. There is a new emphasis on patient 'rights' and choice, with limits to the number of skills and procedures that students and junior doctors can undertake with patients. There are strong pressures for clinicians to spend more time performing clinical services in the

budget-driven management structures of hospitals, often at the expense of time for teaching. Finally, most of the burden of health care is widely distributed beyond hospitals in the community, where chronic disease represents perhaps one of the major challenges for health care systems of the future. If these trends are to continue questions may be raised about the ongoing suitability of some traditional environments for undergraduate and graduate-entry medical courses.

RELATIONSHIPS AS A BASIS FOR SYMBIOSIS

Recently there has been increasing interest in greater use of the wider community in medical education, for example, in primary care, general practice and family medicine, and in smaller district or regional hospitals in both

There is a new emphasis on patient 'rights' and choice

Long-term placements allow students to get to know their clinical supervisors

urban and rural areas. This provides an opportunity to examine how the principles of symbiosis might apply in smaller less specialised environments, and whether generic principles can be defined and applied to all clinical teaching environments.

Some recent research on rural community-based medical education, involving the first two authors, has established that clinical education is built on four fundamental relationships:²

1. A personal–professional relationship
2. A clinician–patient relationship
3. A university–health service relationship
4. A government–community relationship.

The student is located at the centre of these relationships, as indicated in Figure 1.

Students bring personal principles and expectations to clinical settings. They need to develop these further into an expanding series of professional relationships that will guide their practice. At the very heart of the clinical setting are the relationships between clinicians and patients, with the patient also being at the heart of clinical education. There is thus a triangular interrelationship of patient, learner and teacher, in which all are both teachers and learners in an often covert partnership. Students' experiences in clinical settings are very heavily influenced by the relationships between medical schools or universities and their health service partners. They may also be in the centre of relationships between governments and communities, and their presence in health services may be a result of government educational and funding policies, yet at the same time students may be subject to community expectations about what health services should provide.

Traditional approaches to clinical education are difficult to sustain

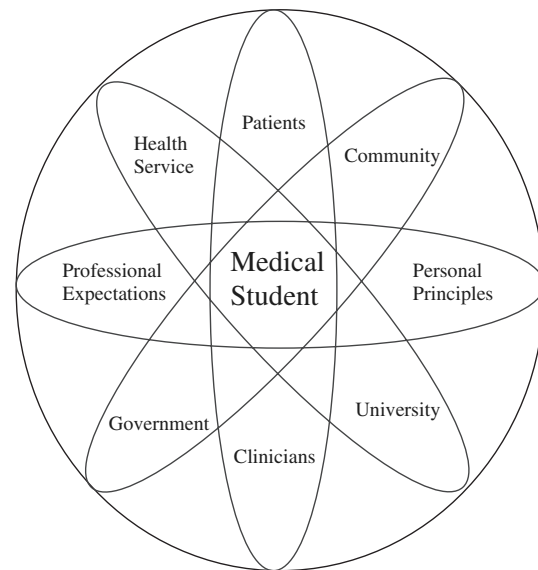


Figure 1. Relationships in clinical education (from Worley et al.²).

The key to achieving a symbiotic clinical curriculum is to ensure that the relationships are reciprocal and lead to mutual benefits. In the previously cited study students' perceptions of 'mutual benefit' in each of the relationships related to the value that they placed on their own learning. They perceived themselves as having some ownership in patient care and contributing in a meaningful way to the workload of the health services, while at the same time being valued and mentored by the health service staff.²

The rest of this paper focuses on factors and concepts drawn from different clinical education programmes that are important in achieving mutual benefit in each of the relationships.

THE PERSONAL–PROFESSIONAL RELATIONSHIP

One of the most important learning activities for students in clinical education is to match personal principles and professional expectations, which needs both time and support. Long-term placements allow students to get to know their clinical supervisors and observe them making difficult decisions around reconciliation of personal and professional inter-

ests. Time has been shown to be important in developing good social relationships and good patient relationships.^{3,4}

Medical schools have an obligation to support both students and clinical teachers. 'Effective' support has been defined as a key responsibility of medical schools in clinical education.⁵ Care for the well being of students and the educational development of clinical staff is central to this.

With time and support students can build the mutual benefit necessary for symbiosis. The longer the placements the more familiar students become with approaches to care, protocols and routines in the settings, and hence they are less demanding of busy staff. As they gain familiarity and confidence, they are better placed to make a contribution to health services. Long placements have become a feature of community-based clinical education programmes and are being adopted through integrated team-based placements in some hospital settings.

THE CLINICIAN–PATIENT RELATIONSHIP

It has already been argued that traditional approaches to clinical education are difficult to sustain



because of the pressure for service in contemporary health services, particularly if clinicians are expected to spend time away from service in direct teaching of students. In the symbiotic approach it is the triangular interrelationship of clinician, student and patient that becomes the focus of learning. The emphasis is on students directing their own patient-based learning under the guidance of their clinicians or facilitators. A recent paper advocates a move from the 'primacy' of the relationship between doctor and student to the relationship between patient and student:⁶ the patient plays a role as educator with the student as learner and co-educator and the clinician as facilitator. Again this takes time if students are to build relationships with patients that are not merely singular or transient in the benefits that they bring.

Hoffman and Donaldson's concept of '360° learning' is useful.⁷ With patients at the centre of their learning, students can access the health professionals involved in patient care all around them as sources and facilitators for learning.⁷ It has been claimed that such models of learning are more likely to flourish in smaller district general hospitals in the UK than in larger tertiary hospitals.⁸

Medical schools have an obligation to ensure that students are well prepared for clinical placements. Introductory clinical skills and procedures can be taught in laboratory sessions so that clinicians are free to concentrate on application of learning in clinical settings and dealing with more complex learning processes. A recent systematic review has indicated the importance of early

clinical exposure in developing patient-based learning.⁹

The patient plays a role as educator

Medical schools can also contribute to symbiosis by facilitating research and development into different models and approaches to clinical education and their impacts on patients, staff and health services. For example, Walters et al. have shown that, by using a system of parallel consulting, students in general practice can learn effectively from patients, doctors and other clinical staff without reducing the number of patients seen by the GPs.¹⁰

THE UNIVERSITY-HEALTH SERVICE RELATIONSHIP

The key concept in a university-health service relationship is that of 'authentic supported learning'. The health service provides the context for authentic learning. This has been defined as learning that is constructivist, enquiry based and of 'real work value'.¹¹

Students should be enabled to make a significant and worthwhile contribution to the work of the clinical teams to which they are attached, while constructing their own learning and enquiry under the guidance of their clinical team members. According to Hoffman and Donaldson, clinical experience provides opportunities for both 'hot' and 'cold' action.⁷ In hot action the emphasis is placed on participation as part of a clinical team performing a service; cold action allows students more time to reflect on their experiences and pursue their learning goals under guidance. Health services can provide for a balance of both.⁷

It is the responsibility of the university or medical school to provide 'organisational' and 'teaching' support to the student.⁵ Information communication technologies have made the task of supporting students in diverse clinical settings much simpler. Students can maintain communi-



The workforce has become an important driver of medical education

cation with the medical school and have access to online resources, study guides and supplementary materials to reinforce, supplement and enrich clinical learning. Guidelines and signposts to the outcomes of the curriculum should be available to assist both students and clinical teachers in selecting appropriate learning experiences that will lead to the attainment of the outcomes.

THE GOVERNMENT–COMMUNITY RELATIONSHIP

At first glance the relationship between government and community may be seen to have less direct relevance to student learning than the other relationships outlined here. Yet it is fundamental to achieving curriculum symbiosis. The link between workforce and medical education has been understood in the developing world for some time. Community-based medical schools have been established with the aim of producing a local workforce prepared to work in underserved areas. This thinking is now being applied in developed countries.

The Australian government has funded the development of rural clinical schools to enhance clinical services and provide medical education in areas of workforce shortage. New medical schools have been established in population growth regions. As a result the workforce has become an important driver of medical education. In England and Wales also the expansion of medical student numbers has seen the establishment of medical schools in underserved areas.

Local communities have been strong supporters of the new developments, and many have lobbied government for new facilities in their areas. They too expect a return of graduates prepared to work in their communities, which is a powerful imperative for medi-

cal schools to deliver on their workforce obligations.

Clinicians are effective role-models;¹² they can influence student decisions and thus contribute to the building of the government–community relationship. Students value their learning when they can see that they are making a difference to busy or under-staffed clinical services. They can also see at first hand the importance that local communities place on attracting and retaining a medical and health professional workforce. There is evidence of the success of schools with clinical education programmes with avowed workforce priorities, such as James Cook University in northern Australia, in attracting their graduates to work in local areas.¹³

CONCLUSION

This discussion of symbiosis is necessarily narrow because it focuses on clinical teaching only. Symbiotic relationships between medical schools and health services should extend to clinical service, research and funding. However, it is evident that, as medical student numbers increase throughout the western world and new settings for clinical education are utilised, medical student learning can be enhanced when students are at the centre of mutually beneficial relationships between medical schools and health services. Symbiosis helps to explain why this occurs, provides the template to ensure that medical education is sustainable in all contexts, and ultimately reinforces and re-establishes the principle that medical schools and health services need each other.

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