

SPECIAL SERIES

## **Integrity: The Key to Quality in Community-based Medical Education? (Part Two)**

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**ABSTRACT** *Relationships do matter! In fact, medicine cannot be learned without them, and community-based medical education (CBME) curricula that ignore them or take them for granted do so at their students' peril! Could these assertions provide a key to quality in CBME curricula?*

*In a previous paper, I provided evidence for a simple model of four key relationships, the four Rs, to act as a framework to analyse CBME. These four Rs are the relationships between (1) clinicians and patients, (2) health service and university research, (3) government and community, and (4) personal principles and professional expectations. In this paper I describe a key to discerning quality in this model. This key is integrity—that coalition of soundness and interdependence that enables the quality of the whole to be greater than the sum of the parts. I will also discuss the implications of this model for CBME with particular reference to reform of student selection, curricular goals, course structure, and assessment.*

*Whilst further research based on this model is needed, as a result of this synthesis of the current medical education literature, I propose that it is its capacity to produce clinical, social, institutional and interpersonal integrity in its graduates that makes community-based medical education such an attractive alternative.*

*Relationships do matter!*

**KEYWORDS** *Community-based medical education, undergraduate, quality, assessment, curriculum, student selection, health services, reform, community needs, relationships, integrity.*

**Relationships do matter! In fact, medicine cannot be learned without them, and curricula that ignore them or take them for granted do so at their students' peril!**

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Can this forthright assertion be justified? Does it matter?

In this paper, I will propose that the answer is “Yes” to both these questions.

Furthermore, I aim to show how, by examining the role of clinical, institutional, social and personal relationships in learning medicine, we can develop a key to discerning quality in community-based undergraduate medical education.

In a previous paper, I provided evidence for a simple model of four key relationships, the four Rs, to act as a framework to analyse CBME (Worley, 2002). These four Rs are the relationships between:

1. clinicians and patients, the “Clinical” axis;
2. health service and university research, the “Institutional” axis;
3. government and community, the “Social” axis; and
4. personal principles and professional expectations, the “Personal” axis.

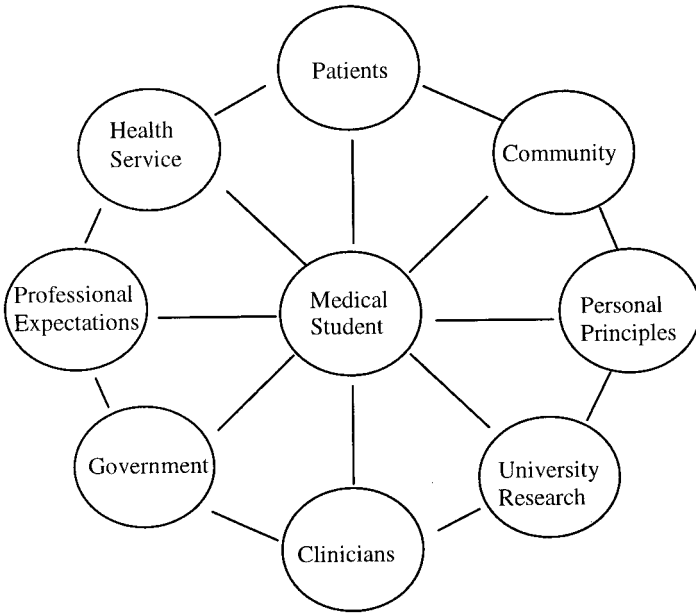
This model is based on the reflections of Daniel Federman,<sup>1</sup> the Dean of Medical Education at Harvard Medical School, on what qualities a good physician-educator brings to a student: doctor–patient, bench–bedside, individual–community, personal–professional. I combined his thoughts with my experience of working with communities, medical students, university staff, clinicians, and governments developing and evaluating a variety of undergraduate community-based medical education (CBME) programmes in rural and urban Australia to develop the 4R model (Figure 1). This model is designed to enable the principles that drive CBME (Hamad, 2000) to be organized simply and meaningfully.

## **Integrity: The Quality that Brings the Axes Together**

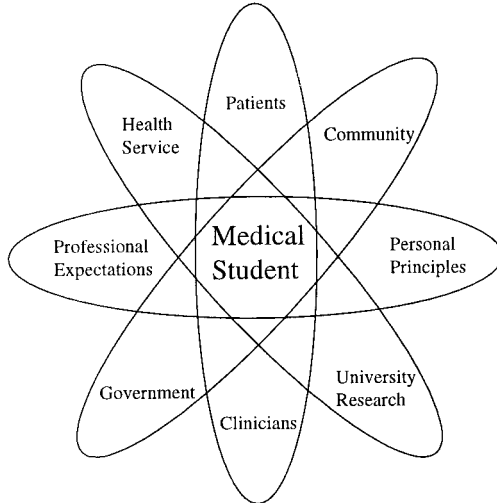
Having described a CBME curriculum in terms of these four relationship axes, with the student placed at the hub of the “wheel”, it is necessary to make the point that the axes are not independent of each other. Each of the axes has significant relationships with the others. Therefore, it may be better to represent these axes as intersecting sets (Figure 2).

When we view the model in this way, we see the complexity involved in CBME. How can we keep from being overwhelmed by the many individual permutations? How can we judge quality in these educational relationships? Whilst this model requires quality in each of the “nodes”, my hypothesis is: the quality of the whole can be greater than the sum of the parts. The unifying concept is “integrity”.

I suggest that “integrity” describes our goal in implementing the four Rs. The *Australian Concise Oxford Dictionary* defines integrity as, “wholeness,



**Figure 1.** The relationship wheel: the 4R model.



**Figure 2.** The integrity model: the four Rs.

soundness, uprightness, and honesty” (Moore, 1997). These descriptors give key characteristics for the four axes: Clinical—in all communication and procedures being thorough and treating the patient as a whole person; Institutional—having a sound theoretical underpinning to clinical decision

making; Social—having an upright standing within the community in leadership, understanding, advocacy and service; Personal—being honest with patients and colleagues, and indeed themselves, builds the trust that is essential for the profession of medicine as a whole, and a sustainable career for the individual clinician.

Integrity relies on appropriate knowledge, skills and attitudes, but emphasizes that these characteristics must be “integrated” and can, in fact, be dangerous in isolation, e.g. the arrogant expert, the compassionate fool, the doctor who can make the diagnosis but lacks skill to treat the patient, or the doctor who can operate brilliantly, but makes poor decisions on the timing of surgery. The concept of integrity also implies that the whole cannot be subdivided without destroying its intended function, and that the relationship between the components is one of harmony, interdependence, coalition, mutual recognition and common purpose. I will discuss this concept of curricular integrity on four levels: student selection; curricular goals and objectives; course structure; and assessment.

## **Student Selection**

The medical course displays integrity when its selection procedures enable the student body to be representative of the demographic profile of its community. This has been shown to increase the likelihood that graduating doctors will practice in minority sections of the community, e.g. rural and indigenous communities (Rabinowitz, 1988; Bruce, 1990; Xu *et al.*, 1997). This may require an affirmative action policy for traditionally under-represented groups such as rural-origin students (Kamien & Buttfeld, 1990; Rabinowitz & Paynter, 2000), and additional support for educationally disadvantaged groups before and during the course, as occurs for Aboriginal students at Newcastle University, Australia (Schwenke, 1990). Greater involvement of the community in the selection process can enhance the sense of partnership between the medical school and the community.<sup>2</sup>

## **Curricular Goals and Objectives**

The CBME curriculum as a whole displays integrity when its goals and objectives are congruent with the health needs and cultural milieu of the community it serves. This institutional principle, espoused strongly by the Network: Community Partnerships for Health through Innovative Education, Service and Research, is not new (Hamad, 1991). The primary thrust of the Network’s advocates has been to address the medical school’s social responsibility. A key component of this is providing opportunities for the community to inform the development of an appropriate curriculum, as well

as participate in the delivery and assessment of these objectives (Hamad, 2000).

With a relational understanding of learning, as articulated by the experiential theorists (Kolb, 1984), it can be seen that this principle also enhances student learning—providing the students and teachers with rich stimuli for academic achievement. Given the increasingly narrow focus of tertiary hospitals, it is not surprising that Network schools are also siting far more of their education in the community, using Osler’s principle that “the students should be where the patients are” (Stone, 1995). This is not to deny that an understanding of these relationships may be effectively developed in tertiary hospitals—but only if the hospital has developed a constructive and explicit relationship with its community.

## Course Structure

The structure of a CBME curriculum displays integrity when student learning is integrated rather than artificially deconstructed into rotations through departmental ‘silos’. This requires a process of successful institutional change, based on the vision and cooperative effort of a coalition of interested partners (Kotter, 1995), such as those at the nodes of the 4R wheel.

This integration can take many forms. At its least threatening level, to the institution, it may involve integrating hospital specialist and general practice teaching in one discipline (Murray *et al.*, 1997). But, to fully develop the relationship potential of CBME along each of the axes, more time is required than can be supplied by one “rotation” (Irby, 1995). Indeed, the concepts of clinical “rotations” or “terms” may become anachronistic with CBME. This idea was first mooted 25 years ago in relation to post-graduate training (McWhinney, 1975), and there are now several examples of such integration at undergraduate pre-clinical and clinical level with extended attachments successfully incorporating all axes of this model (Pittman & Barr, 1977; Verby, 1988; Kaufman *et al.*, 1989; Slavin *et al.*, 1995; Worley *et al.*, 2000).

Utilizing problem-based learning (PBL) methodology can lead to integrity in the course structure (Baca *et al.*, 1990). This can be understood in part by the way PBL encourages students to integrate along the axes described in this model (Finucane *et al.*, 1998), and by the interpersonal relationships and learning contracts that develop between students within the group learning environment as an example of social—cognitive learning theory (Bandura, 1986). But this integrated learning cannot be taken for granted, especially when the site for a PBL course is a classroom rather than a clinical setting. This may explain some of the variability in the evaluations of PBL courses (Colliver, 2000).

Human life cycle and organ systems-based learning also make sense in the light of a relationship-based curriculum, as they both enable the integration of

the multiple basic sciences and clinical skills. In practice, it is often difficult to provide relevant patient contact for all students within such a curriculum—there may not be enough room on the renal ward (!). Moving patient contact to a community setting, as in the examples above, with a breadth of appropriate patients, for a sufficient length of time, can overcome this dilemma without resorting to complex curriculum rotations that often mean inefficient, repetitive teaching to each new group of students.

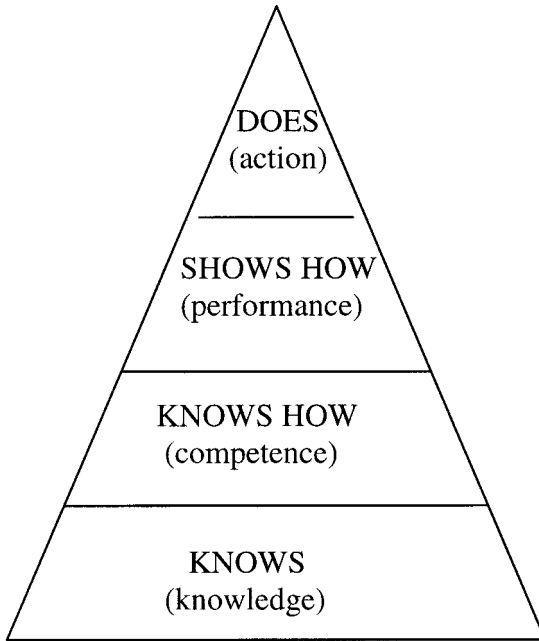
## Assessment

The natural consequence of integrity in a CBME curriculum is an integrated, rather than discipline specific, assessment, congruent with the curricular goals and the learning opportunities provided. The four relationship axes provide a natural framework for an integrated assessment at any point in a medical curriculum. In addition to this educational relationship-based rationale for integration, the psychometric literature on reliability for OSCEs shows that the number stations required to ensure a reliable assessment makes it economically difficult to justify separate exams for each clinical discipline—the relationship between cost and practicality (Van der Vleuten, 1996).

Medical schools often describe their curricula in terms of the knowledge, skills and attitudes that need to be learned. But it is the integration (an aggregated relationship) of these three constructs in the individual that determines physician behaviour—and this is the ultimate test of a medical curriculum (Murray *et al.*, 2000). A doctor may have the knowledge, but not be able to behave appropriately due to a lack of expertise or poor attitude (McWhinney, 1975). Likewise a good attitude in the absence of competent knowledge can be dangerous. Although there are many factors contributing to poor patient outcomes that are outside the influence of a medical school, the significant influence of undergraduate curriculum has been demonstrated (Tamblyn, 1999). Therefore, we should be teaching and testing far more behavioural integrity in medicine, rather than isolated knowledge, skills and attitudes and assuming that there is an appropriate relationship between them in the individual doctor (Miller, 1990).

The current emphasis on examination reliability has constrained assessments to the third level (Shows How) of Miller's assessment pyramid (Figure 3) through abstractions such as OSCEs and Standardized Patients (Van der Vleuten, 2000). The literature showing the content specificity of problem solving demands such multiple sampling of clinical performance to provide adequate reliability (Elstein *et al.*, 1978).

Could community-based programmes be used to assess the fourth level, action? An extended community-based generalist attachment provides access to a vast range of clinical examination material and the opportunity for more than one sampling over time with any particular patient. It also can deliver



**Figure 3.** Miller's framework for clinical assessment.

multiple levels of diagnostic complexity and disease severity within any one particular condition. This access to diversity is thought to be crucial to reliability of diagnostic performance assessments.<sup>3</sup> By allowing students sufficient time in community practice, with a continuous integrated assessment based on actual clinical encounters, it may be possible to provide a reliable “action-based” assessment.

## Conclusion

In this paper, I have proposed that by examining the role of clinical, institutional, social and interpersonal relationships in learning medicine we can not only articulate a framework for analysing CBME, but also develop a key to quality in CBME curricula—integrity. I have described a four-axis model of the critical relationships, and have discussed some practical implications of integrity for student selection, curriculum objectives, course structure, and assessment.

Using the 4R model, I have outlined a set of justifiable reforms that may enhance the effectiveness of CBME. These are:

1. armative action in student selection;

2. constructing an explicit functional relationship with the community in regard to curriculum planning;
3. deconstruction of clinical “rotations” in favour of extended longitudinal attachments; and
4. creation of “action-based” assessments.

In conclusion, I suggest that it is the ability of a medical curriculum to be able to immerse a student in the rich milieu of inter-related factors described by the 4R model, and then enable them to capitalize on the connections, which differentiates a good learning environment from a poor one. Whilst we clearly need more research before we can articulate the relative importance of each node and connection, persisting in teaching in environments where nodes are either missing or not connected effectively is producing under-prepared graduates (Hamilton, 2000). Not paying attention to these relationships in CBME will also result in disappointed patients, communities, health services, governments and universities.

But, by paying as much attention to the relationships as to the content of a curriculum, it soon becomes obvious that the context of learning does make a difference. It is its capacity to deliver clinical, institutional, social and personal integrity that makes community-based medical education such an attractive alternative.

Relationships do matter!

## Notes

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