

CURRICULUM DEVELOPMENT

Sometimes We Do Get it Right! Early Clinical Contact is a Rewarding Experience

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ABSTRACT **Objective:** *Like many other medical education bodies, the Health Professions Council of South Africa has advocated changes in the education and training of medical practitioners. The suggested reform includes early clinical exposure in a range of settings. Early in the design of Curriculum 2001, a problem-based learning programme, health care visits in Year 1 were considered essential. Since the student population was diverse in many aspects, including age, it was necessary to evaluate whether students were prepared for the early exposure.*

Methods: *Data on the impact of the health care visits were collected directly through a survey administered towards the end of the academic year and indirectly from student comments regarding their most rewarding experiences during the year.*

Results: *Responses to survey items indicated that students were generally prepared for their health care visits and gave them insights into the activities of a medical practitioner. Sixty-nine per cent of students indicated that aspects of their health care visits, particularly the labour ward and an ambulance duty where many had hands-on experience, were their most rewarding experiences.*

Discussion and Conclusions: *The decision of curriculum organisers to introduce students to patients in Year 1 of the new PBL curriculum was well received. Despite their young age, many students believed that they were psychologically prepared for this exposure. For many, it was the highlight of their academic year, often reinforcing their original desire to study medicine and allowing them to experience the real world of medicine.*

KEYWORDS *Health care contacts, problem-based learning, rewarding experience, Year 1.*

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Introduction

In a traditional medical programme, the artificial divide between the pre-clinical sciences and clinical medicine often results in students not encountering patients until the third or fourth year of study. Such curricula have frequently been criticised for this late clinical exposure, which was one of the factors contributing to the 1993 Edinburgh Declaration (World Federation of Medical Education, 1994). In 1993, the UK's General Medical Council's (GMC) *Tomorrow's Doctor* advocated introducing students to clinical medicine early in their studies, using real clinical situations to make teaching more practical, relevant, stimulating, and reinforcing the vertical integration between the basic medical and clinical sciences (General Medical Council, 1993). In 1998 a position paper from the World Federation of Medical Education (WFME) clearly recommended that "medical education must to the greatest possible extent integrate basic and clinical disciplines with a focus on key principles. Students should meet patients early on." (p. 551) (World Federation of Medical Education, 1998). It is not surprising that a wave of medical education reforms toward self-directed learning (SDL) and problem-based learning (PBL) followed and incorporated these principles. South Africa is no exception. The Health Professions Council of South Africa (HPCSA), the professional body responsible for accrediting medical and dental Faculties, recommends early clinical contact during the basic study years to contribute to enthusiasm and communication skills development (Health Professions Council of South Africa, 1999).

Early clinical exposure also addresses other concerns of WFME. To this end, the Federation believes that with the new health care delivery demands on the medical profession, the emphasis of medicine needs to be on generalist (rather than specialist) training, with the graduates having experiences in a variety of settings (hospitals, communities, primary health care, amongst others) (World Federation of Medical Education, 1998).

In developing countries, it is probably of even greater importance than in developed countries that students recognise the need to prepare for community and primary health care settings from early in their medical training. At the Nelson R. Mandela School of Medicine (University of Natal, Durban, South Africa), curriculum planners were acutely aware that early patient exposure in a variety of clinical environments was an essential requirement in a new curriculum (*Curriculum 2001*) to educate individuals who could assist in addressing the country's health care needs. During development of the first year of this curriculum, appropriate health care visits were incorporated which traditionally had been offered in the fourth or fifth year only. While following global and national recommendations for early clinical exposure, it was necessary to ascertain whether first year medical students, many only 17–18 years old, appreciated the significance of patient exposure and whether they were sufficiently mature to deal with potentially traumatic events. The author—

the 2001 year co-ordinator who had been intimately involved with the design and implementation of *Curriculum 2001*—was aware that, for a few students, some of their experiences (e.g. termination of pregnancy, childbirth and violent crime) had been traumatic. This discussion deals largely with students' perceptions of their experiences with patients in Year 1 of a PBL curriculum and considers the merits of this early clinical exposure in terms of the outcomes of the new curriculum.

Methods and Materials

The New Programme (Curriculum 2001)

In January 2001 after several years of planning, the Nelson R. Mandela School of Medicine introduced a 5-year theme-based PBL programme. As early as 1990, the Faculty realised that curriculum reform was necessary, largely for learning to become more student-centred around real life issues and because of the changing needs of communities. In the curriculum revision, the Faculty opted for PBL from Year 1, six themes per year, early skills training and health care visits. Of interest to this discussion are the health care sites visited by students during the first year of *Curriculum 2001* (Table 1).

Health Care Visits

In keeping with the theme of the case discussed each week in small group tutorials (2 × 2 hours), large group resource sessions (± 6–8 hours) and clinical skills training (2 hours), health care visits (2 hours) are organised where appropriate (Table 1). These visits are arranged by the curriculum organiser. Generally, groups of 9–10 students visit one of several primary health care or district level facilities in the Durban functional region. In the Growth and Development theme, schools for specifically handicapped children are visited. In organising the health care visits, the relevant staff member is contacted and provided with details of what students are expected to learn. During the visits, students are introduced to patients. Where appropriate, skills are demonstrated and information provided. Students may take a history or be given the chance to practice the clinical skills learned in the skills laboratory. Much of the contact in Year 1 is, however, observational. The ambulance shift undertaken in the final theme for the year (Trauma and Emergency Care) is generally a hands-on experience, with some students assisting with deliveries, performing cardiopulmonary resuscitation and putting up intravenous drips. These first year students are exposed to the medical profession from both the perspective of the health care professional and the patient.

Students

Students admitted to the Nelson R. Mandela School of Medicine are from diverse socio-economic, educational and ethnic backgrounds. Demographic

Table 1. Summary of health care contacts during the six themes of Year 1 of *Curriculum 2001*. Theme 5 has been expanded to demonstrate how the health care contacts are integral to the overall theme objectives.

Theme (6 weeks duration)	Health care visits during modules
Theme 1. Introduction and diabetes	None organised, but students are expected to interview a diabetic patient following skills training in communication and history-taking.
Theme 2. Nutrition	None
Theme 3. Growth and Development	<ul style="list-style-type: none"> ● Spes Nova (cerebral palsy children) ● Brown's School (physically and mentally handicapped children) ● Valley Trust (community clinic run by the University) ● Paediatric outpatients department at local hospitals ● Neonatal clinic ● Various tuberculosis centres (urban and rural) ● Minor ailments clinic ● Ear, nose and throat clinic
Theme 4. Infection and Inflammation	
Theme 5. Reproductive Health 1	
During the theme, students will	
<ul style="list-style-type: none"> ● become familiar with the embryology, anatomy and physiology of the female reproductive system ● become familiar with the female menstrual cycle ● become familiar with the normal sexual response cycle ● gain knowledge and an understanding of the various methods of contraception ● understand the legal and ethical issues regarding termination of pregnancy ● be introduced to the method of taking a gynaecological history and performing a gynaecological examination ● gain knowledge on the prevention and diagnosis of sexually transmitted infections, including HIV infection ● become aware of the process of managing a victim of sexual abuse ● understand how to diagnose normal pregnancy ● understand the process of normal childbirth and the subsequent puerperium 	<ul style="list-style-type: none"> ● Family planning clinic (contraception; termination of pregnancy; sexually transmitted infections; HIV testing and counselling) ● Antenatal clinic (patient education for foetal and maternal well-being; antenatal card; obstetric examination) ● Labour ward (labour; Caesarean section; episiotomy; neonatal examination) ● Nursery (breast-feeding; bonding)

(continued overleaf)

Table 1. (continued)

Theme (6 weeks duration)	Health care visits during modules
<ul style="list-style-type: none"> ● develop an understanding of the importance of breast-feeding and mother/child bonding ● develop counselling skills ● understand the relationship between public health and reproduction 	
Theme 6. Trauma and Emergency Care	12-hour ambulance shift (day or night) [with reflective report]

and academic criteria are taken into consideration for admission. The 2001 intake included a large number ($\pm 25\%$) of mature students (at least 1 year of tertiary study), some with masters degrees, or with experience in the health care profession. While school leavers were generally 17–18 years of age, some mature students were considerably older (> 30 years).

Evaluation of Health Care Visits: Data Collection

While health care visits were evaluated at the end of each theme, the data currently presented were extracted from the course evaluation, conducted about 2 weeks before the end of the 2001 academic year. Since the age, maturity and experience of students varied considerably, it was necessary to ascertain whether health care visits in Year 1 were appropriate in terms of the psychological impact of traumatic events students might experience. For example, one theme involved most students witnessing a birth and possibly a termination of pregnancy, and in another, students were expected to do a 12-hour (day or night) ambulance duty. Ninety-seven point three per cent of surveys were returned.

Items in the student course survey inquired whether the health care visits and patient contact were a positive experience, if they were psychologically prepared for these visits, and whether the visits gave them insight into their future role as medical practitioners (Table 2). The remaining data presented were collected indirectly, from an open-ended item in the course survey, in which students commented on their most rewarding experiences during the year. Many of these positive experiences related to the health care visits.

Results

Health Care Visits: A Positive or a Negative Experience?

Students agreed that their experiences with patients were positive (94.6%), and 83.6% were psychologically prepared for what they witnessed. For the majority

Table 2. Student responses to items in the course survey relating to their health care visits.

Item	% students ($n = 186$)	
	Agree	Disagree
Was your exposure to clinical medicine (i.e. patients) a positive experience?	94.6	4.3
Were you psychologically prepared for this clinical exposure?	83.6	14.5
Did this exposure give you insight into understanding what a doctor does?	95.7	2.7

(95.7%), these visits gave them insight into the day-to-day activities of a health care professional (Table 2).

Health Care Visits: Most Rewarding Experiences During the Year

In terms of their most rewarding experiences during the year, 69% of students identified aspects of their health care visits (including ambulance duty, patient contact) as the highlight (Table 3). In particular, many students witnessed a childbirth which had a significant impact on them. Some assisted with a delivery during their ambulance shift.

Table 4 provides some student responses to this open-ended question and rich descriptions of experiences that had affected them.

Although not within the scope of this discussion, there were other rewarding experiences which should encourage curriculum organisers (Table 3). Some students indicated that they were sufficiently confident to share their experiences and knowledge with other students, had established strong friendship bonds with colleagues and had become independent, resourceful learners, important outcomes of the new curriculum.

Discussion

The students' emotive descriptions of the positive impact of their clinical contact in the present study provide curriculum planners with sufficient evidence that the decision to include health care visits in the first year was wise (Table 4). Despite being young, the majority of students were adequately prepared emotionally for what they witnessed. The experiences, although largely observational, also provided them with insight into what was expected of them as practitioners. The early clinical exposure had been many students' most rewarding experience. By far the most impressionable event for many was witnessing the birth of a child, and for some, cemented their original motivation for undertaking a career in medicine (Table 4).

Table 3. Student responses to an open-ended question about their most rewarding experience during the year. Only values above 1% are reflected.

Most rewarding experience	% students ($n = 144$)
<i>A. Health care visits, with specific reference to</i>	69
● Theme 5: Reproductive health (especially childbirth)	26
● Ambulance duty	17
● Patient contact/interaction	16
● Insight into what is expected of a health care worker	9
● Reaffirmed reason for doing medicine	5
● Interacting with health care workers ^a	4
● Tuberculosis	3
● Delivering a baby	2
<i>B. Curriculum/learning issues</i>	
● Learning to work independently	9
● Putting into practice what we learnt	6
● Experiencing real world situations	4
● Experiencing the new curriculum	3
● Gaining confidence	1
<i>C. Interacting with people</i>	
● Meeting/interacting with new people	5
● Making friends	4
● Sharing with colleagues	4
<i>D. HIV/AIDS course</i>	6
<i>E. Other</i>	
● Success in the progress examinations ^b	4
● Learning to suture	3
● Ambulance course	2
● Skills in Year 1	2

^a Includes doctors

^b Are written three times a year by all students which predicts the final expected theoretical knowledge.

Several publications support the positive impact of early patient exposure on student learning, in both traditional and student-centred curricula. Johnston and Scott (1998) reported that traditional curriculum students who had clinical experience (vs. those who had none) were generally more satisfied with their medical studies. Although not evaluating the impact of patient contact, Harrison (1997) provided indirect evidence that a human subject research component in Years 2 and 3 of a traditional curriculum was a valuable element. He believes the research project made students aware of the ethical issues involved in dealing with patients and provided important training in communication skills. Both of these impacted on students' interactions with patients.

In the present study, there were other clinical exposure references which confirmed students' choice of a career in medicine (Table 4). For some, the

Table 4. Student descriptions of the impact of health care visits on their training and education.

The labour process and its impact

- “Witnessing a C-section and a normal delivery. I felt that I had made the best choice by doing medicine and seeing children coming to life is rewarding.”
- “Seeing a surgeon at work in the labour ward and knowing that it is what I want to do. I feel good to go on with medicine.”

Confirmation of medicine as a career choice

- “Going on clinical visits made me see what I am studying for and made everything real for me.”
- “The clinical and hospital visits allowed me to always keep my goal in mind, reminding me of the reason for wanting to study Medicine.”

Positive experiences during the ambulance shift

- “I saw a baby being brought into the world and helped!”
- “An overwhelming experience when I put in my first IV line.”

Experiencing the real world of medicine

- “Real life situations that we could relate to in everyday life.
- “Prepares one for the many different hospital situations one might come across when practising. What we learnt becomes a reality.”
- “Gaining a better understanding of what we are learning and a good picture of what is expected of us in our career”
- “First hand experience of the medical profession.”

The impact of the medical profession on the community

- “Hospital visits made me realise the impact the medical profession can have on the community.”
- “It made an incredible impact to see how people from all walks of life place their trust in the health care workers. It also added greater clarity as to the role of a health care worker.”
- “Doing the HIV/AIDS talk and knowing that we could make a difference to somebody’s life by giving them information they need so they are not ignorant.”
- “. . . when I go back to the community to explore what people are suffering from.”

Putting learning into practice

- “To use what I had learnt to treat patients.”
 - “What we learn theoretically becomes a reality.”
 - “Witnessing how the information we had learned helped me understand medicine in practice.”
-

clinical visits became a hands-on, real life experience. One student, who arrived early in the labour ward, was asked to assist due to a staff shortage. It was an experience she will never forget. Others, mainly during their ambulance shifts, had opportunities to practise what they had learnt, particularly the skills undertaken during the Emergency Care Practitioner’s Course, which runs parallel with the first year of the PBL programme (Table 4). It also gave them insight into what a career in medicine entails.

The focus of medicine has changed over the past decade and now requires a strong community level involvement. As curricula evolve to address this need,

students must be made aware from the outset that this is a vital aspect of their training. Some students' comments suggest an awareness of the impact a health care professional has on the quality of life of patients and communities. As future doctors, they realised that they would be able to make such a contribution (Table 4). These comments are similar to those of students at the University of Transkei, the first medical school in South Africa to introduce PBL with a strong community element. They identified the emphasis on clinical teaching and holistic, community-oriented care-giving as one of the strengths of the programme (Meel, 2002).

While most students enter the medical profession for humanitarian reasons, there might be others who do so for less altruistic reasons, such as status and financial rewards. The health care exposure during Year 1 of their new curriculum, particularly since a number of visits were at the primary health care level and community-based, relay the message that medicine is not the glamorous career it once used to be. Their first-hand witnessing of an HIV/AIDS patient and impoverished communities are likely to have been a sobering experience, exposing young students—some from relatively affluent families—to the stark reality of the medical profession for a 21st century South African health care practitioner. The sentiments expressed by these students indicate that they have embraced their experiences, which have clearly fuelled their enthusiasm for medicine. The first cohort of Year 1 students in the Sherbrooke PBL programme had been equally enthusiastic about their health care exposure – “a fascinating experience for us to see the health care delivery system from inside, to talk to real patients suffering from real diseases, and to meet practising physicians” (Barbeau *et al.*, 1990: 31). Perhaps an even more astute realisation by those Sherbrooke students captures what some might believe is the essence of medicine, the doctor–patient relationship (Monekosso, 1998). The patient is seen as a whole and not as a disease—“It was a beautiful lesson in humanitarianism that we think struck home. The rotation motivated more than one student and enhanced the interest and curiosity for all” (Barbeau *et al.*, 1990: 32). From those students' perspective, this realisation arose because they were exposed to patients at a time of knowing very little about diseases and clinical medicine. Perhaps there is a lesson to be learnt here for curriculum designers!

In the present study, students' descriptions of their early patient exposure, like those of the Sherbrooke students, are filled with enthusiasm and appreciation for the learning experiences (Table 4). Not only could the students see what medicine entails, but their health care contacts allowed them to link theory and previous experience to real world situations (Barbeau *et al.*, 1990). The artificial divide between the basic medical sciences and clinical medicine has long been a criticism of the traditional curriculum and has resulted in the recommendation for early patient exposure (General Medical Council, 1993; World Federation of Medical Education, 1994; Health Professions Council of South Africa, 1999).

Conclusions

The decision by curriculum designers to introduce students to patients only three months into their medical studies was a bold one and has had a number of positive repercussions for the first cohort of students in the new PBL curriculum. While the original reason for early clinical experience was to make students aware of the doctor–patient relationship and the need for competency, students—without any prompting—recognised that this early clinical contact made them aware of the more humanistic elements in the practice of medicine. Students gained valuable insights into the impact of the health professional on the quality of life of patients. They had experienced this first-hand, which had clearly affected some. For others, health care visits allowed them to apply what they had learnt or practised in the skills laboratory to real life situations, making their learning contextual and relevant. Tackling sensitive issues, such as the termination of pregnancy, were difficult and were identified by a few as their least rewarding experiences.

Finally, although many students were young, the majority thought that they were emotionally mature enough to accept the experiences and events (some traumatic) they had witnessed. In fact, students appeared to embrace the health care visits with the enthusiasm we believe has, for many, reinforced their desire to study medicine. Having experienced a year with these students as the year co-ordinator and reading their comments pertaining to their rewarding experiences, I am reminded of Carl Rogers (1969) writing about emancipating students, allowing them to run off in all directions in pursuit of their dreams: “... to free curiosity; to permit individuals to go charging off in new directions dictated by their own interest, to unleash a sense of inquiry; to open everything to questioning and to recognise that everything is in a process of change ...” (Rogers, 1969: 11).

I truly believe that early health care experiences have broadened the horizons of our young students, providing them with an uncensored view of the real world of medicine, and hopefully giving them insight into medicine from a patient’s perspective.

Acknowledgments

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