Delivery of a surgical clerkship program in a remote site: personal experiences and published evidence

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Changes in the organization of surgical practice and expanding enrolments in medical schools have created new challenges in undergraduate surgical education. While demands for clerkship teaching increase, fewer patients are hospitalized for shorter periods of time, with the result that fewer inpatients are available for use in instruction.

Faced with this difficulty, some medical schools have developed innovative means of delivering undergraduate surgical education. In September of 2003, the University of Western Ontario introduced a remote clerkship program in Windsor, an Ontario city 190 km from the university with an underserviced catchment base of 350 000.[1] Four third-year medical students (including myself) inaugurated the surgical clerkship rotation. This essay describes my experiences in this program and reviews the academic literature on surgical clerkships.

Undergraduate surgical education at multiple and remote sites provides many special opportunities for medical students while overcoming some of the challenges faced by medical educators. The large numbers of surgical patients in remote sites provides ample clerkship teaching opportunities. Having received training at 2 hospitals that perform over 40 000 surgical and 105 000 emergency department services annually,[1] I have been exposed to a remarkable variety of cases and have not been limited by the patient-to-student ratios that are problematic in other centres. I have been given active roles in the operating room, which in turn affects my personal motivation to pursue surgery as a career.

Educators at the University of Wisconsin[2] reported a similar pattern and found that among 146 medical students, those matched into categorical general surgical programs participated in significantly more abdominal and general surgical procedures than those who were not. As such, the high patient:student ratios available at remote education sites provide medical students not only with opportunities to meet undergraduate learning objectives, but also a range of experiences that may influence their postgraduate careers.

Training in a remote setting has enabled me to explore innovative communication technology. As part of the nonclinical component of the clerkship program, I interact daily with faculty and classmates via videoconferences of surgical seminars held at the university teaching hospitals. This permits standardized didactic teaching across multiple sites and also exposes students early in their careers to the technology that I anticipate will shape the structure of tertiary surgical-consult systems in the future.

Literature on surgical clerkship programs has also described the benefits of videoconference technology. The Technion Faculty of Medicine in Israel used videoconferences to deliver an intense 1-week core curricular clerkship in cardiothoracic surgery, to overcome problems of limited and unequal exposure among clerks to operating-room activities.[3] Used in these ways, videoconference technology can not only maximize the efficiency of the curriculum, but also expose medical students to sys-

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tems of technology that may become important in their future practice.

Traditionally, academic medical centres have had concomitant roles of providing education and patient care, while community hospitals are devoted to patient care alone. This difference in focus has not adversely affected educational outcomes.[4] At Tufts University School of Medicine (Boston, Mass.), surgery educators quantified the effects of the experiences of students educated in community hospitals by analyzing the national board and oral exam results and clinical appraisal scores of 621 third-year medical students.[4] They found community hospitals to be equivalent or superior to the principal academic hospital for teaching surgery. They speculated that these positive outcomes resulted from the greater individual attention that undergraduate students received from the teaching surgical staff and the personable atmosphere of the community hospital, virtues also inherent to the Windsor clerkship program.

While the formal aspects of surgical clerkship in the remote program have provided me with unique and innovative educational experiences, the informal education has been similarly influential. The Windsor community has very enthusiastically supported the clerkship program by hosting welcoming events and assisting with the search for housing. Many residents of Windsor perceive the clerkship initiative as a long-term solution to the shortage of physicians in their city. Researchers at the University of Western Ontario concur; their study found that physicians who train in rural or underserviced areas are more likely to practise there.[5] As the remote surgical education program in Windsor grows and increasing numbers of clerks and residents train there, great potential exists for a surge in the community's physician resources.

Overall, my experience in a new remote surgical clerkship has contributed to my learning experience in many unique ways. In the operating room, I have assisted in procedures that other medical students might only view from a distance, while I applied the surgical concepts I learned via videoconference distance education. Examining patients on surgical wards, I contributed directly to their care while they enthusiastically contributed to my education and encouraged me to practise in their home locale when I graduate.

Time will tell whether the remote surgical clerkship program of the University of Western Ontario will ultimately alleviate the physician shortages in that underserviced area. Meanwhile this innovative approach to undergraduate surgical education has improved patient:student ratios, effectively used medical communication technology that will influence the future, and provided a unique source of inspiration for at least 1 medical student.

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