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Integrated community clerkship: Medical education at UBC and the challenge of underserved communities

Since 2004, year 3 students in the MD undergraduate program have had the opportunity to gain clinical experience in a community setting that permits continuity of contact with patients, preceptors, and health care team members.

ABSTRACT: An innovative form of clinical training has been a successful and popular component of the MD undergraduate program in the Faculty of Medicine at the University of British Columbia since 2004. The Integrated Community Clerkship Program is an example of a longitudinal integrated clerkship that integrates student clinical experience and ensures continuity of student contact with patients. The program offers year 3 medical students an alternative to traditional teaching hospital rotations. The current annual cohort of 20 students is selected from a pool of applicants. Launched in Chilliwack, BC, a largely rural community of 80 000, the Integrated Community Clerkship Program is now operating in six different communities in the province. Students learn from the opportunities afforded by long-term relationships with patients, preceptors, and health care team members. Since the launch of the program, students have been found to perform academically as well as their traditionally trained counterparts, and to demonstrate strong procedural and problem-solving skills. Although to date most integrated clerkship graduates have tended to choose family medicine, any program choice is open to them, as residency match results for 2006 to 2012 indicate.

Medical education at the University of British Columbia has been transformed in the past decade and continues to evolve. Currently, the MD undergraduate program is delivered in communities throughout BC, at UBC's Vancouver campus, and at campuses in Prince George, Victoria, and Kelowna. The number of undergraduate seats has increased from 128 to 288 in the past 10 years and postgraduate positions have more than doubled.

In response to a provincial government mandate, the Faculty of Medicine at UBC has worked to provide new opportunities for medical trainees across the province. This mandate has been embraced by stakeholders in many communities. Clinicians throughout BC have stepped forward to train our medical students in the communities where we hope they will one day choose to live and practise. This measured, coordinated, and ambitious effort

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is designed to address the uneven distribution of physicians throughout the province—a problem that has affected British Columbians in many underserved rural and remote communities for decades.

Our approach to enhancing opportunities for rural and remote medical training has been guided by the best evidence, which indicates that when residents and graduates must decide where they will live and work, they often choose the communities where they have gained professional experience and made connections.[1-3] During recent years, undergraduate medical students at UBC have been provided with a range of opportunities based on our understanding that clinical competence can be gained along with the added benefits of a continuous experience in nontraditional community settings.[4-7] One of these opportunities is the integrated community clerkship (ICC).

Piloting the Integrated Community Clerkship Program

In 2004, the Integrated Community Clerkship Program was offered to year 3 UBC medical students for the first time. This nontraditional approach to clinical training was pioneered in Chilliwack, BC. At that time Chilliwack was already established as a teaching centre for postgraduate trainees in the Family Medicine Program, meaning that a tradition of medical teaching excellence was already in place. In addition, Chilliwack as a community had other attributes, including size and location, that were deemed optimal for this new approach to medical education.[8,9]

The Chilliwack pilot was designed using the organizing principles of longitudinal integrated clerkships, namely continuity and integration of clinical experience. This kind of community-centred medical education stands in contrast to the traditional model, which involves discipline-based rotations through multiple specialty clerkships, often at several different teaching hospitals over the course of an academic year. It was anticipated that students in Chilliwack would benefit from the longitudinal experience afforded by continuity of interaction with their patients, their teachers, and the community. Primary preceptors in family medicine would oversee medical students' development of competence in all disciplines. Concurrent clinical experiences with a small group of specialist faculty were planned to complement students' longitudinal experiences over the course of a year. It was expected that students would benefit from a better understanding of patient context and a better understanding of community resources and the roles of allied health professionals. Enhanced engagement in the clinical care of patients with expanded opportunities to complete supervised procedures was also an anticipated benefit.

The model used for the Chilliwack pilot borrowed heavily from similar programs adopted and validated in rural Australia and a number of medical schools in the United States. Rural and urban longitudinal integrated community clerkships have shown positive results in a wide range of settings.[6] The question was whether UBC could offer similar experiences to Chilliwack ICC students and students in traditional clerkships, and have graduates from both streams with comparable competencies and performance.

Graduates have had a tendency to choose family medicine as their career path, yet any program choice remains open.

We invited Dr Paul Worley to bring his experience and reputation for success in medical education from rural South Australia to the planning table. Dr Worley, now the dean of medicine at Flinders University, assisted with the design and implementation of the first pilot site. The rationale and timing of this initiative was aligned with UBC's move toward distributed education. Over time, continuity of medical education has benefited medical students and rural communities on many levels.

With Dr Jeff Pocock as the integrated community clerkship site director in Chilliwack, planning for the pilot began. Six community family practitioners volunteered as primary preceptors and six year 3 medical undergraduate students volunteered for clerkships. Dr Joan Fraser was the year 3 undergraduate program chair and Dr Angela Towle was the associate dean for the curriculum. The class schedule, academic half-day sessions, budget, assessment plan, and contingency plans were developed and approved

by faculty leaders. To satisfy accreditation requirements, program objectives for the integrated community clerkship were similar to those for the traditional year 3 clerkship.

September 2004 arrived and the pilot for the Integrated Community Clerkship Program was launched. Six medical students progressed through the year and performed in a manner indistinguishable from their peers doing rotations in tertiary hospitals. All students passed the same examinations and graduated the following year. Compared with traditionally trained students, ICC students met the same academic standards, attained an analogous spectrum of procedural skills, and matched to postgraduate programs in an equivalent manner. All six pilot ICC students chose family medicine as their career path. After graduation, one subsequently chose further training in emergency medicine and another in community medicine.

Rolling out the program

With the success of the Chilliwack pilot, physicians in other communities expressed an interest in this model and the opportunity to increase their involvement in medical education. In 2008, Terrace, BC, was the second site to offer integrated community clerkships. This was followed by offerings in Fort St. John (Peace Liard) in 2009 and Duncan (Cowichan) in 2010. Sites at both Trail and Vernon were established with community medical educators as champions in 2011 in concert with the implementation of the Southern Medical Program, bringing the total number of placements available across the province to 20 (**Table**). In that year, 35 students completing year 2 of the undergraduate program applied for the 20 placements available.

Assessing the program

Early student performance assessments have been encouraging. Students have performed as well as or better than their traditionally trained counterparts.[4,5] The longitudinal model has permitted development of procedural skills, professional identity, and clinical problem-solving skills. A recent comparison of ICC students and traditional clerkship students from three Canadian medical schools, including UBC, using In-Training Evaluation Reports (ITERs) and Objective Structured Clinical Examinations (OSCEs) found ICC students had higher and more reliable ITER ratings.[10] OSCE results, however, were lower, and weaker correlations were reported between objective and subjective evaluations of clinical skills. More recently, the results of the UBC 2012 Year 4 In-House Exit OSCE completed by both ICC graduates and traditionally trained graduates were statistically equivalent.

Student evaluations of their experience in the ICC Program have been positive and have helped to inform and guide changes adopted since the 2004 pilot.

The presence of medical students in communities, new to this degree of commitment in undergraduate medical education, has led to improvements in videoconferencing infrastructure and a greater educational role for allied health professionals.

Although the original integrated community clerkship proposal was based on a "generalist as teacher" framework, student career choices have underscored the availability of many career options for students who voluntarily select this model for their clinical education. The 54 ICC graduates (2004–2012) have had a tendency to choose family medicine as their career path, yet any program choice remains open. UBC graduates from traditional and integrated community clerkships are equally competitive, as reflected in residency match results (**Figure**).

It should be noted that the ICC's reliance on smaller, nontraditional teaching communities and the important teaching role played by both family medicine and the specialty generalists align with the key recommendations for medical education from the Association of Faculties of Medicine of Canada (AFMC). These recommendations include the requirement to "address individual and community needs," "value generalism," and "diversify learning contexts."[11] These and seven other recommendations are the result of a project supported by Health Canada and published in 2009 in *The Future of Medical Education in Canada (FMEC)* after comprehensive Canada-wide discussion and input.

Conclusions

By all accounts, the Integrated Community Clerkship initiative has been a success. Objective measurements of

Table. Locations and site directors for UBC's Integrated Community Clerkship Program.

Site established	Location	Director(s)
2004	Chilliwack	Dr Scott Bakker
2008	Terrace	Drs Andrea Geller and Mike Kenyon
2009	Fort St. John (Peace Liard)	Dr Becky Temple
2010	Duncan (Cowichan)	Dr Maggie Watt
2011	Trail	Dr Cheryl Hume
2011	Vernon	Dr Allison Rankin

academic performance and studies of residency placement have demonstrated the strength of the longitudinal community engagement approach. Students completing an integrated community clerkship are performing well academically and are making career choices consistent with the goals of the program.

As we move incrementally to wider changes within the MD undergraduate program, we are learning lessons about the importance of continuity, the power of preceptor relationships, and the value of community engagement. Lessons from our own ICC Program and those in Canada, the US, and Australia can be expected to influence the refreshed curriculum of our medical school.

We will continue to explore ways of teaching and building on our tradition for excellence in medical education at UBC as we welcome our new and growing teams of medical educators throughout the province.

You can learn more about the program by visiting www.integratedclerkships.med.ubc.ca and can direct any questions or comments to Dr Mark MacKenzie, Director, ICC Program, or Dr Bruce Fleming, Associate Dean, Admissions, Faculty of Medicine, UBC.

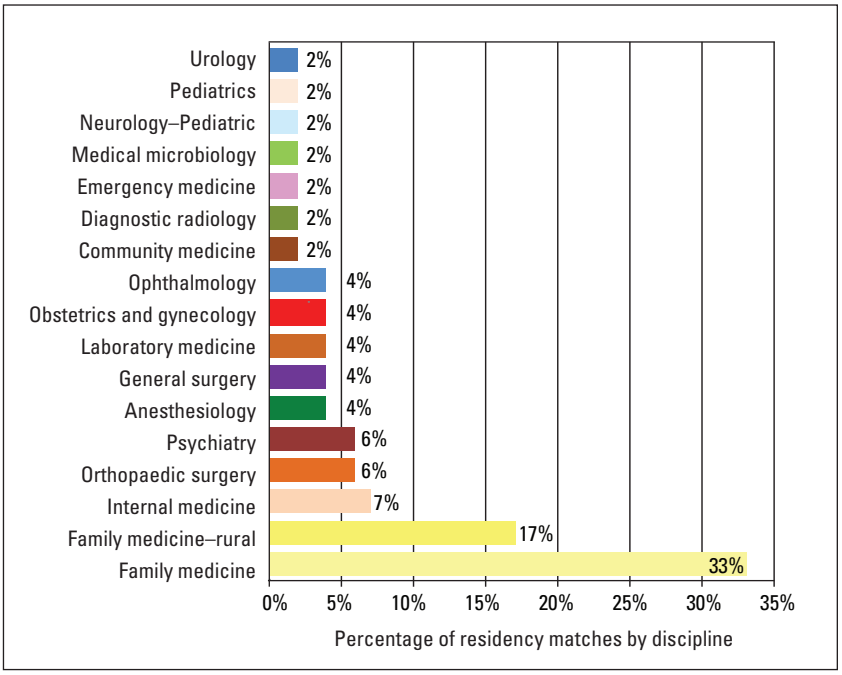

Figure. Residency matches for 54 graduates of the Integrated Community Clerkship Program by discipline, 2006–2012.

Source: P. Cooper, 2012

Acknowledgments

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Competing interests

Dr MacKenzie has been the director of UBC's Integrated Clerkship Program since March 2011.

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