A community continuity programme: volunteer faculty mentors and continuity learning

John McGeehan, Richard English, Keith Shenberger, Gerald Tracy and Raymond Smego Jr, Departments of Family Community & Rural Medicine and Medicine, The Commonwealth Medical College, Scranton, Pennsylvania, USA

SUMMARY

Background: Longitudinal generalist preceptorship experiences early in medical education can have beneficial effects on how students practise the art and science of medicine, regardless of their eventual career choices.

Description: We evaluated the first 2 years of implementation of an integrated, regional campus-based, early clinical experience programme, the Community Continuity Program, at our new community-based medical school that is under the supervision of volunteer primary care faculty members acting as continuity mentors (CMs). Curricular components for years 1 and 2 consisted of three annual 1-week community-based experiences with CMs, extensive physical diagnosis practice, interprofessional learning activities, a multigenerational family care experience, a mandatory Community Health Research Project (CHRP) in year 1 and a mandatory Quality Improvement Project in year 2.

Evaluation: Outcome measures included student, faculty member and programme evaluations, student reflective narratives in portal-based e-journals, a Liaison Committee on Medical Education (LCME) self-study student survey and serial level-of-empathy surveys.

Results: Students found all elements of this integrated community experience programme beneficial and worthwhile, especially the CMs and the use of standardised and real-life patients. CMs noted effective and professional student-patient interactions. The number of reflective e-journal postings per student during year 1 ranged from 14 to 81 (mean, 47). Serial empathy questionnaires administered over 2 years demonstrated preservation of student empathy, and students believed that the programme had a positive effect on their personal level of empathy.

Conclusion: An integrative, longitudinal, community-based, early clinical experience programme driven by volunteer CMs provides patient-centered instruction for preclinical students in the clinical, social, behavioural, ethical and research foundations of medicine.

Longitudinal preceptorship experiences early in medical education can have beneficial effects on how students practise medicine

Early ambulatory-based community experiences can help students see clinical relevance in their learning

INTRODUCTION

Medical students derive more satisfaction from their medical education when basic-sciences learning during the first two medical school years is integrated with clinical material and, ideally, patient contact.[1,2] Incorporation of early ambulatory-based community experiences into the pre-clinical medical school years can also help students see clinical relevance in their learning, foster improved communication and professionalism skills, and enhance student empathy.[3–5] At our new community-based medical school, after 2 years of implementation we evaluated a multifaceted, volunteer faculty member-driven, community-based experience programme, called the Community Continuity Program, that runs longitudinally over 4 years of medical student training, and which is under the supervision of volunteer primary care continuity mentors (CMs).

This large-scale educational evaluation study is continuing, and these observations and conclusions are preliminary to the larger 4-year results expected in 2013.

METHODS

Description of the programme

The Commonwealth Medical College (TCMC) is a new, private, community-based medical school with three regional campuses, and with more than 700 practice-based volunteer clinical faculty members who comprise the largest segment of the school's clinical teachers.

The TCMC Community Continuity Program is a 4-year longitudinal programme, comprising three annual 1-week community-based experiences with CMs, a multigenerational family care experience, a mandatory Community Health Research Project (CHRP) in year 1 and a mandatory Quality Improvement Project in year 2. In addition, in office- and hospital-based venues students extensively practise interviewing and physical examination skills using real and standardised patients, and gain interprofessional experience by interfacing with the community through centres of care and related supportive structures such as home health, pharmacies, nursing homes, etc. Every aspect of this innovative programme is supervised by the CMs, who are all TCMC volunteer faculty members and primary care (i.e. family medicine or general internist) doctors located on their assigned student's regional campus. At the time of medical school orientation each new student (n = 65) is assigned a CM on his or her regional campus. Before their first student assignment, all CMs receive faculty development training designed to strengthen their teaching skills in ambulatory and hospital settings, and to assure comparability of clinical experiences for students across the regional campuses.

Outcome measures

At the end of the first and second years of implementation of the programme, outcome measures of student, faculty member and programme performances included:

- faculty member evaluations by students (n = 65; this group was the TCMC charter class of MD students);
- student assessments by CMs (n = 65, representing each of the CMs individually assigned to a TCMC charter class student);
- end-of-year programme evaluations by students and CMs;
- student reflective narratives in portal-based e-journals;

- a Liaison Committee for Medical Education (LCME) self-study student survey (as part of the TCMC accreditation process);
- student presentations of the CHRPs at the annual Student Research Day;
- end-of-year career choice surveys;
- student level of empathy, as determined by an annual empathy questionnaire (the Jefferson Scale of Physician Empathy, http://www.jefferson.edu/jmc/crmehc/medu/jspe.cfm).

All assessments and entries were made electronically on student and volunteer clinical faculty sites on the TCMC portal. Simple descriptive statistics (mean, median and mode) were used in the data analysis. Institutional Review Board approval for this project was granted by the Wright Center for Graduate Medical Education in Scranton, PA, USA.

RESULTS

Students evaluated years 1 and 2 as part of the end-of-year Community Continuity Program, and the highest mean student responses, on a Likert scale (with parametric assumptions) from 1 to 5 (low to high), were:

1. My continuity mentor enhanced my appreciation of the doctor's role of patient advocacy (mean score 4.2031).
2. The programme provided me with examples of positive professionalism in medical practice (mean score 4.1406).
3. The programme helped me develop effective communications skills (mean score 4.0313).
4. The programme helped me in forging effective patient interactions (mean score 4.0156).

An analysis of student and CM questionnaire data, by community week in year 1, is shown in Table 1. Students found all elements of this integrated community experience programme beneficial and worthwhile, especially the CMs and the integration of the use of standardised patients and the real-life examination room, and the CMs noted effective and professional student–patient interactions. Select student responses in the evaluation of the Community Continuity Program within the year-long *Patient-Centered Medicine* course, 2009–2010, are provided in Appendix S1: these include an LCME self-study student survey conducted in 2010 as part of the TCMC accreditation process.

The number of reflective e-journal portal postings per student during year 1 ranged from 14 to 81 (mean 47). At the end of the first year we also conducted a validated self-administered empathy survey to determine individual student empathy quotients. The mean student empathy score was 50.2, mean scores for men and women were 47.6 and 53.9, respectively, an average score range is 33–52 (most women score about 47 and most men score about 42), a score of 53–63 is above average, a score of 64–80 is very high and a score of 80 is the maximum. A second empathy questionnaire, the Jefferson Scale of Physician Empathy (JSPE), specifically designed for doctor and medical student audiences, was preferentially substituted and self-administered at the end of year 2. Although the tools were different, TCMC students actually demonstrated higher empathy scores at the end of the second year of training, and with JSPE scores that were almost identical to Jefferson Medical College students (used as comparators given the scale's origin at Jefferson; Table 2)[6]. Finally, in the evaluation conducted at the end of year 2, students believed that the Community Continuity Program had had a positive effect on their levels of personal empathy.

In comparing student career specialty preferences as stated before matriculation and in a survey at the end of year 1, there were no differences in the selection of primary care (23 versus 21%, respectively) or its components (general internal medicine 12.3 versus 9.4%; obstetrics/gynaecology 6.2 versus 1.9%; family medicine 3.1 versus 5.7%; and paediatrics 1.5 versus 3.8%).

DISCUSSION

The implementation of our Community Continuity Program for year-1 and -2 students has been one of the notable curricular successes of our new community-based medical school. In its first year, the highest programme element evaluations by students were given to the CMs, clinical preparation using standardised patients and the CHRPs. By the end of year 2 students felt strongly that the programme helped them to develop effective communication skills and patient interactions, and they perceived a positive impact of the longitudinal continuity experience on their level of personal empathy. They remained most enthusiastic about their CMs, and felt that these mentors, and the programme in general, provided them with positive examples of professionalism in medical practice.

In its content, this programme reflects the innovations in medical education recommended by the Carnegie Foundation,[7] and by the Josiah Macy Jr Foundation,[8] by incorporating early clinical immersion and integrated courses, extensive community-based experiences, and longitudinal patient and faculty member relationships, and by using standardised patients and comprehensive competency-based assessment. Curricular recommen-

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Table 1. Analysis of student and continuity mentor questionnaire data, by community week in year 1*

Questions	Score 1–5 Week 1 Mean	Week 1 Percentage	Week 2 Mean	Week 2 Percentage	Week 3 Mean	Week 3 Percentage
STUDENT RESPONSES						
Adequacy of disseminated information	4.4	90	4.2	90	4.9	98
Overall structure of the week	3.6	58	4.3	92	4.0	78
Experience with CM	3.7	59	4.9	94	4.3	90
Patient interviewing experience	n/a	n/a	4.1	82	4.3	90
Experience in clinical activity	n/a	n/a	4.5	96	n/a	n/a
Information session with residents	n/a	n/a	n/a	n/a	3.6	85
Interaction with CHRM	4.4	90	4.2	90	4.2	90
Adequate TCMC support for CHRP	3.7	59	4.9	94	4.3	90
Effectiveness of CHRP group process	3.9	72	n/a	n/a	n/a	n/a
Meeting with clinical family	3.9	72	n/a	n/a	n/a	n/a
CM RESPONSES						
Reflection on family experience	3.7	59	n/a	n/a	n/a	n/a
CMs feeling prepared	4.4	90	4.4	90	4.6	100
The overall experience was positive	4.6	96	4.6	96	4.6	100
Students were respectful and professional	4.8	98	4.8	98	4.7	100
Patients appeared comfortable	4.6	98	4.6	98	4.4	86
Was the interview efficient?						
Yes	–	100	–	96	–	100
Were the facts accurate?						
Yes	–	100	–	100	–	100
Were facts reasonable?						
Yes	–	100	–	100	–	100
Additional office information needed						
Yes	–	34	–	34	–	14
No	–	66	–	66	–	86
Additional training for CM needed						
Yes	–	28	–	28	–	29
No	–	66	–	66	–	66
Additional office training needed						
Yes	–	88	–	77	–	100
No	–	12	–	23	–	0

*Three 1-week community weeks occurred in October, February and April in both years 1 and 2.

CHRM, Community Health Research Mentor; CHRP, Community Health Research Project; CM, continuity mentor; TCMC, The Commonwealth Medical College.

dations from the Interdisciplinary Generalist Curriculum (IGC) Project, a 7-year demonstration project funded by the Health Resources and Services Administration, encouraged medical schools to develop longitudinal generalist preceptorship experiences early in medical education

Table 2. Score distributions, percentiles and descriptive statistics for the S-version of the Jefferson Scale of Physician Empathy: The Commonwealth Medical College (TCMC) versus Jefferson Medical College medical students, 2010–2011

	Jefferson medical students (n = 685)	TCMC medical students (n = 62)
Mean	115	114
Standard deviation	10	13
Mode	–	122
25th percentile	108	106
Median (50th percentile)	115	117
75th percentile	122	124
Possible range	20–140	20–140
Actual range	75–140	78–140
Alpha reliability estimate	0.80	0.85

*Adapted from Hojat *et al.* (table 7.5, p. 105) with permission from Springer (copyright 2007)[6].

for all students, regardless of their eventual career choices.[9] Carney *et al.* reported that students who were taught clinical skills in community-based settings performed as well as or better than their peers who received early patient experience on hospital wards, and that community experiences contributed positively to students' education, critical thinking and problem-solving skills.[3] Others have reported additional benefits to students from longitudinal experiences, including the development of effective patient interactions, direct observation of interplay between the social environment, family and the patient's health, gained insight into the role of the family doctor, experiencing the difficulties of chronic disease management and approaching patients with better integrated basic science knowledge.[4,5] As noted previously, for a longitudinal community experience the continuity of site may be more important to students than the breadth of exposure.[10]

In Flexnerian fashion, our programme emphasises early patient encounters and bedside instruction under the watchful eye of senior primary care doctors acting as CMs. These mentors serve a number of important purposes, including acting as teaching preceptors and role models in primary care and overseeing each student's family care initiatives. Role models can contribute powerfully to students' learning and identity formation, but what makes a good ambulatory-based continuity mentor for preclinical medical students? Huggett reported on the attributes of effective faculty preceptors via an exploratory qualitative study using analysis of student learning journals.[11] These characteristics included: (1) demonstrates professional expertise; (2) actively engages students in learning; (3) creates a positive environment for teaching and learning; (4) demonstrates collegiality and professionalism; and (5) discusses career-related topics and concerns.

There is almost no literature on the exclusive role of volunteer clinical faculty members in the longitudinal early learning experience of medical students. The Senior Mentor Program at Duke University involves the instruction of second-year medical students in elder care by a senior volunteer from the community.[12] Students meet one-on-one with their senior mentor to practise communication skills and the performance of key components of geriatric assessment. Afterwards, students convene in small groups with division faculty members to debrief. A decade ago, researchers at the University of Washington wrote, 'increasing non-clinical workload demands and higher patient loads are a substantial threat to the recruitment and retention of volunteer faculty members. In particular, the involvement of urban, health maintenance organisation, and primary care doctors may decrease disproportionately in the future'.[13]

A major challenge of our early ambulatory-based clinical experience programme is maintaining a sufficient number of CMs for ambulatory teaching, realising that voluntary faculty mentors may experience a greater workload and more time-consuming demands, and less support, than students, despite thorough preparatory faculty staff development education. In order to determine what rewards or incentives motivate our volunteer faculty members, we sent a 27-item electronic survey to over 700 volunteer clinical faculty members. In a separate research survey, across three regional campuses, personal satisfaction was cited most frequently as the main motivation for faculty members participating in volunteer teaching and college service. We subsequently developed a Master Teachers Guild that recognises and rewards teaching efforts, promotes educational scholarship, influences curricular innovation and reform, and generates new resources to support teaching, all with the intended result of ultimately achieving

Community experiences contributed positively to students education

[This intervention] provides a useful structure for teaching patient-centered care

better recruitment and retention of this critically valuable cadre of doctor-educators.

In conclusion, an integrated, longitudinal, community-based, early clinical experience programme, driven by volunteer primary care faculty members as CMs, has positive effects on students, faculty staff and the overall curriculum, and provides a useful structure for teaching patient-centered care and the social, behavioural, ethical, and research foundations of medicine.

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SUPPORTING INFORMATION

Additional supporting information may be found in the online version of this article at http://onlinelibrary.wiley.com/doi/10.1111/j.1743-498X.2012.00602.x

Appendix S1. Select student responses from the evaluation of the Community Continuity Program within the Patient-Centered Medicine course at The Commonwealth Medical College, 2009–2010. Adapted with permission from Hojat M (ed). Empathy in Patient Care: Antecedents, Development, Measurement, and Outcomes. New York: Springer, 2007, (Table7.5, p. 105).

Corresponding author's contact details: John F. McGeehan, Associate Dean for Student Affairs and Admissions, Cooper Medical School of Rowan University, 2 Aquarium Drive #305, Camden, NJ, 08103. Email: mcgeehan@rowan.edu

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Ethical approval: The paper describes our academic Community Continuity Program, which is under the auspices of our year-1 medical school course called Patient-Centered Medicine. There were no human research subjects involved in this academic programme. The Results section of the paper does not include research findings but, instead, typical student, faculty and programme/course evaluations inherent in medical school academic assessment. All assessments involved the anonymity of students and faculty members, and there was no potential harm to such participants. Thus, IRB approval was not relevant or needed.

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