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Family Medicine Preceptorships for First Year Medical Students: Durable Educational Value Amid Healthcare Transformation

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Abstract

The required Family Medicine Preceptorship in the first-year curriculum at the Duluth regional campus of the University of Minnesota Medical School has existed for decades and has provided students with opportunities to work with regional family physicians. Exposing medical students to excellent primary care of patients early in the curriculum remains an educational priority. This time series analysis examines physician willingness to participate along with the teaching physician practice structure (physician-owner versus employed physician). A downward trend in the percentage of physicians agreeing to serve as preceptors is reported (1992 at 83.6%, 2002 at 71%, 2012 at 61.2%, and 2017 at 47.9%). The data reflects a transition from independent practice to larger health systems. Percentages of physicians in large health systems were 8.3% (1992), 28.8% (2002), 64.3% (2012), and 61.9% (2017). This time series analysis also provides comparative data summarizing student evaluations of the Family Medicine Preceptorship experiences from the years 1993, 2014, 2015, 2016 and 2017. Despite changes in practice structure and fewer physicians agreeing to precept, the data demonstrates consistently high ratings by medical students over time.

The authors do not report any conflicts of interest.

Introduction

In the current context of grave physician shortages[1] and health care transformation, there is a nationwide recognition of the value of Family Medicine. Early and formative medical student experiential sessions with Family Physicians are vital and support the selection of Family Medicine as a specialty choice. Such sessions have been documented as one of the determinants reinforcing career choices[2-6]. The Duluth regional campus' curriculum and the efforts to admit the 'right' students for Family Medicine remains resoundingly successful – with 46.7% (n = 953 of 2042) of graduates entering Family Medicine residencies since 1976.

A critical component of the University of Minnesota Medical School Duluth Campus curriculum is a robust Family Medicine Preceptorship in place since 1972. The required course has existed in a similar format for the past 45 years, pairing all first-year students 'one-on-one' with community family practitioners. Students join local Family Physicians for half-day sessions scattered throughout the entire first year of medical school.

This research summarizes the student perceptions of the preceptor experience over 24 years. Longitudinal data presented are unique and have not been presented before. During this same time period, we have also witnessed the transition from the 'private practice' model to the health systems care model. This research examines the willingness of family physicians to serve as preceptors amid medical organizational change. Physician resources have been stretched by increasing numbers of students and increasing demands on community-based offices for implementation of electronic medical records, demonstration of quality measures, and fulfillment of insurance requirements for payment. Therefore, identifying and recruiting preceptors to serve as teaching sites has become increasingly challenging in recent years[7,8]. To investigate the question of whether the ongoing health system changes have affected student ratings of the preceptorship, medical

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student opinions of the Family Medicine Preceptorship experience are reviewed.

Has the loss of practice 'ownership' and autonomy accompanied a change in the willingness of community physicians to participate in a medical school teaching program? Have student evaluations of the program changed over the recent decades? Can we continue to expect our local Family Physicians to find time for our medical students?

Methods

This is a time series analysis of preceptor ratings over more than 2 decades. The University of Minnesota Institutional Review Board has exempted from review studies of educational processes.

Following the conclusion of the Family Medicine preceptorship, each first-year medical student completes a written evaluation form. Completion of the evaluation form is required of all students, however the form itself is not graded. The information provided by the medical students is *not* shared directly with the local Family Physicians. Instead, it provides course faculty with valuable information on the student learning experience. During the study period, the class size at the Duluth regional campus ranged from 51 to 65 students.

This form includes a number of Likert scale items and space for individual comments. The same form was used throughout the study timeframe. Responses to the evaluation from the years 1993, 2014, 2015, 2016, and 2017 are analyzed and compared. Researchers selected 1993 as a base reference point from 25 years ago, a time prior to significant local health system changes. The 1993 data is compared with the most recent 4 years of student ratings. The 4 academic years of 2014-17 were selected to provide an optimal characterization of current student responses.

The authors have also examined rates at which the local Family Medicine doctors have agreed to participate. Rates from the years 1992, 2002, 2012, and 2017 are compared. These years were selected because they represent appropriate decade-long intervals and the most recent year to ascertain trends.

Local family physicians invited to serve as course preceptors include community physicians as well as residents in second and third years of their 3-year training. The Duluth Family Medicine Residency program remained at 10 residents per year until 2014 at which time it decreased to 8 residents per year. Nearly all of the local family medicine physicians are invited to precept, excepting those who have verbalized a strong desire not to do so. Records have been kept of the community physicians' responses to this call for volunteers. All preceptors are unpaid by the medical school. Responses of 'yes', 'no', and the absence of a response were compiled.

Finally, physician practices were categorized by type. The practice was defined as 'solo/small' if it had fewer than 9 family physicians and was independent of a larger health network. Otherwise, the practice was categorized as a 'system'. Additionally, the investigators defined a 'system' practice as having both a formal affiliation with a local hospital *and* having 2 or more primary care clinic sites that share the same affiliation name. Physicians who were still in residency were given a separate category, 'residents'.

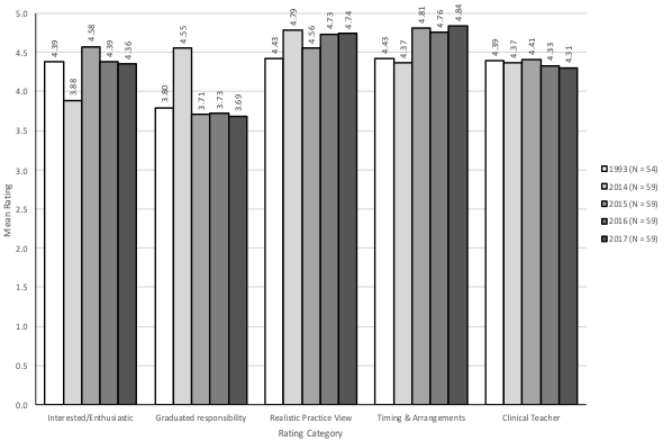
Results

Data on the student ratings of the Family Medicine Preceptorship Program activities are presented for student cohorts of 1993, 2014-17. The rating scales (1 = Never/Negative to 5 = Always/Positive) used over this period provide an absolute comparative figure for student perceptions and satisfaction. In all categories and years, the modal response was '5'. The response rate for students was 100% in all

years since the evaluation form was required.

Figure 1 illustrates that there has been no decrement in the student ratings of the Family Medicine preceptors' performance as teachers over the years (Chi Square testing did not show any statistical difference in the rating categories over time). Preceptor performances continue to be highly lauded and perceived as presenting a realistic view of practice to their students. They are highly rated as clinical teachers.

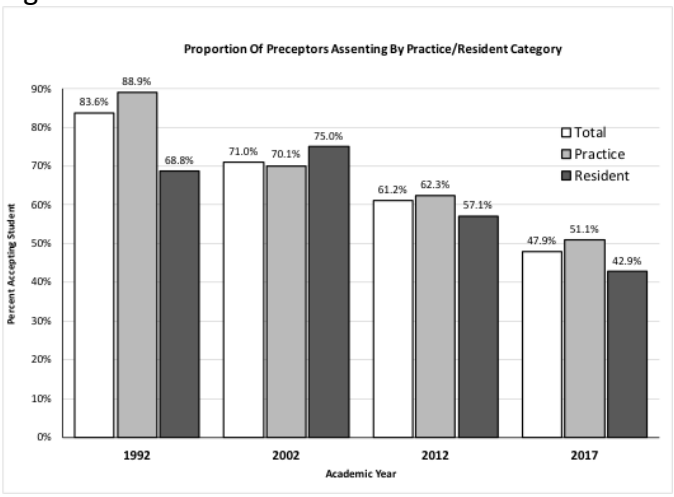
Figure 1



As seen in Figure 2, the proportion of solicited Family Physicians in practice who have assented to be clinical preceptors in the community has diminished over the past 25 years. In 1992, 83.6% of physicians agreed to precept, but by 2017 only 47.9% did. The numbers of physicians solicited were 61 (1992), 75 (2002), 96 (2012), and 132 (2017). The increasing number of solicited physicians was due to several factors including the expanding student class size as well as diminishing proportion of favorable responses from physicians.

Resident physician responses were analyzed separately to ascertain if this cohort differed from the physicians in community practice. The decreasing trend was the same for both groups.

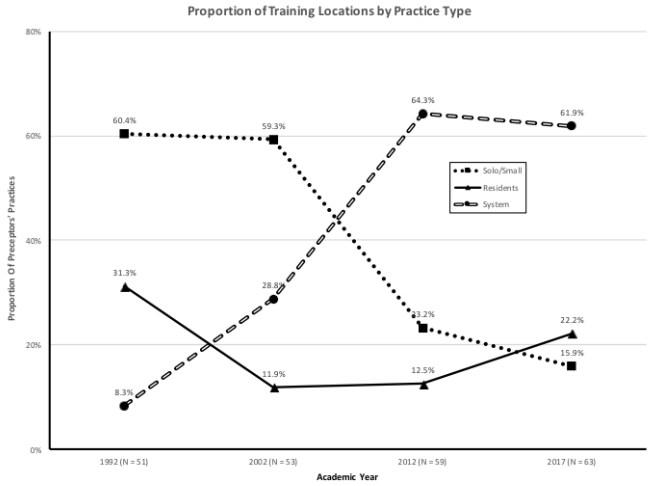
Figure 2



An added consideration, mentioned earlier, is the transformation of physicians' practices over the past 25 years. In order to assess these changes, a retrospective analysis of practice type was performed. Preceptors were classified as being in a small/solo practice or in a practice which is a part of a healthcare system, or whether the preceptor was a resident in training at the time of serving as preceptor. The results of this analysis are shown in Figure 3.

Figure 3 demonstrates that the practice types in which the medical students train have changed markedly over the past 25 years. The proportion of preceptor physicians in solo/small practices has diminished (60.4% to 15.9%) while the proportion practicing in health 'systems' has increased significantly (8.5% to 61.9%). The proportion of resident physicians who engaged in preceptorship teaching has varied somewhat over the timespan (31.3% in 1992 to 22.2% in 2017).

Figure 3



Discussion

The standardized student evaluation data, collected within a single medical school course over several decades, are unique and have not been presented before to our knowledge.

Regardless of the practice site type to which the student is assigned, student evaluations are almost universally positive. Typical comments can be found it the 2015 assessment:

“Seriously, she was incredible across the spectrum of assessment. I’ll probably continue to observe throughout the summer.”

“I really liked having Dr. A as my preceptor and am a little sad that the year is over.”

“The preceptorship was excellent! I was hopeful it would take place next year as well. Dr. R is a natural teacher and an enthusiastic physician.”

“Rating is 10 on a scale of 5! He was an amazing preceptor.”

“I thought this was a good match. Dr. N was very friendly and helpful. She was very open to my questions and let me gain hands-on experience whenever possible.”

The occasional comments of concern by students are followed up individually and privately to ascertain whether this was an anomalous comment or reflective of a more serious and permanent problem with the site, the preceptor, or the student.

As medical practice, specifically urban family medicine practice, has transformed from a private and physician-owned and directed model to a systems-based multi-specialty large organization model, the content of the office-based practice has also altered. Today, many fewer urban system-based family physicians deliver full-scope, broad spectrum medical services.

The attempt to link medical organizational changes over the past 25 years to the willingness of family physicians to serve as mentors with this program is data-driven and worthy of discussion. The data indicates that it is more difficult to get practicing physicians to serve as preceptors today when contrasted with 25 years ago. One of the reasons for the decrement in interest may be an indirect measure of practice satisfaction, ‘busy-ness’, etc. Reasons that physician preceptors chose to precept, or decline the opportunity, are not studied here. Future inquiry in this area could be informative.

Pressures on doctors’ time include declining reimbursement rates, decreasing duration of typical office visit, uninsured patients, and transitions to electronic health records.[7-11] The effects of the Affordable Care Act are still emerging today, but it is clear that increasing the number of insurance covered individuals will lead to even more stresses on a system that is understaffed in primary care and family medicine.

Correspondingly, within the medical education framework, added pressures have increased on the community physicians who generously support student learning. Decades ago, community family physicians were asked to participate only in

teaching of medical students. Today, there are a great many more learners who desire the tutelage of the community physician. Students in advanced practice nursing, physician assistant programs, premedical 'prep' programs, etc. all demand more of the physician's time than in the past.

Family physicians, by dint of their scarcity and versatility, are particularly in demand for both their clinical teaching skills and their ability to model excellent care. How does this increasing demand mesh with the demands of a busy practice? What factors can support and sustain teaching excellence going forward? This study did not assess all parameters that could impact the physician's decision to teach (i.e. competing teaching demands from other health professions, age or gender of preceptor, etc.).

Given the declining number of physicians who volunteer to teach medical students found in this study, it is likely that more focused and concerted efforts by the medical school to engage with community physicians will be necessary. From the medical school side of the equation, there is increasing demand for structure and support of community-based teaching. Clinical training sites should be formally affiliated with specific educational agreements. Training and compliance with HIPAA regulations, non-existent some years ago, now are necessary at both the medical school and the clinical sites. While previous engagements with community physicians were quite informal, today's health system and hospital regulations need be formalized. What are the results of these requirements?

Implications for Other Schools and Future Directions.

Discussion of the elements that make the Duluth Family Medicine preceptorship program successful and sustainable should be of interest to schools and regional campuses that are contemplating the introduction or revision of current curricular offerings. Additionally, the presence of this model which has been sustained and strong for 40 years can serve to assuage the concerns of academic institutions that these efforts may be 'risky' ventures into which funding should be directed.

Student specialty choices are made earlier than in the past, so it is imperative that good models and information be given to students early enough to enable continuance and reinforcement of their interest in Family Medicine[12-15]. As the fiscal and human resources for new program development in academia are limited, this cost-efficient model is certainly worthy of study and emulation.

Future directions for this program include an increasing emphasis on faculty development with our community colleagues. Currently, all preceptors are provided with a gratis subscription to the online journal *Teaching Physician*, offered by the Society of Teachers of Family Medicine (STFM). Upwards of 40-plus hours of continuing medical education (CME) credits may be earned through *Teaching Physician*. Additionally, course faculty continue to make site visits to each training site in our community and explore new ways to offer faculty development programming and support physicians who have a talent for teaching.

The questions raised earlier are complex, and the answers to many of these questions are multi-dimensional and speculative at this point. It is hoped that data-driven small studies such as this will enable all of us to better design programs that reinforce the interest in Family Medicine and primary care in our students.

References

1. Association of American Medical Colleges. *The Complexities of Physician Supply and Demand: Projections from 2013 to 2025: Final Report.* Washington, DC: AAMC;2015.
2. McClure E, Black L. The role of the clinical preceptor: an integrative literature review. *J Nurs Educ.* 2013;52(6):335-341.

3. Bergman EA. Be a Preceptor: Create Tomorrow's Leaders. *Journal of the Academy of Nutrition and Dietetics.* 2013;113(4):493.
4. Stagg P, Prideaux D, Greenhill J, Sweet L. Are medical students influenced by preceptors in making career choices, and if so how? A systematic review. *Rural and Remote Health.* 2012;12:1832.
5. Ogrinc G, Eliassen MS, Schiffman JS, et al. Preclinical preceptorships in medical school: can curricular objectives be met in diverse teaching settings? *Teach Learn Med.* 2006;18(2):110-116.
6. Corbet EC, Jr., Owen JA, Hayden GF. Effect of a second-year primary care preceptorship on medical students' career plans. *South Med J.* 2002;95(7):691-694.
7. Christner JG, Dallaghan GB, Briscoe G, et al. The Community Preceptor Crisis: Recruiting and Retaining Community-Based Faculty to Teach Medical Students-A Shared Perspective From the Alliance for Clinical Education. *Teach Learn Med.* 2016;28(3):329-336.
8. Latessa R, Beaty N, Colvin G, Landis S, Janes C. Family medicine community preceptors: different from other physician specialties? *Fam Med.* 2008;40(2):96-101.
9. Pawlson LG, Watkins R, Donaldson M. The cost of medical student instruction in the practice setting. *J Fam Pract.* 1980;10(5):847-852.
10. Doyle GA, Patricoski CT. Costs of teaching for community teachers of family medicine. *Fam Med.* 1997;29(1):12-13.
11. Vinson DC, Paden C. The effect of teaching medical students on private practitioners' workloads. *Acad Med.* 1994;69(3):237-238.
12. Rohan-Minjares F, Alfero C, Kaufman A. How Medical Schools Can Encourage Students' Interest in Family Medicine. *Acad Med.* 2014.
13. Avery DM, Jr., Wheat JR, Leeper JD, McKnight JT, Ballard BG, Chen J. Admission factors predicting family medicine specialty choice: a literature review and exploratory study among students in the Rural Medical Scholars Program. *J Rural Health.* 2012;28(2):128-136.
14. Stagg P, Greenhill J, Worley PS. A new model to understand the career choice and practice location decisions of medical graduates. *Rural Remote Health.* 2009;9(4):1245.
15. Scott I, Wright B, Brenneis F, Brett-Maclean P, McCaffrey L. Why would I choose a career in family medicine?: Reflections of medical students at 3 universities. *Canadian family physician Medecin de famille canadien.* 2007;53(11):1956-1957.