

## Medical Student Summer Externship Program: Increasing the Number Matching in Family Practice

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**Abstract: Background and Objectives.** The number of US allopathic medical school graduates choosing a residency in family medicine has fallen from 13.4% in 1999 to 10.5% in 2002. Concern about declining numbers has led to the development of programs to provide medical students exposure to family medicine outside the clerkship. This paper reports on the development and longitudinal achievements of a clinical summer externship program 1993 to 1999.

**Methods.** The program description, practice settings, students' experiences, and department commitment are described. The purpose of this prospective study is to determine the percentage of family medicine summer externship participants (n=115) who match into family medicine.

**Results.** During the six years studied, 49 (43.4%) of the participants matched into family medicine. Program participants viewed the program favorably, mean = 5.82 out of 6.

**Conclusions.** The Ohio State University Department of Family Medicine Medical Student Summer Externship Program demonstrates an effective educational experience that can increase and/or attain the proportion of students going into family medicine at the time of graduation.

**Key words:** medical student, family medicine

In the past four years, the number of US allopathic medical schools graduates choosing a residency in family medicine has declined. In 1999, 13.4% of graduates chose family medicine. In 2000 the number fell to 12.8%, while in 2001 it was 10.9%. In 2002 only 1,413 of U.S. senior medical students (10.5%) chose to match into family practice while in 2003, 1,234 (9.2%) matched.<sup>1</sup> The consequence of this decline is a shortage of family doctors trained in the U.S.

Select students enter medical school with the goal of becoming a family physician. However, of the students reporting that family medicine had been their first specialty choice prior to beginning clinical rotations only 37% eventually matched into family medicine.<sup>2</sup> Concerned about the decreasing number of medical students matching in family medicine and the attrition rate of students initially choosing family medicine as a specialty, The Ohio State University developed programs that provide medical students with additional skills and exposure to family medicine outside of the required clerkship. The program to be discussed, the Medical Student Summer Externship Program, was initiated in 1993. Having been in place for almost ten years, the question remained, "what percent of the students who participate in this program match into family medicine?"

Much has been written about determinants of specialty career choice in medicine. Although students predominately enter medical school with a preference for primary care careers, this preference diminishes over time.<sup>3</sup> It is known that curricular experiences are associated with an increased number of students choosing primary care; for example, the required family practice clerkship; longitudinal primary care experiences; and the most promising of all, primary care tracks increase the number of students matching in family medicine.<sup>3-5</sup> The quality of family medicine preceptorships also significantly and independently has shown to increase the numbers of students matching into family practice.<sup>6</sup> Earlier studies have shown preceptorships in the early years of medical school, especially during the summer between the first and second years of medical school, to have no effect on career choice.<sup>7</sup> However, later studies on early preceptorships and clinical experience in primary care have shown that participants are more likely to select primary care residencies, even after adjusting for all other student characteristics.<sup>6,7</sup> Current literature describing family medicine "exposure" programs and the effect of these programs on the number of students matching in a family medicine residency is needed. Therefore, the primary purpose of this article is to describe the Medical Student Summer Externship Program so that it can be replicated at other medical schools throughout the U.S. The percentage of students who participate in the

program who match in family medicine will be determined. Accordingly, this will help to assess the success of the program and if the resources used to support this program are justified. Finally, the success of the program as determined by the participants will be examined.

## Methods

**Program Description** - The Summer Externship Program is offered to all medical students at the end of their first year of medical school. To be considered for the program, the student completes an application and one-page letter explaining why they should be chosen. The number of positions available each year depends on funding and ranges from 4 to 24.

The program would not be possible without dedicated volunteer preceptors who are recruited from rural and inner-city family medicine clinics. The recruiting process has been easy, especially after the first year, due to the fulfilling and gratifying nature of working with medical students. Preceptors feel rewarded by “giving back” to the profession. Most preceptors participate annually, making recruiting a small task.

Students chosen for the program commit to a minimum 40-hour workweek for six weeks during the summer and receive a \$1,500 stipend. Students at the rural sites live in the community during their externship. The student experiences the unique, satisfying, and fulfilling role that the family physician has in the community. No matter the setting, rural or inner city, the student spends time with family physicians in their practice setting, which may include a private office, hospitals, extended care facility, public health responsibilities, sports medicine duties, and obstetrics. Students are with their preceptors as they perform daily practice routines, from serving office-based diagnostic and surgical procedures, to taking patient histories and performing physical examinations on selected patients. Students are exposed to components of the physician’s practice, including the business office and ancillary areas. Furthermore, time is spent in the community hospitals interacting and working with hospital departments, nursing, and administrative staff. To make the experience more valuable, activities such as assisting with med-flights, shadowing the county coroner, and observing other practicing physicians are arranged.

In addition to providing the medical student with additional exposure to Family Medicine as a career option, this program provides the student with a bet-

ter understanding of health care. The student witnesses the family physician caring for a broad range of patients over a period of time. Students also learn how the family physician maintains their knowledge and skills as a physician and balances work and family. Student concerns about low payment and maintaining a satisfying lifestyle are often clarified and observed.

**Capstone Presentation** - At the conclusion of the externship experience, students attend a Capstone luncheon where they are required to present their summer externship experience. An explanation of the demographics of the community they served, their typical day, additional interesting experiences, and a case study of their most interesting patient is the focus of the presentation. Students, family physicians, and Department of Family Medicine faculty are invited to attend.

**Analysis** - To determine if the summer externship program attracts and/or attains medical students, the percentage of students participating (n=115) in the program over six years (1993 through 1997 and 1999) who matched into family medicine was determined. The study protocol was approved by the Institutional Review Board. To determine the area of specialization at matriculation, the Summer Externship participant list was given to the dean’s office where the information is available. Two program participants did not complete medical school and were removed from the study data. The final list of summer externship participants contained 113 students. During the six-year study period, the medical curriculum remained relatively constant with no changes to the amount of time that students rotated in family medicine. The percentage of medical students who matched into family practice who participated in the Summer Externship Program was determined.

To gain a student perspective of the program, students were required to complete a program evaluation within four weeks of completing the program. The evaluation consisted of open-ended questions pertaining to program likes and dislikes and a Likert Scale to rate the application process, orientation, structure and organization of the program, and externship experiences.

## Results

As shown in Table 1, during the six years studied, the percent of students who participated in the summer externship program and who matched into family medicine ranged from 25% to 63.6%. Table 2 indicates that on average 43.4% of students matched

into family practice. Table 1 also shows the specialty

**Table 1**  
**Matching characteristics of students who participate in the family medicine summer externship program**

<u>Year</u>	<u>Specialty</u>	<u>N</u>	<u>%</u>
1993	Family Medicine	8	40.0
	Internal Medicine	6	30.0
	Obstetrics/Gyn	1	5.0
	Pediatrics	2	10.0
	Radiology	1	5.0
	Surgery	2	10.0
	<b>Total</b>	<b>20</b>	<b>100.0</b>
1994	Family Medicine	14	63.6
	Internal Medicine	5	22.7
	Pediatrics	2	9.1
	Surgery	1	4.5
	<b>Total</b>	<b>22</b>	<b>100.0</b>
1995	Family Medicine	9	39.1
	Internal Medicine	6	26.1
	Obstetrics/Gyn	2	8.7
	Pediatrics	2	8.7
	Surgery	1	4.3
	Emergency Med.	1	4.3
	Medicine	1	4.3
	Physical Med.	1	4.3
<b>Total</b>	<b>23</b>	<b>100.0</b>	
1996	Family Medicine	12	50.0
	Internal Medicine	3	12.5
	Obstetrics/Gyn	1	4.2
	Pediatrics	4	16.7
	Emergency Med.	1	4.2
	Ophthalmology	1	4.2
	Psychology	1	4.2
	Trans.	1	4.2
<b>Total</b>	<b>24</b>	<b>100.0</b>	
1997	Family Medicine	5	25.0
	Internal Medicine	6	30.0
	Obstetrics/Gyn	1	5.0
	Pediatrics	3	15.0
	Surgery	3	15.0
	Physical Med	1	5.0
	Anesthesiology	1	5.0
	<b>Total</b>	<b>20</b>	<b>100.0</b>
1999	Family Medicine	1	25.0
	Surgery	1	25.0
	Medicine	2	50.0
	<b>Total</b>	<b>4</b>	<b>100.0</b>

chosen by the participants in the family practice summer externship program. In all years except 1999, the most common specialty chosen by the participants was family medicine. Internal medicine and pediatrics were also popular among students participating in the Summer Externship Program.

**Student Evaluation** - The questions on the “student evaluation of the program” from the first five years (1993-1998), were based on students’ likes and dislikes about the program, the learning opportunities provided, and ways to improve the program. Starting in 1999, a Likert scale evaluation was added to rate key components of the program. Overall, data indicates that the summer externship program is well received by the students, with the most recent student evaluation of the program averaging 5.82 on a six-point scale. The “hands-on” experience offered by the preceptors is the highest-rated area by the students. Students enjoy applying their preclinical skills to actual patient care. They also value the diversity of patients seen in the inpatient setting, obstetrical patients, and experiences outside of the clinic, including Health Department activities and emergency squad involvement. Students enjoy learning and practicing skills including charting, phlebotomy, physical exam, early differential diagnosis, and the business of medicine. Students housed in rural communities valued experiencing the intricacies of rural medicine and were taken aback by their acceptance in the community.

Overall the program evaluations were positive with many students suggesting that the six-week program be lengthened to eight weeks, to provide more hands-on experience. Students also suggested less time dedicated to the program orientation and easier and more timely payment process. The negative comments were few with most involving the driving distances, as most rural sites were within an hour commute of the city.

### Discussion

The results clearly demonstrate the positive effect of a family medicine summer externship program on the number of medical students matching into a family medicine residency. This prospective study showed that 43% of program participants matched into family practice and 85% matched in primary care specialties. Even though students who were interested in specializing in family medicine most likely comprised most of the program participants, the outcome number (43.4%) was higher than the percentage of first year medical students (37%)

**Table 2**  
**Matching characteristics of students who participate in the family medicine summer externship program. Combined Results – 1993 through 1997 and 1999.**

<u>Specialty</u>	<u>Number</u>	<u>Percent</u>
Family Medicine	49	43.4
Internal Medicine	26	23.0
Pediatrics	13	11.5
Surgery	8	7.1
Obstetrics/Gyn.	5	4.4
Medicine	3	2.7
Physical Med.	2	1.8
Emergency Med.	2	1.8
Anesthesiology	1	.9
Ophthalmology	1	.9
Psychology	1	.9
Radiology	1	.9
Trans	1	.9

who indicate interest in family medicine and also match into family medicine.

It is surmised that clinical experiences between the first and second year of medical school have an impact on student interest in Family Medicine. Data reinforce the idea of an educational experience in Family Medicine with enthusiastic family practitioners can increase the proportion of students going into Family Medicine at the time of graduation from medical school, similar to findings in a recent study.<sup>6</sup> Although students with an interest in primary care select to interview for the Summer Externship experience, it was not necessary for these students to have Family Medicine as a primary career goal. The externship experience provides students with a balanced picture of Family Medicine. Family physicians are seen caring for a broad range of patients providing diagnosis and treatment for a broad range of medical conditions. Students can learn how family physicians maintain their knowledge skills and how they balance work with family life. Student concerns about the Family Medicine lifestyle can be dealt with directly. This type of clinical setting can be fulfilling and exciting to students, attracting those students to choose Family Medicine who were not initially interested, and maintain the enthusiasm of the students interested in Family Medicine.

**Limitations & Strengths** - This study has its limitations. Students who apply for the summer externship program, not necessarily those who participate in the program, may be more inclined to match

into family medicine. Medical students studied were from one mid-western school with a success rate for matching students in Family Medicine; consequently, results may not be generalizable. A strength of the study is the longitudinal nature of the data analyzed. With regard to future studies, it would be of interest to investigate where summer externship students practice upon graduation from their residency programs to determine if these students have a higher rate for serving in rural and underserved areas. Finally, compare the percentage of students who apply for the summer externship program but don't participate and match in family medicine with those who participate and match in family medicine to determine if there is a significant difference in matching rate. This would help to determine the impact that the summer externship program has on medical students matching in family medicine.

Few studies exist on the results of Summer Externships. This information is important because it shows that quality pre-clinical experiences in Family Medicine, such as the summer externship program, have a positive outcome with students choosing Family Medicine as a career. It is important to understand the factors affecting the choice of Family Medicine as a specialty. Moreover, these factors need to be implemented if the supply of primary care physicians, especially in rural and underserved areas, will increase. This analysis adds to existing data demonstrating that early clinical experiences in Family Medicine are associated with medical students matching into Family Medicine.

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