Relevance of Research Experiences for Practice and Placement of DMU-COM Students

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Context

Scientific literacy and fluency in data interpretation are essential elements of practicing physicians' continuing education and practice-based improvement. However, while theoretical knowledge of research methodology is clearly necessary, there is less clarity on how much practical research experience is required for effective clinical practice and successful residency application. Since providing large cohorts of DO students with authentic, first-hand research experiences requires substantial faculty efforts and material resources, an assessment of the subjective and objective need of active research participation during UME is clearly warranted. The present study explores students' expectations of active participation in research during their professional careers and objective value of research accomplishments for residency match to improve our understanding of objective and subjective values of UME practical research experiences. The findings provide important guidance for curricular revisions aimed at strengthening the UME research curriculum as well as for efficient allocation of scarce research resources.

Objective

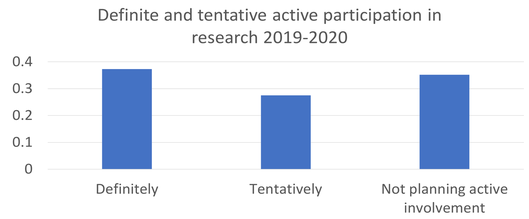
To correlate the subjective value that students place on active participation in research for their careers with objective measures of the importance of practical research experience for successful residency placement.

Research at DMU

Students actively conducting research: A DMU student conducting Biochemical research with Dr. Maria Barnes. At DMU, Medical Students actively participate in research through mentored internships and elective clerkships.

Student Expectations

Student expectations: Student expectations on active research participation during their careers were analyzed by emerging-theme analysis of a reflective writing assignment. 641 OMS1 student essays were coded for intent to participate in research after graduation.



The thematic analysis of essays shows that 54% of the students for whom an intent could be determined are planning to participate in research during residency or practice, either definitely or tentatively. Thirty-five percent rule research participation out, most often because they intend to prioritize patient care.

Residency PD Expectations

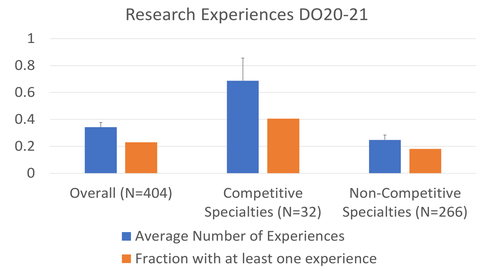
Objective relevance: Using data from the 2021 NRMP residency director survey, residencies were grouped into categories of "high", "average" and "low" importance of the criterion of "demonstrated interest in research" for interview selection and ranking. DMU graduates from 2008-2021 were sorted into these categories.

	Fraction of DMU graduates 2008-2021 matching in specialty
Family Medicine	0.34
Internal Medicine	0.19
Emergency Medicine	0.12
Pediatrics	0.10
Students in residencies with **less than average** emphasis on research	0.74
Psychiatry	0.06
Surgery - General	0.04
Orthopaedic Surgery	0.03
Physical Medicine and Rehabilitation	0.01
Radiology - Diagnostic	0.01
Otolaryngology and Facial Plastic Surgery	0.01
Students in residencies with **more than average** emphasis on research	0.10

The 2021 NRMP residency director survey data showed that the majority of DMU-COM graduates matches into specialties for which the criterion of active involvement in research is of below-average importance. For 10% of graduates, their past involvement in research was of above-average importance for their match success.

DMU Research

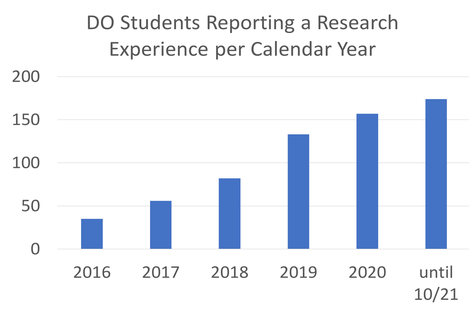
Students acquiring research experience at DMU: Student participation in research activities was ascertained using data reported to the DMU Research Office (2015-2021). For each of the DMU-COM 20/21 residency-matched graduates, the number of research experiences was correlated with the objective importance of research for the selection into their specialty.



DMU COM students are addressing the criteria for involvement in research in the specialties of their choice. Those who match into residences that place a higher value on research report a significantly higher number of research experiences (significance by Kruskal-Wallis test); the number of research experiences reported by students matching in residencies placing less value on research is lower than average.

DMU Research

Students have recognized the value of active participation in research and are reporting an ever-increasing number of experiences to the Institutional Research Office.



Discussion and Conclusions

The study answered three key questions about the value of active participation in research for DMU-COM students.

First, do students expect to conduct research projects after graduation for which such experiences would be useful? Our analysis shows that the majority of students (65%) are open or committed to such projects; a sizeable minority has no plans to participate and instead prefers to focus on patient care – a common attitude among osteopathic medical graduates [6, 7].

Second, would research participation be helpful for graduates? For the majority (74%) of DMU students, research experiences are not very important as they will be matching into specialties that place a lower value on this criterion; however, for about 10% of DMU graduates such experiences are very important as they are a prime selection criterion.

Third, are students matching into competitive specialties seeking out research experiences at DMU? Our data show that the students matching into competitive specialties indeed report a significantly higher number of research experiences during UME.

Conclusions: Students aiming to join competitive specialties recognize that active participation in research is an important selection criterion and are seeking out such experiences at DMU. Student research participation is more common at MD schools, seemingly putting DO graduates at a disadvantage in the competition for residency slots [8-10]. This suggests that strengthening the research curriculum while focusing the efforts on students aiming for competitive residencies is a sensible strategy to improve the match outcomes and to prepare interested graduates for future participation in clinical research.

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