



Medical Student-Run Free Orthopaedic Clinic: Impact of Coordinator Role on Specialty Selection

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Abstract

Background: Medical student-run free clinics provide opportunities for future physicians to accrue practical experience early in their medical education. Subspecialty clinics including orthopaedics provide a unique opportunity to gain exposure to musculoskeletal anatomy and pathology. These clinics are organized and managed by a student clinic coordinator. In this study, we seek to understand the impact that being the clinic coordinator of the musculoskeletal clinic plays in specialty selection.

Methods: A descriptive study was conducted by gathering electronic survey responses from former student clinic coordinators at the Penn State College of Medicine student-run musculoskeletal clinic from years, 2009 to 2017. The respondents described the influence of the coordinator role on residency selection. Additionally, the survey consisted of a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) regarding the student's motivation for participating in the clinic as a coordinator.

Results: From 2009 to 2017, there were 18 LionCare Orthopaedic Surgery Clinic Coordinators with a male-to-female ratio was 1.25:1. Residency specialty selection was Orthopaedic Surgery (n=8, 44.4%), Physical Medicine & Rehabilitation (4, 22.2%), Family Medicine (2, 11.1%), Cardiothoracic Surgery (1, 5.6%), General Surgery (1, 5.6%), Obstetrics & Gynecology (1, 5.6%), and Emergency Medicine (1, 5.6%). The most commonly cited reason for participation as clinic coordinator was "interest in helping an underserved population."

Conclusions: The study illustrates an association between the role of orthopaedic clinic coordinator and entering a specialty focused on musculoskeletal care. More than half of the students who participated as a clinic coordinator pursued specialties involving musculoskeletal care (Orthopaedics and Physical Medicine & Rehabilitation). Student-run medical clinics present an opportunity to provide early exposure to musculoskeletal medicine and potential avenue for orthopaedic education and mentorship.

Introduction

Medical student-run free clinics can be an invaluable experience for a future physician while simultaneously providing healthcare to the uninsured and disadvantaged.^{1,2} A 2014 study showed that there were 106 student-run free clinics operated by the United States Association of American Medical Colleges (AAMC) medical schools.³ These clinics afford students several

opportunities. First, student-run free clinics allow medical students to be exposed to an underserved patient population and learn the impact of social determinants on an individual's health and well-being. Second, the clinics provide students a forum to hone their history taking and physical examination skills. The student is forced to take ownership of a patient and learn their story. Third, these clinics allow the medical student clinic coordinators to develop leadership

skills by organizing student and physician volunteers, managing clinics, and following patients after clinics.

LionCare is a student-run free clinic (SRFC) organized by students and physicians of Penn State College of Medicine located in Harrisburg, Pennsylvania. LionCare has one main general clinic and eight different subspecialty clinics. Subspecialty clinics include cardiology, women's health, dermatology, psychiatry, ophthalmology, orthopaedics, pulmonology, and neurology. The orthopaedic clinic, more commonly referred to as musculoskeletal clinic, occurs once a month and is staffed by volunteer orthopaedic surgeons and physical therapists from the Milton S. Hershey Medical Center. The clinic has the capacity to fill prescriptions, administer joint injections, order imaging, and facilitate follow-up for patients necessitating surgical intervention. This clinic is unique because few SRFCs are equipped to care for only musculoskeletal complaints.⁴

There have been studies outlining the impact that SRFCs can have on the student in the direct caregiver role. One study showed that the presence of a free clinic associated with a medical school did not increase the percentage of students who chose primary care as their specialty.^{5,6} However, there is no known literature on the impact of the student coordinator role on specialty selection in the setting of a subspecialty clinic. In this study, we seek to understand the role of the clinic coordinator in medical education, particularly in the orthopaedic setting. The primary objective of the study is to assess the impact of the clinic coordinator role on career selection. The secondary objective is to understand the motivation for participating in the orthopaedic SRFC in a leadership role. We hypothesize that the student coordinators of the musculoskeletal clinic would be more likely than not (>50%) to pursue a career in a musculoskeletal specialty (orthopaedic surgery, physical medicine, and rehabilitation).

Methods

A descriptive study was conducted to understand the impact of the LionCare medical student coordinator role on career selection. All former medical student coordinators from the

clinic's inception in 2009 to 2017 were contacted via email. Contact information and residency specialty selection was gathered from Penn State College of Medicine office of medical education records. This study was approved by the Penn State College of Medicine Institutional Review Board (IRB). The former coordinators were invited to participate in a voluntary online survey in Health Insurance Portability and Accountability Act (HIPAA) compliant Research Electronic Data Capture (REDCap).

The survey gathered demographic information including medical school graduation year, LionCare participation history, residency program, and fellowship if applicable. Participants were asked if Musculoskeletal LionCare influenced their specialty selection. Former coordinators responded to statements using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) regarding their motivation for participating in LionCare as a clinic coordinator. Qualitative comments were also gathered.

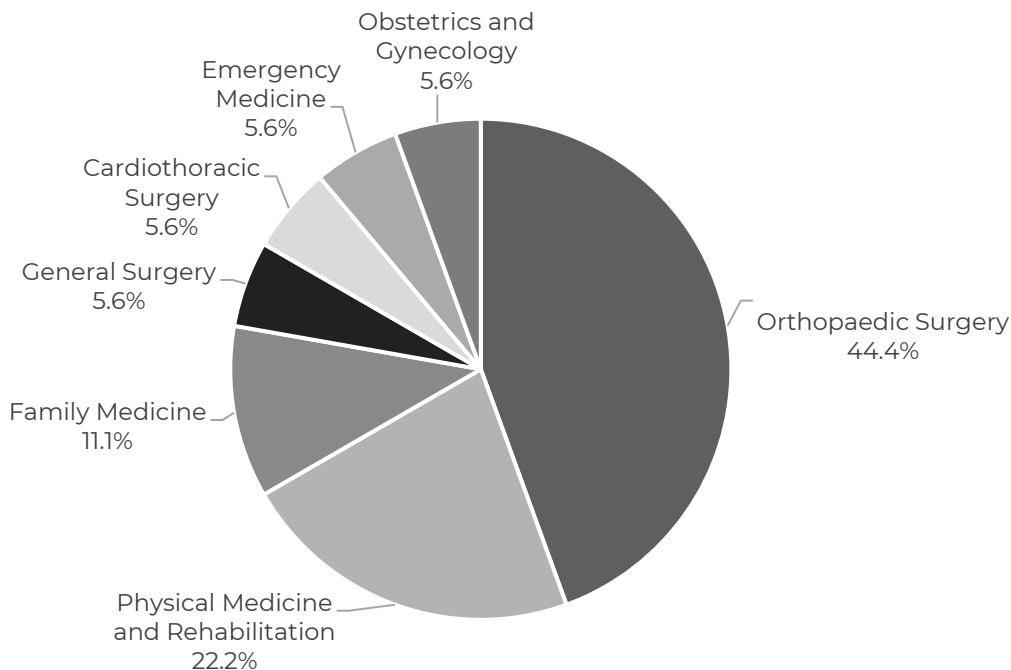
Results

Between 2009 and 2017, 18 medical students assumed the role of clinic coordinator for the LionCare Orthopedic Clinic. Demographics of the cohort are shown in Table 1. Male to female ratio was 1.25:1 for the 18 clinic coordinators. At the time of survey, the majority of the respondents were residents (n=12, 66.7%). Residency specialty selection is shown in Figure 1 and consists of Orthopaedic Surgery (8, 44.4%), Physical Medicine & Rehabilitation (4, 22.2%), Family Medicine (2, 11.1%),

Table 1. Clinic coordinator demographics (n = 18)

Demographic	n (%)
Gender	
Female	8 (44.4)
Male	10 (55.6)
Current training level	
Medical student	2 (11.1)
Resident	12 (66.7)
Fellow	2 (11.1)
Attending	2 (11.1)

Figure 1. Residency specialty selection



Cardiothoracic Surgery (1, 5.6%), General Surgery (1, 5.6%), Obstetrics & Gynecology (1, 5.6%), and Emergency Medicine (1, 5.6%). Fourteen of the 18 (77.8%) coordinators responded to the online RedCap survey. Eleven of the 14 (78.6%) participated in other LionCare clinics including Dermatology, Internal Medicine, Cardiology, Psychology, Neurology, and Women’s Health. Eleven of 14 (78.6%) stated the LionCare Orthopaedic Clinic influenced their residency selection. Coordinators commented that the role confirmed the interest in musculoskeletal anatomy and made the faculty and specialty feel accessible.

Table 2. Motivation for participating in LionCare as clinic coordinator

Response	Likert scale rating, Mean (SD)
I wanted leadership experience	4.36 (0.50)
I was interested in orthopaedics	4.57 (0.64)
I wanted to connect to orthopaedic faculty	4.07 (0.73)
I wanted to help an underserved population	4.79 (0.43)
I wanted more clinical experience	4.54 (0.66)

SD: standard deviation

Motivation for participating in the LionCare free clinic as an Orthopedic Coordinator is shown in Table 2. Additional reasons for participating include opportunity for fostering bedside manner and developing clinical teaching skills. Commented skills gained include “learning how to discuss pathology with patients” and “learning how to obtain resources for an underserved population.”

Discussion

SRFCs offer an opportunity for medical students to increase familiarity with history taking, the physical examination, and presentation skills. Up to 28% of primary care visits have a musculoskeletal component.⁷ Approximately 42% of American medical schools have a musculoskeletal curriculum and only 20.5% require a clerkship in either orthopaedic surgery or physical medicine and rehabilitation.⁸ Our institution does not require a rotation in orthopaedic surgery nor physical medicine and rehabilitation during the clinical years. Thus, the presence of an orthopaedic student-run free clinic provides an opportunity for students to learn more about the specialty, especially early in training. Additionally, the

ability to interact with physicians during the pre-clinical years helps to foster mentorship.⁹

Many SRFCs focus on primary care. The addition of subspecialty clinics increases medical student exposure to different areas of medicine. Previously published studies did not find an association between participation in a general medicine student run free clinic and selection of primary care as their specialty.^{5,6} Our study focused on the role of clinic coordinator and the impact on specialty selection. The unique role of clinic coordinator provides students with early interactions with clinical staff, leadership opportunities, and exposure to health system issues. Pre-existing interest in orthopaedics was a top reason for individuals applying for the role of orthopaedic clinic coordinator. Twelve of the 18 (66.7%) of respondents entered a residency in either orthopaedic surgery or physical medicine and rehabilitation. Survey respondents commented that their early exposure to orthopaedic surgery through LionCare confirmed their interest in musculoskeletal pathology. Additionally, 44% of orthopaedic clinic coordinators were females. This figure is not representative of the field of orthopaedic surgery which is 15% female.¹⁰ Orthopaedic SRFCs may provide an avenue to increase gender diversity in orthopedic surgery by providing early musculoskeletal exposure and opportunity for mentorship.

Though this study is limited to fourteen survey respondents, this is the first study to our knowledge focusing on the role of clinic coordinator of a student-run free orthopaedic clinic. Other limitations include a single study site that may not be generalizable to other SRFCs and possible non-response as four former clinic coordinators did not respond to the survey. Of those who responded to the survey, a high percentage pursued careers in orthopaedic surgery or physical medicine and rehabilitation. Furthermore, the presence of a student-run free orthopaedic clinic can supplement the absence of a required clinical rotation in orthopaedic surgery or physical medicine and rehabilitation.

Conclusion

The presence of a student-run free orthopaedic clinic provides students with early exposure

to history taking and physical exam specific to orthopaedic surgery. Our study illustrates an association between the role of orthopaedic clinic coordinator and entering a specialty focused on musculoskeletal care.

Disclosures

R. Gallo is on the editorial board for Current Reviews in Musculoskeletal Medicine and Sports Medicine and Arthroscopy Reviews. He is also a committee member of the American Orthopaedic Society for Sports Medicine and American Orthopaedic Association. R. Thomas and P. Koetter have no conflicts of interest to disclose.

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