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The Effects of COVID-19 on Clinical Coordination and the Education of Physician Assistant Students

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INTRODUCTION

The purpose of this study is to determine whether the COVID-19 pandemic negatively impacted the education of Southern Illinois University (SIU) Physician Assistant (PA) students and other PA program learners during the height of the pandemic and whether it continues to influence the clinical coordination of SIU PA students, as well as PA students from other institutions.

Clinical coordination is a vital aspect of many PA programs. Clinical coordinators are responsible for ensuring the standards set forth by the Accreditation Review Commission on Education for the Physician Assistant (ARC-PA) are fulfilled.¹ Requirements for both the didactic year, as well as the clinical year, must be followed to maintain accreditation.² For example, during the clinical year, supervised clinical practice experiences must occur in the following settings: emergency department, inpatient, outpatient, and operating room, and be in the areas of family medicine, emergency medicine, internal medicine, general surgery, pediatrics, women's health and behavior health.² These supervised clinical rotations are expected to be completed with preceptors who are: physicians board-certified in their area of specialty, PAs certified by the National Commission on Certification of Physician Assistants (NCCPA), or other licensed health care providers qualified in their area of instruction.²

Clinical coordination is a challenging task and some struggles occur in a normal academic year but can become even more difficult with the introduction of a global pandemic. Clinical coordination relies on networking and relationships, which in most cases have been cultivated over several years and continue to be developed year after year. However, in 2020, these past connections and previously established educational affiliation agreements (EAA) did not seem to help ensure the successful placement of students. When the World Health Organization (WHO) declared COVID-19 a pandemic in March 2020,³ the SIU PA program students, along with many other

PA program students, in the middle of their required clinical rotations, were forced out of their respective clinics. The uncertainty of the impact of COVID-19 at that time was unforeseeable, but it left and continues to leave a lasting mark on many PA programs, and the SIU PA program has been no exception.

METHODS

This study is based on data acquired from the online Medhub site that the SIU PA program students utilize to record all patient encounters during their time in the program. Each student is required to track all patient encounters and enter them into the online tracker during each phase of the program. The patient encounter data includes encounter numbers entered for each student from eight SIU student cohorts (2015 – 2022) and totaled throughout each of the three phases of the SIU PA program (Figure 1). The questionnaire survey was distributed by email to clinical coordinators from several PA programs and responses were received and summarized from the three different PA programs that responded to the questions about how didactic education and clinical rotation placement were affected by COVID-19 (Table 1). Those programs were SIU, Saint Louis University (SLU), and George Fox University (GFU).

RESULTS

PA encounters over the last seven years for the SIU PA program cohort of students were compared to show trends over that span (Figure 1). By evaluating the numbers obtained from the online encounter tracking program, it was determined that patient encounters remained fairly stable for several years, but when the class of 2020 was completing clinical rotations during 2020, those students saw a significant decrease in encounters. This decline can be explained as all students were removed from clinics beginning March 3, 2020. These students were unable to

resume clinic for the remainder of their PA education, which means they missed approximately five months of clinical training and logging patient encounters.

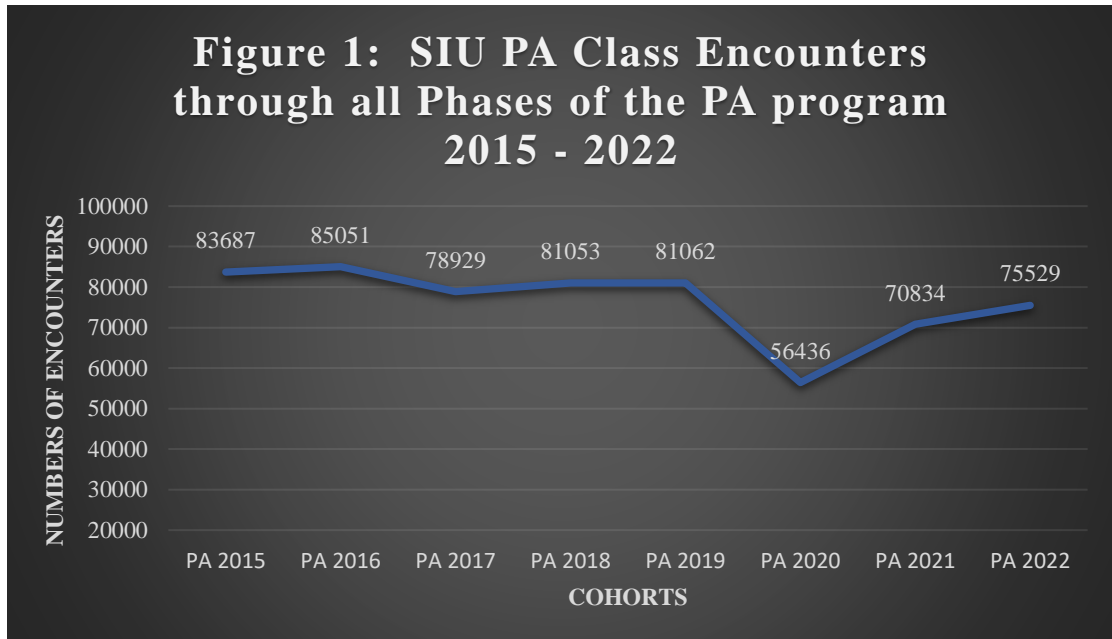
One of the SIU PA program's faculty members along with the program director and director of clinical education, created and implemented an alternate clinical education curriculum for these students to complete their requirements for graduation. The "pandemic curriculum" was developed and submitted to ARC-PA for approval. Once approval was granted, the program director, associate program director, and director of clinical education implemented the alternate curriculum immediately with the class of 2020. The class of 2020's clinical rotations were replaced with weekly online patient encounters through DxR Clinician, Medication-Assisted Treatment (MAT) certification, Federal Emergency Management Agency (FEMA) training certifications, and weekly telehealth visits with current SIU Family Medicine providers and current preceptors.

The DxR clinician program provides simulated online patient encounters for various health issues the student thoroughly investigates from clinical presentation to treatment and management for a given patient. The faculty determined this would help the students continue to build upon their clinical reasoning skills, as well as obtain appropriate history and physical examinations in the absence of real patient encounters. The MAT certification and FEMA training were thought to be appropriate and relevant as the students would soon enter the workforce and these trainings could be beneficial depending upon their place of employment. The faculty also concluded it would be beneficial for the students to complete telehealth training and participate in telehealth visits with several SIU faculty providers during the remainder of the clinical education as this would be an alternative delivery of care method students would likely be using in the near future as providers.

The class of 2021 was unable to finish their first-year mentor clinic assignments and unable to start clinical rotations that were scheduled to begin in June 2020. As a result, those students also participated in telehealth visits, in addition to completing a variety of DxR cases, MAT training, and FEMA training during their absence from their respective clinics. As demonstrated in Figure 1, the Class of 2021's encounter numbers were also lower than what was typically normal pre-COVID-19 but did significantly increase when compared to the class of 2020.⁵ The 2021 students missed only three months of clinical training as compared to the class of 2020 missing five months, as they were able to resume clinical rotations in mid-July 2020.

The class of 2022 encounter numbers have shown an upward trend since 2020 when COVID-19 initially shut down all clinical experiences, however, encounter numbers are still not back to what was considered normal before the onset of COVID-19 which indicates a lingering effect well beyond the impact caused during the height of the pandemic. The continued upward trend is promising for both educators and students and will hopefully continue to trend upwards toward the numbers they were before the onset of COVID-19, as administration and preceptors continue to allow students back into their respective facilities to complete their required clinical experiences.

Figure 1:



Patient encounters were compiled from MedHub Evalute online program utilized by SIU PA program students.⁴

In surveying other PA programs, it was determined there was a significant impact of COVID-19 on several different aspects of PA programs based on the survey results in Table 1. As shown in Table 1, PA programs were forced to make temporary or long-term changes to overall PA program operations. In the near future, a survey will be conducted of former SIU PA students from the classes of 2020, 2021, and 2022 from all three programs surveyed to determine whether they believe their PA education and training were negatively impacted by COVID-19.

Table 1.

Table 1: Clinical Coordinator Survey Results Regarding Effects of COVID-19 on Physician Assistant Clinical Education.			
	Southern Illinois University – (SIU)	Saint Louis University (SLU)	George Fox University – Oregon (GFU)
Did you delay graduation?	No	No	N/A (1 st -year program)
Did COVID-19 negatively affect patient encounters?	Yes - decreased	Yes - decreased	Yes – decreased
Did COVID-19 negatively affect clinical hours?	Yes - decreased	Yes - decreased	Yes – decreased
Increased Requirements to register students with organizations	Yes – the COVID vaccine requirement	Yes – COVID vaccine requirement	Yes – Accreditation process changes
Did you struggle to place students in clinical rotations?	Yes – clinical rotations suspended from March to Aug	Yes – students are not accepted for several rotations especially surgical rotations	Yes – clinical rotation was suspended for several months
Did you alter any admission criteria?	Yes – Accepted virtual shadowing hours	No	No
Did you have to make any cohort adjustments	No	No	Yes – decreased from 24 to 20.
Did you make any changes to rotation schedules?	No	Yes – shortened rotations to 5 weeks in 2020 & 2021	No
Information gathered from Clinical Coordinators: Ms. Halley Barke, DMSc, PA-C, SIU ⁵ ; Ms. Rhonda Pulver, MHS, PA-C, SLU ⁶ ; Kathi Norman, DMSc, PA-C, GFU ⁷			

Survey results gathered from PA program clinical coordinators from SIU, SLU, and GFU noting the effects of COVID-19 on various aspects of each PA program’s clinical education curriculum.⁵⁻⁷

DISCUSSION

The data provided in this study reveals that COVID-19 may have played a significant role in the decreased number of patient encounters for the SIU PA program as well as other administrative tasks required during the clinical education of PA students. As reflected in Table 1, clinical coordinators reported COVID-19 has made placing a student in clinical rotations much more difficult by requiring additional administrative paperwork due to COVID-19 vaccine

requirements. The clinical hours for all students were also negatively impacted. A survey conducted by Valentin et al stated that a majority of PA programs reported making numerous temporary changes to their operations which included moving both didactic and clinical education to an online format. In addition, clinical training was temporarily suspended at almost all programs.⁴ Fortunately, all PA programs included in the SIU study were able to graduate students on time during COVID-19 with some additional educational activities such as the DxR clinician program, telehealth visits, and other certifications and training, to replace the clinical training that was missed by the 2020 cohort.

It is important to note a flaw exists with this study as information was only obtained from three PA programs. In addition, there is no certainty the decrease in the number of patient encounters was solely a result of COVID-19. There is a possibility that it could be caused by other factors as well, such as decreased clinical hours by preceptors or students not accurately recording patient encounters, however, the timing certainly allows for COVID-19 to be considered a strong factor. There is a need for further research to be conducted by learning from additional PA programs, as well as contacting facilities to see what other factors could be contributing to difficulties in placing students in rotations. Upon approval from the Institutional Review Board, the plan is to distribute surveys to the classes of 2020, 2021, and 2022. These surveys would evaluate the students' experiences with their PA clinical rotation education and whether they perceived COVID-19 had any effect, positive or negative, on their education. A 2022 study conducted by Kuriakose, Timko-Swain, Loscalzo, and Eplattener of 3 PA programs in the New York region reported that "even though students perceived it to be more challenging with virtual learning they remained prepared for clinical clerkships."⁶ Students also reported greater stress, anxiety, and depression due to decreased socialization and isolation.⁶

It is also intended to further investigate how the affected students have performed on the Physician Assistant National Certification Examination (PANCE) after missing the clinic time during their clinical year. For the SIU Class 2020, even though they missed nearly five months of clinical rotations, every student passed the PANCE exam on their first attempt, giving the class a 100% pass rate. The SIU Class of 2021, had 36 out of 37 students pass on their first attempt, and the Class of 2022 had 38 out of 38 students pass on their first attempt for another 100% pass rate. Overall, students appear to be performing as well as previous cohorts that were not impacted by reduced clinical hours despite the hindrance of COVID-19 on their educational journeys.

CONCLUSION

On March 11, the World Health Organization (WHO) declared COVID-19 a pandemic, and two days later the President of the United States declared it a national emergency.³ There is no doubt the pandemic has had a significant impact worldwide in a short period of time. Unfortunately, it has not only affected individuals physically and mentally but also educationally, as it has affected the learning and training of future healthcare providers.⁷ The graduates of 2020 and 2021 have entered the workforce with less clinical experience than previous graduates, but they have also learned a great deal about flexibility in an ever-changing healthcare environment which will likely better prepare them for the stressors that will continue to be present in the light of COVID-19.⁷ Although the pandemic has negatively impacted people worldwide in a variety of ways, it allowed PA programs to improvise and introduce new and improved ways of delivering the education necessary for students to be successful. We may never know the complete impact of COVID-19 on the learning and training of SIU, SLU, and GFU PA students. PA program faculty and clinical coordinators must continue to work diligently to provide the best didactic

education and clinical opportunities for PA students and continue to work to prepare them for the world that now includes COVID-19.

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