**The Impact of Virtual Precepting on Pharmacy Student and Resident Experiences in the Ambulatory Care Setting**

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**Background:** The beginning of the coronavirus disease 2019 (COVID-19) pandemic in March 2020 led to a rapid change in the healthcare system and a subsequent quick shift for pharmacy preceptors and pharmacy learners from on-site to remote experiences, including in the ambulatory care setting. As COVID-19 vaccines have become readily available, and the healthcare system has evolved to address the challenges caused by the pandemic, patient care in the ambulatory setting has safely returned to in-person visits, however, telemedicine is still being significantly utilized. This change in process of providing patient care may likely persist long-term, which will subsequently affect pharmacy learners in the ambulatory care setting.

**Objective:** The objective of this study was to assess the impact and value of virtual learning on both pharmacy preceptors and learners in the ambulatory care setting.

**Methods:** An IRB exempt, prospective study was conducted using a voluntary, anonymous Qualtrics survey sent to all preceptors, pharmacy residents, and 4th year pharmacy students on ambulatory care rotations at UNC Medical Center between August 2021 and December 2021. Preceptors and learners who completed all patient care and rotation activities in person were excluded. Survey demographics assessed learner type, location, and communication methods. Participants were asked to select which of 16 rotation activities were completed during the rotation and to rank them from highest to lowest on impact on learning and level of effort. Five questions were measured on a seven-point Likert scale to assess the impact and/or effectiveness of virtual learning on clinical knowledge, critical thinking abilities, confidence, and preparedness for future career compared to an entirely face-to-face experience. The survey concluded with participants having the opportunity to provide open-ended feedback on the most and least beneficial aspects to learning of the rotation. The primary objective of this study was to describe the perceived impact virtual learning in ambulatory care settings has on pharmacy resident and student learning. Secondary objectives were to define the types of learning activities completed on a partially or fully virtual ambulatory care clinical rotation and the perceived level of impact rotation activities had on learning along with the level of effort needed to complete these activities**.**

**Results:** A total of 26 preceptors and 36 learners received the survey, with 16 of the learners receiving it more than once for multiple ambulatory care rotations during the study period. Of the 36 learners, 19 were 4th year students, 7 were PGY1 residents, and 10 were PGY2 residents. The overall survey response rate was 57%, with 46 responses received, including 34 from learners and 12 from preceptors. Survey demographics indicated a majority of preceptors and learners operated in a hybrid model of both on-site and virtual days throughout the rotation. A majority of preceptors disagreed that gains in clinical knowledge were equivalent in the virtual model compared to a fully on-site experience, and 50% disagreed gains in critical thinking abilities were also equivalent. Although disagreeing with the above statements, a majority of preceptors either agreed or neither agreed or disagreed that learners were able to complete all clinical and non-clinical experiences expected. In contrast, a majority of learners agreed that gains in clinical knowledge and critical thinking abilities were equivalent, felt their confidence in providing direct patient care grew equivalently in the virtual setting, and felt they were able to complete all expected clinical and non-clinical experiences.

When ranking rotation activities based on impact on learners’ ability to deliver quality patient care, preceptors ranked the following activities as having the largest impact: collected pertinent medical and medication information as part of the patient work-up, received appropriate rotation orientation, and developed an assessment and patient centered plan of patient’s medication therapy problem(s). Other than receiving appropriate orientation, learners ranked similar activities as having the largest impact, in addition to, implementing a patient-centered care plan and providing medication education. The activities preceptors ranked as requiring the largest amount of effort in the virtual model were: implemented a patient-centered care plan and provide medication education, developed an assessment and patient centered plan of patient’s medication therapy problem(s), and derived a concise and accurate response to a specific drug information question. Learners also ranked implemented a patient-centered care plan highly in regards to effort, along with, performed a comprehensive medication history review, collected pertinent medical and medication information as part of the patient work-up, and communicated with an interprofessional team. Learners and preceptors both ranked activities related to feedback as having the smallest impact and requiring the least effort.

**Conclusions:** Overall, this study found that learners did not perceive virtual learning to negatively impact their clinical experience in the ambulatory care setting compared to fully on-site learning, while some preceptors did. This misalignment may be attributable to the preceptors’ perceived lower ability to evaluate learner’s ability to provide direct patient care in a virtual environment. Given that virtual patient care will likely continue to be a common practice in ambulatory care, these results can be used to assess current ambulatory care rotation experiences and identify areas for continued growth and improvement surrounding the virtual learning environment.