**Purpose:** It is imperative for physician assistant (PA) students to be exposed to hospital medicine as 40% of practicing PAs identify the hospital as their principal clinical practice setting. Many of these rotations were canceled due to the COVID-19 pandemic, negatively impacting the 70% of PA programs not affiliated with an academic medical center. To address this need and provide a comparable experience for PA students, medical educators at the University of Chicago created a Virtual PA Rotation (VPAR). The purpose of this project was to develop a high-yield clinical rotation for private PA programs negatively impacted by COVID-19 by implementing and evaluating a 4-week-long VPAR comprising (1) direct patient care, (2) medical educator-facilitated breakout sessions, and (3) asynchronous learning.

**Approach:** Five students worked with 3 preceptors for the VPAR and were assigned 3–6 patients daily. Direct patient experiences included virtual interviews using FaceTime, preceptor staffing via Zoom, and completion of daily progress notes. This was augmented with medical educator-facilitated breakout sessions and didactic sessions. Evaluation of the VPAR included: (1) comparison of virtual vs traditional in-person rotation patient logs, (2) postcurriculum survey of students and medical educators’ satisfaction and self-efficacy, and (3) student pass rate on the end of rotation (EOR) examination.

**Outcomes:** Diagnoses and patient encounter logs were collected from the 5 virtual rotation students and compared with 4 students who completed traditional in-person rotations in 2019–2020. Mean diagnoses logged per virtual student was 206 (standard deviation [SD] = 155), compared with mean 414 diagnoses (SD = 130) for traditional students (t = 2.14, P = .07). Mean patient encounters logged per virtual student was 34.2 (SD = 20.7), compared with 80.8 (SD = 29.5) for traditional students (t = 2.79, P = .03).

One hundred percent of students responded to a survey. Interactive patient interviews, preceptor group, case presentations, and electronic health record review were rated as the most useful educational experiences. Students felt most prepared in ability to review hospital charts, analyze results, and obtain a patient history. All 5 students felt this rotation provided an adequate experience to understand Internal Medicine in a hospital setting.

Fifty-nine percent (13/22) of medical educators responded to the postrotation survey. Eighty-five percent (11/13) were moderately or extremely satisfied with their participation in teaching in the rotation, 77% (10/13) were moderately or extremely likely to recommend the rotation to other medical educators, and 100% felt it made them more open to future interprofessional education experiences.

**Discussion:** We were able to create an innovative, high-yield hospital medicine rotation to meet the need for PA students negatively impacted by COVID-19. The VPAR overall was a success as measured by 100% EOR examination pass rate, high student ratings, and comparable patient encounters and diagnoses. The VPAR was also well received by medical educators, though most felt it was more time-consuming, proving to be the biggest limitation to this model. Lessons learned from the preceptors included limitations of technology such as decreased device battery life, need for troubleshooting, and loss of organic educational experiences for students. They also highlighted concerns regarding increased time dedicated to logistics of the rotation while managing highly complex patients. Strengths of the VPAR include its feasibility, low cost of implementation, and ease of application of this model to other practice settings, specialties, and professions. The VPAR also has the capability to adjust for different rotation lengths of time.

**Significance:** We believe the results above showcase that this innovative model of education can meet the needs of PA students negatively impacted by COVID-19. Therefore, as COVID-19 continues and health systems respond, a VPAR is a reasonable alternative to in-person clinical rotations. Beyond COVID, this pilot rotation’s success demonstrates that VPARs or a hybrid of a virtual and in-person rotation may be an interesting addition to PA education, particularly for unaffiliated programs with a significant need for access to inpatient rotations and tertiary care centers. Furthermore, this model could easily translate to other professional disciplines similarly impacted by visiting student restrictions.

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**Other disclosures:** None reported.

**Ethical approval:** The project received exemption from the University of Chicago Institutional Review Board (IRB20-1840).

**Previous presentations:** Presented at the Association of American Medical Colleges Group on Educational Affairs Joint Regional Conference, April 2021, virtual, and at the Society of Hospital Medicine Converge Conference, March 2021, virtual.

**References**

**A Multi-Institutional Approach to Assess the Mental Health of Medical Students**

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**Purpose:** It is well documented that medical students suffer from suboptimal mental health.1 However, literature investigating the prevalence of mental health difficulties reports highly variable ranges and focuses primarily on depression, burnout, and suicide.2-5 This innovation outlines the efforts of the Consortium for the Study of Medical
Student Mental Health, a collaboration between 4 institutions to develop a standard of investigating a wide variety of understudied mental health domains using an instrument we call the Keck Mental Health Survey (KMHS). The KMHS collects data to achieve 3 primary goals. The first is to provide individual students with information about their personal mental health. The second is to give each institution data about mental health among their students to plan for wellness programs. Finally, the consortium uses the KMHS to investigate trends in medical student mental health on a national level.

**Approach:** The KMHS was administered in the Fall semesters of 2019 and 2020. A wellness representative introduced the survey and students in the first 3 years of medical school completed it during class time. Fourth-year medical students were emailed a link to the survey with a video introduction and given 2 weeks to complete it. The KMHS included 16 self-report instruments previously shown to be valid in the general U.S. adult population to measure a variety of psychological conditions. In accordance with the first goal of the consortium, the survey provided personalized information to students about their results. To address the second goal, descriptive statistics were obtained to determine the proportion of students that fall into the at-risk categories of the instruments included in the KMHS. Finally, to accomplish the third goal, inferential statistical tests and modeling including paired t tests and regression will be conducted following completion of data collection for the 2020–2021 administration of the KMHS, which concludes in January.

**Outcomes:** In 2019, a total of 1,819 medical students completed the KMHS at the Keck School of Medicine of University of Southern California (n = 585), Loma Linda University School of Medicine (n = 539), the University of Southern California, Keck School of Medicine (n = 471), and the Yale School of Medicine (n = 224). This presentation will describe the aggregate distribution of students at-risk for the 16 conditions measured by the KMHS that include generalized anxiety disorder (57.23% at-risk), major depression (41.29% at-risk), burnout (41.29% at-risk), impostorism (21.61% at-risk), and attention-deficit/hyperactivity disorder (20.51% at-risk).

Additionally, following completion of the second year of data collection at the end of January 2021 we will present inferential statistical findings that detail major trends in students’ responses across time.

**Discussion:** The above proportions of medical students who fall within the at-risk categories on the instruments included in the KMHS expand the evidence of need for services and care for this population to include previously understudied conditions. The Consortium for the Study of Medical Student Mental Health continues to add institutional collaborators to our longitudinal study to develop a nationally representative sample to investigate these phenomena. Upon conclusion of the second year of data collection, we will perform inferential tests to begin looking at trends across the continuum of medical education to better serve our future physicians.

**Significance:** The Consortium for the Study of Medical Student Mental Health advances the conversation about medical student mental health with a goal of promoting medical student wellness on an individual, regional, and national level.

**Conclusion:** The above proportions of medical students who fall within the at-risk categories on the instruments included in the KMHS expand the evidence of need for services and care for this population to include previously understudied conditions. The Consortium for the Study of Medical Student Mental Health continues to add institutional collaborators to our longitudinal study to develop a nationally representative sample to investigate these phenomena. Upon conclusion of the second year of data collection, we will perform inferential tests to begin looking at trends across the continuum of medical education to better serve our future physicians.

**Institutional Review Board:** This study was approved as exempt by the University of Southern California, Keck School of Medicine, 1975 Zonal Ave., Room 211, Los Angeles, CA 90033; email: jacob.schreiber@med.usc.edu.

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**Ethical approval:** This study was approved as exempt by the University of Southern California Institutional Review Board (HS-19-00561).

**References**


**Just 10 “CLEQS” Yields Formative Evaluation of the Clinical Learning Environment**

**Purpose:** “Learning in a clinical context is foundational in the training of health professionals; there is simply no alternative” is the lead statement to a 2019 collection of papers exploring research and efforts to improve learning in the context of patient care.1 The Accreditation Council for Graduate Medical Education’s (ACGME) Clinical Learning Environment Review (CLER) affirms this foundational role by regularly providing clinical settings affiliated with ACGME-accredited sponsoring institutions with periodic feedback to optimize a shared goal—learning to provide safe, high-quality patient care.2 However, there are currently no tools available to evaluate the CLE that are: (1) appropriate for all health care team members; (2) informed by contemporary learning environment frameworks; and (3) are quick to complete.3

Our purpose was to create a reliable, evidence-based, short (10 items, < 5 minutes to complete) CLE tool (Clinical Learning Environment Quick Survey [CLEQS]) appropriate for all participants in the clinical workplace (e.g., trainees, clinicians, clinical staff) to monitor the quality of CLES.

**Approach:** Survey content (items) was developed for each of the 4 construct domains outlined in Gruppen et al’s learning environment construct framework: individual, social,