



GRADUATE MEDICAL EDUCATION

# Adapting to the New Norm: Didactic Curriculum During Residency Training during the COVID-19 Pandemic

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## BACKGROUND

The Accreditation Council for Graduate Medical Education (ACGME) common program requirements (CPR) mandate that training programs provide a broad range of educational activities to their trainees consistent with the program aims and goals.<sup>1</sup> These should include structured didactics that can comprise a broad range of activities such as lectures, conferences, simulations, case discussions, grand rounds, and critical appraisal of the medical literature aka journal club. Under usual circumstances, all programs provide a broad array of these activities in person, either during a dedicated day of the week (commonly referred to as educational half day), or daily during a hour set aside for resident education. The ongoing COVID-19 pandemic necessitated that healthcare facilities prioritize urgent patient care, cancel elective procedures/surgeries, and maintain social distancing to mitigate the spread of this highly contagious novel virus. Educational programs were challenged with the need to adhere to these guidelines to ensure the safety of their trainees while also meeting their educational needs.

## APPROACH/METHODS

Our pediatric residency program adapted to this challenge by utilizing a multi-pronged approach, leveraging the framework presented by Abraham Maslow's "Theory of Human Motivation."<sup>2</sup> Maslow's framework is based on a hierarchy of essential needs that must be met before the eventual "self-actualization". In this case, the essential need for the trainee was a safe work environment.

To comply with social distancing policies and ensure safety, all elective rotations and longitudinal outpatient experiences (LOEs) were canceled. Instead, residents participated in telehealth visits that increasingly became the norm as the pandemic progressed. Some in-patient hospital services reverted partially to virtual encounters whereby the history

portion of the encounter was conducted via FaceTime so as to decrease the amount of time spent face-to-face in the actual patient room. In addition, this would allow the team to focus more on the physical examination of the patient. The work environment's safety was optimized by providing training on the proper use of personal protective equipment (PPE) in the form of video tutorials, and ensuring all residents had sufficient PPE. Residents watched a video on proper donning and doffing of PPE per CDC guidelines. Apart from the PPE provided by the hospital, our program went a step further and purchased protective eye wear and respirator masks for all out trainees very early on in the pandemic.

All Educational activities (noon conferences, weekly board review) were moved to a cloud-based platform (Zoom) providing both audio and video conferencing. Faculty also conducted weekly case-based discussions on a variety of topics to further enrich the curriculum. Hopkins modules and online readings were assigned to fill the gap created by the disruption of LOEs. A new virtual elective on Narrative Medicine was created, and the format of other existing electives such as Patient Safety, Ethics and Genetics were modified so that these, too, could be done virtually

We also dedicated a weekly conference to resident wellness. Situational updates and news from the ACGME and American Board of Pediatrics (ABP) on the evolving COVID-19 situation were provided during these weekly meetings. In addition, platooning our schedules (utilizing a two-team system) allowed personal time for family/self-care and wellness activities, thus helping to mitigate some of the stress naturally associated with the evolving grim situation.

## OUTCOMES TO DATE

We conducted an anonymous survey to gauge the residents' satisfaction with these educational interventions approximately two months into the change. The survey was completed by 37/39 of the residents. A 5-point Likert scale was utilized with a "high score" defined as a rating of 4-5. The percentage of respondents who gave a "high" rating on each category is shown in the provided table.

RATING CATEGORY	Percentage of Respondents Giving High Rating
<b>QUALITY</b>	
Clarity of the education given on PPE	94.5
Promptness and ease of the transition to online educational didactics	81
Comparability of the online conferences to in-person meetings	81
<b>SATISFACTION</b>	
Program effort to minimize interruptions of educational activities	89
Responsiveness to feedback on the curriculum	89
Study time allowed to complete educational requirements	84
Wellness online sessions	81

*Table: Resident Satisfaction Survey of Program Interventions (N = 37)*

The average attendance rate during didactic sessions increased from 47% in the four weeks immediately prior to the pandemic to 66% at four weeks after these changes were implemented.

In addition, we were able to hold pediatric advanced life support-based simulation activities in our simulation center. Platooning our schedules (utilizing a two-team system), allowed such activities to be conducted with ease without any disruptions in patient care.

All graduating residents were all able to successfully complete their ACGME and ABP requirements for training and meet the registration requirements for the ABP examination. All other residents continuing in the program were able to advance to the next level. Though several residents had modifications made to their schedules to make up for activities interrupted by the complete cessation of patient care such as LOE's and certain out-patient experiences, most notably in surgical subspecialties such as otorhinolaryngology and orthopedics.

## REFLECTIONS

As the pandemic continues to rage on with no signs of abating, while we have resumed all clinical care and educational activities, there have definitely been several modifications made along the way. Virtual visits in the clinical setting have become as much the norm as in-person encounters. In certain specific instances such as children with complex medical conditions, in particular those using equipment such as home ventilators, besides the obvious physical convenience, virtual visits actually offer a unique advantage in that the patient can be observed in their home environment.

Our didactic curriculum and training has continued to utilize the cloud based platform and limit in-person meeting attendance unless trainees are on site and can do so while maintain appropriate distancing. Our residents expressed satisfaction with the PPE education they received. In addition, several appreciated the efforts made by the program to purchase PPE independent of the hospital system. They commented that this made them feel safe and that they felt a general sense of wellbeing that the program administration cared about them. High rates of resident satisfaction were demonstrated for the quality and program efforts to maximize their productivity using these new platforms.

While it still may be too early to tell, it is conceivable that the COVID-19 pandemic may have changed the face of graduate medical education (GME) forever. Increased use of virtual learning platforms and self-directed learning strategies are likely going to be the way of the future, and exclusive in-person conference attendance may become a thing of the past. It is presently unclear what impact this may ultimately have on traditional methods of GME training, future performance on standardized board examinations, and most importantly, how this will all translate to patient care outcomes. We believe it highly likely that future learning strategies will be a combination of all of these methodologies.

## REFERENCES

1. ACGME program requirements for graduate medical education in pediatrics. Available at: [https://www.acgme.org/Portals/0/PFAAssets/ProgramRequirements/320\\_Pediatrics\\_2020.pdf?ver=2020-06-29-162726-647](https://www.acgme.org/Portals/0/PFAAssets/ProgramRequirements/320_Pediatrics_2020.pdf?ver=2020-06-29-162726-647) (Accessed July 13, 2020)
2. Maslow, A.H. A theory of human motivation. *Psychological Review*. 1943; 50 (4):370–96. CiteSeerX 10.1.1.334.7586. doi:10.1037/h0054346