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## Changes to pediatric resident medical education during COVID-19

### Les changements apportés dans l'éducation médicale des résidents en pédiatrie en raison de la COVID-19

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## Introduction

Reports of electronic learning ("e-learning"), especially in asynchronous form, have increased over the last decade and vary in effectiveness.<sup>1-4</sup> Many potential benefits to e-learning have been documented.<sup>5</sup> Electronic and remote learning offers the opportunity to access educational materials even in resource-limited settings. The Coronavirus Disease 2019 (COVID-19) pandemic altered medical education formats and practices across the nation. Starting in March 2020, social distancing recommendations and policies led to limitations on gatherings, and led training programs away from traditional in-person lectures. During this time, programs made various changes to embrace technology and distance learning in order to limit disruptions in education. Published reports have described changes to medical student education<sup>6</sup> implemented during this unprecedented time, however, little is known regarding the changes to pediatric resident education and the perspectives of the efficacy of these changes by the faculty.

At our institution with 24 pediatric residents, ZOOM technology was utilized to continue didactic sessions for pediatric residents, which included the general pediatric noon lecture series taught by faculty. The residents rated the effectiveness of the remote lectures as compared to in-person lectures with a mean score of 3.12 out of 5, with approximately 65% of residents indicating that the remote

lectures were the same as in-person lectures in terms of effectiveness of teaching and learning (rating 3 out of 5). Seventeen residents and 17 members completed the survey and rated the level of resident engagement with education during the pandemic with mean scores of 3.65 (SD 0.6) and 3.06 (SD 0.96), respectively. The majority of both pediatric residents (82.4%) and faculty (94.1%) both recommended a hybrid model for future post-pandemic resident education.<sup>7</sup>

Based on our data from a single institution, we aimed to describe the changes to medical education put forth by pediatric residency programs across the nation as well as the perceptions of efficacy of these changes by the programs. We also aimed to describe how programs planned to change medical education going forward post-pandemic.

## Methods

Evaluation by the local Institutional Review Board granted exemption status to the project. A survey was created to assess the changes made to educational formats for pediatric residents, the satisfaction and perceptions of efficacy and learner engagement, and the plans for educational formats moving forward post-pandemic. The survey includes multiple choice questions describing the types of technology used for educational sessions, concerns regarding education during the pandemic, and

plans for education post-pandemic. Satisfaction, success, and engagement are rated on a 5-point Likert scale. The survey was submitted for dissemination via e-mail to pediatric program directors, associate program directors, and pediatric fellowship directors across the United States. We plan to email the potential study participants twice with the survey information. The surveys would be submitted anonymously and completion of the survey would indicate consent. Summary statistics will determine the trends of data across the programs.

## Summary

Data from our own pediatric program suggest that pediatric residents were engaged with remote learning sessions and found the sessions equally as effective as traditional in-person sessions. Interestingly, both the faculty and residents at our program advocated for a hybrid model of remote and traditional in-person education sessions post-pandemic. This survey is an opportunity to learn from and share the experiences and endeavors of pediatric programs with regard to medical education innovations during this unprecedented time of the COVID-19 pandemic.

**Conflicts of Interest:** None

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