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PROBLEM

PANDEMIC SWEEP ACROSS the world, many medical students' clinical duties were suspended and many K-12 schools closed. Parents and teachers of younger students were stretched thin with new responsibilities, and it was challenging to find accurate, engaging, and developmentally appropriate information about COVID-19 intended for children and adolescents. Paralleling the disruptions seen in K-12 schooling, medical students suspended from patient responsibilities found their education interrupted and sought ways to both contribute to public outreach efforts and augment their own learning in innovative ways.

APPROACH

A group of medical students at Harvard Medical School (HMS) created COVID-19 Classroom, a website with free online educational modules about COVID-19 for elementary, middle, high school, and college students. The materials were designed to 1) provide children with accurate and developmentally appropriate education about the COVID-19 pandemic, 2) help children express their emotions and cultivate effective coping strategies and resilience, and 3) facilitate effective communication about the COVID-19 pandemic between children, caregivers, and teachers. The medical students engaged in literature review and information synthesis, crafted pediatric educational materials, built collaborative relationships with classmates, connected with faculty mentors, and created outreach efforts to publicize their work. The website was reviewed by HMS physicians, including faculty in pediatrics, critical care, and child and adolescent psychiatry, as well as by pediatric social workers, teachers, parents, and children.

OUTCOMES TO DATE

As of May 5, 2020, the COVID-19 Classroom website has been accessed by over 1200 users in 29 countries. It has been linked as a resource by the Maine Department of Education and the Massachusetts General Hospital Clay Center

for Young Healthy Minds, and has been directly shared with over 20 school districts in the U.S. and Canada. The creators have received multiple testimonies of positive impact from students, parents, and educators, describing COVID-19 Classroom as an engaging and informative resource during a difficult time. COVID-19 Classroom has provided K-12 students worldwide with free, accurate, and developmentally appropriate educational materials about COVID-19. This project also provided medical students with a range of engaging educational and professional opportunities and allowed them to develop competence related to literature review, health education, curriculum development, web design, and leadership. Further, the medical students made a meaningful contribution through this public service project during a period when they did not have typical opportunities to make an impact through direct patient care.

NEXT STEPS

The COVID-19 Classroom can be used as a resource for other medical students to deliver education about COVID-19 to students of all ages in their local school districts. Next steps include updating the material as the pandemic evolves, further expanding the reach of the website, connecting with other medical students to facilitate delivery of the educational modules to K-12 students, and identifying opportunities to translate the materials into other languages to make them accessible to more students worldwide. This project also provides a model for medical students to create any number of interactive online educational modules to engage students of all ages in free virtual learning experiences. Early involvement in curriculum development and education can position medical students to pursue these interests throughout their careers.

COVID-19 Classroom Website: <https://kids.covidstudentresponse.org>

Fellows Front and Center: Tele-Training and Telehealth



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PROBLEM

THE DEVELOPMENTAL-BEHAVIORAL PEDIATRICS (DBP) Division at Stanford, in response to COVID-19

“shelter-in-place” directives, abruptly shifted from face-to-face outpatient clinic visits to exclusively remote telehealth (TH) visits on March 18, 2020. DBP faculty

determined that continued DBP fellow training was a priority. The hospital system provided no guidance about maintaining teaching in the TH environment where faculty and fellow were not co-located. Extant literature offered limited information about evaluated supervision of medical trainees during TH visits, focusing on medical students¹ or intensive care environments.^{2,3}

APPROACH

Our innovative fellow training model began with a challenge: faculty had to engage simultaneously, in learning and teaching TH. We utilized an educational framework rooted in experiential learning, quickly identifying 3 predominant strategies: 1) faculty and fellow paired for entire TH visit; fellow led the visit, faculty observed; 2) for each TH visit, we added time for focused “pre-brief” and “de-brief” discussions; and 3) during visits, we capitalized on observation of patients at home. An additional challenge was that the existing TH platform did not support multiparty functionality. Therefore, we experimented with other video communication strategies to ensure that multiple individuals (eg, fellow, faculty, interpreters) could simultaneously participate in TH visits.

Outcome measures. To assess maintenance of fellow clinical experience, we calculated number of remote TH visits conducted by faculty and the proportion of those visits led by fellows. We gathered fellow and faculty perspectives regarding advantages and disadvantages of “tele-training.” End of April, 2 focus groups were conducted (Group 1 faculty n=7; Group 2 fellows n=4). The semistructured discussions were audio recorded, transcribed, and analyzed using inductive content analysis.

OUTCOMES TO DATE

After 1 month, 324 remote TH physician visits were completed, with 101 visits led by fellows and supervised by faculty (31%). Visit number was comparable to the same period in 2019.

Results of qualitative analyses. Three themes represented shared beliefs of fellows and faculty:

- (1) The nature of supervision changed. Faculty observed fellows intensively, without interrupting. The new format spotlighted fellow skills in communication, organization, and transitions.
- (2) Feedback was enriched. New opportunities emerged

for confidential feedback during the visit (using chat features) and after the visit (using planned de-brief time). Feedback content was informed by faculty’s ability to take notes unobtrusively.

- (3) Unexpected opportunities for fellows to observe and practice skills have emerged: leadership, flexibility, timeliness prompted by technological demands, and problem-solving.

Two themes highlighted differing perceptions of fellows and faculty:

- (1) Faculty expressed concerns, not endorsed by fellows, about possible disadvantages of tele-training, including fellow perceptions of lost autonomy, heightened scrutiny, decreased collegiality.
- (2) Fellows had increased awareness of clinical advantages of TH visits (eg, seeing patient’s home environment, concentrating attention to clinical priorities), not mentioned by faculty.

NEXT STEPS/PLANNED CURRICULAR ADAPTATIONS

We will re-assess faculty and fellows after extended experience with remote TH and tele-training, to determine the degree to which important themes continue or change. Based on this experience, we will include ongoing TH in clinical care and a robust training in TH for future fellows, even as in-clinic visits resume.

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REFERENCES

1. Rienits H, Teuss G, Bonney A. Teaching telehealth consultation skills. *Clin Teach.* 2016;13:119–123.
2. Fiero ML, Rosenblatt S, Zhang B, et al. Providing early attending physician expertise via telemedicine to improve Rapid Response Team evaluations. *Pediatr Crit Care Med.* 2020;21:e221–e227.
3. Nadar M, Juvet P, Tucci M, et al. The implementation of a synchronous telemedicine platform linking off-site pediatric intensivists and on-site fellows in a pediatric intensive care unit: a feasibility study. *Int J Med Inform.* 2019;129:219–225.

Patient and Family Centered (Tele)rounds: The Use of Video Conferencing to Maintain Family and Resident Involvement in Rounds

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