



Professional development during a pandemic: a live virtual conference for emergency medicine chief residents

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Abstract

Limited professional development training exists for chief residents. The available training uses in-person lectures and workshops at annual national conferences. The COVID-19 pandemic prevented most in-person gatherings in 2020, including pivotal onboarding and training events for new chief residents. However, for the last five years, Academic Life in Emergency Medicine's Chief Resident Incubator conducted year-long remote training programs, creating virtual communities of practice for chief residents in emergency medicine (EM). As prior leaders and alumni from the Incubator, we sought to respond to the limitations presented by the pandemic and create an onboarding event to provide foundational knowledge for incoming chief residents. We developed a half-day virtual conference, whereupon 219 EM chief residents enrolled. An effective professional development experience is feasible and scalable using online videoconferencing technologies, especially if constructed with content expertise, psychological safety, and production design in mind.

Keywords Chief resident · Professional development · Virtual learning

Résumé

Il existe une formation de développement professionnel limitée pour les résidents en chef. La formation disponible utilise des conférences et des ateliers en personne lors de conférences nationales annuelles. La pandémie de COVID-19 a empêché la plupart des rassemblements en personne en 2020, y compris des activités d'intégration et de formation essentielles pour les nouveaux résidents en chef. Cependant, au cours des cinq dernières années, l'incubateur des résidents en chef de *Academic Life in Emergency Medicine* a organisé des programmes de formation à distance d'un an, créant ainsi des communautés de pratique virtuelles pour les résidents en chef en médecine d'urgence (MU). En tant qu'anciens dirigeants et anciens de l'incubateur, nous avons cherché à répondre aux limites présentées par la pandémie et à créer un événement d'intégration pour fournir des connaissances fondamentales aux nouveaux résidents en chef. Nous avons mis au point une conférence virtuelle d'une demi-journée, à laquelle 219 résidents en chef de MU se sont inscrits. Une expérience de développement professionnel

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efficace est réalisable et évolutive grâce aux technologies de vidéoconférence en ligne, surtout si elle est construite en tenant compte de l'expertise du contenu, de la sécurité psychologique et de la conception de la production.

Background

Most residency programs select senior residents as chief residents, a one-year leadership position [1]. While expectations vary greatly across programs, chief residents often manage resident clinical schedules, arrange didactic curricula, resolve interpersonal conflicts, and address wellness concerns. Most residents selected for this position have had minimal training or development of the leadership skills required for the role, despite studies showing that formal training prepares them to navigate and succeed in their role [2]. Formal training typically occurs at annual national conferences [3] and allows chief residents to learn the communication and management skills needed to succeed.

The COVID-19 pandemic has profoundly impacted the traditional academic landscape [4], resulting in physical distancing and a shift away from in-person didactics. These unexpected challenges have created an unexpected silver lining to the pandemic by driving innovation in the area of didactic content delivery. The roles and responsibilities for chief residents have only expanded with the pandemic, emphasizing the need for chief resident development.

Since 2015, the educational organization Academic Life in Emergency Medicine (ALiEM) has hosted an annual, year-long, virtual training program for emergency medicine (EM) chief residents called the Chief Resident Incubator [5]. Hosted primarily on the messaging platform Slack™, this program has mentored 885 chief residents over five years. While the year-long asynchronous program offered longitudinal support to chief residents, the virtual live event offered a more condensed and interactive session. As the live event was held as chief residents were just beginning their year, the content was more focused on developing their identity and exploring this new role.

Rationale

Informed by five years of experience with the Chief Resident Incubator [5], previous Incubator leaders and alumni constructed a virtual professional development curriculum to fill the chief resident education gap created by the COVID-19 pandemic.

Description of innovation

Faculty and alumni from the Chief Resident Incubator developed a half-day didactic program for new 2020 EM chief

residents, called the Chief Resident Incubator Live event. The implementation team included a core group of six members. The Event Director, an Associate Event Director, a Chief Digital Engineer for technology planning and support, and three Audience Architects who served as speaker-transition facilitators and moderators. These core members directed the curriculum and recruited 17 expert instructors, who represented diversity across gender, location of training and practice, and area of expertise.

We selected the Zoom™ webinar platform given our team's experience with it [6] and its prevalence in education. Two “tech check” sessions with the speakers were held before the live event and detected slide-share glitches, audiovisual imperfections, and awkward transitions between speakers. We chose not to record the live event to enhance the psychological safety of discussions.

The event was divided into three parts (Table 1). The first part involved the audience observing discussions on four themes; each theme included a paired dialogue between a faculty expert with a current (or recent) chief resident. Three of the four topics (boundary management, conflict resolution, and middle management) focused on the widest knowledge gaps identified by graduates of the Chief Resident Incubator. The fourth topic (leadership in a crisis) specifically focused on lessons learned from New York City residency programs impacted early in the COVID-19 pandemic.

The second part of the event featured a facilitated Q&A panel based on common, recurrent questions from prior years of the Chief Resident Incubator and questions posed in real-time from the live audience. During and between each of these segments, an Audience Architect monitored the Q&A dialog box and relayed questions to the speakers.

The third and final part of the event transitioned from conference hall-style to small-group brainstorm sessions to reinvigorate participants and avoid video conferencing fatigue. Because chief residents often divide their primary responsibilities to target scheduling, wellness, or curricular planning, we allowed participants to choose which facilitated session they wanted to attend. We selected 2–3 expert panelists to facilitate these small group discussions and designed the content to go into a deep dive on the specific topic. Transitioning from the Zoom webinar to the meeting option, all participants could see and hear each other and interact in the chat window.

Recruitment of chief residents to the event required a multimodal approach because there is no centralized organization with access to all of North American EM chief residents. This approach included contacting program directors and residency coordinators, as well as broadcasting across

Table 1 Master implementation schedule for the Chief Resident Incubator Live event

Day	Duration	Topic/Story	Speaker	Facilitator
5–7 days prior	2 tech check sessions			
3 days prior	Ticket invitation emailed out			
Event day	10 min	Welcome, Overview	Event Director/Event Associate Director	
	30 min	Leadership in a crisis	Faculty expert with a current (or recent) chief resident	Audience Architect
	30 min	Manage up and across	Faculty expert with a current (or recent) chief resident	Audience Architect
	30 min	Boundary management	Faculty expert with a current (or recent) chief resident	Audience Architect
	30 min	Conflict resolution	Faculty expert with a current (or recent) chief resident	Audience Architect
	40 min	Q&A panel	3 prior chief residents and 2 previous Chief Resident Incubator leaders	Audience Architect
	10 min	Explain breakouts	Event Director/Event Associate Director	
	10 min	Music break		
	35 min	Breakouts: 1. Scheduling 2. Education 3. Wellness	Scheduling, education, and wellness experts	
	15 min	Summary, contest winner announcements, and conclusion	Event director/Event associate director	
2 days after	Online survey emailed to participants			

ALiEM social media outlets, including a blog post, Twitter, Facebook, and Instagram. Chief residents were enrolled using Typeform™, and we charged \$49 per chief resident to offset costs for speaker gifts and administrative support.

All North American EM residency programs (approximately 250 programs) were eligible to enroll their chief residents. Of the possible 619 chief residents (42 Canadian, 577 American), 219 chief residents enrolled in our Chief Resident Incubator Live event. Of the 219 enrollees, 213 (97%) attended the live conference (19 Canadian, 194 American). This represents approximately a half and a third of the Canadian and American chief residents, respectively. All of the attendees remained for the last small-group sessions on wellness (49), education (84), and scheduling (80).

Additionally, we engaged the Twitter education community through the hashtag #CRIncLive. For 45 days surrounding the event, 63 contributors posted 300 unique tweets with a potential reach of 593,054 Twitter accounts. These Twitter analytics were collected using TrackMyHashtag [7], a social media tool used to collect and analyze historical Twitter data.

Based on an anonymous post-conference survey (21% response rate; 44/213), 88.4% (38/44) chief residents stated they would recommend the event to next year's chief residents. 61% (26/44) had a stronger preference for the virtual format, compared to in-person. For the small-group breakout rooms, 70% (30/43) wished there had been more time allotted to this section. Several chief residents commented on the desire for even smaller-sized breakout groups to allow

further interaction. Two participants described how beneficial their experience was as below:

“The ability to get such great attendance from leaders in medical education is definitely a major plus to the virtual conference. Would like to see this type of training continue”.

“It was very helpful, instigated a lot of conversation amongst us as chiefs. Please continue to host this session!”

Discussion

Transitioning in-person events online using videoconferencing technologies is complex. We felt that the Chief Resident Incubator Live conference was successful due to content expertise, focus on psychological safety, and emphasis on production design. Our entire planning team led various prior Chief Resident Incubator communities and thus could inform optimal curricular content for an onboarding event for new EM chief residents. We felt that we established psychological safety in a non-recorded, trusted space by sharing narratives of lived stories, struggles, and illustrative cases experienced by chief residents in the four sessions with a faculty expert paired with a current (or recent) chief resident. Lastly, we focused on the event's production design. Much like professional televised events, crafting a cohesive storyline without abrupt topic transitions, awkward pauses, or technological stumbles required a dedicated support team.

Reproducibility of this innovation lies in having expertise in content, videoconference streaming capabilities, facilitation skills in the virtual environment, and the reach to publicize to the target audience strengthened by a strong social media network. Our event benefited from the experience and particular expertise in hosting these events. Still, we believe that with attention to social media engagement and collaboration with professional organizations, as well as focus on the specific needs of the attendees, a successful replication is possible.

Summary

Our Chief Resident Incubator Live conference model addressed an immediate gap in the professional development of new EM chief residents due to canceled in-person conferences. Our innovation provides a model framework for others to build a virtual leadership conference, using existing videoconferencing technologies and focusing on content expertise, psychological safety, and production design.

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Declarations

Conflict of interest ML is the founder and chief executive officer of the organization, Academic Life in Emergency Medicine (ALiEM). FZ, NB, CR, TM, and AA report no conflicts to disclose.

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