



Figure 1.

### 3 A Mixed-Methods Needs Assessment to Identify Pharmacology Education Gaps Among Emergency Medicine Residents

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**Learning Objectives:** The objective of this study was to perform a targeted needs assessment in order to develop a patient-safety focused pharmacology curriculum for EM residents.

**Background:** Medication errors threaten patient safety and half of all errors are related to physician orders. Emergency medicine (EM) residents are expected to demonstrate competence in pharmacotherapy (Milestone PC5), yet it is unclear which curricular topics to emphasize.

**Objective:** The study aim was a targeted needs assessment to develop a patient-safety focused pharmacology curriculum for EM residents.

**Design:** A convergent mixed methods study incorporated data from a de-identified safety event database and survey responses of EM faculty and clinical pharmacists at a single-site university hospital with 24-hour EM pharmacists. We reviewed the database to quantify types and severity of medication errors over 5 years. We identified survey participants using purposive sampling and obtained consent. Anonymous surveys included categorical items that we analyzed with descriptive statistics and short answer questions that two coders examined using thematic analysis. We summarized all data sources to identify relevant curriculum gaps.

**Results:** Common safety threats in our database were wrong dose (43%) and computer entry errors (14%). Survey respondents included 21 physicians and 9 pharmacists. Commonly identified knowledge gaps were medication cost (63%), pregnancy class warnings (60%), antibiotic stewardship (53%), medication interactions (47%), and side effects (47%). Qualitative analysis identified the need to optimize computer order entry, improve understanding of antibiotics and critical medications, better use references to guide prescribing, and know when to involve

the pharmacist. Improved skills are needed when prescribing antibiotics, insulin, sedatives, narcotics, and epinephrine.

**Conclusion:** Pharmacology skills to emphasize in EM residency training include order entry, prescribing high-risk medications, antibiotic stewardship, utilization of references particularly for special populations, and consultation with the pharmacist.

Table 1. Responses to categorical survey questions.

Categorical survey questions	Most common topics reported (%reporting)
Top five knowledge gap topics	Cost of medications (63%) Medications in pregnancy and lactation (60%) Antibiotic selection and stewardship (53%) Medication interactions (47%) Familiarity with side effects (47%)
Associated with patient safety events	Pain management/opioids (43%) Insulin (37%) Sedation medications (33%)
Incorrectly ordered	Pain medications (40%) Antibiotics (30%) Insulin (27%)
Must-know side effects	EPS-inducing medications (23%) Ketamine (17%) Opioids (10%)
Dose should be memorized	RSI medications (60%) Epinephrine (43%) Vasopressors (27%) Sedation medications (27%)
Antibiotics incorrectly prescribed	Vancomycin (43%) Piperacillin-Tazobactam (30%) Trimethoprim/Sulfamethoxazole (27%) Cephalexin (27%)

### 4 A Qualitative Needs Assessment of COVID-19's Impact on EM Interns

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**Learning Objectives:** To characterize the impact that COVID-19 has had on the well-being and educational experience of EM interns in 2020

**Background:** The COVID-19 pandemic posed an unprecedented challenge to our learners. EM interns this year began their training during a time of great need and with less clinical experience than those of prior years.

**Objectives:** To characterize the impact that COVID-19 has had on the well-being and educational experience of EM interns in 2020.

**Methods:** We conducted a 60-minute semi-structured focus group with 18 interns at a single residency program in July 2020. A recording of the interview was transcribed and de-identified. Using qualitative methods, initial coding was performed independently using an inductive and iterative process by two study authors with experience in qualitative methodology. Once

Table.

Themes	Representative Comments
Education	"I think there are challenges in pretty much every aspect of education and training, challenges in online format for didactics, where you are not learning in person but rather at home, there are challenges in socialization and bonding (which are normally part of training), because our training helps us feel comfortable with working with one another, with our colleagues, this impacts our training." "This conversation will be very different if there is a second wave in September or November and we stopped seeing appendicitis, kidney stones and we start seeing one COVID patient after the other for like a month or two. We stop rotating on other electives where we might have learned more about specialties but end up only learning about COVID."
Professional Identity Formation	"I hate the healthcare heroes' concept. I hate that we have been shunted and labelled as such, as being forced into this army that is sacrificing their lives and that we didn't ask for this—I don't like the message that is being sent out regarding this." "I think that we are learning about how political our jobs are and that learning that a lot earlier on and that this is a context that we never saw this in before. I originally said that I don't like politics and that's why I went to medicine, but I realize that it's half my job."
Grief related to COVID-19	"We were unable to celebrate the end of our 4 <sup>th</sup> year and our entire medical school experience, which we should have been through Match and graduation. It feels selfish to feel upset about these things, but these events are something we looked forward to the entire 4 years." "We weren't allowed to grieve for the fact that we missed all this stuff, rather we had to suck it up and remember that we signed up for this, and that it's okay we missed graduation. You are going to be doctors and everyone looks up to you, so missing graduation should not be a concern."
Mental Health	"I think a lot of the anxiety I felt about starting intern year, as it might be the hardest thing I have ever done and what if I start going down a dark place mentally." "In normal circumstances, I would be surrounded by people, building relationships, and have support if needed, but now we are in a time and place where we aren't encouraged to reach out or have relationships, but rather be isolated."
Physical Health	"In terms of this, we signed up for the risk, but the people we live with and the people that support us they haven't signed up for this risk." "I don't feel that I need to be better at this point, I just want to be careful."

saturation was achieved, final codes were re-applied by an initial coder and a third author. After consensus discussion, agreement reached 100%, and codes were grouped for thematic analysis.

**Results:** We identified two major themes: education and professional identity formation. Interns expressed concerns about the quality and breadth of their medical training during COVID. Interns also voiced frustration with the politicization of medicine and uncertainty about their roles as physicians during the pandemic. Minor themes included physical health, mental health, and grief related to COVID-19.

**Conclusions:** Our analysis suggests that new EM interns have significant concerns about their medical knowledge and the quality of their education as well as their identity as emergency physicians and public health advocates. These results may inform future decisions regarding dedicated support and training necessary for this unique group of learners.

## 5 A Year of Changes: Does Participation in Our Novel Curriculum Improve Medical Students Self Perception of Preparedness for Video Interviews

Matthew Ledford, MD

**Learning Objectives:** The goal of the study was to assess

the effectiveness of our educational program on the students self perception of preparedness for video interviews. Use of mock interviews and a video tutorial increased how well students felt they were prepared for a video interview for residency.

**Background:** Because of recommendations related to COVID-19, programs across the breadth of medical specialties committed to video interviews for the 2020/21 interview season.

**Objectives:** To assess if there was a difference in students self perception of preparedness for video interviews before and after our educational program.

**Methods:** Medical students at our institution were offered to participate in two mock video interview days. A pre and post-survey was completed by students participating in the interviews. Students who participated in the first interview day were provided formal feedback prior to the second interview. Participating students were also provided a 15 minute instructional video on tips for a successful video interview between interview days 1 and 2. 78 respondents completed the pre-survey, 55 respondents completed the post survey. Of the post survey respondents, 46 participated in both interview days, 7 participated in one interview day and 2 did not participate in either interview day. Responses from those who did not participate in either interview were removed from the data.

**Results:** Students were asked to rate themselves on a scale from 0-100. Students self confidence in their ability to do well on a virtual interview for residency increased from 56 to 73 (30% improvement). Students confidence that they knew common questions they were likely to encounter during a residency interview increased from 47 to 73 (55% improvement). Students confidence in their ability to provide successful answers to common questions encountered during a residency interview increased from 53 to 72 (38% improvement). How well the student felt they were prepared for virtual residency interviews increased from 40 to 68 (70% improvement).

**Conclusion:** Use of mock interviews and a video tutorial increased students confidence in their ability to do well, know common questions, provide successful answers and their overall preparedness for video interviews.

## 6 ABEM Content Areas of EM Resident on Shift Evidence Based Medicine Questions

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**Learning Objectives:** Using the American Board of EM (ABEM) 2019 Model of Clinical Practice of EM, describe EM resident on shift EBM questions.

**Background:** Evidence Based Medicine (EBM) skills allow EM providers to obtain and apply new information