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RESEARCH ARTICLE

Developing a Postpandemic Model for Hybrid Clinical Ethics Rotations in Postgraduate Medical Education

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Abstract

Bioethics education in residency helps trainees achieve many of the Accreditation Council for Graduate Medical Education milestones and gives them resources to respond to bioethical dilemmas. For this purpose, The Providence Center for Health Care Ethics has offered a robust clinical ethics rotation since 2000. The importance of bioethics for residents was highlighted as the COVID-19 pandemic raised significant bioethical concerns and moral distress for residents. This, combined with significant COVID-19-related practical stressors on residents led us to develop a virtual ethics rotation. A virtual rotation allowed residents flexibility as they were called to help respond to the unprecedented demands of a pandemic without compromising high quality education. This virtual rotation prioritized flexibility to support resident wellbeing and ethical analysis of resident experiences. This article describes how this rotation was able to serve residents without overstraining limited bandwidth, and address the loci of resident pandemic distress. As pandemic pressures lessened, The Providence Center for Health Care Ethics transitioned to a hybrid rotation which continues to prioritize resident wellbeing and analysis of ongoing stressors while incorporating in-person elements where they can improve learning. This article provides a description of the rotation in its final form and resident feedback on its effectiveness.

Keywords: bioethics; clinical ethics; residency; rotation; virtual

Pre-COVID: a robust clinical ethics rotation

Scholars have long recognized that bioethics is an important element in medical education.[1] Ongoing bioethics education is central to the development of an ethical physician workforce capable of confronting moral tensions in the practice of medicine. For a field so well-recognized as important to the practice of medicine; however, it may be surprising that the depth and style of bioethics education offered in postgraduate medical education during residency varies widely.[2] Our ethics program at the Providence Center for Health Care Ethics has administered an elective rotation for residents at all levels in residency programs in internal medicine and family medicine at Providence hospitals in Oregon for over two decades.

Prior to 2019, the clinical ethics rotation was in-person. The rotation lasted between 1 and 2 weeks. This mirrors the block schedule for other elective residency rotations (e.g., Geriatrics, Anesthesia). On their ethics elective rotation, residents shadowed full-time, professionally trained ethicists for clinical ethics consultations and ethics committee meetings. They also reviewed assigned bioethics reading, received one-on-one lectures on key ethical concepts applied to clinical practice, participated in step-by-step reviews of historical cases with key "teachable moments," and provided input on how they would have handled specific cases. Each resident was also asked to produce a short research paper on a bioethics topic assigned by the ethicists based on their interests. The rotation was developed to address the ethics-related aspects of the Accreditation Council for Graduate Medical Education's core competencies for resident education (Figure 1) (replaced by the "milestones" model following 2013[3] [Figure 2]), and so is

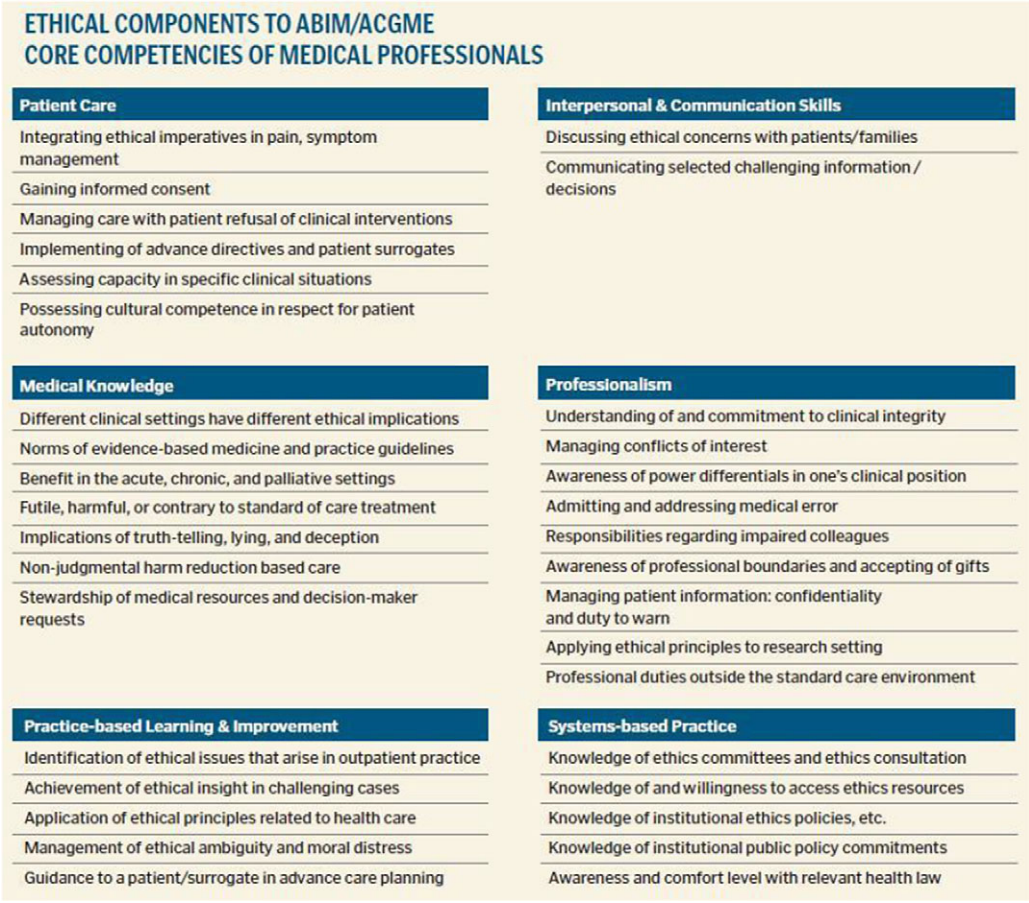

Figure 1. Ethical components to ABIM/ACGME core competencies of a medical professional.

focused on specific clinical ethics cases, clinical ethical dilemmas, and role-specific suggestions for managing difficult ethical dilemmas.[4]

The rotation was guided by the Providence Center for Health Care Ethics clinical-ethics-as-coaching model, described in detail elsewhere.[5] In this model, a clinical ethicist does not just provide advice in response to ethical dilemmas that arise in clinical situations but also "coaches" clinicians in how the ethicist is using a methodology to think through the issue to help clinicians develop their own abilities to appreciate similar situations, manage the distress that ethically complex situations raise, and avoid possible ethical tensions in the future. This model involves engaging in dialogue with clinicians about what is difficult about cases, having clinicians name and reflect on their worries, and addressing both their affective and cognitive/practical concerns in each case. Such a clinical ethics model already focused on education continues to provide a robust basis for learning in each clinical ethics case.

In 2020, the emergence of the COVID-19 pandemic led medical residencies all over the United States to reevaluate the education they were able to provide in response to changes in patterns of medical care available during a pandemic, concerns about resident and patient safety, and the pressures associated with high volumes of COVID-19 patients.[6] Our ethics team engaged in dialogue with our medical education colleagues; with the risks of COVID-19 still unknown, we decided to adapt our existing programming and services in response to infection prevention protocols and other pandemic-associated demands (e.g., limited PPE, the need to develop scarce resource allocation protocols). The clinical ethics faculty and medical education leadership did not want to eliminate the clinical ethics rotation, but felt that the traditional in-person model of the rotation now represented an unacceptable risk. The content of

Ethical Components to ACGME Internal Medicine Milestones

Patient Care
Efficiently elicits patient history incorporating pertient psychosocial and other determinants of health.
Efficiently and effectively tailors the history taking, including relevant historical subtleties, based on patient, family, and system needs.
Continually re-appraises one's own clinical reasoning to improve patient care in real time.
Independently develops and implements comprehensive plans to maintain and promote health, incorporating pertinent psychosocial and other determinants of health.
Develops and implements value-based (high value) comprehensive management plans for multiple chronic conditions, incorporating pertinent psychosocial and other determinants of health .
Integrates telehealth effectively into clinical practice for the management of acute and chronic illness.
Develops and innovates new ways to use emerging technologies to augment telehealth visits.
Uses shared decision-making to develop and implement valuebased comprehensive management plans for patients with comorbid and multisystem disease, including those patients requiring critical care.

Systems-Based Practice
Models effective coordination of patient-centered care among different disciplines and specialties.
Models and advocates for safe and effective transitions of care/hand-offs within and across health care delivery systems, including outpatient settings.
Participates in changing and adapting practice to provide for the needs of specific populations.
Analyzes the process of care coordination and leads in the design and implementation of improvements.
Improves quality of transitions of care within and across health care delivery systems to optimize patient outcomes.
Leads innovations and advocates for populations and communities with health care inequities.
Manages various components of the complex health care system to provide efficient and effective patient care.
Advocates for patient care needs with consideration of the limitations of each patient's payment model.
Actively engaged in influencing health policy through advocacy activities at the local, regional, or national level.

Interpersonal and Communication Skills
Mitigates communication barriers.
Facilitates conflict resolution between and amongst consultants when disagreement exists.
Adapts communication style to fit interprofessional team needs and maximizes impact of feedback to the team.
Establishes and maintains therapeutic relationships using shared decision making, regardless of complexity.
Documents clinical encounter clearly, concisely, timely, and in an organized form, including anticipatory guidance.
Guides departmental or institutional communication policies and procedures.
Coordinates recommendations from different consultants to optimize patient care.

Professionalism
Proactively implements strategies to ensure that the needs of patients, teams, and systems are met.
Analyzes complex situations and engages with appropriate resources for managing and addressing ethical dilemmas.
Identifies and seeks to address system-level factors that induce or exacerbate ethical problems or impede their resolution.
Recognizes situations that may trigger professionalism lapses and intervenes to prevent lapses in oneself and others.
Reflects on actions in real time to proactively respond to the inherent emotional challenges of physician work.
Suggests potential solutions to institutional factors that affect well-being.
Participates in institutional changes to promote personal and professional well-being.

Medical Knowledge
Integrates knowledge of therapeutic options within the clinical and psychosocial context of the patient to formulate treatment options.

Figure 2. Ethical components to ACGME internal medicine milestones.

a clinical ethics rotation remained central to the milestones residents must meet in residency, and residents had frequently reported that the ethics rotation assisted them in thinking through hard situations, so the faculty did not want to take that possibility away from residents, compounding the harm to resident education the pandemic was unavoidably poised to have.[7]

A clinical ethics rotation during COVID-19

The clinical ethics faculty piloted a significantly modified resident rotation intended to minimize the use of scarce resources, advocate for residents, and provide them with support in addressing not just the ethical dilemmas faced in clinical practice but also the novel and intensified ethical dilemmas that

clinicians began to face in the pandemic as it unfolded. The first four residents provided extremely positive feedback on this modified rotation, and so we expanded this elective rotation to full availability to residents in all years of the internal medicine and family medicine residencies we historically served, throughout the COVID-19 pandemic.

For residents seeking a clinical ethics rotation during the COVID-19 pandemic, we pivoted the rotation to an entirely virtual experience. Residents were included in most remote consultations and had frequently scheduled videoconferences with an ethicist for the other elements of the rotation. The vast majority of organizational meetings at our hospital system had also pivoted online, making remote resident involvement in organizational meetings newly possible.

However, as many educators discovered during pivots to online learning (during COVID-19 or otherwise),[8] the online learning experience is not identical to learning in-person.[9] To adjust, we added significant blocked time in the rotation to prepare questions for meetings, to read background material, and to connect assigned literature to clinical practice. These blocks were generous. They provided residents with time to process and absorb information, rather than just representing the literal time reading the words on the page would generally require.

In response to concern among medical residents about the broader implications of ethical issues raised by COVID-19, we also integrated our residents into hospital policy review processes, colloquially known as organizational ethics.[10] We ensured that residents had time to discuss COVID-19, pandemic preparedness, resource allocation, and hospital and state health policy issues during the rotation. We also included residents in meetings during which the ethics department participated in building possible pandemic triage scenarios, resource allocation, ongoing pressures to healthcare, and possible future pressures. Throughout COVID-19, this expanded to include discussions of vaccination, testing requirements and resources, and later responses to ongoing waves. Some of these decisions were made in response to legal rulings and public health guidance. To capture this, we expanded rotation readings to include ongoing local political discussions of how to respond to the pandemic, public health ethics, the applicability of Diversity, Equity, and Inclusion and justice concerns to resource allocation, and historical and ongoing discussions of the politics of resources in constrained environments.

Several already-existing elements of the longstanding clinical ethics rotation featured more in resident questions during the COVID-19 pandemic. When we noticed this, we expanded these themes in the rotation. The rotation always included resident-led case discussions, in which residents provided their own experiences for ethical analysis. However, during COVID-19, residents reported a significant increase in specific (largely COVID-related) clinical ethical dilemmas in their experiences during other rotations. In response, we expanded to a minimum of two sessions per week during which residents were encouraged to bring their own cases/situations for analysis and discussion. These sessions replaced our prior practice of having ethicists present a historical case study to unpack key teachable moments with residents. All residents who rotated with us during the COVID-19 pandemic offered at least one troubling personal case during these sessions. Many offered significantly more. In response to resident interest in specific issues they experienced during the pandemic, we also encouraged residents to select their own topics for independent research and the final paper topic. We also provided literature for popular topics (including so-called "futile" medical treatment, medical mistrust, patient code status, racial justice in medicine, and resource allocation). The ethicist-preceptor met with residents twice about these papers: once in the middle of the rotation to discuss research progress and provide assistance, and once after the resident had submitted their paper to discuss the ideas the resident had encountered. A list of resident topic selections during this period is provided in Figure 3.

The benefits of an online, resident-driven clinical ethics rotation

Some benefits of the novel rotation we developed during the COVID-19 pandemic were obvious and pandemic-limited: the online format conserved limited PPE resources and limited possible disease transmission (including COVID-19). In addition, we sought to help residents process the COVID-19 pandemic by focusing on COVID-19 specific ethical issues that were impacting residents and clinicians.

Resident-Selected Literature Review Topics
Disability vs Comorbidity in COVID-19 Triage Confucianism and ethics
Ethical Considerations of Elective Surgical Procedures
Decision Making Capacity in Critically Ill Patients
Physician Assisted Suicide (PAS) and Voluntary Stopping of Eating and Drinking (VSED)
Determination of Brain Death/Death by Neurologic Criteria COVID-19 Vaccine Allocation
Ethical Justification for Prescribing MAT for Opioid Use Disorder
Communicating Incidental Findings
Surrogate Decision-Making
Ethics of COVID vaccination and promotion Medical Surrogate Decision Making
Medical Futility and the Disabled; Implications in the COVID-19 Pandemic
Patient Autonomy Informed Consent
Harm Reduction Movement Determining Capacity in AMA Discharges ECMO Ethical Considerations
Judaism and End of Life
Mandatory Reporting of Interpersonal Violence from the Perspective of the Radiologist
Ethics of Vaccine Mandate in the Era of COVID
Ethical Considerations of Assigning ICU Beds During a Pandemic
Implicit Racial Bias and Pain Management
Ethical considerations in the development and application of precision oncology Ethical Considerations of AI Use in Radiology Ethical Implications of COVID-19 Vaccine Mandate for Healthcare Workers
Advance Care Planning and Different Ethnicities
Maternal Fetal Conflict
Consumer Demand of Rheumatologist for Off-label Medications
Non-escalation Plans of Care Compassion Fatigue in Healthcare Providers Health Equity, Visitation Policies and Telemedicine
Deception in Management of Delusional Infestation
Disclosing Medical Errors and Bioethics Ethical Concerns in Artificial Intelligence in Radiology
Forced choices in the context of advanced care planning or allocation of care in times of scarcity
Withholding Unbeneficial CPR in the Inpatient Setting Addressing Vaccine Hesitancy with Patients during the COVID-19 Pandemic Unrepresented Patients
Ethical considerations in honoring patient preferences regarding physician race and gender
Sharing Open Notes

Figure 3. Resident-selected literature review topics.

It is difficult to measure the precise degree to which the clinical ethics rotation helped residents process their experiences during the pandemic. However, the feedback we received was quite affirmative. All residents reported they were interested in the COVID-related topics covered during the rotation, both during their rotation and in their anonymous end-of-rotation feedback forms (for relevant questions see Figure 4). In addition, the majority of residents reported that they felt less stressed about the pandemic after their clinical ethics rotation (although it is unknown how long this benefit lasted).

Open Response Evaluation Questions for Residents
Describe strengths of this rotation
Describe opportunities for improvement
Would you recommend this rotation? Why or why not?
Additional feedback or comments

Figure 4. Open-response evaluation questions for residents.

However, this rotation format also provided benefits which were not unique to COVID-19 and provided inspiration for our evolution of the rotation as COVID-19's impact on healthcare provision waned. After the online pivot, residents frequently cited their ability to attend the clinical ethics rotation from home as a way for them to spend more time with their loved ones and reduce stress. During the final resident evaluation meeting of the rotation, and after the rotation via anonymous survey, residents provided feedback that the cadence of the rotation allowed them to "think more," "understand," and "process" ethical concepts provided to them as applied to the specific clinical ethics cases they were encouraged to focus on during the rotation. They also reported that this time to process reduced how much these cases bothered them. Some residents specifically used the term "moral distress" to describe their discomfort which was reduced, although some were more colloquial. Residents reported in debriefs of organizational meetings and in their anonymous reviews that they were surprised that committees and methods for managing organizational ethics questions existed. This interest went beyond COVID—many residents had follow-up questions regarding non-COVID-specific scarce resources (such as dialysis candidacy or organ transplantation) and reported that they benefited from hearing how such issues are managed. Finally, residents universally reported that the focus of the rotation on their own ethically challenging cases/situations helped them feel better about those cases in retrospect and feel more confident about facing such issues in the future.

It is not news to those involved in resident education that residents have long desired time to process ethically difficult cases,[11] been at risk of overwork,[12] been interested in organizational ethics,[13] and experienced moral distress.[14] It was therefore not surprising that with the reduction in the greatest waves of the pandemic, these forces did not disappear. For this reason, as other rotations began to return to in-person steady state, the ethics rotation did not. Instead, the faculty for the ethics rotation sought to redesign the rotation to meet both the Accreditation Council for Graduate Medical Education (ACGME)-focused goals of the initial design and the additional goal of ameliorating resident distress of the COVID-19 rotation. We discussed that these goals were not actually in competition: the ACGME milestones for internal medicine and family medicine include wellbeing and self-care-related skills in their goals for residents ("knowledge of systemic and individual factors of wellbeing" and "self-awareness and help-seeking behaviors" respectively[15]). Instead, we now understand these development milestones as mutually supporting. One of the refrains of our discussions with residents during the COVID-19 iteration of the ethics rotation was that more space and time to think about clinical ethics means the ability to develop the skills learned in our rotation more effectively.

A new steady state

When we transitioned out of an acute pandemic rotation format, the clinical ethics faculty had to decide what aspects of the COVID-19 residency to keep. We turned our attention to which needs the COVID-19 rotation had met would remain. Acute shortages in PPE and risks of outbreaks posed by in-person rotations had passed. However, resident moral distress and the barrier that resident workloads present to processing previous cases had been a force before COVID-19, and remain. The organizational and political questions that residents asked about during the pandemic continued to be relevant after COVID-19, as these forces continued to exert a strong influence on medical care.[16]

Ultimately, we transitioned to a hybrid online/in-person rotation format in order to best balance the benefits of resident attendance at in-person clinical ethics practice with benefits of a reduced pace of

meetings and flexibility for residents to learn in environments they controlled. Residents now attend in-person rounds, meetings, and consults with ethicists two days a week. They do so at two different hospitals, ensuring they are exposed to two distinct practice settings and medical cultures. Residents are invited to all major in-person clinical ethics meetings during their rotation, and are encouraged to determine for themselves whether the specific meeting would be useful for their goals for the rotation. Otherwise, all meetings for the rotation are virtual. Residents continue to attend virtual consultations and virtual meetings, and have significant self-paced content in the rotation with time set aside to read. The rotation continues to be focused on resident-selected cases in addition to ongoing clinical ethics cases, and residents continue to select their own topic for a research capstone. The rotation continues to have a significant organizational ethics content. Residents continue to learn about organizational ethics issues and are invited to organizational ethics meetings.

We felt that some aspects of our COVID-19 residency rotation would benefit all of the residents, so we moved them from rotation-specific to broader offerings. Clinical ethics has provided several all-resident noon conference presentations per year since the instantiation of the rotation in the early 2000s focused on basic ethics topics covered in the ACGME Core Competencies (later "Milestones"), including an introduction to ethics, surrogate decision-making, and conflicts of interest. At the request of medical education, we added several more sessions for the residents drawn from the COVID-era rotation content, including sessions on public health ethics and medical mistrust in the clinic.

Our ethics program provides education beyond the bounds of the residency. Some benefits of the COVID-19-era resident rotation changed our other educational offerings as well. We began to offer to both residents and all caregivers at our hospital system self-paced asynchronous short lessons based on the materials in the *New England Journal of Medicine*'s Case Studies in Social Medicine[17] on various aspects of structural competency, an approach to addressing the systemic barriers (including structural racism, structural ableism, economic systems, legal systems, and world events like pandemics) that impact health and the practice of healthcare. Structural competency is also a guide for responding to these forces.[18] This offering sought to emulate the sensitivity to clinician schedules of the rotation and offer some of the organizational and topical ethics education that our residents and others requested. This educational project had a strong initial response. In the first year, over 200 caregivers participated in this education. To further broaden the benefits of virtual education, we moved lunchtime Continuing Medical Education (CME)/Continuing Nursing Education (CNE) offerings online for accessibility. We also focused lunchtime CME/CNE education on the organizational and topical ethical questions our residents and clinicians frequently raised. Attendance at these educations steadily increased from a handful of participants at a smaller facility when in-person to some sessions with over 100 learners accessing remotely in real time or retrospectively for registrants after the live webinar.

Outcomes and next steps

It is difficult to evaluate changes in ethics education for resident physicians that were ushered in during a moment of crisis. Key outcomes such as reducing moral distress, improving one's ability to identify an ethical issue, or promoting resident wellbeing during the peak of the COVID surges remain elusive. However, our initial outcomes from this hybrid rotation show that this is a promising pedagogical structure. Residents provide anonymous comments after each rotation (monitored and provided in batches to the faculty by the administrative staff for anonymity), and resident comments have universally been positive. Residents have expressed an appreciation for the pace of the rotation, surprise at how applicable the rotation material is, and that they enjoyed researching a bioethics topic they selected (for representative resident comments, see Figure 5). Residents also have a final debrief meeting for the rotation during which the hybrid model is discussed. During this meeting, residents say they appreciate the online format, commented on the applicability of being able to discuss their own cases, and frequently add that they had not fully processed cases discussed until this rotation.

With this promising anecdotal evidence, further research is justified. To quantify the benefits our residents report, we will focus on follow-up interviews with residents to determine whether residents

Representative Anonymous Resident Feedback
Time to think about how to handle the most difficult situations in our job and be provided with tools to do so. Cases in which ethical questions arise are often the most draining, mostly due to the distress of uncertainty. Having some tools and rules to follow will help minimize that uncertainty, as well as know where to get support, thereby minimizing the distress experienced in every other rotation.
Strengths include the in-depth debriefing and case discussions that we're able to do. As an intern, I never had time to ponder the ethical implications of certain decisions, so I really appreciated the opportunity to do so.
I really appreciated the organization of this rotation and the flexibility to tailor it to topics that the resident requested.
Being able to go through previous cases I experienced with an ethicist. During residency, we don't have time to take a step back and go through difficult cases in detail like that and I found it very helpful to go through a case like that. Also, the lecture topics were very relevant to residency…
Enough time and flexibility to focus on the aspects of ethics I felt like I needed more study in. A good mixture of experiences in clinical ethics.
Learned things I didn't expect to learn. It was very applicable to my daily job.
It was nice to take the time to more deeply think about these things. When we are working in the hospital our time is limited to process such complicated aspects such as ethics.
- Able to maintain the quality of the rotation despite it being virtual, learning topics were still completely addressed - Case discussions are informative and a good experience for me to develop my reasoning skills from the perspective of an ethicist - Plenty of articles were provided to supplement discussions and build knowledge
I think it was very valuable to have time to read, conduct a literature review, and discuss important cases. So often in clinical practice, there is no time allocated to these important habits, and I appreciated having a rotation dedicated to cultivating this work.

Figure 5. Representative anonymous resident feedback.

maintain their understanding of the concepts covered in the rotation throughout their education, whether residents who had early ethics rotations report lower moral distress during residency than residents who did not have ethics rotations, whether residents report less distress and confusion after ethics rotations, and how long any effects last. Other models of resident wellbeing have called many of these effects resiliency. Determining whether this model of ethics education helps resident resiliency or any other form of wellbeing will help guide resident wellbeing interventions.[19]

A single rotation will not address the systemic and serious challenges to resident wellbeing. It cannot prevent resident moral distress either. However, a carefully arranged rotation can provide residents with support for the challenges we know they will face. This can also ensure maximum uptake of the ethical concepts necessary for medical practice (including those described by the ACGME) and provide residents with space to address questions they have faced. Our hybrid rotation supports residents in learning ethics, managing the acute experience of facing novel ethical challenges during residency, and building the skills to respond to ethical challenges over their careers. Our lessons from a particularly trying period for medical education helped guide us to improve our medical education and support residents as we can.

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