

National Resident Discussions of the Transitions in Medical Education and the UME-GME-CME Continuum

Breanne Jaqua¹, DO, MPH
 Shanice Robinson, MD
 Andrew Linkugel², MD
 Alejandra Maiz³, MD
 Christopher Corbett, MD, MSTR
 Tara Dhawan, MD

Gabriel Daniels⁴, MD
 Maggie Curran⁵, MD
 Katherine D. Kirby, DO
 Wali R. Johnson⁶, MD, MPH
 Tani Malhotra⁷, MD, FACOG

Background

Medical training is siloed into distinct stages, namely undergraduate medical education (UME), graduate medical education (GME), and continuing medical education (CME).¹ Despite the shared purpose of developing competent and humanistic physicians, cross collaboration among leaders and educators of each stage is less common than expected. Medical education is beginning to move toward competency-based assessment at all levels. Over 2 decades ago, the Accreditation Council for Graduate Medical Education (ACGME) introduced competency-based education,² which is now most prominently demonstrated by the incorporation of Milestones 2.0 and Clinical Competency Committees.³ Thus, the notion of medical education as a continuum, rather than individual stages, has risen in popularity but has not met complete implementation.⁴

The COVID-19 pandemic resulted in disruptions to all stages of medical education and highlighted shortcomings in transition support, which is particularly notable for learners who have or will have spent their entire training under pandemic conditions or gone through multiple career transitions during the pandemic. For example, in the beginning months of the pandemic, some trainees were reassigned to services where more clinicians were necessary, while some fellows were called on to practice in their core specialties.⁵ Medical students' rotations were significantly impacted, and many in-person clinical rotations were replaced with distance learning.⁶

To address these widespread and rapid changes in the clinical learning environment, the ACGME, in collaboration with other GME organizations,

developed a series of toolkits to ease transitions between the stages of training. In collaboration with the American Association of Colleges of Osteopathic Medicine, Association of American Medical Colleges, and Educational Commission for Foreign Medical Graduates, the ACGME released its first transition guide in 2021 to address major disruptions to the clinical learning environment caused by the COVID-19 pandemic.⁷ It was followed by 2 additional guides in April 2022 that addressed the transition from residency to fellowship⁸ and from GME training to practice.⁹

Discussion Group Composition and Content

The Council of Review Committee Residents (CRCR) consists of approximately 30 GME trainees who serve as resident or fellow representatives on the ACGME's specialty Review Committees and 2 resident representatives who serve on the ACGME's Board of Directors. This diverse group consisting of trainees from every core specialty program fosters interspecialty collaboration and dialogue. Twice a year, the council meets to discuss topics relevant to the GME community.

At the May 2022 CRCR meeting, council members joined the ongoing conversation of optimizing learners' needs through the transitions in medical education by participating in small group discussions. These discussions were facilitated by CRCR members who volunteered for this group role. A total of 30 CRCR members participated in the topic-focused discussions and were randomly grouped into Zoom breakout rooms. There were a total of 5 groups with 6 members each. Participation in the discussions was voluntary, and participants were informed that the ideas collected during discussions may be included in a future publication.

To start, Dr. Eric Holmboe, Chief Research, Milestone Development, and Evaluation Officer at

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TABLE 1

Small Group Discussion Responses on Recommended Approaches for Residency Programs Supporting the Transition From Medical School to Residency

Theme	Recommendations
Bootcamps	Assign articles and educational materials, design skills labs, and lead specialty-specific simulation exercises during orientation.
International medical graduate support	- Align contracts with realistic start dates. - Consider payroll start dates that include orientation. - Develop activities to enhance cultural competence, facilitate transitions for effective health care delivery in American culture, and discuss cultural differences (ie, family discussions, human trafficking awareness, cultural competency). - Foster a sense of community throughout the program with special attention to international graduate integration.
Employee assistance program	- Create a support network with opt-out culture to encourage engagement, offer primary care for mental health, and use different program formats (individual vs group, in-person vs virtual). - Empower such employee assistance programs' coordinators to schedule trainee use of these resources.
Resources and support/guidance	- Offer guidance through handbooks/survival guides (eg, academic curricula) and social transition recommendations (eg, moving, school systems, community opportunities). - Sponsor social events for community exploration and immersion with peers.
Buddy or mentor-mentee system	Create mentor-mentee buddy systems that pair experienced residents with interns, especially during earlier months and more challenging services.
Support learners financially for preparatory training	Ensure benefits begin before interns' first shift, including financial support before first paycheck (eg, moving stipends, sponsored social events).
Intern cohorts	Facilitate connections through designated tracks/programs based on common experiences, starting as early as orientation.

the ACGME, presented on the effects of COVID-19 on GME. This was followed by a theory of inventive problem solving (TRIZ) exercise,¹⁰ wherein discussion participants were challenged to design a transition approach that ensures every graduate of a program is completely unprepared for the next stage of their career.

The next segment of the topic-focused discussion began with Dr. Holmboe presenting theory burst 1, a mini-lecture on competency-based medical education to provide information to support the subsequent discussion. Small group participants were then tasked with discussing how a developmental mindset, grounded in the core components of competency-based medical education,¹¹ can facilitate successful transitions across a career. Results from theory burst 1 have been intentionally excluded due to the presented focused intent on the UME-GME-CME continuum.

Information for theory burst 2 was dedicated to the transition from medical school to residency. Participants returned to their small groups to discuss 2 questions related to this transition: (1) How can residency programs support this transition? and (2)

How can peers and near peers support this transition?

Information for theory burst 3 involved the transition from residency to fellowship or independent practice. Participants again returned to their groups to discuss 2 questions related to this transition: (1) How can residency/fellowship programs support this transition? and (2) How can peers and near peers support this transition?

Each small group assigned a scribe who collated participants' discussion responses. The authors of this article then reviewed the responses, identified common themes, and summarized recommendations to address these themes (TABLES 1-4).

Transition From Medical School to Residency

During theory burst 2 small group discussions, participants brainstormed ways for residency programs and peers to facilitate the transition from medical school to residency. Recommendations were broken down by theme, and by residency

TABLE 2

Small Group Discussion Responses on Recommended Approaches for Peers and Near Peers Supporting the Transition From Medical School to Residency

Theme	Recommendations
Electronic medical record preparation	Share premade templates, order sets, and other related logistics to promote effective workflows and functionality.
Workplace culture	- Facilitate an inclusive and safe workplace for junior-level residents to grow and develop throughout training. - Encourage senior resident availability and approachability.
Mentorship	Create structured mentorship program(s) with senior-level residents or faculty.
Storytelling and community building	- Host social events to promote resident dialogue outside of work, and foster rapport and camaraderie along with local community familiarity. - Encourage an environment where learners feel comfortable going to senior fellows/faculty members for help when needed.
Peer feedback	Facilitate clear and thoughtful feedback between senior and junior peers early on so junior trainees have time to alter behaviors if necessary.
Collaborative environments	- Use a “residents as teachers” model where senior-level residents coach juniors through various skills (eg, procedures, presentations). - Encourage “see one, do one, teach one” or similar graduated autonomy model during clinical hours, especially for new procedures or certain standardized styles of presentation for new interns.
Resident handbook	Compile formal or informal collection of resources for junior residents.
Leadership meetings	Host meetings and open forums led by chief residents.
Group chat technology	Use of group messaging applications within residency cohorts to increase communication.

program led (TABLE 1) and peer led or near peer led (TABLE 2).

Theme 1: Preparedness

Although all incoming residents are required to have passed standardized medical licensing examinations (USMLE Step 1 and Step 2 or COMLEX-USA Levels 1 and 2), the depth and breadth of UME varies by school. In order to create a more equitable starting point for residency, the discussion groups recommended creation of bootcamps and skill labs to address deficiencies or gaps in UME. The purpose of these bootcamps is to provide basic education and skills, thereby promoting an equal opportunity for intern success via adequate and uniform preparedness. Additionally, peers can be empowered to host specialty-specific, focused electronic medical record training for new residents during bootcamps. Specialty-specific bootcamps also appear in the ACGME transition toolkit’s recommendations.⁷

The groups also recognized that, although hospital-wide orientation occurs in all programs, its utility in preparing trainees is often limited. Participants felt it was important to support trainees to obtain the

necessary skills to safely care for patients while navigating a new health care system.

Theme 2: Wellness

The discussion groups were cognizant of the impact of major life changes on mental health¹² and, as such, recommended that training programs develop pre-emptive programs to address mental health and trainee wellness using an opt-out approach instead of waiting for the residents to self-diagnose and obtain help. Hosting program- or peer-led community events to foster a sense of belonging and inclusion and providing stipends to offset the financial stress of moving were also mentioned.

Theme 3: Mentorship and Advising

Trainee advising is mentioned in the ACGME transition toolkit⁷; however, it is in reference only to faculty advising. Small group discussion participants noted the importance of expanding on this topic to include peer-to-peer support and resident mentors, particularly in the early months of training, as peers in GME programs often have the greatest understanding of the current training environment. There is an opportunity for peers and faculty to partner in the

TABLE 3

Small Group Discussion on Recommended Approaches for Residency/Fellowship Programs Supporting the Transition to Fellowship or Independent Practice

Theme	Recommendations
Training in nonclinical skills	Review nonclinical skills for independent practice, including billing/coding, practice management, equipment and resource acquisition and retention, interdisciplinary communication and cooperation, and contract negotiation.
Scheduling flexibility	- Recognize trainees' logistical needs for moving, including potential gaps in benefits like health insurance, childcare, visa status, and salary. - Provide adequate time to identify housing, move, and settle before the start of fellowship or practice. - Allow time off for interviews.
Mentorship and alumni networks	- Facilitate discussion of alternative career paths with clinical mentors from diverse backgrounds. - Provide access to alumni networks to help trainees build connections for employment opportunities.
Self-assessment and self-directed learning	Provide access to, and training in, self-evaluation to foster self-directed learning.
Elective time	Provide elective time for trainees to explore various subspecialties, refine skills for desired career path, or pursue research opportunities to broaden exposure.
Preparation for autonomy	Design experiences in graduated autonomous decision-making and support transition (eg, intellectually, physically, and emotionally) from learner to autonomous physician.
Graduated practice	Offer increased opportunities for graduating residents to focus on procedures or clinical skills necessary for their next job.

development of both faculty- and peer-driven mentorship and advising. Furthermore, peers can facilitate an inclusive and safe workplace for junior-level residents.

Theme 4: Support for International Medical Graduates

Finally, the groups recommended programmatic awareness to ensure that efforts made to assist the majority of new interns in their transitions to GME do not inadvertently exclude international medical graduates (IMGs) or create barriers that perpetuate additional inequities that IMGs face. For example, in 2014, the start date for surgical fellowships was changed from July 1 to August 1.¹³ This afforded incoming fellows time to transition from residency to fellowship, but it resulted in a 1-month lapse in salary and insurance coverage. IMGs who are on visas have strict requirements for insurance coverage and a defined duration of stay in the United States. As such, this 1-month gap may have negatively affected IMGs because of unintended visa violations. It remains unclear if this policy change has resulted in a decrease in IMGs applying to and matching into surgical fellowship programs.

Additionally, IMGs may benefit from activities designed to enhance cultural competence with

American culture and systems to facilitate transitions for effective health care delivery.

Transition From Residency to Fellowship/Practice

During theory burst 3 small group discussions, participants discussed transitions from residency to fellowship and autonomous practice and offered recommendations that both the program (TABLE 3) and peers and near peers (TABLE 4) can consider. Some themes emerged that were similar to the ones that arose while discussing the transition from medical school to residency, including mentorship and peer advising.

Theme 1: Targeted Educational Opportunities

Clinically, discussion participants stressed that elective time was critical for residents to further develop skills in their desired area of practice, and therefore recommended programmatic protection of this element of training.

In addition to the clinical knowledge and skills necessary to succeed in fellowship or independent practice, participants also recommended that programs provide education for trainees about career-specific health care delivery systems. Programs may

TABLE 4

Small Group Discussion on Recommended Approaches for Peers and Near Peers Supporting the Transition From Residency to Fellowship or Independent Practice

Theme	Recommendations
Mentorship	- Facilitate mentorship between current fellows and incoming senior residents and between early career physicians and senior fellows. - Create mentor-mentee pairs between graduating residents and attending physicians early in their career. - Identify approachable faculty members early on who are willing to field questions after current fellows/senior residents leave.
Nonclinical education	Provide education hosted by recent graduates dedicated to nonclinical requirements associated with autonomous practice, including contract negotiation, patient referrals, billing, and specialty-specific considerations.
Resource and knowledge sharing	Create and share a concise document compiled by senior residents/fellows that includes educational resources, tips, expectations, lectures, and board preparation resources.
Clarity of practice	- Encourage clarification of practice patterns for new fellows that are standard of care vs personal practice. - Provide education about why no standard of care exists if appropriate to facilitate junior fellows' holistic understanding of the practice environment.
Alumni relations	- Create an alumni network using group chat technology to support continuation of interpersonal connections. - Advertise alumni events to provide current/past trainees a time and place to connect. - Inform graduates of online communities they can join for support and camaraderie.

consider providing business of medicine lectures for different types of medical practice (private, hospital employed, academic), education on contract negotiation, and even strategies for effective billing and coding.

The discussion also highlighted opportunities for education in behaviors essential for continued growth in autonomous practice, such as reflection, self-assessment, and self-directed learning. The ACGME toolkits for residency to fellowship⁸ and practice⁹ similarly provide guidance on informed self-feedback and competency-based education and assessment.

In teaching clinical, systems, and behavioral skills, participants advised creation of graduated practice opportunities as a means to support these ends.

Theme 2: Scheduling

A challenge of the transition from residency to fellowship is the often-rapid turnaround time from the end of residency to the start of fellowship. The discussion groups recognized that some fellowship programs are delaying start dates to allow for some flexibility and support for individuals transitioning from residency to fellowship; however, caution is advised relative to the creation of potential gaps in health insurance, wages, and IMG visa violations, as noted previously.

Theme 3: Well-Being

Trainee well-being is a common theme and priority in all of the ACGME transition toolkits,⁷⁻⁹ with several resources dedicated to this topic provided in each. Imposter syndrome is a well-recognized phenomenon in medical practice associated with increased levels of burnout.¹⁴ Recommendations from the small groups' discussion of the transition to fellowship and practice that may help combat imposter syndrome include access to mentorship, alumni networks, storytelling, community building, and self-assessment.

A Note on Assessment

One topic that is covered at length in the ACGME transition toolkit⁷ from medical school to residency is the acknowledgement of the possibility of faculty's implicit bias on first-year resident performance assessment. While some types of bias (eg, unintentional bias toward IMGs) were part of small groups discussions, this idea of mitigating the potential for implicit bias in assessment did not emerge, despite its importance and relevance within GME. One potential reason for this discrepancy is point-of-view limitations, as participants were trainees and therefore focus less than their faculty educators on how to construct and conduct assessments. In a fully competency-based system, where trainees are

engaged with assessment creation, this effect may have been less observable.

Limitations

While the groups included residents and fellows of diverse personal and professional backgrounds, discussion and resultant summaries may be limited given there were only 30 participants. Further, participants volunteered to participate from within the membership of the CRCR, which may limit representation outside of these parties. Additionally, there remains a selection bias by virtue of the types of residents who may volunteer for leadership positions such as those with the ACGME and the CRCR. Finally, given the focus on medical education as a whole, discussion did not explore specialty-specific recommendations.

Conclusions

As trainees progress through the UME-GME-CME continuum of medical education, each stage requires a specific skill set to ensure that patients receive safe and effective care and that trainees achieve the necessary educational experiences to maximize preparedness for the next stage of their career. Although these skills and experiences differ considerably across specialties and stages of training, there are fundamental similarities that can address educational gaps, optimize learning opportunities, and support well-being during each transition. Because of the diversity of the CRCR in specialty and stage of training, small group discussions at the May 2022 CRCR meeting offered a singular opportunity to identify shared recommendations that can optimize transitions in medical training. Many of the discussed opportunities to strengthen medical education transitions were supported by recommendations in existing transition toolkits. Now in its third year, the COVID-19 pandemic continues to evolve current health care practice, and the resulting challenges highlight the importance of ongoing assessment of transitions in medical training to ensure future physicians are prepared at every stage of their career.

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Breanne Jaqua, DO, MPH, is an Emergency Medicine Physician and Assistant Professor, Clinical Education Department, A.T. Still University School of Osteopathic Medicine, and Chair, Council of Review Committee Residents, Accreditation Council for Graduate Medical Education (ACGME); **Shanice Robinson, MD**, is a Resident Physician in Obstetrics and Gynecology, University of Missouri–Kansas City, and Resident Representative, ACGME OB/GYN Review Committee (RC); **Andrew Linkugel, MD**, is a Resident Physician in Plastic Surgery, Washington University

School of Medicine, and Resident Representative, ACGME Plastic Surgery RC; **Alejandra Maiz, MD**, is a Resident Physician in Ophthalmology, University of Michigan, and Resident Representative, ACGME Ophthalmology RC; **Christopher Corbett, MD, MSTR**, is a Resident Physician in Urology, University of Minnesota, and Resident Representative, ACGME Urology RC; **Tara Dhawan, MD**, is a Resident Physician in Anesthesiology, Oregon Health & Science University, and Resident Representative, ACGME Anesthesiology RC; **Gabriel Daniels, MD**, is a Resident Physician in Pediatrics, Department of Pediatrics, University of Alabama at Birmingham, and Resident Representative, ACGME Pediatrics RC; **Maggie Curran, MD**, is a Resident Physician in Family Medicine, University of Kansas, and Resident Representative, ACGME Family Medicine RC; **Katherine D. Kirby, DO**, is a Resident Physician in Obstetrics and Gynecology, Trinity Health, and American Osteopathic Association Resident Representative, ACGME Board of Directors; **Wali R. Johnson, MD, MPH**, is a Resident Physician in General Surgery, Vanderbilt University Medical Center, and Vice Chair, ACGME Council of Review Committee Residents; and **Tani Malhotra, MD, FACOG**, is a Physician in Maternal Fetal Medicine and Assistant Professor, Department of Reproductive Biology, University Hospitals Cleveland Medical Center and Case Western Reserve University School of Medicine, and American Medical Association Resident Representative, ACGME Board of Directors.

Corresponding author: Breanne Jaqua, DO, MPH, A.T. Still University School of Osteopathic Medicine, breanne.jaqua@gmail.com, Twitter @BreanneJaqua