Progressive Independence in Clinical Training: Perspectives of a National, Multispecialty Panel of Residents and Fellows

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ABSTRACT

Background Progressive independence in patient care activities is imperative for residents' readiness for practice and patient safety of those cared for by graduates of residency programs. However, establishing a standardized system of progressive independence is an ongoing challenge in graduate medical education.

Objective We aggregated trainees' perspectives on progressive independence, developed a model of the ideal state, and suggested actionable improvements.

Methods A multispecialty, nationally representative group of trainees conducted a structured exercise that (1) described the attributes of an ideal system of graduated responsibility; (2) compared the current system to that ideal; (3) developed benchmarks to reinforce best practices; and (4) identified approaches to motivate programs to adopt best practices.

Results At the core of an ideal model of graduated responsibility is a well-structured curriculum and assessment of individual learners using educational milestones and patient outcomes. The ideal model also includes robust faculty development and emphasizes faculty mentorship. To address legal and financial restrictions that pose barriers to progressive independent, objective outcome criteria like the milestones could be used to ask payers to alter payment restrictions for work performed by senior trainees, providing financial incentives for programs to encourage appropriate independent practice. Recognition of high-performing programs at the national level could motivate others to adopt best practices.

Conclusions A multifaceted approach, incorporating robust 2-way feedback about skill level and autonomy between residents and faculty, along with improved faculty development in this area, is needed to optimize residents' attainment of progressive independence. There are incentives to move programs and institutions toward this optimal model.

Editor's Note: The ACGME News and Views section of JGME *includes data reports, updates, and perspectives from the ACGME and its review committees. The decision to publish the article is made by the ACGME.*

Introduction

Progressive independence and the integration of appropriate graduated responsibility are ongoing challenges in graduate medical education. Twenty years ago, some felt that trainees were given too much independence in the care of patients too early; there is now a growing concern that they are not given sufficient responsibility prior to entering unsupervised practice after graduation. Residents, program directors, and practicing physicians have all voiced concerns about difficulties some recent graduates appear to experience in making the transition to practice. In a survey, 21% of fellowship directors training graduates of general surgery residencies have reported new fellows to arrive unprepared for the operating room.[1] The same survey found that 38% of incoming fellows were deficient in the area of patient ownership, 30% were unable to independently perform a laparoscopic cholecystectomy, and 66% were deemed unable to operate unsupervised for 30 minutes of a major procedure.[1] In a survey of practicing surgeons, only 40% agreed with the statement: "Graduates of surgery residencies today are prepared in the clinical practice of surgery."[2] Although continued mentorship in both academic and private practice settings can partially compensate for this gap in transition to practice patient safety mandates that this transition be seamless.

There are many reasons why the current system of graduated independence may be failing a sizable portion of trainees. Influences such as duty hour limits, increasing demand for efficiency, greater focus on patient outcomes, and managed care regulations all may contribute to greater involvement of attending physicians at the expense of optional training.[3] The

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Editor's Note: The online version of this article contains the first draft themes for each of the study questions.

public also appears to be uncomfortable with residents practicing independently, despite appropriate supervision. A study showed that 91% of 370 patients undergoing an elective surgical procedure felt an attending surgeon should be present for the entire procedure if a resident was involved.[4] However, residents late in their training often view continuous supervision as detrimental to their autonomy and ability to transition to practice.[5] It is possible that the concerns about progressive independence may be artificially amplified, due to discord between residents' perceived versus actual ability,[6] as well as the lack of clearly defined metrics for assessing readiness for independent practice.[7]

To better define the issues at stake, the Council of Review Committee Residents (CRCR), a 31-member expert panel of residents and fellows representing all specialties accredited by the Accreditation Council for Graduate Medical Education (ACGME), held a series of structured discussions about progressive responsibility. The aim was to define the ideal system of graduated responsibility and progressive independence from a trainee perspective, and to compare the current system to the ideal to identify areas for improvement. From the results of this exercise, the CRCR members developed consensus recommendations for policy change in this area to inform further deliberations by the ACGME and the medical education community on this critical issue.

Methods

The CRCR is made up of the resident representatives of all ACGME Residency Review Committees, the Institutional Review Committee, and the Clinical Learning Environment Review Committee.

At the CRCR meeting in January 2014, 24 participants (6 members representing hospital-based specialties, 8 members representing medical specialties, and 10 members representing surgical specialties) completed the first stage of the structured discussion. Participants were assigned to 4 groups, and each group was asked to consider 1 of the 4 study questions shown in the TABLE. Ideas were recorded and shared in the small groups, followed by discussion in the full committee. The second stage of the project, the generation of consensus themes, took place at the January 2015 meeting of the CRCR. All participants gave verbal consent for the data to be aggregated for this article.

Ideas from the small group exercise were printed on separate strips of paper, divided by study question. The 34 residents and fellows in attendance (the meeting included incoming committee members) were divided into 2 groups. Each group of 17 participants was assigned 2 of the questions from the TABLE. Each participant sorted ideas for each question into themes and reported this set of themes to the group; these themes were recorded as "first draft themes." Each group then further synthesized the first draft themes into "consensus themes." In the final stage, consensus themes from the 2 groups were discussed by the full committee, but were not modified further.

Results

Question 1 asked committee members to imagine an ideal system of progressive independence and graduated responsibility. Eighteen first draft themes were identified (provided as online supplemental material) and were subsequently consolidated into 4 consensus themes (TABLE). An ideal system would include an infrastructure and curriculum for progressive responsibility, faculty development, and accountability and mentorship. It would also include ongoing measurement of patient safety and outcomes data that would inform the degree of resident involvement.

Question 2 asked how the current state of training compares to the ideal identified in Question 1. Twenty-two first draft themes emerged (provided as online supplemental material) and were refined into 7 consensus themes (TABLE). This highlighted that the current system differs substantially from the imagined ideal. Critical themes included (1) a perception that trainees receive too much responsibility early in residency and too little later in training; (2) a consensus that there is a lack of feedback between residents and faculty about trainees' skill level and expected independence, which leads to suboptimal decisions about trainee responsibility; and (3) an agreement about a lack of formal faculty training on how to appropriately distribute independence over the period of formal training.

Question 3 asked participants to envision how the educational milestones could be used to measure graduated responsibility, progressive independence, and readiness for independent practice. Six first draft themes (provided as online supplemental material) were consolidated into 5 consensus themes (TABLE). General categories of milestones that were suggested included teaching, leadership, business of medicine (eg, coding, billing), and a need for more robust milestones pertaining to self-evaluation.

Question 4 asked CRCR members to describe incentives that could be used to motivate programs to adopt best practices. Seven first draft themes

TABLE
Study Questions and Consensus Themes

Questions	Consensus Themes
1. Imagine you are a site visitor sent to evaluate a program's system of graduated responsibility that enables residents in a given specialties to be ready for independent practice. To evaluate programs, you need to decide on a gold standard for comparison. What are the behaviors/systems/attributes of a program that has a perfect system of graduated responsibility and progressive independence? How does this program assess readiness to enter practice?	▪ Structured, milestone-based curriculum that incorporates sufficient flexibility to individualize education ▪ Hold faculty accountable for trainee (and junior faculty) development and mentorship ▪ Curriculum and teaching should produce empowered trainees capable of independent practice ▪ Improved patient safety through targeted educational efforts
2. Now put yourself back in your own shoes as a resident or fellow. How does the current state-of-the-art in graduated responsibility, progressive independence, and readiness for practice compare to "the gold standard"?	▪ Often there is too much responsibility too early or too little responsibility too late in residency; chief residents are unable to take on greater responsibility for multiple reasons (eg, legal, billing) ▪ Difficult to objectively quantitate "competence" ▪ Few/poor examples of effective employment of progressive responsibility; residents underutilized as teachers later in training ▪ Overall lack of sufficient coordination and supervision; residents ultimately allowed to progress despite missing fundamentals ▪ Lack of a mentoring framework to teach faculty and senior trainees how to mentor junior faculty and trainees ▪ Feedback not as honest as necessary due to fear of retribution or harming careers ▪ There is a lack of a formal leadership curriculum
3. What milestones could be created to reinforce the best practices for graduated responsibility, progressive independence, and readiness for practice?	▪ Leadership milestones ▪ Teaching milestones ▪ Milestones for independent practice (billing, clinical, legal) ▪ Use current ACGME milestones ▪ Incorporate self-evaluation
4. What are added factors that could motivate programs to adhere to best practices?	▪ Changes in legislation ▪ Recognition of high performance of programs or individuals ▪ Faculty development programs ▪ Study the performance and self-assessment of graduates

Abbreviation: ACGME, Accreditation Council for Graduate Medical Education.

(provided as online supplemental material) were refined into 4 consensus themes (TABLE). A key finding was that the educational milestones, as objective educational outcomes criteria, could be used to petition payers and legislators to alter billing/payment restrictions regarding work performed by senior trainees. This could provide financial incentives for programs to encourage appropriate transition to independent practice for these senior trainees. We also identified a need for better data metrics to monitor employer and graduate satisfaction with the transition to independent practice. Finally, creating a means of formal recognition for high-performing programs would encourage competition and innovation among programs with regard to systems of graduated responsibility.

Discussion

The fundamental role of a residency program is to develop physicians who can practice medicine independently and safely. Unfortunately, the current system of graduated responsibility and progressive independence appears to fall short of this goal for a sizable portion of learners. Evidence suggests that trainees do not feel adequately prepared to practice independently, and that a significant percentage of physicians in practice believe that residency graduates are not ready to enter practice. It is clear that the current system of graduated responsibility and progressive independence needs to be improved to ensure patient safety as physicians enter independent practice.

The CRCR members felt that the ideal system of graduated responsibility would include a well-structured curriculum focused on stepwise learning, complemented by robust faculty development and active mentorship. Ideally, the milestones would be leveraged to provide concrete markers of demonstrable skills, which would build resident/fellow and staff confidence in the ability of trainees to function autonomously within the bounds of their identified strengths and areas for improvement. Adaptability to the capabilities and needs of the individual trainee is crucial to an individualized learning trajectory and responsibility/independence assigned to each learner over time.

Many factors will need to be considered when constructing the solution to this problem. Public attitudes increasingly demand direct attending physician involvement in patient care, even for senior trainees. One study showed that over 90% of patients expected the attending surgeon to be present for the entire procedure,[4] yet surgery residents believe they are given less operative autonomy than their ability warrants.[8] Some have suggested that attending physicians decrease trainee responsibility due to a desire to increase efficiency and comply with hospital and patient expectations. Another factor may be a perception that duty hour limits have produced shift-work mentality and decreased ownership of patients in residents.[9] There is information indicating that attending physicians significantly restrict the independence of weaker residents, further reducing opportunities for improvement for those who need it most.[10] While this is not an inherently wrong approach, unless accompanied by effective remediation, it does not address the underlying problem of inadequate progression of responsibility and autonomy as learners advance in their training.

Finding the optimal balance between appropriate supervision and promoting autonomy is complex. Studies show that residents work above their expected level of ability early in residency, yet below their expected level of ability late in residency.[6] Enhanced oversight is not the answer. Instead, an appropriate oversight to allow the learner to function safely at a level that ensures their continued progression throughout training should be the goal.

Efforts have been made to objectively measure resident independence, resulting in the development of the Resident Supervision Index[7,11] and the Zwisch scale of operative independence.[12] Other initiatives designed to provide opportunities for independence include chief resident clinics and telephone triage systems with formative feedback[13–15] These interventions may serve as building blocks for the development and implementation of additional objective measurements of resident ability.

Incentivizing programs to adopt best practices in graduated responsibility will require a multipronged approach. There are many potential solutions; however, substantial legal, administrative, financial, and personal roadblocks exist. Our fourth question was aimed at exploring strategies to motivate institutions and programs to identify and implement the best solutions for their situation and context. Suggestions included legislative efforts, public recognition of high performance, faculty development, and incorporating feedback from recent graduates and employers.

Conclusion

A multispecialty, nationally representative group of residents and fellows conceptualized the components of an ideal system of graduated responsibility and ways in which we can address shortcomings in our current training system to help move toward this ideal. To optimize the process of progressive independence, a multifaceted approach incorporating robust 2-way feedback about skill level and autonomy between residents and faculty, as well as improved faculty development in this area, will be necessary. These themes are merely a starting point that must be supplemented with ideas that originate locally within institutions and programs. This effort is intended to stimulate others to innovate, share best practices, and recognize programs that successfully implement them.

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