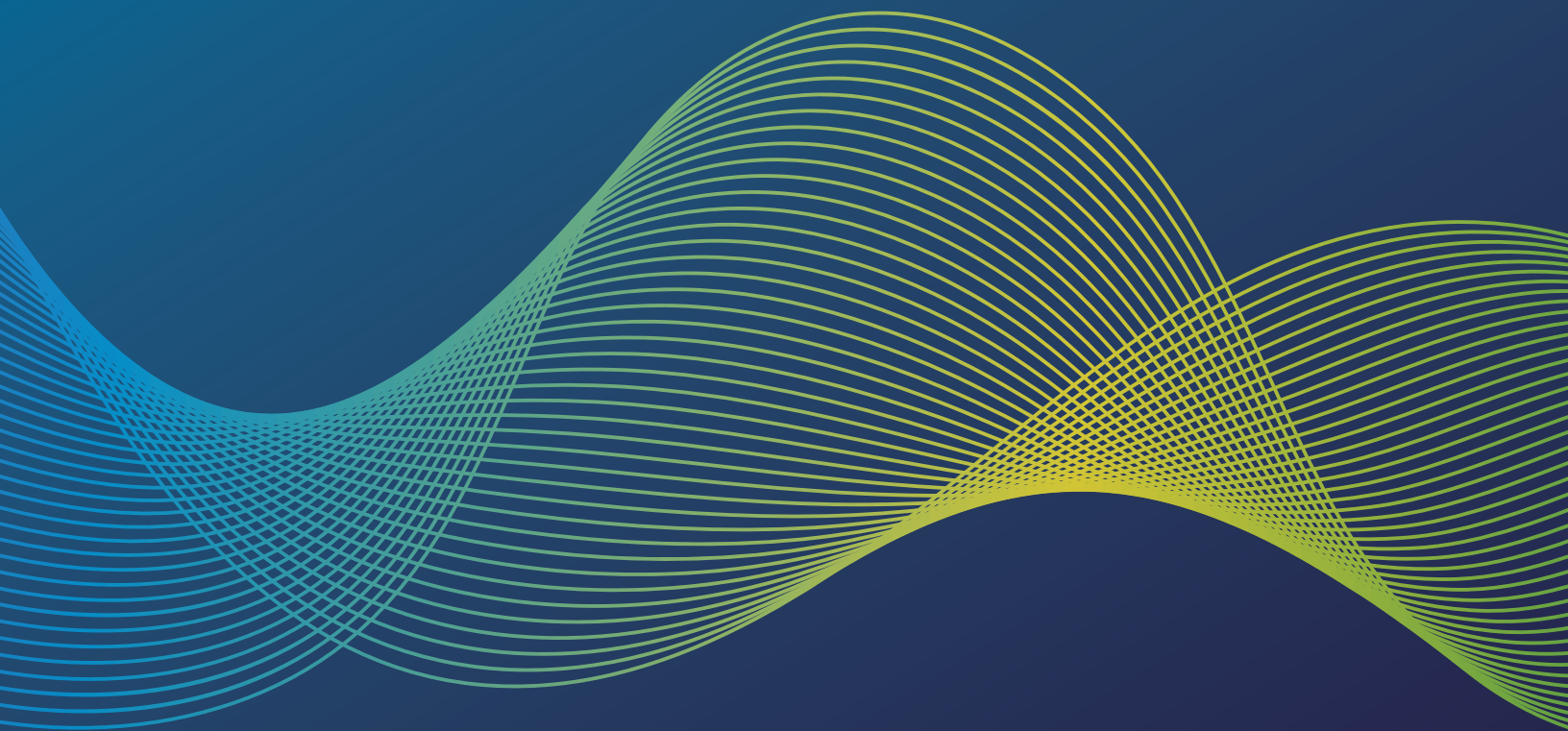# AMA
AMERICAN MEDICAL ASSOCIATION

Facilitating Effective Transitions Along the Medical Education Continuum

A HANDBOOK FOR LEARNERS AND FACULTY DERIVED FROM CORPORATE COACHING

Sara Lamb, MD

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Accelerating Change in Medical Education Consortium

Letter from the editors

The medical profession brings learners from all backgrounds and walks of life together to learn and master the knowledge, skills, and attitudes necessary to emerge as safe, effective medical professionals in an increasingly dynamic world. The curricula and experiences woven into the fabric of medical schools and residency training programs heavily focus on learning the necessary scientific principles, procedural skills, and medical decision making practices. In addition to this, there needs to be time to focus on wellness and time to prepare learners to acclimate to the various settings and expectations that characterize the spectrum of the medical training environment. Learner professional identity development and the evolution of skills related to emotional intelligence similarly deserve equal emphasis.

This handbook takes a deep dive into the needs of learners as they transition within the continuum of medical education from the beginning of medical school to the final stage of residency. It is organized into complementary **learner** and **faculty guides** for each stage of training. This handbook highlights for learners key take home points, expectations, success criteria, and important stakeholders involved in each stage. Case vignettes emphasize common challenges and set the stage to explore strategies to overcome them. Faculty will utilize the faculty guides to become versed in how to partner with and coach learners to find resources, navigate challenges, and prepare for the next stage. Education leaders will find a blueprint for how to incorporate transition programming into the core of learner experiences.

We feel it is important to convey that we have chosen to refer to our learners and faculty throughout this handbook by the "they" pronoun to create an inclusive message for all of our readers.

The guidance included in this handbook is based not only on the literature but also on the perspectives of a diverse group of learners, faculty, and leaders across three institutions augmented by the experience of the executive leadership talent industry and other work supported by the American Medical Association Accelerating Change in Medical Education Consortium on coaching and the master adaptive learner.

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Introduction

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Editor: Tsveti Markova, MD (Wayne State University School of Medicine), Helen Morgan, MD (University of Michigan Medical School)

The medical education experience is an intense and fast paced journey from the first day of medical school to the last day of residency. There are numerous transitions throughout these years, with each new role bringing its own set of opportunities, expectations, and challenges. Each individual has experiences and strengths they have developed that have helped them succeed and, with each stage, develop new skills to be a better physician.

This handbook represents a compilation of the perspectives of learners and faculty from medical schools at the University of Michigan, the University of Utah, and Wayne State University regarding transitions throughout medical education. We discuss the common difficulties and approaches to success during the four key medical education transitions: (1) transition to medical school, (2) transition to clerkship, (3) transition to residency, and (4) transition to senior resident.

Medical School	Clerkship	Residency	Senior Resident

We postulate that there are comparisons that can be drawn between learners transitioning across the continuum of medical education and corporate executives who are transitioning into new roles. The need to "hit the ground running," perform in high stakes environments, lead and function within a high-performing team, and execute critical decision-making that impacts the lives of multiple individuals are common elements between a physician in training and a corporate executive transitioning into a new role. Evidence suggests that transitions into high performing/high-demand roles can be intense and stressful, even for seasoned executives. Therefore, we partnered with Odgers Berndtson, a top-ten global leadership advisory firm to identify and target key issues at each transition point. This handbook brings together the expertise and thought leadership from the worlds of medical education and human capital development.

The perspectives of 35 learners from across the medical education continuum and 24 MD and PhD faculty educators were captured over 19 hours of semi-structured group interviews moderated by executive leadership experts from Odgers Berndtson. Interviews were structured among different themes including development of professional identity, wellness, and skill acquisition. Learners also talked about what they felt defined their success at different stages and what they wished they would have known before transitioning to allow them to achieve their goals. This handbook emphasizes the trainee's perspective on successful transitions and bridges the gap between how success is defined and what skills help trainees not only survive but thrive in each stage of their medical education and training.

Transition to medical school

The transition to medical school brings together students from diverse backgrounds and introduces them into a new and challenging environment. Students come from different educational and career backgrounds which provides a unique opportunity to capitalize on individual skills. Professionalism, time management, teamwork, and study habits all become important during this initial transition. Medical students will be expected to understand and apply the basic and clinical sciences while also learning how to integrate humanities into patient care as they prepare for their clerkship years.

Transition to clerkship

The transition to clerkship is often characterized by excitement and angst as the focus shifts from learning content to applying content in patient care. Expectations are different. Schedules are different and how a learner studies, learns, and interacts with peers has to change. Additionally, the emphasis on patient care and working as part of a health care team is increased. Not only is the change enough to make someone nervous, many learners are still discovering what specialty they most identify with while balancing patient care responsibilities and meeting competency requirements. Despite the anxiety, clerkship years are an opportunity to develop professional identity and refine clinical skills.

Transition to residency

The transition to residency comes with its own set of changes and expectations, including (oftentimes) uprooting and moving to a new part of the country. Residents are expected to take ownership of a larger volume of patients and engage in their own self-directed learning. They also need to develop patient treatment plans while simultaneously gaining rapport with nurses, consultants, fellow physicians, and other members of the health care team. Above all, a resident needs to be able to accept and learn from their mistakes as they take on more responsibilities to prepare for the next stage of their career development.

Transition to senior resident

The transition to senior resident comes with increased autonomy and responsibility. Many decisions are made with minimal supervision. Senior residents are not only expected to continue building technical and procedural skills. They are also required to manage junior residents and troubleshoot problems. They are able to weave together evidence and intuition to provide excellent patient care. Just as other transitions have their challenges, senior residents have to manage their own performance as well as lead and mentor a team of junior residents and, oftentimes, medical students.

How to use this handbook

Authors: Saja Hassoun (Spencer Fox Eccles School of Medicine at the University of Utah), James Carrington (Spencer Fox Eccles School of Medicine at the University of Utah), Helen Morgan, MD (University of Michigan Medical School)

Editor: Tsveti Markova, MD (Wayne State University School of Medicine)

This handbook focuses on success, personal identity, and skill acquisition at different stages of medical training and discusses how to maintain wellness by embracing outside interests and learning to share burdens with others. This handbook includes sections written *by learners for learners* to help tackle common pitfalls and guide success. We also include sections written by faculty with trainee input to help learners improve performance at each of these transitions. The combined perspectives of faculty and trainees help establish a unified medical education continuum and ensure trainee success.

Each chapter in this handbook provides brief descriptions, major differences, key stakeholders, success criteria, commonly encountered issues, and desired outcomes for each of the four transition stages of the medical education continuum. The chapters start with a "position description" as each transition is looked at through the lens of a professional job where the expectations are clear and outcomes of performance affect other stakeholders. Each section also includes clinical vignettes to illustrate common experiences, key take home points, and references to facilitate a deeper dive into relevant topics. Learners are encouraged to use this handbook to gain a deeper understanding of what to expect during each transition so that they can define and achieve their goals. Faculty and key stakeholders are encouraged to use faculty sections to design programs aimed at improving the educational experience and performance during key transitions for learners.

SUCCESS

PERSONAL IDENTITY

SKILL ACQUISITION

STAGE 1 Starting the journey: Transition to medical school

Authors: Angela Liang, MD (University of Michigan Medical School), Mark Baker (Wayne State University School of Medicine), Lawrence H. Lash, PhD (Wayne State University School of Medicine)

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Take home points

1. During Stage 1 (transition to medical school), newly matriculated medical students must learn to take on multiple roles, including that of a scholar, master adaptive learner, team-player, communicator, and self-starter, and advocate for future patients and communities.

2. Medical students must adapt to a new environment where they are among high achievers like themselves and where they are confronted with immense amounts of information and new responsibilities.

3. Professional identity formation is a key priority of Stage 1 as learners start to see themselves as physicians-in-training and explore their particular interests in medicine.

4. Developing a growth mindset that shifts the emphasis from achievement to growth, acceptance, and learning from failures aids in improving learner performance and mitigating the effects of imposter syndrome.

5. Students should be made aware of and encouraged to take advantage of the variety of resources (e.g., academic support, wellness, community support, etc.) available to guide them through the unique challenges during this transition.

6. Supporting Stage 1 learners in building and maintaining social relationships within the school and the community at large is essential to avoid isolation and promotes physical and emotional wellness.

7. Students should be proactive and learn the desired outcomes of this transition set forth by medical schools and other stakeholders. Medical schools should clearly communicate desired outcomes to medical students in order to improve their understanding of and ability to meet expectations.

Vignette 1 (poor score)

PW is a newly matriculated first-generation medical student and just took their first medical school exam. They found out that they scored below the mean and feel defeated because they studied the entire weekend for it. They wonder if they should change their studying techniques because the amount of material to learn is much more than what they are used to from their undergraduate studies.

Vignette 2 (emotional wellness)

SB is in the middle of their first year of medical school. The curriculum has been rigorous, and they have been taking quizzes every two weeks for the last several months. Prior to medical school, they were an avid runner, but they have been having trouble finding time for exercise. They also recently missed a family gathering because they felt they needed to study. They are burned out and feel like they are struggling with balancing their personal life with school.

Vignette 3 (unprofessional behavior)

JP is a first-year medical student in the middle of the reproduction course. As part of the sequence, there are case-based small group sessions where attendance is required. Unfortunately, due to disrupted sleep patterns they have overslept on multiple occasions and have missed several sessions. The course administrator sends multiple emails about the absences and the need for remediation over the course of a week. JP feels embarrassed and avoids replying to the emails.

Position description

During Stage 1, learners work predominantly in a classroom setting, similar to previous educational experiences. However, learners also begin to develop a professional identity and are becoming members of the health care team, both within the classroom and in the broader community. The pace of learning is accelerated as compared to undergraduate studies, and learners must adopt new habits to manage the high volume of complex information they need to process. Key areas of development for the learner as they are transitioning to medical school are highlighted in this chapter.

Scholar and lifelong learner. Learners must devote themselves to learning not only for their own benefit, but with the understanding that the knowledge gained will primarily benefit future patients. Knowledge gained in medical school will inherently change as advances in science emerge; it is important to acknowledge early the importance of developing into a master adaptive learner for adaptation to change and lifelong learning habits. Learners should also begin to identify areas of particular interest that spark curiosity. These areas are ideal for further exploration through shadowing, research projects, or independent inquiry.

Team player. Participation in team-based learning, community-based learning, and other small-group activities helps prepare learners to work with individuals who have different learning styles, personalities, and communication preferences, and sets them up for success later when working with even larger, more diverse, and more rapidly changing teams. Coming prepared for small group activities or being ready to give presentations to the group will not only improve self-learning, but also contributes to the learning among the peers in the group.

Stage 1: Key characteristics
Scholar and lifelong learner
Team player
Communicator
Disciplined time manager
Advocate for patients and communities

Communicator. Practicing communicating with peers, medical school staff, professors, medical professionals, and patients from different backgrounds helps hone communication skills. Engaging in challenging discussions surrounding health care and being respectful of others' ideas while learning how to effectively communicate personal perspectives broadens individual horizons and facilitates the development of trust.

Disciplined time manager. Achieving educational goals and investing in professional development is a high priority. Learning to manage time wisely and develop self-discipline and study routines to process the large amount of information is critical early in medical school.

Advocate for patients and communities. Participation in activities that serve the community such as volunteering in community clinics, leading student interest groups that focus on health care delivery, or representing health care-related policies are important activities that help students remain grounded and help shape professional values and identities.

Differences between previous experiences and preclerkship medical education

New social environment

Prior to matriculation to medical school, students have a broad range of experiences. For instance, a student's experience of being from a family with many physicians matriculating directly from an undergraduate degree likely differs greatly from a first-generation college graduate who is now a newly minted medical student. First-generation students compared to continuing generation students face increased challenges, including poorer self-care and an increased need for institutional recognition of support for family and personal responsibilities.[1] In addition, there are more challenges for underrepresented in medicine (UiM) students, who experience less supportive learning environments, encounter discrimination and harassment, and are more likely to see their background as having a negative impact on their medical school experiences compared to their non-UiM counterparts.[2] Students should be aware of these potential differences

between their peers prior to matriculation and consider the diversity of experiences as an opportunity to learn from their new peers, as well as to take the opportunity to support one another in their shared goal of becoming physicians.

Medical schools admit the best of the best and are fortunate to recruit students who have distinguished accomplishments and show potential for the highest levels of achievement. For most students this is a significant change from their prior environments, in which they go from being the top of the class to being surrounded by peers with similar accomplishments and aptitudes. The realization that all of their classmates are similarly impressive may be daunting for students as they enter this transition.

Rigorous curriculum demands

In addition to the change in academic environment, matriculating students face the rigor of medical school. In particular, the first year of medical school is academically challenging because it is usually predominantly spent in classroom-based learning sessions, with students focusing on studying and passing exams. This is a significant difference from prior stages, as curriculum demands in medical school are much higher than in most undergraduate programs. If students are beginning medical school after having spent significant time in the workforce, the adjustment can be especially challenging. There is an overwhelming amount of material to learn, and the pace of learning is rapid. Furthermore, undergraduate courses tend to be "stand alone," while many preclerkship medical school courses integrate several disciplines, necessitating increased understanding of a variety of concepts. For instance, a cardiology sequence may combine histology, anatomy, and physiology rather than focusing on just one discipline. This stage requires a fair amount of self-directed learning, and the rigor of material may demand students adjust study strategies that were previously tried and true. Successful students in this stage quickly learn to prioritize and efficiently use their time to meet curriculum demands.

Development of professional identity

Aside from the academic differences following matriculation, students begin the path toward joining the medical community. While mostly entrenched in studies, students in Stage 1 begin to develop their professional identity. The field of medicine requires years of hard work and dedication, and as a result, commands a level of respect from the community. Consequently, students are held to the highest standards, with students beginning to understand that their actions represent not only their medical schools but the medical institution and the profession as a whole. This initial and significant change in professional identity gives students the first glimpse of their future responsibilities to their patients and their community.

Key stakeholder groups

For Stage 1, stakeholders may include both those currently involved with medical student education as well as those who have a future interest in success at this stage. Major stakeholders include:

Family/friends

Role of stakeholder: Family and friends can provide important emotional and physical support. Students may have a sense of obligation to their family and need to meet those obligations through high performance on exams. In some cases, there is familial or parental pressure for a student to maintain a satisfactory or high performance. Conversely, students may also experience tension in not being able to attend to family or a loved one's expectations, which can be a source of significant stress.

Impact on academic life and wellness: Support of family and friends can be especially critical during a transition period such as the first year of medical school because the student often needs to change study habits used during undergraduate studies and change how much time they devote to activities other than academics. This allows the student to properly focus on their studies and to find schedules that work best for them, which also contributes significantly to maintenance of wellness.

Impact on success as a learner: Family and friends can have a significant impact on a learner's success by enabling them to focus more fully on their training, reminding them of how much they have accomplished to date, and encouraging them to keep their long-term goals in mind during difficult courses.

What can this stakeholder do to help learners meet their academic and personal goals and needs? Students can communicate their needs to family and friends and ask for help in maintaining wellness and achieving academic success. Students, especially in this stage, can use their family and friends to mitigate isolation and peer-pressure related issues. This is particularly important when no family member or friend is in the medical or academic fields.

Peers

Role of stakeholder: Peers have an interest in the success of their colleagues due to the importance of teamwork, both for the learning process and in many of the activities during the preclerkship years of medical school. At the same time peers can also be a source of stress, and students must be prompt to address this with their respective class counselors and/or office of student affairs to resolve such issues in a timely manner.

Impact on academic life and wellness: Academic performance is in part determined by how well individuals work with their colleagues, especially in active learning sessions. Peer-to-peer teaching and learning is an important component of academic life. Wellness can be significantly impacted by interacting with peers, either those at the same stage who are going through the same difficulties and issues or those at a later stage who have the experience of having overcome those difficulties.

Impact on success as a learner: Peers can have a major impact on student success, especially in the Stage 1 transition. This impact can include peer-to-peer teaching and learning, peer coaching, and creation of a sense of camaraderie. Peers who have prior exposure to certain subject areas (e.g., advanced knowledge of biostatistics, genetics, etc.) can help their peers by re-teaching challenging concepts. Similarly, students who are good at test taking or time management can help peers to improve their skills.

What can this stakeholder do to help learners meet their academic and personal goals and needs? Students can actively seek out study groups, peers, and near-peers as academic coaches, especially if they are having difficulties adapting to the intensity of the preclerkship curriculum. Students can also pursue opportunities to participate in wellness or social activities outside of school with classmates who have similar interests in order to build friendships and establish a better sense of belonging.

Faculty

Role of stakeholder: By delivering the curriculum and engaging in activities to facilitate student learning and growth, faculty are a key stakeholder group during the Stage 1 transition.

Impact on academic life and wellness: Faculty provide guidance to help students focus on what to learn and how to assimilate and use the vast amount of information they encounter, promoting student academic success.[3] Faculty may also organize team- and community-building activities that may contribute to student wellness.

Impact on success as a learner: Interaction with faculty can have a major impact on academic success, helping the learner to focus on topics of importance, build foundational knowledge, and develop lifelong learning approaches. Faculty may also serve as role models and mentors who help students see the shape their future careers may take.

What can this stakeholder do to help learners meet their academic and personal goals and needs? A common problem in current medical education is the over-reliance of many students on sources of information outside of their institution. While these sources can be beneficial adjuncts, they should not replace the faculty as unique resources. Thus, students should actively participate in faculty-facilitated sessions and seek out faculty for guidance when needed. Faculty may also be able to provide input on particular learning resources that have been useful for past students with similar learning styles.

Medical school leadership

Role of stakeholder: For the purposes of maintaining accreditation and prestige, the school has an interest in the successful transition of its students through the first year of medical school.

Impact on academic life and wellness: Medical school leadership serves as the foundation for student training by designing and implementing the curriculum. The school should also ensure that the curriculum can adapt to particular types of instruction materials found to be most effective to prepare for USMLE or COMLEX testing. Outside of the classroom, students are affected by the availability of study space on campus as well as the number of additional supportive programs (e.g., financial aid, counseling, wellness, academic enrichment, academic success, etc.) provided by the medical school. The medical school must also establish and maintain relationships with clinical partners to secure valuable experiential learning opportunities for students.

Impact on success as a learner: The medical school administration provides the environment for learning and the tools students need to be successful. Consequently, a well-structured and well-coordinated administration should effectively respond to student problems and should keep abreast of trends and best practices in medical education.

What can this stakeholder do to help learners meet their academic and personal goals and needs? The large size and complexity of most medical school administrations can often result in a disconnect between school leaders and the students they serve. Frequent communication and timely feedback from students are needed for medical school administrations to help students achieve academic and personal goals.

Hospital and clinic partners

Role of stakeholder: Medical schools are increasingly incorporating clinical activities into the preclerkship curriculum, and this means hospital and clinic-based partners have an increasing interest in medical students during the Stage 1 transition.

Impact on academic life and wellness: The early introduction to clinicians and clinically-based activities significantly impacts academic life and wellness by providing examples of the underlying rationale for and utility of basic science principles included in preclerkship curricula.

Impact on success as a learner: Hospital partners provide a venue where students encounter patients and physician role models and identify the type of professionals they want to become.

What can this stakeholder do to help learners meet their academic and personal goals and needs? Students should take advantage of every opportunity to interact with physicians practicing at their school's hospital and clinic-based partners. Students should be aware of hospital/clinic regulations in place to protect patients, and those who choose to shadow physicians outside of their medical school curriculum should be prepared to comply with these regulations and voice concerns if these are not/cannot be met.

Future patients

Role of stakeholder: Although future patients are not routinely involved in the activities of current first-year students, they have an interest in their learning and professional development.

Impact on academic life and wellness: Future patients provide important motivation and rationale for all the efforts that go into becoming a physician.

Impact on success as a learner: Listening to and understanding future patient needs can be helpful in focusing student learning efforts for both academic as well as non-academic pursuits during medical school.

What can this stakeholder do to help learners meet their academic and personal needs and goals? It is important to learn and appreciate, even during the preclerkship phase, a patient's perspective on their various interactions with physicians. Students should display the utmost level of professionalism during every patient interaction to ensure patient comfort and willingness to participate in these valuable learning opportunities.

Future co-workers

Role of stakeholder: Similar to peers, the importance of teamwork in patient care means that future coworkers (e.g., residents, nurses, health care professionals, etc.) have an interest in the successful transition of first-year students.

Impact on academic life and wellness: Future co-workers can serve as mentors and provide guidance to students, even during the early preclerkship stage. Such activities can provide context for student learning that may serve as a foundation for appreciating and successfully communicating with all members of the team. Building rapport with an interdisciplinary team at an early stage may also provide encouragement to students and contribute positively to overall wellness.

Impact on success as a learner: Future co-workers, having been through similar transitions, can provide insights and encouragement so that students can successfully navigate each stage of their training.

What can this stakeholder do to help learners meet their academic and personal goals and needs? Students should take every opportunity to seek out and learn from future co-workers who can serve as role models and mentors. Students may struggle with understanding their roles and responsibilities while caring for patients during this stage but should know that their level of involvement with each new team or patient encounter will fluctuate. Acting professionally and seeking out opportunities to be helpful to team members will always be well-received by these stakeholders.

Success criteria

Overall success in Stage 1 is determined by a learner's ability to manage time wisely, perform well in the preclerkship coursework, form a network of peers who can support each other, follow evidence-based approaches to improve learning and retention (e.g., concept maps, effortful learning, and spaced repetition), develop and maintain a growth mindset, actively seek timely help when challenges arise, and maintain connections with family, friends, and their community. Medical students need to:

- Learn fundamental principles of medical science including foundational clinical skills, develop an ability to interpret medical literature, and successfully pass required classes and the first stage licensing examination if required.
  - Gaining content knowledge in foundational sciences, patient care skills including history and physical examination techniques, and principles of evidence-based medicine to allow interpretation and use of the medical literature are key tasks of preclerkship education. A particular focus on evidence-based medicine to allow interpretation and use of the medical literature is critical to prepare students for the application of foundational science knowledge to patient care. This knowledge prepares students for doing well on their institutional assessments and their first-stage licensing examinations (USMLE Step 1 or COMLEX Level 1), if required in Stage 1 by the institution.
- Use active learning skills to allow rapid integration of large amounts of highly technical information and appropriately seek help from the institution, faculty, and/or peers.
  - Medical school is challenging, both in the volume and complexity of topics covered from the beginning of training.[4] Using institutional resources such as academic success programs (e.g., tutors, teaching assistants, learning specialists), counseling services, or wellness programs as well as consulting with faculty, peers, and more senior students can help learners adjust to the new pace of learning.[5] Students who are the first in their families to attend college and/or medical school may particularly benefit from engagement with institutional support resources. A student must recognize that they are part of a medical community that strives to work together to help everyone succeed. Intrinsic motivation for self-directed learning and acceptance that continued development may involve failure in order to progress (growth mindset) are skills that are needed throughout a student's career as a physician and should be developed in the preclinical years.[6]

- Develop strong oral and written communication skills.
  - Students must be able to communicate complex medical and scientific ideas to varied audiences, including peers, faculty, and patients. Expressing ideas and conclusions clearly is also essential when working in teams, either in the classroom or in the clinic.
- Begin the process of professional identity formation.[7]
  - Although the initial preclerkship training tasks may feel like personal academic hurdles to overcome, it is important for students to remember that the main goal of medical training is to be able to serve patients competently and compassionately. Students should begin to understand "gray areas" in clinical decision-making and recognize that clinical problems do not always have discrete right or wrong answers. Students should also start to become familiar with local school and health care facility organizational norms and traditions in preparation for integrating into clinical workplaces.[8] Strong teamwork skills developed in this stage support the identity of a physician as a health care team member and team leader.[9]
- Identify strategies for avoiding isolation and finding social interactions.
  - Many students move to new communities for medical training and must not only integrate into the educational community but need to find social outlets, recreational pursuits, religious/spiritual groups, and other connections. Maintaining relationships with friends and family is another important strategy to prevent isolation. Students should make intentional efforts to support personal wellness as a strategy for long-term career success.
- Develop time management strategies to balance personal and professional obligations.
  - Successful students carefully manage time to balance the demands of medical training and their personal life circumstances, including assigning priorities to different activities.
- Learn how to be a good student and utilize the master adaptive learner as a model for personal development.[3]
  - It is easier to develop habits for self-assessment and improvement as a medical student than to considerably adapt one's learning processes after decades of practice. By identifying one's gaps, prioritizing needs, creating a realizable plan, and working with coaches when available, students can build a foundation of skills that will launch them toward an impactful career in the ever evolving field of medicine.

Commonly encountered issues

The journey to begin medical school is long, yet students enter with a sense of accomplishment and excitement. Sadly, this feeling is fleeting for many. Students are quickly challenged by the increase in workload and difficulty of material, and there are several common yet unexpected issues of which students should be aware.

Many begin medical school with the belief that they do not actually belong in medical school. This "imposter syndrome" manifests itself as students compare themselves to others or fail to understand faculty expectations.[10,11] This issue may be especially problematic for first-generation students or students who are underrepresented in medicine as they may not have role models or mentors from whom to seek assistance and counseling.[1] Many students fear failure and may be discouraged from trying if success does not appear to be guaranteed.

Students may combat imposter syndrome by separating feelings from facts. First, students must recognize that many others also experience imposter syndrome. Faculty and peers are willing to help, and most medical schools have counseling centers. Second, students must be aware that the path to success is unique for each individual. Comparison only leads to discontentment. Lastly, students must believe in the process of medical school. They were accepted because the institution believed in their ability. Many physicians who have come before them have succeeded in this difficult endeavor. Students are not alone. There are resources available to help them achieve success, and they are where they belong.

Students also struggle with navigating the overwhelming amount of curriculum, licensing examination preparation, and other outside resources. Past students adapting to the increased workload may have also generated resources and study guides that are helpful but seem to only add to the plethora of resources. Selecting appropriate resources for one's learning style may require some trial and error, but it cannot be stressed enough that students should not try every resource. Students should try a few that they believe will meet their needs and find what works best for them while also realizing that what works best may be course-dependent and that their needs may change over time.

While the abundance of academic resources may in itself be overwhelming, students may be further overwhelmed by the lack of information on things outside of the curricular program. Housing, religious centers, ethnic community resources, transportation, and recreational activities are just a few categories where students struggle to gain information, particularly if they moved to a new community for medical school. Medical schools are constantly growing their resources in these areas. Useful information is available from the office of student affairs, student guides from their own medical school, and upper class students. Students will most likely be provided these resources as they enter medical school but should also be willing to seek them out if challenges become apparent.

Finally, students commonly struggle with the idea of "struggle." Medical school is not easy because it is preparing students for a rigorous career in medicine where people's lives and livelihoods are at stake. Many students have not experienced such rigor and may not have struggled significantly in prior academic experiences. All students must adapt, but the most successful students focus on how they approach the challenge. Students must develop a growth mindset, seeing every challenge as an opportunity to learn, grow, and prepare for their future.[12] Shifting the emphasis from achievement to growth cultivates grit and a focus on lifelong learning among students. The desire to understand and apply this challenging material to real patients will help students maintain the enthusiasm with which they began their preclerkship studies.

Desired outcomes

Desired outcomes are combined goals taken from the perspective of the medical student, the medical school, and the future community these medical students will serve and include the medical student being able to:

- Effectively communicate an understanding of the structural and functional processes in normal and pathological conditions.

- Obtain a thorough past medical history from a patient while demonstrating empathy and respect.

- Proficiently perform physical exam skills and correctly identify which physical exam skills should be used depending on the chief complaint.

- Write a complete patient note documenting a clinical encounter.

- Provide and receive constructive feedback in professional settings, recognizing the importance of and ability to receive and act on feedback that ensures personal and professional growth.

- Engage in challenging discussions surrounding health care, including discussions of ethics, health care disparities, systemic racism, bias, and social determinants of health. Engagement includes listening to and discussing ideas from groups with different cultural beliefs and ethical principles.

- At a minimum, pass all required courses and licensing examinations (e.g., USMLE Step 1 or COMLEX Level 1) as required by their institution.

- Familiarize and seek out institutional resources dedicated to support student success (wellness, academic, extracurricular, etc.), particularly after receiving feedback or reports of suboptimal performance.

- Promote an inclusive environment by connecting with and learning from those with diverse perspectives and backgrounds.

Vignette resolutions

Vignette 1 (poor score)

This is a common phenomenon among first year medical students, and these feelings of inadequacy should be normalized. Faculty and counselors should provide reassurance. Many medical students take time to settle into the new norms and gain acquaintance with study demands. Patterns of performance beyond the first few exams will be more telling. Faculty and counselors should ensure students are aware of study resources and should emphasize the importance of seeking help and support. Longitudinal tracking of student progress by faculty and counselors is critical to direct assistance for students in need. This is best if done in a timely and proactive manner as some learners may be too embarrassed or ashamed to ask for help.

Vignette 2 (emotional wellness)

Self-isolation leads to the erosion of important support structures, and physical exercise is a critical tool for not only maintaining health but reducing stress and promoting a sense of well-being. Faculty, counselors, and academic administrators need to encourage students to maintain supportive relationships with family and loved ones and be cued to aberrations in student behavior and level of participation in team-based and small-group active learning sessions as signs of undue stress. Core curriculum and extra-curricular programs that enlist faculty, counselors, and/or coaches are essential for helping students develop habits that ensure the maintenance of psychological and emotional well-being. Raising awareness and ensuring easy access to resources will help students obtain help when needed.

Vignette 3 (unprofessional behavior)

Tracking of student participation in team-based and small group active learning sessions and clear communication between students and faculty, counselors, and academic administrators when student professional expectations are not being met are critical. Students need to hear about mistakes as close to the time of their occurrence as possible to ensure adequate time exists for correction to take place. Students must accept that mistakes happen, and they need to commit to learning from them rather than dwelling on them. Inasmuch as accountability for unprofessional behavior is important, learning from mistakes and moving forward (growth mindset) are key to preventing incidences of unprofessional behavior from becoming pervasive and derailing a student's career.

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STAGE 1 Faculty guide: Transition to medical school

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Take home points
Facilitating student success in the first transitional phase requires:
1. Use of a system-wide array of approaches
2. Use of a targeted and longitudinal approach
3. Use of a centralized and standardized way to measure outcomes
4. Targeted faculty support and development

Faculty should be aware of and be able to identify students who are having difficulties achieving success criteria, which include: (1) development of self-reflection and lifelong learning skills to become a master adaptive learner; (2) development of interpersonal skills that promote effective teamwork, communication, and critical thinking skills; (3) passing required courses and high stakes exams; and (4) starting to develop an identity as a physician while maintaining physical and emotional wellness.

What actions should faculty/programs take to support students in meeting the criteria for success?

Programs can start by identifying, establishing, and following a core set of guiding principles. These principles should reflect commitment to relationships and partnerships, continuous assessment and improvement, student-centered learning, diversity, and professionalism. All interventions and approaches should build upon these guiding principles. Coaching for development of time and life management skills, especially from more senior peers who have already gone through the preclerkship curriculum, may be especially helpful to new students.[1]

Along with tangible skills such as figuring out the best study strategies, these new learners need to practice self-reflection, flexibility, adaptability, problem solving, and interprofessional team communication. They also need to learn institutional values. It is important to remember that the first transition for physicians-in-training sets the tone for a student's medical school experience, and thus faculty and programs facilitating learners during this time require a diverse skill set. Faculty, programs, and institutions can help ensure student success by adhering to principles that encourage a growth mindset, which involves finding ways to shift the emphasis from achievement to growth and may include assessment *for* learning rather than assessment *of* learning.[2,3]

How do we establish relationships and provide support for students as they move through this transition phase?

Specifically, faculty and institutions should help students to:

Manage expectations
- Recognize this is a challenging transition
- Set reasonable yet high expectations for medical school
- Counteract "imposter syndrome"[4,5]
- Recognize that failure is part of the learning process
- Flourish in the medical school environment

Increase awareness of resources for academic support and wellness
- Ask for help in a timely manner
- Develop self-directed learning skills
- Adjust to rigor of the material
- Frame foundational science learning as critical to clinical medicine
- Obtain mentorship (near-peers, faculty mentorship)

Prepare for the next transition
- Begin to understand local health care culture and observe behavioral norms
- Begin to develop professional behaviors

Managing expectations

Facilitating the transition from learners existing within systems of external motivation to a system that cultivates self-motivation requires a multi-pronged approach. Available faculty and program support need to be clearly communicated, easy to access, and longitudinal throughout the medical school curriculum. For early Stage 1 learners, it may be useful to frame this establishment of support systems as "preventive medicine," where we recognize that students come with different backgrounds and skill sets and understand that there will be stumbles along the way.[6,7] The goal is to normalize that struggle is inherent to the learning process and to identify problems early enough to support their correction. Ideally, normalizing the initial struggles and addressing imposter syndrome should begin during first-year orientation and continue with a system of "check-ins" that occur longitudinally to ensure students are not only meeting expectations and milestones but are continuing to receive social support, validation of success, and positive affirmations. Having periodic meetings with students is critical to eliminating the barriers to asking for help. For struggling students, periodic meetings facilitate the identification of the kind of help that is needed. Frequent meetings remind students that faculty are partners in student success and early intervention is key to that success. These longitudinal interventions can be in the form of periodic workshops, individual counseling, and/or mentored small group discussions with faculty, near-peers, or peers. A specific programmatic intervention might be the establishment of learning communities with built- in coaching programs.[8]

Flourishing in medical school

Flourishing in medical school involves meeting academic goals, which in Stage 1 involves mastering foundational science concepts and beginner-level clinical medicine skills. Faculty play a pivotal role in this stage as they create and curate content and deliver that content using teaching methods best supported for learning (e.g., active learning), while ensuring the foundational science concepts are integrated with clinical medicine. At the same time, faculty need to facilitate students learning how to ask for help in a timely manner, provide frequent feedback, and help students develop self-directed learning skills, all while considering student wellness. Institutions should provide appropriate training, resources, and support for faculty. Programmatically, to ensure students are meeting academic goals, giving frequent feedback can be combined with longitudinal, formal support programs. This may take the form of an Academic Success program or Office of Learning and Teaching that provides evaluation processes such as microanalytics as well as multifaceted learning resources (tutoring, group sessions, study materials). Students may also benefit from optional or required coaching and mentoring programs.[8]
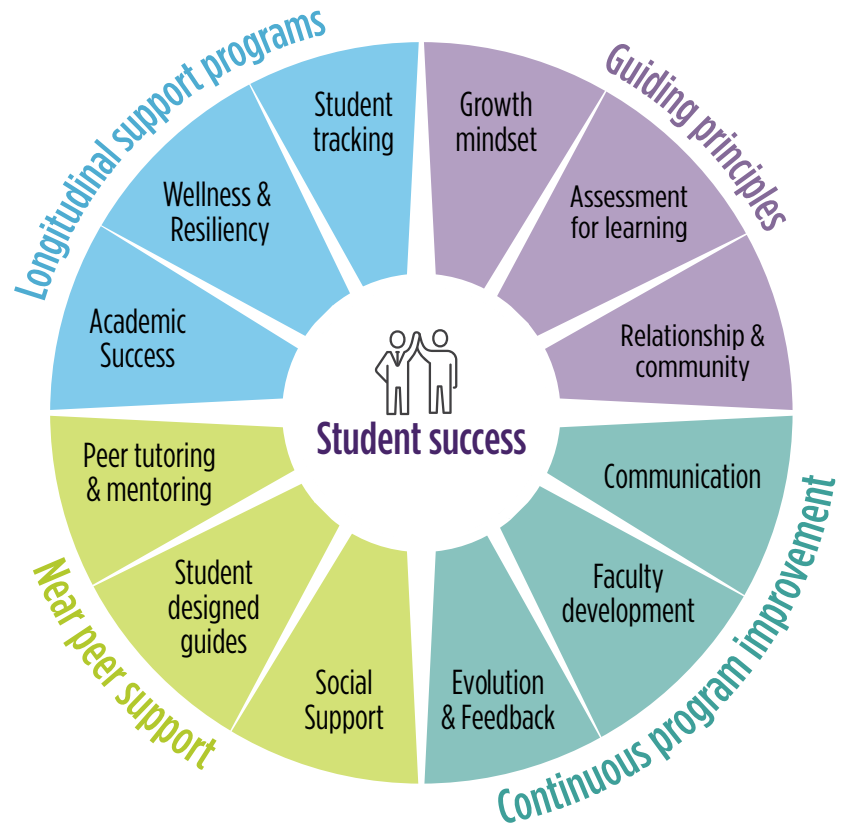
Another resource that is often underused is more senior students or near-peers. This support can be program-directed: "Big Sib" programs, peer mentoring, peer tutoring, or student-run workshops or may include student-led initiatives such as program-specific medical school starter packs or guides, wellness groups, or career/social interest groups.[1]

Physical and emotional health for Stage 1 learners is critical. All programs should have class counselors/wellness programs and faculty development to recognize and identify student wellness issues and available resources. For newly arriving Stage 1 learners, orientation programs that help students make social connections with peers and provide information about community resources and activities can be valuable.

Preparing for the next transitions

During Stage 1, students are also preparing for their next steps. These steps include beginning to understand local health care culture and observing behavioral norms. Faculty, even in the foundational sciences, should intentionally design curricula with the end-goal of clinical care in mind. The establishment of learning communities with faculty mentors and early implementation of clinical experiences such as shadowing or service learning opportunities are ways to expose students to local health care systems. Coordinated interprofessional education experiences also allow students to observe, interact, and develop relationships with students, staff, and faculty from other health science professions before they interact with teams during their clinical rotations. At the same time, students need to begin developing the professional behaviors necessary to function first in clerkships and later in residency and practice.[9,10] Although there is not a universally accepted practical model for teaching professionalism, institutions and faculty have a responsibility

to create a professional environment for learning. Faculty can provide early orientation on the nature and principles of professionalism, starting at admission, and continually foster professionalism attributes in foundational sciences and clinical courses, including teamwork skills, independent thinking, accountability, and leadership.[11] Faculty, staff, and students can all explicitly model respect, dignity, and integrity for Stage 1 learners. Institutions can support faculty through training and providing resources.

Tying it all together

A critical component to ensure student success in Stage 1 involves strategies that complement and assess the academic success, peer support, and wellness support approaches throughout this initial transition. Taking a quality improvement or enhancement approach, programs should implement formal processes of reflection, feedback, and evaluation of these strategies so that they can be improved. Integration and success for Stage 1 learners also requires constant communication of goals and expectations among faculty, staff, students, and administration. Finally, all of these strategies will require resources and program-level infrastructure and support. Ultimately, it is the faculty who interact with students on a day-to-day basis and best have the ability and responsibility to determine which set of resources will optimally support a learner's success. Therefore, programs should consider what specific faculty development resources should be offered to faculty who focus on early medical students, to facilitate a shared understanding of students in this first transition as well as the expectations of their faculty role in promoting student success.

Finally, it is critical for faculty to recognize that targeted interventions at academic, peer, and wellness levels may need to be designed for learners from groups that are traditionally underrepresented in medicine who may have additional challenges associated with being a minoritized or first-generation student.[6,7] Although the influences of sex, gender, and ethnicity on imposter syndrome are not well understood in medical students, there is good evidence outside the field of medicine that it is more prevalent in minoritized groups and women.[12] Other obstacles include lack of mentors and often limited exposure to health care professionals. Furthermore, institutions should recognize that minoritized students make this first transition into a historically discriminative environment; thus, there needs to be a deliberate fostering of an inclusive atmosphere that is culturally aware and sensitive.[13] Supporting these groups of students should begin with admissions, continue through program orientation, and include intentional and longitudinal mentoring from peers, faculty, and alumni.[14] Importantly, mentoring should come from both UiM and non-UiM faculty, staff, and community members.[13] Finally, institutions should provide ongoing targeted programming from academic and counseling support services and institutional offices of equity, diversity, and inclusion.[14] Ultimately, the degree to which the institution is committed to removing barriers for these students will impact their success during the Stage 1 transition.[15]

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STAGE 2 Transition to clerkship

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Take home points
1. A clear understanding of the learner's role on the health care team is critical.
2. Learners should establish effective time management to allow for clinical duties, studying, and self-care,
3. Opportunities to learn from everyone encountered in the clinical setting (patients, peers, residents, nurses, and attendings) should be capitalized upon.
4. Adaptation is most important when moving into the new and changing clinical environment. New team members, changing clerkships, and new responsibilities are the norm.
5. Students should refine their self-directed learning skills and take initiative for learning during the clinical experiences.

Vignette

DS has just completed their preclerkship curriculum and will begin clerkships in two weeks. DS worries that they really don't have a clear understanding of what is expected of students on the clerkships, how the grading works, and if they are ready to start taking care of patients. Though the preclerkship curriculum included a doctoring course, DS has heard that inpatient clerkships move at a much faster pace than how they have been practicing so far. It sounds like things will be changing so fast in the clerkships: moving from inpatient to outpatient, resident and attending teams turning over, patients coming and going, and the clerkships being relatively short. Further, the performance evaluations from the residents, attendings, and teams are not clear and seem subjective; DS is worried that they might be rated on how much the residents and attendings like them. In addition, it sounds like time to study for the written exams is limited, and DS wonders how they will balance long clinical days with preparing for these exams. Rumors are that the first clerkship is definitely the hardest so DS wonders if they have chosen wisely about their schedule. DS wants to do a good job and help the team, but they are not confident about how to do that.

Position description

The transition from being a preclerkship student to a clerkship student is the most frequently mentioned stressful transition for medical trainees.[1-3] There are quite a few changes that occur during this transition, including changes in the learning environment, teaching styles, and expectations.[1-3] In contrast to the preclerkship learner-centered environment, the clerkship learning environment is centered around patient care. Students must then learn to determine their own learning goals based on integration of self-assessment, clinical feedback, and other assessment data; they become more responsible for determining the best mechanisms to achieve these learning goals. Areas where students have been shown to struggle include understanding roles and responsibilities, adjusting to clinical cultures, and application of basic science knowledge and clinical skills to real patients.[4,5]

The role of a clerkship student in hospitals and clinics is to function as a master adaptive learner who takes initiative, self-assesses and identifies their own gaps, and seeks out clinical learning opportunities. They also need to behave professionally in the clinical setting and apply basic science knowledge and clinical skills to care for and interview patients, explain differential diagnoses, and devise appropriate management and treatment plans.

These roles occupied by the clerkship student require developing and honing new skills, such as:

Self-directed learning. Rather than being presented with distilled information from faculty, as in the classroom environment, students must take the initiative to acquire and expand their medical knowledge on their own. The acquisition of new medical knowledge is prompted by patients encountered in the clinical setting. Students must self-identify appropriate reading and seek guidance from faculty and residents regarding key resources to consult. The demonstration of curiosity and interest by asking questions of residents, attendings, and team members at appropriate times is important for students to advance their knowledge and skills. Students should take advantage of all opportunities to practice explaining their clinical decision-making in the care of patients. This is necessary for students to not only share what they know. It also helps identify new learning opportunities. Seeking out opportunities to learn about all facets of the health care system and the diverse interprofessional team members' roles and responsibilities further demonstrates curiosity and commitment to learning.

Stage 2: Key characteristics
Self-directed learning
Adaptable
Disciplined in practice
Self-assessing
Professional

Adaptable. Adjusting to the different expectations of supervising faculty and residents is a constant. Students (as much as faculty and residents) may change settings where they are interfacing with patients and supervisors as often as every few days, depending on how clerkship schedules are structured. Adapting learning strategies to meet clinical and academic duties successfully is as critical as proactively identifying ways to integrate and function as an essential member of the team.

Disciplined in practice. Students who are unwavering in their discipline for practicing the application of knowledge and skills in the care of patients excel in growing their expertise in clinical medicine. The majority of the clerkship years are spent expanding knowledge of pathology through directed reading, practice formulating and explaining differential diagnoses, and iterative attempts at devising appropriate management and treatment plans. Students should seek every opportunity to take the lead in patient care responsibilities such as gathering essential patient information, performing hypothesis driven histories and complete physical examinations, and reporting information to residents and attendings in a cohesive manner.

Self-assessing. Students must be able to recognize and acknowledge deficits in their knowledge and skills. This not only illustrates humility, but when partnered with action to reconcile those deficits, shows excellence and motivation for learning.

Professional. Students invariably will encounter individuals in the clinical environment who have different values, communication styles, and personalities. Learning to address inter- and intra-personal conflict, maintain boundaries with patients and team members, and engage in opportunities for reflection are critical. Abiding by all guidelines and policies for respecting sensitive and protected information are paramount. Most of all, this is a rich time when students are intensely developing a sense of identity and closeness to the profession

Differences between the preclerkship and the clerkship experience

Moving from the classroom to the clinic comes with a unique set of changes. There is no single resource to guide a student's learning, and each student becomes responsible for finding the information they need to be successful.[5] This transition means a change in environment from classroom to clinic, a shift to being a self-directed learner, and a continual process of adapting to new people, places, content, and expectations.[5]

A major difference between the preclerkship and clerkship phase of training is an increase in workload and decreased time for studying.[6] During preclinical years, students have more autonomy over their daily schedules, but as clerks, students work all day and have to find the time to learn new material.[4,6] The transition from a learner-centered environment of the preclerkship phase to the patient-centered clinical environment places a higher demand on time management. Students are responsible for their clinical experiences and are forced to become self-directed learners. Clerkship students are encouraged to use their clinical encounters as learning opportunities, and learning in the clerkships is an active and experiential process. A student's success depends in part on their capacity for reflective practice and accurate self-assessment.[5]

The application of knowledge and skills in clinical practice differs significantly from science-based testing in the first years of medical school. Students report that clinical practice requires a different type of knowledge than is acquired during preclerkship education. In the preclerkship years, students are able to start with a diagnosis and look up the associated symptoms. However, in the clinical setting, learners are confronted with symptoms and need to find the diagnosis.[6] In the clinical years, students study more intensively, partly out of curiosity and intrinsic motivation[6] as well as the authentic need to understand how to best care for patients.

Having to adjust to frequent changes in team members, clerkship sites, and content[5] as students progress through rotations is something they don't experience during preclerkship years. The transition from a learner-centered to a patient-centered environment can be especially challenging for students. They struggle with the increase in workload, demands on time, responsibility, and a new learning style. Students also find it challenging to make the connection between what they learned in the preclerkship years to the patients they see in the hospital. During the preclerkship phase, professors spend a significant portion of their time teaching students, but in the clerkship phase attendings have limited time to teach all the learners on their team. Being self-directed and adapting to a new learning style eases the transition and is critical if students are going to be successful. Clerkships are fast-paced in comparison to the preclinical curriculum. Students have just enough time to feel comfortable before they are on to the next rotation.

Key stakeholder groups

Essential stakeholders during the Stage 2 transition include:

Peers

> **Role of stakeholder**: Clinical training happens within a team-based environment. During the clinical years, students often turn to their peers for assistance if they are struggling. At this level, peer-peer mentoring becomes important, and a student's success can be influenced by building a peer community and engaging in teamwork. Students play an important part in supporting one another and serving as resources for clinical knowledge as well as understanding new, unfamiliar systems. At the same time, peers can also be a source of stress if someone isn't a team player. When team members do not have optimal work ethics and the collaboration skills needed to work well with others, the overall ability of the team to function can be limited. As a result, conflicts may be more likely to arise and more difficult to resolve.

> **Impact on academic life and wellness**: At this level, building a support system of fellow learners aids in academic success and creates a more resilient community of trainees.

Impact on success as a learner: By engaging in peer support, learners are able to have questions and concerns addressed without worrying about impact on a grade or influencing a team's opinion of them.

What can this stakeholder do to help learners meet their academic and personal goals and needs? Formation of peer groups with frequent reflection on patient care, professional development, well-being, and difficulties on clerkships is an invaluable step. Development of "quick tips" guides for site specific clerkship advice is encouraged. These can easily be shared with future students and referenced as necessary.

Patients

Role of stakeholder: In the clerkship years, students are directly responsible for patient care. The learning experience transitions from that which is learner-centered to patient-centered. Patients can directly gain additional benefit based on the quality of care provided by the students, and some are highly invested in student success.

Impact on academic life and wellness: Patient feedback on the quality of student interactions (compassion, empathy, clarity of communication, and caring) weigh heavily into the identity development of students and can influence how members of the team perceive the level of student performance.

Impact on success as a learner: Patients provide students the opportunity to simultaneously apply previous knowledge in a helpful way and to continually learn more about clinical medicine and the patient experience. Patient interactions may even inform future specialty choice in early clinical learners.

What can this stakeholder do to help learners meet their academic and personal goals and needs? It is important to hear and appreciate all feedback provided by patients during clinical encounters, whether regarding the learner themselves or about their experience with other health care team members. Students have the unique privilege of spending more time with patients and should use that time to elicit the patient's perspective.

Family/friends

Role of stakeholder: Family and friends can provide emotional, spiritual, or financial support for students.

Impact on academic life and wellness: A rich support system, including family and friends, can provide learners with necessary time away from rotations and allow recovery from what can be an emotionally draining experience.

Impact on success as a learner: The support of family can encourage students to remain focused by reminding them of their motivation for entering medicine and by providing emotional support.

What can this stakeholder do to help learners meet their academic and personal goals and needs? Friends and family of a student can engage in conversations about new responsibilities and team dynamics, understand and respect the changes in demands on student time, reach out to check on mental health and wellness, and be willing to help students process their experiences.

Residents

Role of stakeholder: Residents function as coaches and teachers. They play an important role in teaching values and professionalism while serving to transfer important knowledge and skills. Residents often interface with students far more often and extensively than faculty and as such see the day-to-day growth of students' knowledge, skills, and attitudes. They can also benefit from student growth, as students learn to contribute to the team and decrease the workload of team members.

Impact on academic life and wellness: Residents play an important role in teaching values and professionalism while also serving to transfer important knowledge and skills.

Impact on success as a learner: Residents often interface with students far more often and extensively than faculty and as such see the day-to-day growth of students' knowledge, skills, and attitudes. They are an invaluable and

overlooked resource during this transition and can provide students with incredibly useful, timely, and practical feedback regarding their performance.

What can this stakeholder do to help learners meet their academic and personal goals and needs? Residents are uniquely positioned to provide timely and specific feedback on how to successfully navigate the transition to clerkship.

Attending physicians and health care team members

Role of stakeholder: Team members provide guidance on clinical decision-making, professional identity formation, and the tone of the learning environment

Impact on academic life and wellness: Positive interactions with attending staff can help students develop a deeper connection to the profession, influence a learner's decision to go into a specialty, and serve as a framework for professional identity formation.

Impact on success as a learner: Attendings and other members of the health care team are the primary source for a learner's new clinical knowledge.

What can this stakeholder do to help learners meet their academic and personal goals and needs? Attendings can consciously integrate students into the patient care team by encouraging substantive discussions, request students talk on topics pertinent to their patient, provide feedback, acknowledge the importance of the role students have, and serve as a positive role model for workplace conduct.

Success criteria

The recipe for success as the student moves into the clerkship year is organization and discipline. All medical students have the brainpower to succeed in the didactic material and will be surprised, after studying for Step 1, how easy it often is to learn more material. However, being a student clerk is a job and would best be thought of as working during the day and studying at night. There are a lot of practical things to learn in patient care, but the "book learning" is also vital to keep up with for the exams. Thus, organization is key.

In the clinical learning environment students are now seen by many as a professional, a part of the team. The more a student assumes and acts in that role, the better the learning, evaluation, and outcome of that rotation will be. There are high expectations of the student from all involved in the care process, from patients to attendings. As a new clerkship student, students find themselves stepping into a strange world, and the more quickly they can adapt to the routines and practices of the new team, the better.

Working with a team is not just a group project—it is the job. Medicine has a long history of supporting and relying on near-peer education. Those who have recently gone through the process of training are best at helping students along through the first steps. Senior students will show more junior learners the ropes, and interns still remember how little they knew when they were in a new clerk's shoes. Faculty and senior residents have been in it so long that they may have forgotten. Clerkships are like a language immersion camp. Students have to learn to speak the language, and making mistakes is part of the process.

The primary currency of success on clinical rotations is in the presentation of patients to the preceptor or to the team. Students must know their patients; know the medical, psychosocial, and system issues with their patients; and must be able to present succinctly. This demonstrates integration of knowledge and recognition of what is important. It requires practice and can be difficult, but this is how students are evaluated. It is essential for students to know everything they can about their patients.

In doing all of this—performing, learning, reading, presenting, and most importantly, adjusting to working on others' time schedules—wellness can suffer. It is important to recognize that students in their clerkship years will not be able to control most aspects of their schedules. Medical students should be encouraged and supported to take control where possible and to celebrate the small spaces where control remains with them.

Most issues in medical teams involve lack of communication. Medical students need to focus on being clear and precise with all members of their team. It will take time but understanding the unique etiquette of each service will allow students to adapt. Finding the delicate balance between being assertive and badgering is no overnight task, and the search for this balance changes with every day and every team. Students who are adept at "reading the room" (e.g., the middle of a code is not the time to be asking the senior resident or attending questions) make the most out of their time to observe others' behavior and style of interacting with patients and team members. Good communicators succeed in medicine. Like everything else, these are the skills that are learned, practiced, and evaluated.

The walk/drive/bike ride to the hospital each day is a great time for a student to think and plan for the day ahead—taking time to think through how to present cases, follow patients, and get through the day. The trip home is equally valuable and represents a great time to reflect on the day's events and review presentations, feedback, communications, and discussions to hone in on what was learned and what can be improved.

Identifying mentors and coaches in the clinical setting can be difficult, and the roles are often confusing. Peers and near-peers are good resources. Whereas mentors help students with a career path, coaches on clerkships are preferred—they are goal oriented and role specific. In some programs, the student will be assigned a coach. In others, the student will seek out someone to work with. Most of all, a trusted form of formative (judgement free) feedback is needed and vital. It is important to identify someone in this role, if not already arranged by the program, separate from a formal preceptor/evaluator role.

Commonly encountered issues

Clerkships are intense educational activities—the most intense activity most students have encountered. They require focus and complete engagement in order to facilitate success. There are, unfortunately, many occasions for failure. Clerkships are on-the-job, high-stakes learning, which almost guarantees some failure. Students routinely encounter questions to which they do not know the answer, won't know the right questions to ask of their patients, and stand in the wrong place. Resiliency and a thick skin are necessary, along with the ability to empathize with the patients as well as the residents and faculty who have a professional commitment that is extremely taxing and goes well beyond simply teaching students. Residents and faculty have stressors, and they have bad days. Sometimes this affects the learning environment.

Students constantly receive feedback in the day-to-day work of the clerkships, but little of it is overt, which can make it difficult for students to not only see and hear but also to interpret. Sometimes silence from an attending means the student did well, but this is not always the case. Asking for feedback is often necessary. This may help with the learning process and demystify how students are being evaluated. Expectations on rotations are often not clearly identified, and there can be differences in those expectations between different residents and students. Students rotate so often that by the time they figure out one service or specialty they may be off to the next, with a whole different set of expectations.

Sometimes figuring out the difference between negative feedback and mistreatment is difficult for a student. A clerkship is a chance to be wrong and be corrected many times each and every day, and it is important to know the difference between embarrassment about not knowing answers and being publicly humiliated or harassed in the learning environment. As stated before, communication and knowing the team and resources for personal support are vital.

The linear and orderly process many students have mastered in the preclerkship years of reading, studying, and test taking is no longer possible. Multitasking every day is critical. Learning the practice of medicine, while studying for shelf exams, attending rounds and didactics, and maintaining wellness all need to be balanced. Students will also be simultaneously trying to figure out what specialty to pursue and working on residency plans and letters. Often one or the other of these priorities suffers. Medical students should try to recognize when that happens and adjust to what is the most important at that time.

For students, finding their role on a rotation can be difficult. Worries about skills and readiness for even the most basic responsibilities are common. Learners must be ready to assume the role of caring about the patient while also thinking about their own role. Most daily ward activities are centered around taking care of the patient (and rightly so), while teaching nuggets are offered almost as afterthoughts by team members during a discussion.

How will students succeed in clerkships? They should start each day fresh. There will be excellent days, but also days where they feel their time and efforts have been wasted. First impressions with a new team are very important and being prepared is always noticed. Medical students who are active rather than passive learners and participants in any and all aspects of patient care will get attention and good evaluations. They will also prime themselves for further learning and involvement. Having a patient compliment the medical student in the presence of the attending is pure gold, and it is more likely to occur the more invested students are in the care of patients.

Summary of challenges for a medical student transitioning to clerkships
• Receiving timely, actionable feedback
• Asking the right clinical question to help guide reading and clinical decision-making
• Managing multiple tasks (e.g., patient care, studying for exams, standard observations, didactics); the day is no longer structured like it was in the preclerkship stage
• Isolation from peers (now surrounded by residents/faculty/health care workers)
• Understanding how performance is assessed
• Lack of clearly outlined expectations
• Adapting to ever changing clinical environments (physical locations, makeup of team, different specialties of medicine)
• Mistreatment
• Time commitment of patient care (long days)
• Shift from student-centered to patient-centered
• Balancing extra-curricular and curricular life
• Role in team and worries about responsibilities and limited experience
• What success looks like
• How to show interest
• Knowing and having time to access resources—near-peers versus residents versus administrators versus faculty (role of each in personal development)
• Limited understanding of requirements prior to starting clerkship
• Shifting to a learn-on-the-job learning mentality
• Adapting to being told what to do but not told how to accomplish requirements

Desired outcomes

At the end of a clerkship students will have hopefully mastered enough of the material to pick up the essential knowledge of the specialty, pass the final exams (at minimum), and decide whether or not the clerkship specialty is of professional interest. Most importantly, students will have learned from the clerkship the knowledge and skills needed to practice medicine. Each specialty is in the clerkship year for a reason, and the ability to appreciate the role of that specialty in preparing learners for future independent practice is important. Eventually, students will find themselves doing the same mental and physical tasks on each rotation, even though the patients are a bit different. Each case will require clinical data gathering, clinical reasoning, and decision-making. Once mastered, students picking up that pattern will have learned the job of a student physician, are well on their way to learning the job of a practicing physician, and are ready to differentiate into a senior student and resident with goal oriented learning.

Key outcomes of this phase:
- Develop professional identity
- Develop strategies to preserve well-being
- Gain the skill set necessary to become a competent physician
    - Advanced clinical reasoning skills
    - Advanced interpersonal communication skills
    - Patient-centered care
    - Advocacy
    - Shared-decision making

Vignette resolution

In preparation for clerkships in two weeks, DS attends the clerkship orientation hosted by their medical school to get a better understanding of what is expected on clerkships, how grading works, and how to integrate onto the team. DS also attends the peer-to-peer handoff session where students who were just finishing the clerkship share information and advice on managing the transition. They receive a student guide which contains tips on balancing long clinical days and their study schedule. This guide is specific to the hospital where they will complete their clerkships, and they can reference it as they go through each rotation. DS knows that this transition will take time but feels confident that they can get the job done.

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STAGE 2 Faculty guide: Transition to clerkship

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Take home points
Facilitating student success in the transition to clerkships requires:
1. Explicit communication and understanding of student roles and responsibilities and how to incorporate them into the health care team
2. Use of near-peers in helping students migrate from didactic learning to learning from patient encounters
3. Direct observation and specific feedback by supervisors
4. Coaching on clinical reasoning, differential diagnosis development, and prioritization

The transition to clerkship, as students move from structured classroom learning to experiential learning, is often described by students as "stressful" and "difficult."[1] In order to ease the stress of the transition, schools usually focus on incorporating patient-focused experiences, such as problem-based learning, longitudinal integrated clerkships, and clinic patient encounters into the preclerkship curriculum.[1] These experiences provide opportunities for students to develop the fundamental clinical skills necessary for patient care. As students transition to the clerkships, the role of clinical faculty is to help students navigate the clinical learning environment, refine their clinical skills, and develop clinical reasoning.

Navigating the clinical learning environment
Student success in transitioning to the clinical learning environment requires understanding and skill in relationship factors (e.g., roles of team members and interpersonal communication) and clinical practice factors (e.g., daily schedule, workload, pace of clinical work).[2] When learners receive guidance on the relationships and clinical practice factors and feel that they are a productive team member, they perceive the transition to the clinical environment to be smoother.[3]

Faculty can provide this transitional guidance by:
- Clarifying student responsibilities
- Describing other team member roles
- Reviewing clerkship logistics and defining success on the clerkship
- Incorporating near-peers to orient to the clinical environment

Depending on the structure of the clerkship, the amount of time a faculty member spends with a student varies significantly. Therefore, encouraging peer and near-peer learner groups with fellow students or residents can be time saving. These groups have been shown to provide students with significant resources, including clerkship specific information about logistics, guidance for communication with patients and teams, and implicit rules of the clerkship, which can alleviate some of the stress of transition across clerkships.[4]

While prior literature has supported the creation of peer learning groups at the beginning of the transition to clerkships,[4] faculty can promote informal peer and near-peer learning groups on their clinical team. Faculty can also delegate some responsibility for helping students transition to the clinical learning environment by:

- Promoting informal groups among students and residents on individual clinical teams
- Asking fourth-year students on the team to discuss study strategies and the typical daily schedule with the third-year student
- Having interns and residents explain the call schedule and introduce third-year students to some of the non-physician team members

Refining clinical skills

As faculty assist students in developing their patient interviewing, documentation, oral presentation, and technical skills, consider using the ADAPT (Ask-Discuss-Ask-Plan Together) feedback framework to:[5]

- **Set expectations**: Provide students with clear expectations about their role on the clinical rotation and specific skills they are expected to demonstrate.

- **Build relationships**: Build relationships with students by learning about their interests inside and outside of medicine. Explore student goals and their alignment with clinical expectations.

- **Observe**: Directly observe students during authentic patient encounters.

- **Provide feedback**: Provide timely, actionable, behavior-related feedback based on direct observation and monitor for improvement in future patient interactions.

"Prepare to ADAPT" Feedback Framework[5]		
Student		**Faculty**
• Reflect on personal goals • Communicate goals to faculty		• Discuss expectations with student • Reflect on student goals
Direct Observation		
• Reflect on observation • Ask for feedback	**Ask**	• Assess student readiness • Ask for their thoughts about observation
• Discuss the observation with faculty	**Discuss**	• Coach observed, modifiable, specific behaviors related to the observation
• Ask for clarification	**Ask**	• Ask the student for understanding
• Plan next steps with faculty	**Plan Together**	• Plan next steps with student

Developed at the University of Washington, UW Medicine, by Susan Johnston, EdD; Judith Pauwels, MD; Kristen Patton, MD; Tyra Fainstad, MD; Addie Hearst McClintock, MD

Given the pace of the clinical environment, these steps can seem daunting. Consideration should be given to observing even small portions of a student's history or physical exam during a time when the team is already planning to interview the patient. Immediate feedback following an observation can be as simple as, "What went well in that patient encounter?", "What could be done differently next time?", or "When the question was phrased slightly differently, what differences were noticed about the patient's answer?" More formal feedback can be planned for a later time.

Promoting clinical reasoning development

While faculty are experienced in clinical decision-making, they often have not received formal education in the cognitive science of clinical reasoning or in its evolving instructional methods. They therefore might not feel adept to teach this skill to learners. However, clinical faculty are well poised to teach clinical reasoning with a framework already used to present patient cases.[6]

Presenting Problem

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Data Acquisition

↓

Summary Statement
(i.e., problem representation)

↓

Generation of Hypothesis

↓

Differential Diagnosis
(i.e., selection of illness script)

↓

Diagnosis

Image adapted from Bowen JL. Educational Strategies to Promote Clinical Diagnostic Reasoning. *N Engl J Med*. 2006;355(21):2217-2225. doi: 10.1056/NEJMra054782
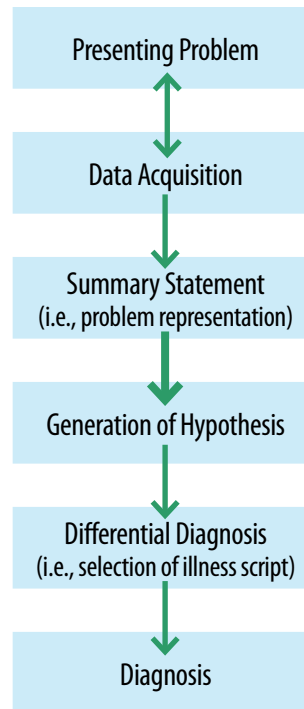
Faculty can help students to organize and prioritize key history, exam, and diagnostic findings into a summary statement. As students generate a differential diagnosis, faculty should encourage compare-and-contrast strategies of diagnostic possibilities to aid in the prioritization of the differential diagnosis. Pushing students to make associations between key clinical findings and diagnoses allows them to start to hone their illness scripts. Finally, faculty can probe students to explain their rationale in diagnosis and management and direct them to read literature to support their clinical decision-making.[7]

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STAGE 3 Transition to residency

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Take home points
Residents need to:
1. Demonstrate increasing accountability and ownership for patients.
2. Ensure professionalism in patient encounters and complete residency administrative tasks (e.g., logging in work hours).
3. Increase efficiency in day-to-day work by mastering the electronic health record, learning from near-peers, developing a routine, and becoming comfortable with common orders.
4. Use self-directed learning to fully embrace new responsibilities at work and home.
5. Adopt a growth mindset when encountering various work and life scenarios.

Vignette

As an intern, Alex frequently finds themselves in new environments and roles that require expanding skills and perspectives. Collectively these experiences challenge a sense of well-being.

- Early in the year, they deliver a new cancer diagnosis to a patient. Later they overhear a nurse speaking about how they had delivered the diagnosis poorly. This causes Alex to feel frustrated because their attending could not be present.
- A month later, Alex is working in the emergency department and eager to complete as many procedures as possible. A patient requires a shoulder reduction, and Alex asks the orthopedic resident to teach them. The resident agreed and promised to touch base before the procedure. However, Alex later learns the shoulder has been set without them being present.
- In an outpatient clinic, a patient asks Alex for their advice on cupping therapy for treatment of carpal tunnel syndrome. Alex's initial thoughts are focused on the absurdity of the treatment.
- One day while conducting an admission physical exam, a patient calls the nurse an insulting derogatory term in front of Alex.
- Alex's car requires expensive repairs. The repairs would prevent them from making their minimum monthly loan payment due to expenses and expensive rent.
- Alex has not had the energy to sustain a regular exercise routine. By the middle of the year, they have to increase the size of their scrubs because of weight gain.
- One evening, an hour after their shift has ended, Alex has to call their significant other and inform them that they won't be able to attend a previously planned concert outing because of a late admission.
- Late in the year, Alex is called to a code for a pediatric patient with whom they have grown close. The family is adamant that everyone, "Do everything to save her, regardless of the cost." Unfortunately, despite heroic measures during the code, the patient succumbs to her disease.

Position description

The first day of residency hallmarks the realization of becoming a "doctor." Whether rotating on an inpatient service, an outpatient clinic, in the emergency department, or in the operating suite, new residents work toward becoming the primary team member whose responsibility it is to carry out treatment plans, place orders, complete documentation, ensure safe transitions of care, and communicate with patients, colleagues, and interdisciplinary team members. Through clinical work, residents build clinical acumen by formulating assessments and plans alongside senior residents and attendings.

While simultaneously focusing on completing the tasks associated with clinical work, residents are responsible for their self-directed learning—not every disease, laboratory test, drug, or system nuance was learned in medical school. This requires adopting habits of the master adaptive learner, including lifelong learning, taking charge of educating themselves about topics directly related to patient care, engaging with the residency program curriculum, and preparing for in-service training exams, USMLE Step 3 or COMLEX Level 3 and specialty-focused learning. Given the time commitment of clinical work, successful residents must prioritize and plan appropriately.

Stage 3: Key characteristics
Ownership for patient care
Efficiency
Self-directed and lifelong learning
Growth mindset
Balancing personal and professional lives

These important responsibilities are accompanied by a much higher patient volume, new accountability for tasks, and full ownership of patient care. The difference in the number of patients new residents care for at the outset of residency training compared to medical school can be stark, and rapid adaptation is imperative. The majority of residency programs will provide guidance and support to help new residents develop these skills but require that first year residents drive this development. Many of the experiences of residency are new and more complex and take place in systems that are unfamiliar. Learners who have relocated to new cities and health systems for their graduate medical education phase of training will encounter a particularly steep learning curve adapting to new people, policies, procedures, and organizational culture. Although this can be intimidating, new residents often underestimate how well medical school has prepared them. With the right support network and resources, residents can embrace new responsibilities and learn to thrive in the clinical environment.

Differences between medical school and early residency experiences

Moving from the student to the resident role highlights key differences between medical school and the first year of residency. For example:

> **Ownership for patient care.** The primary difference between the trainee in medical school and a first-year resident is the ownership for patient care. Although senior medical students often participate in sub-internships/acting internships to help prepare for the transition to residency, orders written by medical students can never be implemented without being co-signed by a supervising resident or faculty member. As such, true ownership of patients comes with the beginning of residency. Residents are responsible for carrying out the treatment plans for all patients on their service, communicating this plan to patients/caregivers/treatment team, and navigating logistical challenges to deliver care.[1] Simultaneously, residents must recognize limitations and understand when and how to ask for additional assistance from the treatment team.

> **Efficiency.** The first year of residency is characterized by a significant increase in the volume of patients for which learners are responsible. In the final year of medical school, a student may be expected to care for 4 or 5 patients during a sub-internship, but a first year resident can be responsible for the care of as many as 10 to 12 patients

at a time. This requires significant organization, task prioritization, and time management.[1] To excel and gain the necessary efficiency in day-to-day work, residents must embrace habits around mastering the electronic health record (EHR) (Table 1).

Table 1: EHR Mastery Checklist	
Logistics	• Learn to optimize the EHR • Save EHR/IT services call numbers into phone • Use smartphone password manager to access and store passwords • Develop pre-round workflow • Learn to access order sets • Learn to customize documentation phrases and templates • Obtain common phrases and templates from colleagues • Learn hospital protocols (admission, discharge, transfer, paging, accessing outside hospital records, procedure documentation, and orders) • Clarify specialty-specific EHR billing documentation expectations
Communication	• Understand EHR communication expectations of team members • Understand follow-up timeframe expectations and set reminders to meet them

Self-directed and lifelong learning. Much like in the latter stage of medical school, residents are expected to address their limitations and direct their own learning before, during, and after patient encounters via self-reflection and identification of knowledge gaps. Strategies to help develop lifelong learning skills are summarized in table 2. In addition to clinical knowledge, new residents must learn specialty-specific technical/procedural skills and communication techniques as well as begin to evolve their teaching skills.[2] Residents are expected to learn in conjunction with carrying out the work of caring for their patients within the context of the patient population and system in which they are immersed. Prioritizing participation and attendance at program sponsored didactics and simulations will greatly supplement the learning experience. Astute residents utilize program-provided and outside resources to address learning needs.[3,4]

Table 2: Strategies for developing self-directed and lifelong learning skills

Clinical/Procedural Knowledge and Skills
• Identify effective learning modalities
• Actively engage in learning strategy discussions with peers and instructors
• Maintain a "readiness to learn" attitude
• Proactively ask for direct feedback and respond positively
• Gain proficiency in plans for common conditions
• Complete EHR learning modules to maintain access
• Complete as many procedures and simulations as possible
• Ask consulting services to teach a procedure
• Find online simulations to practice techniques
• Be assertive in seeking out opportunities to perform procedures
• Engage in program-sponsored didactics/seminars and discussions

Exams/Licensing
- Devise a USMLE Step 3/COMLEX Level 3/in-service exam study plan
- Carry out tasks to complete state/DEA licensing procedures
- Coordinate with graduate medical education office/residency program if licensing is delayed
- Set calendar reminders for important deadlines

Teaching Medical Students
- Review expectations for medical students with their evaluator
- Communicate expectations with medical students on the first day
- Provide tips on developing a plan and presentation and offer resources
- Give real-time feedback on the students' presentations/procedures/notes

Growth mindset. Moving beyond the fixed mindset ("I am bad at this," "Feedback is personal," or "I will never succeed") to the growth mindset ("Challenges foster growth," "Feedback is essential," or "Effort and attitude contribute to ability") is an important skill set that fosters openness and flexibility, allowing new residents to approach challenges in a manner that builds knowledge and earns respect.[5,6] A growth mindset has a direct impact on patient care, personal well-being, and career longevity.[6,7]

Personal responsibilities. The inaugural year of residency is associated with increased personal responsibilities. Often residents are living in new cities and training at unfamiliar institutions. This requires navigating new friendships, acquiring a support system, and potentially supporting loved ones who accompany them. Financial responsibility is also paramount as many will graduate with significant student loan debt, and residency may be the first time they have an income that requires management.

Key stakeholder groups
Individuals and groups of people invested in and impacted by new residents' development include:

Patients/caregivers

Role of stakeholder: Patient care is at the heart of the first year of residency and the primary responsibility of the intern; patients and caregivers play a significant role in the education of the intern.

Impact on academic life and wellness: The sheer number of opportunities for learning from patient encounters has both benefits and drawbacks for the intern. Academic learning is accelerated by hands-on practice with a vast array of patients, but the breadth of patients and caregivers may feel overwhelming and difficult to process at times.

Impact on success as a learner: Patients and caregivers are by nature invested in the success of the intern, as they directly benefit from the intern's attention and abilities. Each encounter with these stakeholders broadens the intern's clinical acumen as well as communication skill set.

What can this stakeholder do to help learners meet their academic and personal goals and needs? New residents can approach each patient encounter as an opportunity for learning with humility and patience. When able, the intern can request the stakeholder to provide immediate feedback and be an active participant in the treatment decisions.

Peers

Role of stakeholder: Peer learners include co-interns, medical students, residents, and fellows on the treatment team. All are integral and contribute to the clinical learning environment and near-peer learning opportunities. They often become cherished friends of the intern.

Impact on academic life and wellness: By participating in the stages of medical training, peer learners are well positioned to provide emotional support and share resources for learning that enhance academic life and wellness of interns.

Impact on success as a learner: When part of a well-functioning team that embraces learning, peer learners can foster accountability, create a safe learning environment, and have a direct impact on the success of an intern during a rotation.

What can this stakeholder do to help learners meet their academic and personal goals and needs? The intern can make an effort to get to know the stakeholders on a personal level and offer support when needed. For example, the intern can check in regularly during their shift on ways to help (e.g., offer to place orders, help with procedures, etc.)

Attendings

Role of stakeholder: Attending physicians supervise the medical team to provide guidance on decision-making and simultaneously evaluate the resident. They are in charge of the treatment team with the goal to deliver excellent patient care and education for the medical trainee. They provide evaluations of performance and direct, as well as indirect, feedback on clinical performance.

Impact on academic life and wellness: Attending physicians set the tone for how the team approaches learning and personal wellness. They can motivate, challenge, inspire, and educate all team members.

Impact on success as a learner: By setting expectations for performance, the attending defines success for the intern on any given rotation.

What can this stakeholder do to help learners meet their academic and personal goals and needs? Interns should elicit clear expectations from attending physicians on performance expectations. Interns can also provide information to attendings about the areas they are working to improve and ask for focused feedback over the time working together.

Treatment team

Role of stakeholder: Members of the treatment team deliver patient care. This includes, but is not limited to, physician assistants, nurse practitioners, nurses, medical assistants, physical theraptists, occupational therapists, pharmacists, respiratory therapists, nutritionists, social workers, clinic managers, etc.

Impact on academic life and wellness: These stakeholders are integral to effective patient care and to the team's daily functioning. When each stakeholder feels valued and respected, the team collaborates well.

Impact on success as a learner: By working alongside these stakeholders, the intern learns how to manage multiple contributors to patient care in a manner that is motivating and inspiring. Working with an interprofessional team also helps an intern understand the comprehensive management of a patient and better predict a patient's needs during a hospitalization or in the outpatient setting.

What can this stakeholder do to help learners meet their academic and personal goals and needs? It is the resident's responsibility to coordinate care with, and learn from, these valuable team members. The residents can aid this process by inquiring about and clarifying these stakeholders' roles, asking questions, and communicating effectively about the patient's condition and plan for the day.

Residency program

Role of stakeholder: Residency program leadership is tasked with ensuring residents complete training with the skills needed to practice their medical specialty independently. Many of these stakeholders may be members of the Clinical Competency Committee that reviews each resident's performance and offers remediation plans for struggling residents. The program director, assistant program directors, and core faculty are all physicians invested in the resident's clinical and personal success.

Impact on academic life and wellness: By creating curriculum, structuring mentoring, providing faculty development, recruiting residents, and ensuring the clinical learning environment aligns with goals of learning, the residency program lays the blueprint for academic life and wellness during training.

Impact on success as a learner: The residency program is directly invested in the success of learners—ensuring that they graduate the program as competent physicians and that they achieve their personal career and wellness goals.

What can this stakeholder do to help learners meet their academic and personal goals and needs? Interns can be proactive in administrative duties—such as logging work hours and completing evaluations and credentialing. Interns will likely meet regularly with some of these stakeholders and should be proactive about preparing for such meetings by reflecting on their performance to date and areas for growth and development. Interns can also contribute to the clinical learning environment by remaining engaged, encouraging peers, and modeling a growth mindset.

Personal support system

Role of stakeholder: Family, friends, spouse/partner, and mentors are invested in the new resident's success; these stakeholders are both a safety net and a support system for the intern.

Impact on academic life and wellness: By surrounding themselves with an encouraging personal support system, the intern is better able to manage the stress and difficulties that come with the transition to residency.

Impact on success as a learner: With healthy stress management, the intern can be fully engaged with each patient encounter throughout the day and avoid burnout.

What can this stakeholder do to help learners meet their academic and personal goals and needs? It is important that the intern is mindful of their relationships outside of the workplace and takes opportunities to nurture their personal support system as this will be utilized throughout residency.

Success criteria

A successful intern embraces the primary physician role through translating medical knowledge into clinical reasoning, adeptly navigating hospital and clinic systems, fostering trust with team members, and maintaining personal wellness. This is a gradual process that will develop over time according to the resident's individualized and specialty-specific needs. Although new resident "success criteria" lack universal guidelines, the Accreditation Council for Graduate Medical Education (ACGME) has developed milestones based on six core competencies for all residencies to guide self-directed learning and reflection: patient care, medical knowledge, professionalism, interpersonal/communication skills, practice-based learning/improvement, and systems-based practice (Table 3).[1]

Table 3: Example of successful resident at start of residency versus end of the first year*		
Core competencies	Behaviors that a resident may exhibit at the start of residency	Behaviors that a **successful** resident may exhibit at the end of the first year
Patient care	• Defaults to superiors • Disorganized/incomplete completion of tasks, pages, procedures, orders, documentation • May not follow-up consistently on results, outcomes, interventions	• Primary provider • Organized completion of all work obligations promptly • Consistently follows-up on all parts of treatment plan

Medical knowledge	• Disorganized illness scripts/treatment algorithms • Incorrect orders/interpretation of labs, imaging, etc. • Unable to target treatment plan to patient's needs • May not identify anticipated complications	• Tailored history, physician exam, and review of systems • Correctly orders/interprets labs, imaging, etc. • Treatment plan is adjusted to patient's needs • Proactively addresses anticipated complications
Professionalism	• Overwhelmed by uncertainty • Places own needs first • May not know limitations or reliably seek assistance • May not follow up with administrative tasks and clinical duties • Late to complete documentation • Incomplete hand-offs to cross-covering physicians and other health care professionals	• Manages uncertainty • Places the patient first • Recognizes limits, seeks assistance • Promptly follows up administrative tasks, clinical duties • Timely completion of documentation • Thorough hand-offs to cross-covering physicians and other health care professionals
Interpersonal and communication skills	• Assumes other team members will ensure tasks are completed • May exhibit poor/disrespectful communication with patients, caregivers, team members • May not engage in closed-loop communication	• Clarifies expectations and distribution of workload early • Clear and respectful communication with everyone • Engages in closed-loop communication
Practice-based learning[3]	• Avoids difficult experiences when overwhelmed with workload • Poor understanding of how program evaluates residents • May not recognize/ignores verbal and non-verbal feedback • Ineffective study methods • Unaware of program and outside study resources	• Seeks experiences to broaden clinical knowledge • Understands resident competency framework (e.g., evaluations) • Seeks and responds immediately to verbal and non-verbal feedback • Prepares for in-service exams, USMLE Step 3 or COMLEX Level 3 • Utilize program and outside resources (online references, library access, question banks, podcasts, etc.)
Systems-based learning[8]	• Poor appropriate task prioritization • Poor EHR navigation • Ineffective utilization of team members • May not recognize that competence is dependent upon context • Develops work-arounds	• Prioritizes daily tasks • Masters the EHR • Effectively uses interdisciplinary team • Competent in various contexts • Understands personal role in system change for quality improvement and patient safety

* This is not based on the ACGME milestone guidebook language and is meant to serve as an example of what a resident's development may look like. Each individual has a unique progression of advancement in skills. Reviewing specialty-specific milestones will provide areas of focus for resident success.

Commonly encountered issues

The transition from medical school to intern year is a dynamic process, characterized by inculcation and professional maturation.[6,7] Given residency's transitory nature there are common difficulties that all new residents share regardless of specialty: task mastery, role clarification, acculturation, and social integration (Table 4).[6]

Table 4: Commonly encountered issues and proposed solutions	
Issue	Proposed solution
Difficulty managing Uncertainty/ambiguity • Poor understanding of accountability/ expectations	Role clarification • Clarify expectations early and often • Respond to verbal/non-verbal feedback immediately
Disorganization at work • Difficulty prioritizing tasks and managing workload	Task mastery: Prioritize and organize • Master EHR shortcuts early • Learn to recognize the sick/critically ill patients who require immediate attention and action • Prioritize tasks: see patient first, then place orders, documentation is lowest priority; anticipate discharges, prepare for transitions of care in advance • Create a system to track task completion • Hone efficient pre-rounding routine/methods • Tailor presentations to only pertinent data
Initiating and maintaining self-directed learning • Poor understanding of resources • Misunderstand expected competence level • Difficulty adhering to strict study schedule	Mastering self-directed learning • Identify and establish access to resources immediately • Clarify academic expectations • Devise a flexible study method according to deadlines • Identify when struggling, seek assistance
Disorganization outside work • Poor understanding of transition • Unable to manage finances • Unaware of licensing deadlines • Erratic call schedule	Task mastery: Prioritize and organize • Know the exact debt amount, devise a repayment plan, stick to it • Develop a budget, do not deviate • Place important deadlines into calendar • Use scanner app on smartphone to store important documents for ready access (diploma, license, badge, etc.) • Talk with scheduler regarding scheduling options early
Burnout • Emotional stress from working with illness, death, global pandemic • Overwhelmed with responsibilities: residency, finances, family, etc. • Lack of social integration, understanding of community resources	Maintaining wellness • Embrace a growth mindset • Productively contribute critiques • Identify/maintain healthy boundaries • Investigate available GME or hospital affiliated wellness resources (counseling, groups, etc.) • Pursue activities outside of work to maintain a 360 view of life

Wellness

Personal wellness is an essential part of success for learners transitioning from medical school to residency. This section illustrates wellness as "a day in the life" of a new resident using the **SOLVE** technique in the following domains: emotional, occupational, intellectual, environmental, financial, physical, social, and spiritual.[9]

Stop–Acknowledge personal feelings without judgement.
Observe–What are others doing/not doing right now? Who can clarify? Where can I go for help?
Listen–What are others saying/not saying right now?
Vocalize–Articulate what is heard/learned, check for understanding.
Educate–Correct misperception/misunderstanding. Clarify expectations and next steps. Be specific with what was learned from the experience.

VIGNETTE 1: You overhear the nurse speaking about how poorly you delivered a cancer diagnosis to a patient. It was your first time leading a difficult conversation, and your attending could not be present.

SOLVE	Fixed mindset	Growth mindset
Stop	You feel insulted, hurt.	You feel insulted, hurt—but also recognize that there is much for you to learn.
Observe	They are gossiping because they have nothing better to do. There is no one here who is on your side.	Who are they speaking with? Is this conversation confidential? Are they providing feedback to your superior because they are not comfortable speaking to you directly?
Listen	They have no right to judge you. This is a personal attack.	Are they talking about your timing, approach, explanation, tone, or body language?
Vocalize	Ignore the situation unless your attending addresses it.	If appropriate, approach the nurse in a friendly, non-confrontational manner. Articulate that it was your first time delivering a cancer diagnosis and are eager to improve.
Educate	Avoid working with the nurse and avoid difficult discussions with patients in the future.	Ask for specific, actionable feedback. Express gratitude for their insights. Implement what you learned in your clinical practice.

This vignette is an example of **emotional wellness**, which is awareness of and response to feelings. Investing in emotional wellness protects against burnout by preserving empathy, strengthening social ties with team members, and nurturing perseverance.[10]

Tips:
- Reflect on your day, feelings, and responses
- Search for the opportunities to grow and learn from the experience
- Be kind to yourself, and assume the best intention in others
- Focus on maintaining gratitude, even with difficult feedback
- Share thoughts and feelings with someone you trust

VIGNETTE 2: You are eager to complete as many procedures as possible. A patient in the emergency department required a shoulder reduction, so you asked the orthopedic resident if they could teach you. The resident agreed and promised to get you before the procedure. However, you learn the shoulder has been set without you being present.

SOLVE	Fixed mindset	Growth mindset
Stop	You are frustrated and angry. You are not valued as a professional by other specialties.	You are frustrated, but there might be a good reason why the consultant did not get you prior to the procedure.
Observe	People in that specialty do not care about anyone but themselves, and they are not interested in teaching.	Did the resident try to find you, but could not? Did they forget about teaching you? Did something emergent arrive in the emergency department that needed to go to their operating room? How can you be more visible and available?
Listen	Confront the consulted resident about unprofessionalism.	Is the consultant resident still in the emergency department? Are they engaged in an important discussion? Is now an appropriate time to approach the consultant?
Vocalize	You express your disappointment in how they did not follow through on their commitment to teach you.	You approach the consultant in a kind manner, acknowledging they have clinical duties that take priority over your learning. You ask if they still have time to teach you about the shoulder reduction.
Educate	You seek out opportunities to interject as the consultant explains the shoulder reduction.	You engage in active listening, tailoring your questions appropriately to check for understanding. You express gratitude for their time.

This vignette is an example of **occupational wellness**, which is an exploration of career options, encouragement to pursue opportunities, and satisfaction and purpose in work. Taking ownership of your own learning, seeking out opportunities to build competence, and appropriately managing conflict are important aspects of preventing burnout in this domain.[10]

Tips:
- Reflect often on where you find joy and meaning
- Seek out career service resources and learn from other specialties
- Engage in open communication and appropriate conflict management
- Set realistic career goals
- Explore different volunteer opportunities

VIGNETTE 3: Your patient in the outpatient clinic is asking your advice on cupping therapy for their carpal tunnel syndrome. They have failed initial treatment and are not a surgical candidate.

SOLVE	Fixed mindset	Growth mindset
Stop	You are amused. There are no medical benefits to cupping therapy.	You are unfamiliar with the idea and unsure of the medical benefits of cupping therapy.
Observe	The patient is desperate for pain relief. Creating a treatment plan together is going to be difficult since you now have to debunk treatment myths.	The patient appears overwhelmed with their pain and desperate for a solution. They brought printed articles from their own online research, demonstrating their investment in their health.
Listen	The patient does not come from a medical background, therefore their health literacy must be very low. It is not worth asking to see the printed articles they brought.	The patient is describing how debilitating their pain is and their frustration at the failed interventions. They are eager to explore homeopathic alternatives and have been smart about the resources they read.
Vocalize	State that cupping is a fad only, without investigating further. Emphasize your medical school education and how cupping was never covered as a treatment option for carpal tunnel syndrome, therefore it has little merit.	Verbally acknowledge the limitations of modern medicine and your own knowledge of cupping therapy. Ask the patient if they can wait 10 minutes as you discuss the treatment option with the attending and/or read up on the topic.
Educate	Clarify that the next step is a pain clinic referral. Refuse to discuss cupping therapy further.	Clarify to the patient that strong data is lacking due to relatively few randomized controlled studies, however there is some evidence that suggests cupping therapy may provide relief for carpal tunnel syndrome. Devise a treatment plan together.

This vignette is an example of **intellectual wellness**, which involves engagement in mentally stimulating and creative activities in academics, community involvement, hobbies, and cultural involvement. By being open to new ideas you are provided with opportunities to broaden clinical acumen and demonstrate autonomy, which are protective factors against burnout.[10]

> **Tips:**
> - Engage in active listening with information presented and reserve judgement
> - Attend a conference and seek primary literature in a topic that is new to you
> - Learn a skill set outside of your occupation
> - Travel
> - Read for fun

VIGNETTE 4: Your patient just called the nurse an insulting derogatory term while you are conducting a hospital admission physical exam.

SOLVE	Fixed mindset	Growth mindset
Stop	You feel angry that your team member is being mistreated, but it would be rude to speak up. Besides, you were not the one insulted.	You are angry that your team member is being mistreated. You are concerned that the patient will take your silence as approval.
Observe	The nurse is an adult and knew the type of environment they would be working in when they took the job.	Does the patient have full cognitive functions? Are they physically dangerous? Does the nurse appear emotionally shaken by the comment? Are you conveying defensiveness with your body language?
Listen	The patient is just lashing out because they do not want to be admitted. This is normal.	Did the insult come from a place of physical pain, emotional frustration, or psychological or cognitive dysfunction?
Vocalize	Ignore the comment and continue the physical exam.	Articulate that there are certain things that are allowed in a hospital, but derogatory language is not one of them.
Educate	Tell the nurse that they should have a "thicker skin" and not take what the patient says personally.	State the high value the nurse has not only to the treatment team, but also to the patient. Emphasize that the nurse is highly respected. Clarify expectations for the patient's behavior. Approach the nurse outside of the patient's room and ask if they are ok.

This vignette is an example of **environmental wellness**, characterized as respecting the relationship between the community, yourself, and the environment. It is about creating a space in which you feel motivated to reach your goals and are appreciative of your role in wider ecological, social, and institutional networks. Creating a work environment that is respectful toward team members builds rapport with the staff as well as the patients. This increases social relatedness, which is associated with resident well-being.[7]

Tips:
- Create home and work environments that are supportive and nurturing
- Unplug from technology
- Spend time in nature
- Develop awareness and strategies to live sustainably

VIGNETTE 5: Your car requires expensive repairs. Between your high student loan debt burden and expensive rent, the repairs would prevent you from making the minimum monthly loan payment.

SOLVE	Fixed mindset	Growth mindset
Stop	You are feeling overwhelmed and helpless. Your financial debt is too great. You are a failure.	You are feeling overwhelmed and helpless, but you might have more financial options than you can appreciate right now.
Observe	Alternative forms of transport are inconvenient.	Are there alternative, less expensive forms of transport you can take? Do these repairs need to happen now? What other monthly expenses can you cut back on now and in the future?
Listen	You have no time to spare. You work hard already and deserve your time off.	Are there alternative money making endeavors available to you (e.g., moonlighting)? Ask your loan servicer about options.
Vocalize	Ignore or minimize the problem because it is too much to deal with right now.	Fully understand the debt you owe, the cost of repairs, your daily expenses, and the prioritization of your money.
Educate	Assume that increasing your financial intelligence is only learning how to budget or create a savings account.	Begin increasing financial intelligence through podcasts, books, and conferences. Structure a savings account that accommodates emergencies. Learn to live on a budget. Learn about loan repayment plans that suit your needs. Ask your program director and curriculum committee about incorporating financial education into didactic sessions.

This vignette is an example of **financial wellness**, defined as successful management of financial expenses, debt, and savings. By building financial competence and priorities, you will become confident when an unexpected expense arises.

Tips:
- Initiate small changes that add up over time (e.g., bring lunch to work)
- Understand student loans. Have a repayment plan, and stick to it
- Set budget goals, start a savings account, start a retirement account
- Learn to develop and nurture passive forms of income
- Recognize that managing money is a skill that can be learned
- Minimize credit card debt and banking fees

VIGNETTE 6: You have not had the energy to sustain a regular exercise routine. Recently, you had to increase the size of your scrubs because of weight gain.

SOLVE	Fixed mindset	Growth mindset
Stop	You are feeling shame and disappointment.	You are feeling shame and disappointment, however it is understandable that the stress of residency is manifesting in your body in the form of weight gain.
Observe	There are changes you can make, but you'll start that tomorrow.	What are your daily routines? Are you eating a well-balanced diet? How often do you exercise? What small changes can you make today?
Listen	Your inner self is tired. It is as simple as that. No use trying to explore this further.	What is your thought-life like? Are you eating as a form of comfort? What are some healthier outlets for stress?
Vocalize	Ruminate over the recent scrub size increase.	Articulate your health goals to close friends and family.
Educate	You are a doctor; therefore you know everything about health and don't need any goals.	Clarify next steps for improving your health today, tomorrow, and in the future.

This vignette is an example of **physical wellness**, defined as maintaining a level of physical health that permits you to make the most of your day.

> **Tips:**
> • Take the stairs instead of the escalator or elevator
> • Eat healthy foods
> • Maintain a regular sleep schedule

VIGNETTE 7: You are in the middle of a phone call with your significant other. You were scheduled to be off work, however something came up with a patient. You now have to stay later than planned. Your partner is upset because this means you will not be able to attend a concert that starts in an hour.

SOLVE	Fixed mindset	Growth mindset
Stop	You are feeling bad that you disappointed your partner.	You are feeling bad that you disappointed your partner and can understand why they are upset.
Observe	They have unrealistic expectations about the control you have over your time here at the hospital.	What kind of tone are they using? Are they understanding about your responsibility to the patient? Do they need time to cool off?
Listen	They are being unreasonable.	They are communicating their disappointment and desire to spend time with you.
Vocalize	Focus only on your feelings and minimize theirs.	Validate their feelings, and share your own.
Educate	There is no use trying to explain why you cannot join them at the concert. They cannot understand your position.	Explain the situation. Explore possible compromises.

This vignette is an example of **social wellness**, which is building supportive relationships with communities, individuals, and groups. This is an important component of wellness and has strong preventive influence on burnout.[7]

Tips:
- Demonstrate respect for others and oneself
- Keep in touch with friends, relatives, and mentors
- Volunteer in the community
- Participate in active listening
- Set reasonable expectations with family and friends on what you will and will not be able to do with and/or for them
- Maintain healthy boundaries with patients, colleagues, family members, and friends

VIGNETTE 8: You are called to a code for your pediatric patient with whom you have grown close to. The family is adamant that you, "Do everything to save her, regardless of the cost." Despite heroic measures during the code, the patient succumbs to her disease.

SOLVE	Fixed mindset	Growth mindset
Stop	You are feeling helpless. This loss is a reflection of your failures.	You are feeling helpless. This loss is not necessarily a reflection of your knowledge gaps.
Observe	This event highlights your ineptitude.	This event highlights your core value of service, and you feel badly because your efforts to help another did not save their life.
Listen	You are all alone in your pain.	There are other members of the team who are feeling discouraged as well.
Vocalize	Keep your feelings to yourself. No one wants to hear them.	Initiate a debrief session with team members involved in the code. Articulate your need for support from close family members, friends, and therapists.
Educate	Turn to distractions from the pain instead of learning more about how to process grief.	Clarify how to embrace the grieving process as a professional. Incorporate debrief sessions with staff into your clinical practice.

This vignette is an example of **spiritual wellness**, which is being in harmony with your inner self so that you may be resilient and better equipped for life's challenges.

Tips:
- Practice meditation, prayer, and mindfulness relaxation
- Explore inner self by asking questions such as: Who am I? What is my purpose? What are my core values?
- Keep a gratitude journal and share experiences with others
- Make the most of time away from work to rejuvenate

Desired outcomes

By the end of the year, new residents who have successfully transitioned from medical school to graduate medical education will have gained knowledge and skills that will allow them to provide efficient care for a wide variety of patients and effectively care for themselves. Early stage residents should be proficient in obtaining detailed and problem-specific histories and physicals, adept at understanding their responsibilities, and know when to seek help. They should have awareness of their knowledge, be effective at filling gaps in their understanding, and show progress in advancing their skills. By the end of the first year of residency they should be ready to transition into a supervisory role and demonstrate reliability and skill in educating and leading a team. The first year resident should focus on gradually developing the skill set for the next stage in their training by anticipating potential problems, formulating contingency plans, triaging patients appropriately, managing a broad range of medical emergencies, and educating others while maintaining healthy well-being in all dimensions of their daily life.

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Faculty guide: Transition to residency

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Take home points
Facilitating student success in the transition to residency requires:
1. Explicit discussion about differences in assessments between residency and medical school and how to best use information from these assessments for growth
2. Programs to establish an environment that is psychologically safe, fosters growth, and empowers trainees to reflect upon and discuss challenges
3. Faculty who can utilize techniques that can help learners develop a growth mindset
4. Regular feedback provided to trainees that is goal-referenced, tangible, transparent, actionable, user-friendly, timely, ongoing, and consistent

Transition to residency can be very difficult for learners, given the large shift in multiple aspects of the learner's life. In addition to navigating a new group of colleagues, this transition often also involves moving to a new city and gaining familiarity with a new hospital system. This, compounded with taking on more independent patient care responsibilities for the first time, leads to common challenges for learners. More than half of the medical schools in the U.S. offer courses aimed at improving transition to residency, and these courses have been found to improve skills, knowledge, and confidence.[1] However, the new intern may still face common challenges, including organizational skills, professional identity and responsibilities, self-directed learning, and receiving feedback. Faculty can assist in these arenas in multiple ways, from coaching learners on organizational issues to mentoring them on professional decision-making.

One overarching theme in all interactions with learners should be the encouragement and facilitation of a growth mindset. Assisting learners in moving beyond a fixed mindset ("I am not good at this," "Feedback is personal," "I will never succeed") to the growth mindset ("Challenges help me grow," "Feedback is essential to learn," "Effort and attitude contribute to ability") will allow them to approach challenges with a focus on learning.

Another important area of transition for new residents is adapting to the way in which they are assessed in residency compared to medical school. Long gone are frequent multiple choice exams (e.g., shelf exams) that periodically assess the acquisition of medical knowledge. Objective structured clinical exams that are commonplace in undergraduate medical education programs may be encountered in residency training, but less frequently so. Faculty and programs in large part assess resident performance based on direct observation by supervisors (global assessment forms, direct observation forms), review of procedure or operative case logs, simulation experiences, multisource feedback (360 evaluations from peers, patients, interprofessional staff, etc.), patient experience surveys, record review, and in-service exams.[2] These assessment tools align with the published Accreditation Council for Graduate Medical Education (ACGME) competencies including: patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice.[3]

Faculty coaching strategies can help learners navigate frequently encountered difficult situations. The following techniques can be used to approach common problems. At the least, they serve as starting points for faculty and others tasked with assisting learners in gaining a deeper understanding of the challenges related to the transition to residency. It is imperative to base the coaching relationship in a foundation of attention to resident wellness. Additionally, recognizing many residents' propensity toward negative self-talk, a coach should focus on the positive, creating an environment of empowerment and resilience.[4]

Technique 1: (Theme: Growth Mindset)
The SOLVE framework highlighted previously can be an effective tool for faculty coaches when working to guide a resident faced with difficult situations into a growth mindset.

SOLVE	Fixed mindset	Faculty coaching role	Growth mindset
Stop	Resident feels they are inefficient and will never be able to balance all their roles.	Faculty can provide a safe space, prompt the resident to reflect, and help them reframe into a growth mindset.	Resident recognizes these are new responsibilities and life events, and like prior transitions it will take time and effort to master skills.
Observe	The resident sees other interns excelling and receiving praise and thinks that no matter how hard they work they will never succeed.	Faculty can provide their perspective of observed performance. This can be particularly powerful to point out behaviors that are areas of strength to maintain.	The resident recognizes they could learn from prior residents in similar circumstances, and they reach out to the chief residents to connect them with other residents. They also realize they can proactively ask for feedback.
Listen	When considering common issues, the resident may be thinking: "I don't hear about other interns' struggles, I must be the only one."	Faculty can ask the resident for their perspective and validate or correct areas of misunderstanding. "I know that many interns feel alone in their struggles, but you are not alone."	The resident asks their senior resident for perspective and how they managed the struggles of intern year. They hear similar issues encountered by the senior resident both as an intern and how they have managed post-internship residency training.
Vocalize	The resident may say, "I know I was late."	Faculty can probe residents' understanding of the implications of their actions and how others perceive them.	The resident could say, "Wow, I know I was late, but I had not thought about the impact to the outgoing team trying to get home to sleep."
Educate	Rather than viewing it as an opportunity for improvement, the resident wants to approach this struggle on their own without accessing additional resources.	One of the significant roles faculty can play in helping learners is educating them on available resources. For example, faculty could take a moment to become familiar with resources in their health system/community that could help residents who have outside family responsibilities. These may include institutional support for daycare or urgent childcare options.	The resident realizes that many others have gone through similar situations and asks the chief resident about setting up an informal support group for residents who are also parents.

Technique 2: (Theme: Organization)

Coaching an adult learner about organizational skills (e.g., time management), clinical skills, and administrative expectations can be a daunting task as a faculty member. From the perspective of a coach, it is necessary to guide communication with the learner in a respectful and non-threatening manner in order to identify learner strengths and align those with opportunities for learner success.[4]

Starting the conversation with questions helps to better understand the nature of the issue. When the resident takes the time to reflect on their workflow, the coach can help guide them to think about next steps that can work for them. For example, inquiring about how the resident is prioritizing inpatient and ongoing outpatient care expectations can be insightful to the resident. This affords the opportunity to clarify expectations, for example, regarding management of outpatient services while rounding on the inpatient service if misunderstandings exist. Having the learner think of strategies for how to manage inbox items (e.g., setting reminders; collaboratively working and delegating non-urgent tasks) is a chance to help the learner develop organizational skills that will work for them and follow through with responsibilities.

Additionally, using a framework[4] to help the resident address workflow/organization issues and understand the size of behavior change required could be a beneficial exercise to drive change. The next table is an example of this framework.[4] This is a resource the coach can review with the resident in order to assist in goal setting related to organization. Notably, the coach must first confirm that the learner has identified the gap as something important to them to improve upon.

Opportunity for learning	Benefit from learning	Size of behavior change required		
		Small adjustment	Medium-sized change	Large change
Organizing data for clinical care	Feeling more prepared for both outpatient clinic and inpatient rounds.	Use template to record data on each patient.		
Completing in-basket tasks more quickly	More time available to spend on learning tasks and time for self.		Moving to private area to complete in-basket twice per day for 10 minutes.	
Identify evidence-based guidelines for delivering difficult news to patients.	Improved ability to care for patients and families and move toward independent practice.			Participate in workshops related to delivering difficult news and review evidence-based guidelines. Request debrief sessions following difficult situations throughout the intern year.

Technique 3: (Theme: Feedback)

Feedback during this stage of training is critical in order to guide resident physicians into becoming independent practitioners providing safe and effective medical care to their patients. Faculty can meet with the resident in the beginning of the PGY-1 year to become acquainted and to introduce them to the ACGME milestones.[2] This allows a new resident to have a better understanding of the evaluation process for a successful transition to the next year of training and additionally allows the coach to base reflections of their feedback on a shared understanding of expectations.

The outcomes of learners' decisions at this stage become high stakes, which can be a major adjustment from medical school training. The goal should be an ongoing relationship with faculty coach(es) to not only provide feedback, but also guide the learner in self-assessment and review of feedback from others.

Providing feedback to a resident physician should include all the following tenets of helpful and effective feedback:[4] goal-referenced, tangible, transparent, actionable, user-friendly, timely, ongoing, and consistent. Faculty should be sure to consistently say out loud to the resident where they are falling short or meeting or exceeding expectations in order to facilitate learning. For example, if the resident is struggling to identify and appropriately triage sick patients, it is important they receive timely feedback and explore medical knowledge gaps. If a resident is meeting or exceeding expectations, faculty should provide them real time feedback in the form of praise such as a "thank you" for updating a family or reinforcing a job well done on a difficult patient encounter.

The ability to effectively utilize feedback to adjust and improve via self-assessment is an essential part of training and a cornerstone of the Master Adaptive Learner model.[4] A faculty coach can be an integral part of resident self-assessment. This requires the coach to help learners recognize areas for improvement and connect them to opportunities for learning. In particular, faculty coaches can help learners frame self-assessment into ACGME competencies and specialty specific milestones. The coach should also encourage perseverance and foster ongoing reflection. This can take the form of offering a safe space for the residents to reflect, supporting them in identifying resources, and creating plans to follow-up on progress. In this approach, it is important to reassess progress over time.

Though this phase in medical training can be exceptionally difficult to navigate and therefore difficult to coach, the ability to support a resident's successful transition into effective and thriving independent practice can be one of the most rewarding aspects of medical education.

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STAGE 4 — Transition to senior resident

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Take home points

1. The senior resident has robust and readily accessible clinical expertise, but being comfortable acknowledging deficits in knowledge and experience remains critical.

2. Communication skills, including conflict resolution and emotional awareness, are crucial for the success of the senior resident.

3. A successful senior resident creates a team environment centered on psychological safety and increasing team morale.

4. A successful senior resident tailors teaching and feedback to their learner's current level and humbly receives feedback from attendings, incorporating it into practice.

5. By the end of residency, the senior resident will have matured in their sense of professional identity and will be ready to start their unsupervised career.

Vignette

RS, a first-year internal medicine resident, is called overnight to admit a 21-year-old male with asthma and shortness of breath requiring admission for supplemental oxygen. While in the process of admitting three other patients, the floor nurse alerts RS to the new patient's worsening vital signs. Instead of immediately evaluating the patient, RS continues to finish up a previous admission. As a result, the senior resident is called and provides rapid assistance to stabilize the patient to avoid invasive ventilation. RS doesn't realize the senior resident was called or that orders were written to address the patient's deterioration until several hours later.

Later that morning, RS is presenting a patient with undifferentiated chest pain on rounds after the long night call shift. They are struggling in formulating a wide differential. The senior resident has endured hours of mounting frustration with RS and chastises the lack of preparation for rounds in front of the attending physician. Following rounds, the attending speaks with both young physicians to provide guidance on self-reflection, learning tools for memory devices, creating a safe learning environment during rounds, and how to provide nonjudgmental feedback.

Position description

As a senior resident, the trainee steps into a more supervisory role and is required to manage a team of junior residents and medical students. To be a successful team leader, the senior resident must be adept at teaching medical knowledge, giving feedback to their team, maintaining high morale, and modeling communication with the team and patients. Optimally, the senior resident is able to create an environment of psychological safety where junior residents and medical students feel comfortable asking for help and admitting the limitations of their knowledge. In such a learning environment, team members can correct plans and catch possible safety errors.

In addition to these honed leadership skills, the senior resident must have robust medical knowledge as well as communication skills for emergent situations, as they are depended on by their team to help manage patients in both medical and social crises. Medical residents often are responsible for planning rounds and prioritizing decompensating patients as well as hospital-wide responsibilities such as accepting admissions and running rapid response and code blue situations. Surgical residents have increased autonomy in the operating room. While still supervised, an increasing number of decisions are left to the senior resident to promote their autonomy and medical decision-making.

Stage 4: Key characteristics
Autonomy
Leadership
Communication and conflict resolution
Professionalism
Educator and role model

In conclusion, the senior resident needs to have medical knowledge along with skills in leadership, management, organization, education, professionalism, and communication. While medical knowledge often comes easiest to senior residents due to frequent board exams and studying, it is the additional skills that hold equal value. Those leadership and management skills will be the basis from which a senior resident becomes an independent physician.

Differences between the junior and senior resident

There are several differences between a junior resident and a senior resident. The junior resident is the primary contact for the patient and is responsible for the fine details of patient care, including order input, documentation, immediate response to nurse and patient requests, and communication with consulting teams. They see the patient regularly and create the initial treatment plan. They are responsible solely for their patients and utilize both the attending and the senior resident as resources for their decision-making while experiencing a graduated increase in autonomy. In contrast, the senior resident manages both themselves as well as the junior members of the team and must be adept at responding to junior residents and troubleshooting problems. The senior resident experiences ever-escalating degrees of autonomy in decision-making throughout the year without peer oversight. With their advanced communication skills and knowledge, they are seen as the expert by consulting services and ancillary staff. While junior residents are continuing to build technical skills to be able to perform specialty specific procedures safely and competently, senior residents (or attendings) provide oversight and education. The senior resident harbors advanced procedural skills and is focused on refinement of those skills and developing their proficiency through teaching these skills to others.

Junior residents have a knowledge base which is growing robustly throughout the year; the senior resident has broad experience and a detailed knowledge base established through self-directed study and serves as a resource for junior residents. Though this knowledge is ever-expanding, it continues to do so at a slower pace and with a focus on finer details of management. Whereas the junior resident may be responsible for the education and mentoring of medical students on the team, the senior resident also mentors and teaches the junior residents and students.

The senior resident has also developed additional skills that allow them to excel. Whereas the junior resident may have varying expertise in conflict management skills, the senior resident expands, deploys, and teaches these skills effectively when issues arise with consulting teams, patients, or among the team itself. In addition, the senior resident analyzes and manages higher level processes such as ethical concerns or cost/benefit analyses that arise in medical decision-making and in the care of patients, demonstrating sophisticated knowledge of treatment subtleties and controversies. The junior resident is focused on learning their new skills and is only beginning to form a professional identity, while the senior resident continues to develop this identity with a future focus on their post-residency career.

Example behaviors demonstrated by junior versus senior residents[1]		
Core competencies	**Junior resident**	**Senior resident**
Patient care	• Completes daily documentation and order entry • Primary contact for patients and nursing staff • Creates individualized treatment plan for specific patients • Relies on input from senior resident and attending in decision-making • Autonomy gradually increases throughout the year • Minimal technical and procedural skills that entail oversight by a senior or attending	• Oversees the junior's creation of a treatment plan and assists in adapting the plan as issues arise • Independently directs management of patients • Experiences high autonomy throughout the year • Has advanced procedural skills that require only fine-tuning and refinement
Medical knowledge	• Knowledge base is in early training stage • Knowledge requires independent reading and clinical experience for growth • Knowledge grows robustly throughout the first year • Learns of treatment subtleties through superiors • Serves as a resource for medical students	• Harbors a broad and detailed knowledge base • Knowledge increases at a slower rate than that of a junior resident • Demonstrates sophisticated knowledge of treatment subtleties and controversies • Serves as a resource for junior residents and medical students
Professionalism	• Responsible primarily for self • May not know own limitations or reliably seek assistance • May require reminders to follow-up with administrative tasks, guidance about completing clinical duties efficiently and with appropriate prioritization, or how to communicate with diverse team members clearly and effectively • Developing skill in completing documentation within defined time expectations • Incomplete hand-offs to cross-covering providers	• Responsible for self, educating and overseeing work of junior members of the team, and care of all patients assigned to them • Manages uncertainty • Recognizes limits and asks for assistance • Follows up administrative tasks, clinical duties, closed-loop communication • Completes documentation in a timely manner • Available if questions arise
Interpersonal and communication skills	• Communicates directly with consulting teams • Manages self • Learns conflict management skills by watching senior residents	• Viewed as an expert by consulting teams and ancillary staff • Manages the team, junior residents, and medical students • Deploys conflict management skills, even across specialties and systems of care • Recognizes and manages ethical concerns

Practice-based learning	• Creates a learning plan and works on completing it • Seeks feedback from senior residents and attendings • Is aware of cost/benefit issues and quality measures	• Creates and completes a learning plan based upon identified knowledge gaps • Seeks feedback and also provides feedback to junior residents • Utilizes cost/benefit analyses in decision-making • Incorporates quality measures into patient care
Systems-based practice	• Develops an organized approach to daily tasks • Advancing EHR navigation skills • Does not yet contribute to system change	• Employs an organized approach to daily tasks • Masters the EHR • Effectively uses interdisciplinary team • Understands personal role in system change for quality improvement and patient safety

Key stakeholder groups

The transition to senior resident is a vital part of the medical system with several key stakeholders, including:

Family/friends

Role of stakeholder: Family and friends continue to be a source of emotional and physical support for junior and senior residents. As a junior resident is responsible primarily for themselves and their workload, they are capable of leaving the workplace and their work responsibilities once their shift is complete. This means they may be able to spend more time with their loved ones than the senior resident. They should utilize this support system heavily and prioritize these relationships as they will be a foundational source of security and understanding later on. The senior resident has added responsibility and may need to occasionally prioritize patient care over family. For example, if they oversee a struggling junior resident, they may need to remain in the hospital to provide them support.

Impact on academic life and wellness: Support of family and friends is integral for the junior and senior resident, but during these phases of training, residents often will spend more time in the hospital than at home. Support may be in the form of a text or phone call to check in rather than an in-person meeting. Ideally the senior resident has formed stable relationships with their family, so even if they are less available, they can tap into this source of support when needed. Mental health and wellness must be given importance to avoid burnout, and encouragement from loved ones is a vital pillar of this.

Impact on success as a learner: Relationships with family and friends have an important impact on the resident's ability to achieve lifelong learning. Family and friends can support the resident emotionally by reminding them of their successes to date and by encouraging them to remember why they became a physician.

What can this stakeholder do to help learners meet their academic and personal goals and needs? Family and friends can support both junior and senior residents in their educational time outside of the hospital by creating quiet spaces at home where they can study. Family members must remember that even though the resident has left the hospital, they may still have educational tasks to complete at home.

Peers

Role of stakeholder: The senior resident has the benefit of often working with their peers, and due to the team-based nature of medicine, these peers often become friends and confidants. Peers serve as a safe space for the senior resident to discuss professional issues such as patient care plans, recent literature with evidence-based medicine, and

shifting roles as they move into the senior resident position. Peers are also a safe space to vent additional thoughts, grievances, and other concerns that they may not be able to share with junior residents or attending physicians.

Impact on academic life and wellness: The senior resident should invest in these relationships as their peers are some of the only individuals who can understand the unique and taxing nature of residency. Their peers can serve as emotional outlets after a bad or unexpected patient outcome and can help celebrate the win of a patient healed or medical complication avoided. The senior resident works more independently than the junior resident, yet peers are still important and can be utilized for advice when there is uncertainty in medical management or there is a need for camaraderie during a rough day. Co-residents and medical students rely on the senior resident for leadership, teaching, and approachable supervision.

Impact on success as a learner: Peers provide opportunities to discuss and debrief educational success and areas for growth in a non-judgmental setting. Peers often share plans and resources for board examination preparation which can be helpful as the senior resident often finds themselves relying on self-directed learning to prepare for academic assessment. Near-peer education can be an invaluable tool for resident education, and the senior resident has the opportunity to experience the benefits of this model as both a learner and teacher.[2]

What can this stakeholder do to help learners meet their academic and personal goals and needs? Peers can also be a valuable source for the senior resident as they develop their professional identities, although the common trap of relying too heavily on peers and not utilizing the attending should be avoided. Peers can provide support and serve as a sounding-board as senior residents navigate the path to autonomy.

Faculty

Role of stakeholder: The attending physician is the main stakeholder responsible for the development and teaching of the senior resident, both as a balance of direct teaching and increasing autonomy.

Impact on academic life and wellness: Attending physicians create the learning atmosphere, set the expectations for the team, and serve as a continued framework for professional identity formation.

Impact on success as a learner: Attending physicians can recognize gaps in the resident's learning and educate them appropriately. They can also help the resident get to the next step of autonomy in caring for their patients.

What can this stakeholder do to help learners meet their academic and personal goals and needs? Attending physicians serve as mentors for both junior and senior residents. They can provide mentorship in research projects and career development. They can also assist in selecting appropriate mentors based upon the resident's interests and future practice goals.

Residency program

Role of stakeholder: The program director, assistant program directors, and core faculty are physicians directly invested in the junior and senior resident's clinical and personal success.

Impact on academic life and wellness: Residency leadership are key advocates for the resident and should be trusted individuals who can be utilized if the resident is feeling burned out or needs time off for personal reasons. Residency leaders also set the tone of the environment and culture of the program.

Impact on success as a learner: These individuals can assist the resident in creating individualized learning plans based upon faculty and self-assessment. Administrative staff also assist in assuring senior residents meet minimum requirements for graduation and are eligible to sit for national board examinations.

What can this stakeholder do to help learners meet their academic and personal goals and needs? These core faculty members can serve as academic, research, and career mentors. Many are members of the Clinical Competency Committee that reviews the senior resident's progress on each of the ACGME milestones prior to graduation. Senior residents should look to these individuals as both role models and assets when making career and practice goals.

Patients

Role of stakeholder: Patients are the focal point of the care medical teams provide. As a senior resident, it is important to establish rapport with patients as patients may seek answers to questions that a junior resident cannot provide and that an attending physician is not always available to answer. Additionally, a senior resident will recognize that patients provide a glimpse into the greater picture of how additional factors play into optimal care prior to, during, and following a hospital encounter, including support systems and other social determinants of health.

Impact on academic life and wellness: Optimal patient care can be demanding on a resident's time and attention; however, patient encounters can also be extremely rewarding and contribute to a sense of greater self-worth. A senior resident will start to appreciate the cognitive load associated with caring for patients and strategize ways to maintain positive patient experiences while reducing the cognitive load associated with patient care.[2-4] Some of this naturally comes with experience; as a senior resident has more experience taking care of complicated presentations, the work will shift from a slow and time-consuming approach to more of a pattern recognition and streamlined approach.

Impact on success as a learner: Patients provide some of the most important learning experiences in all of residency. While these encounters can be rewarding and contribute to a sense of growth, they can also be time-consuming and cognitively draining. Senior residents will learn how to reduce the cognitive load with patient encounters and may be challenged to maintain empathy when interacting with patients. These skills that start to form as a senior resident will continue to build and be revisited throughout their careers as attending physicians.

What can this stakeholder do to help learners meet their academic and personal goals and needs? Patient outcomes are one factor used to evaluate both junior and senior resident competency. Yet, residents must focus not only on outcomes, but also on the patient experience. An important realization of the senior resident is that while they are invested in their patients and need to advocate for them, their worth as a person is independent of their patient outcomes. The senior resident needs to find a consistent way to process the emotions and heavy workload that they encounter on a daily basis in order to promote resilience and continue to identify and focus on the life-giving aspects of their role. The culmination of resident training is developing the confidence necessary to gain the trust of patients in their care.

Hospital system

Role of stakeholder: This includes, but is not limited to, physician assistants, nurse practitioners, nurses, medical assistants, physical therapists, occupational therapists, pharmacists, respiratory therapists, social workers, and clinic managers. All of these additional team members are integral to the care of each patient. Communication and collaboration with these health professionals are central parts of a resident's job. They harbor a skill set that differs from that of physicians, and they can teach both junior and senior residents to be more well-rounded clinicians.

Impact on academic life and wellness: Successful collaboration with other health professionals helps with delegation of tasks and reduction in cognitive load, which may promote overall wellness.[5] Furthermore, the senior resident will recognize that they can learn from other health care professionals about different aspects of patient care.

Impact on success as a learner: Optimal patient care depends on the successful collaboration of a full team of health professionals. A senior resident will learn the limitations and scope of their work and when to approach non-physician staff about other important aspects of patient care. This promotes a more holistic approach to the patient encounter. The senior resident will become more adept at engaging with other health professionals and understand their job roles, use closed-loop communication to communicate needs, and utilize other health professionals to optimize patient care.

What can this stakeholder do to help learners meet their academic and personal goals and needs? The junior resident may first see these other health professionals as a threat to learning, but as their professional identity develops, come to see them as important allies in patient care. Coordinating patient care with a large multidisciplinary team is a valuable skill for senior residents and will translate well into many future careers. Seeing multidisciplinary staff as experts in their fields, the successful senior resident will be able to identify problems and bring them to the appropriate expert for clarity. Successful senior residents are also able to forge therapeutic alliances with each of these groups, particularly nursing, in order to take the best care of the patient.

Success criteria

As residents progress through training, they must achieve significant skill acquisition and growth in the domains of autonomy, professional identity formation, and skill prioritization, which are all necessary for successful team management.[6]

The senior resident role starts at the end of the junior resident year, emerging from a time where they have multiple layers of supervision. It culminates with the completion of residency, having achieved the knowledge and skills worthy of being an autonomous, independently practicing physician. A successful senior resident seeks out new opportunities to advance their mastery of patient care and to competently perform core procedures safely. A senior resident takes on the leadership role as team communicator and educator. They evaluate each patient independently with a willingness to learn and receive feedback. Crucial to this success is a spirit of humble confidence. The senior resident should be prepared with a plan for the situations they encounter and be willing to readily yield and learn from the attending physician. As a corollary, the senior resident must develop the crucial skill of knowing when they have reached their limitations and ask for help.

The senior resident also navigates a shift in team role from managing patients to also managing junior residents, realizing that they are accountable both for themselves as well as other members of the team. A successful senior resident assesses where junior residents are in the learning process and caters their management and oversight to their team members' needs. Whereas a struggling junior resident may need more encouragement and potentially a temporarily lighter workload, an overconfident junior resident may need more behind-the-scenes supervision and targeted feedback. A successful senior resident creates an environment of psychological safety in their teams such that their junior residents and medical students are comfortable approaching the senior resident with any questions or problems. In addition, the senior resident must learn how to coach each junior resident to the next level with in-the-moment feedback and timely teaching, and they often set the team attitude. Approaching the role with enthusiasm is important to keeping team morale high.

Lastly, the senior resident is responsible not only for leading the team but also for coordinating across and communicating effectively with all stakeholders in the delivery of patient care. Patient success depends on the cooperation and unified effort of a multidisciplinary team including nursing staff, techs, social workers, discharge planners, patient advocates, translators, and consultant services. While a junior resident may recognize the role of these other team players, the senior resident has learned and role models how to navigate the hospital system by communicating with consultants, recognizing and respectfully addressing nursing concerns, and effectively delegating tasks. To be effective, the senior resident will need to manage adversarial situations with patients, staff, or physician colleagues with grace and clarity. A successful senior resident sees the hospital system as a whole, anticipates barriers to patient care, and uses hospital resources effectively to eliminate those barriers.

Commonly encountered issues

There are many pitfalls that can occur as the senior resident grows into their role and responsibilities. These fall into three general domains: patient care, team management, and professional identity.

Depending on how much clinical experience and knowledge is gained during the junior resident year, the senior resident may have problems with expanded clinical responsibilities. Now that the senior resident no longer has resident supervision, they must make more clinical decisions, sometimes emergently, and be able to justify those decisions. Senior residents may have "book" knowledge that does not always translate well into clinical practice and may struggle taking steps from knowledge to practice. Practically, as they move into a managerial role over several patients, they also must increase their efficiency to pay more attention to the "bird's eye" view of patient plans, quickly reviewing patients to determine who may need immediate attention. They can be tempted to micromanage each patient and continue to assume the junior resident role at the cost of junior resident learning and team efficiency. As a supervisor, they must also be adept at catching errors made by junior residents and take ownership of the actions of the team, particularly if they result in poor patient outcomes. Senior residents may fall into the trap of viewing their residency simply as training and not as a job with hospital duties and customer service requirements. Developing a lifelong learning strategy to increase clinical knowledge, staying abreast of evolving medical advances, and trying a variety of checklist systems will help the senior resident feel comfortable and confident in the clinical setting.

As the main team leader, the senior resident has new roles in leadership and communication. The resident may lack confidence in their clinical decision-making and blame junior residents when the attending identifies deficiencies in patient plans. In addition, the senior resident may not have confidence in their teaching abilities or may not have mastered the skills of creating and incorporating teaching moments in real time. The senior resident may be jaded and bring a sense of ambivalence to the team, which will lower team morale and affect junior resident development. If the senior resident is seen as unapproachable, the junior residents will be hesitant to ask questions or seek help. Senior residents may not give clear expectations to their medical students and junior residents, leading to breakdowns in communication and possible adverse patient safety events. Setting expectations with the junior residents on the team and the attending physician can help establish distinct roles on the team. Emphasizing approachability and normalization of mistakes will create an environment of psychological safety and reduce adverse patient events. Off-loading overwhelmed junior residents, particularly by offering to do tasks that detract from learning or that are unenviable, can help create team buy-in and raise morale.

Lastly, the senior resident must develop and approach the end of their training with a strong sense of personal professional identity. The senior resident may lack insight into their weaknesses and growth areas and may not seek feedback from attending physicians. When feedback is given, they may not have developed a growth mindset toward feedback and, instead of having the humility to utilize feedback as a growing strategy and readily incorporate it into practice, instead see it as criticism. Senior residents also may not have the insight to create a self-directed learning plan to expand their clinical knowledge base. If the senior resident is not future-oriented, they may not be able to visualize their practice after graduating and not take the necessary steps to make them an attractive job or fellowship candidate, passing up research projects or other opportunities. Conversely, the senior resident may engage in too many side projects that detract from their personal wellness and clinical responsibilities. The senior resident may not have the ability to create a sustainable career where learning and development never stop and wellness and self-reflection are regularly incorporated into their practice.

Commonly encountered issues and pitfalls		
Competency	**Junior resident**	**Senior resident**
Patient care	• May lack ability to emergently make decisions and be able to justify them • Book knowledge can be difficult to translate into clinical practice • Difficulty seeing "bird's eye" view of patient plans to identify and triage which patients will need further attention • Micromanages patients, detracting from improving learning for junior residents and students. This can also negatively impact team efficiency	• Catch errors from junior residents • Take ownership of team actions • Learn from mistakes • Use residency as training for "real life" in medicine rather than just a job • Identifying checklists that can assist with managing patient care needs • Delegate tasks for patient care to junior residents and other team members/staff while taking a higher-level supervisory role in developing patient plans
Team management	• Lacks confidence in clinical decision-making, blaming others for deficiencies in patient care • Lacks ability to create teaching moments in real time due to lack of confidence in teaching abilities • Attitudes of ambivalence or being jaded, reducing team morale • Being unapproachable so other learners hesitate to ask for help • Communication breaks down leading to patient safety barriers • Has not yet mastered skills in setting expectations for team members • Difficulty managing workload	• Sets roles early on for team members • Identifies and effectively communicates team member expectations • Role models approachability, normalizing mistakes to improve teachable moments designed for patient safety and reduction of events • Readily acts to off-load overwhelmed junior residents by doing tasks that detract from learning • Builds team morale and leads by example
Professional identity	• Lacks insight into weaknesses and does not seek feedback from attending physicians for growth • May not utilize feedback as a growth strategy and takes it as negative criticism • Inability to have self-directed learning plan • Inability to visualize practice after graduation • Lacks foresight to increase attractiveness as a candidate for fellowship or job offer in advance • Struggles to "know when to say no" to side projects to be able to focus on personal wellness and clinical responsibilities • Not yet able to visualize a career focus with clarity on next steps for learning, development, wellness, and self-reflection	• Recognize weaknesses and seek feedback for opportunities for growth • Utilizes feedback for growth • Self-driven with a personal learning plan • Foresees and is able to execute a plan to overcome potential deficiencies in achieving next steps in career (can visualize how to be successful in next stage of training, how to meet important deadlines for applications, and market self for future job prospects) • Focusing on personal wellness and clinical responsibilities rather than things that detract from that goal

Desired outcomes

Senior residents will:

- have developed strong clinical reasoning skills
- have accumulated confidence and ability in managing a robust set of conditions germane to their specialty
- be adept at deploying habits that ensure patient safety

They will understand:

- the limitations of their knowledge and skills
- an accurate assessment of their strengths and weaknesses

In addition, they should be:

- successful team leaders
- expert communicators with patients and as well as the multidisciplinary team

They will:

- develop a strong professional identity
- establish a clear future career direction
- consistently meet professionalism expectations
- incorporate wellness into their practice

Vignette resolution

The guidance provided by the attending helped the senior resident realize they had missed an important opportunity to educate the first-year resident on a number of topics, not the least of which were how to recognize respiratory distress and clinical deterioration, how to prioritize admissions and concerns from nursing staff, and most critically when to ask for help. They reflected on their lack of creating a safe learning environment and apologized for their inappropriate behavior during rounds. The senior acknowledged that their conduct was likely a contributing factor keeping RS from asking for help during the night shift and putting patient safety at risk. Additionally, the senior resident apologized for failing to assist the intern prepare for rounds and subsequently realized they had a mnemonic device stored in their phone that would help the intern sort through the causes of chest pain when encountered again.

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STAGE 4 Faculty guide: Transition to senior resident

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Take home points
Facilitating student success in the transitional phase from junior to senior resident requires:
1. Prompt and effective feedback
2. A learning environment that allows for building confidence and patient safety
3. Faculty actions displaying good professionalism
4. Variable levels of independence depending on the learner

The transition to senior resident is a key element for setting the stage for lifelong learning and professional identity of the learner. Many learners will pattern how they were guided during training for their future study habits, patient centered learning, and the way they teach. To accomplish this, some of the following concepts may prove helpful to supervising faculty.

Feedback and supervision
The goal of any supervising faculty should be to give effective feedback to trainees. Effective feedback is prompt, provided in a safe environment, and includes constructive comments for improvement. Recognition of feedback being given is not always obvious to the learner, difficult to give, and often difficult to receive. Sometimes it needs to be emphasized that feedback is being given. If a learner is not ready for feedback, it would be wise to take a break, allowing the learner to come back at a time when they are ready to receive it. Major items should be discussed before scheduled evaluation mandated by the programs.

In order for a resident to become an independent clinician, faculty must allow trainees to have graded supervised experiences that lead to independent practice. Without practicing independence, it becomes difficult for a junior resident to complete the transition to senior resident. Going from data collector to analyzer and problem solver is a difficult step in becoming independent. Using probing questions and having the learner reach that goal is important in personal growth as a physician. The best instructors give clear directions and set clear expectations from the beginning and adjust per learner experience level. It may be necessary to occasionally remind or clarify these expectations over the course of a learning experience. If expectations are not set up front, it is difficult to meet them as every preceptor will have different objectives. Prompt feedback and a baseline standard avoids miscommunication and poor learning outcomes. Barriers to meeting expectations should be discussed to improve the learning environment.

Professional identity development
The transition to senior resident is often marked by taking ownership of the care of patients and patient outcomes without significant faculty input. This is of utmost importance when a bad or unanticipated outcome occurs. This does not mean assigning blame or causation for poor outcomes, but instead giving the resident the opportunity to reflect and correct any preventable or foreseeable actions that they were responsible for.[1] The focus should be on the behavior and not on the resident as an individual. Past shortcomings are not revisited or incorporated into the discussion. Faculty should normalize debriefing following these events and do so in a shared fashion. Including learner self-evaluation that permits faculty to identify conscious or unconscious impediments in thought and knowledge. After self-evaluation, faculty guidance for the learner to recognize opportunities for improvement is often more palatable and accepted. Frequent coaching and feedback improve independence.[2]

Senior resident leadership and teaching of junior residents and medical students is critical in their development and should be facilitated by faculty. This is accomplished through delegation, modeling, and mentorship. This does not release the faculty from teaching the junior residents or medical students but is an opportunity to expand that experience for the more junior learners. At the same time, faculty must monitor that the teaching and supervision of junior learners by the senior residents is appropriate and valuable for all involved. Prompt correction and feedback by the supervising faculty is critical in maintaining a safe learning environment.

Lifelong learning and professionalism

When faculty demonstrate skills in self-learning and reflection as part of their supervision of senior residents, they model a template for future lifelong learning. This is only accomplished by creating a collaborative and enriching learning environment. The faculty must acknowledge errors, self-correct, and accept challenges or criticism from others, including their learners. Displaying the subtle art of reflecting on one's own blind spots or weaknesses promotes the humility necessary for successful teaching of the healing arts. The astute faculty will recognize any factors of the "hidden curriculum" that undermine development of professional identity. Trainees learn as much from the actions, or reactions, of faculty as they do from the formal curriculum of any given rotation. When a senior resident sees the faculty taking time to teach junior residents and treat them as colleagues, the senior residents will do likewise. This demonstrates a transition toward maturity and understanding.

It is important for faculty to promote trainee professionalism and help them gain an understanding of the limitations of their own knowledge and skill. This is manifested when trainees see their faculty ask for advice or seek consultation from a colleague because they lack a certain skill set or have forgotten the intricacies of a particular disease. Faculty demonstrate professionalism when they admit their limitations.[3] In a similar manner, in the transition from a junior to senior resident or early independent practitioner, one must come to grips with what one's own strengths and weaknesses are and when to ask for help.

It is imperative that faculty help trainees gain judgement and boundaries for patient safety. In a similar fashion to what was discussed previously, faculty must demonstrate to their residents that they would never engage in any practice or patient care that would knowingly cause harm to a patient. This means faculty show ethical consideration and humility and forsake their own pride for the well-being of their patients.

As a final note, it is crucial that faculty recognize trainees learn at a different pace and adjust teaching and supervision to compensate for these differences. The most difficult task faculty face is knowing how much to allow a learner to struggle and when to back off to allow for the maturity and growth of their resident physician trainee. In the transition from junior to senior resident, taking cues from learners is a hallmark of maturity. The best way a resident can learn this principle is from how they were treated by their faculty supervisors.

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Summary and conclusions

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For this book, medical educators and learners from the medical schools at the University of Michigan, the University of Utah, and Wayne State University partnered with corporate executive coaching experts Odgers Berndtson, a top-ten global leadership advisory firm, to study the challenges in key transitions across the medical education continuum. The unique value of this work culminates in the explicit imposition of the corporate executive framework on the continuum of medical education from matriculating medical student to autonomous physician. We focused on the four key medical education transitions:

| Medical School | Clerkship | Residency | Senior Resident |

Each of these transitions requires the learner to quickly adapt, learn an inordinate amount of knowledge and multiple new skills, produce optimal performance, contribute to learning and development of peers, and most critically, make choices that can have lasting health outcome implications in patient care settings. By developing this resource that emphasizes the perspective of learners on what a successful transition entails, we developed a clear understanding of what learners defined as success at each transition and what constituted feeling and being adequately prepared. Each chapter included a position description specific for the stage, outlined key stakeholders involved in ensuring learner success, and summarized common difficulties and approaches to navigating these transitions. Every chapter concluded with a faculty (or senior learner) guide on coaching and teaching strategies to facilitate the learner transition to help optimize performance. Reaching outside of the medical education sphere and into human capital development enabled us to identify and develop strategies to target gaps in preparation at each transition point. Similar to a corporate executive transitioning into a new role, each transition on the medical education continuum involves changes that are exciting and motivating in some ways yet challenging and discouraging in others. The challenges learners face when they enter each transition are not simply the application of knowledge and skills; they include adjustments in learning tactics, time management, role clarification, and acculturation. These concerns are addressed routinely during corporate executive transition onboarding. In an effort to facilitate each transition and alleviate the anxiety among learners during these periods, we felt that mirroring similar practices would present a unique opportunity to reform and re-envision this aspect of medical education.

The foundation of this handbook is informed by 19 semi-structured interviews with learners and faculty conducted by Odgers Berndtson. The qualitative analysis of themes that emerged identified a novel "leadership competency" (Table 1) that is critical to achieving success in any of the described four transition periods. By recognizing it and further developing it, the leadership competency may be used to assess learners' progress in this realm at the four key transitions of their medical education and could be adapted for use across individual institutions and residency programs. Broad incorporation of executive leadership competency into curricula would directly benefit the learner, the team, and the health care system, functioning to maximize trainee self-awareness as they strive to develop their personal soft skills and increase their "EQ" or emotional intelligence quotient in the practice setting. This competency includes clear understanding of personal drives, strengths, preferences, and self-image. It evolves over time. Cultivating it requires intentional effort from both the learner and the educator (faculty or other more experienced learners). Overarching themes throughout the medical education continuum transitions are included in Table 1.

Table 1: Leadership competency		
Themes	**Early**	**Late**
Lifelong learning and teaching	• directed and supervised • learner	• self-directed and unsupervised • teacher
Wellness	• self-protective, basic needs	• demonstrates a growth mindset in multiple dimensions (e.g., emotional, occupational, intellectual, environmental, financial, physical, social, spiritual—See Stage 3), prioritizing time for self-care and reflection
Self-efficacy and time management	• sequential task-oriented	• full work-life integration
Professional growth and role adaptation	• "imposter syndrome"	• self-confidence, with clear goals at each stage, with due diligence for job fit, making meaning of the transition
Community of practice	• focus on self as an individual	• change agent on a high performing team
Shared understanding and systems thinking	• self-focused and with linear fixed mindset	• having an organizational, system-based perspective

Future directions and utilization of this handbook

We recommend the utilization of this guide to include both learners and educators from all stages of the medical education continuum. Suggestions for future use include but are not limited to:

- At pre-matriculation to guide transition and set expectations for leadership development during onboarding and orientation in alignment with the mission to graduate physician leaders

- Link with the portfolio system for individual student check-ins at pivotal transition points—to be used by coaches/counselors/faculty/mentors

- Introduce the leadership competency at the key preclerkship to clerkship transition during the dedicated preclerkship course

- Integrate the leadership competency in the residency prep course during M4 and possibly during the sub-internship

- Inventory leadership development at residency transition during intern onboarding using the leadership competency and set as expectation for professional development to senior resident status

- Training of peer support persons and faculty coaches, mentors, and counselors

What can education leaders do to facilitate successful transitions?

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Education leaders are invested in seeing their learners achieve success. Giving explicit attention to the challenges and changes learners experience as they traverse the UME-GME continuum is important for ensuring learners thrive in the process of becoming independently practicing physicians. Four key transitions mark the journey (transition to medical school, transition to clerkship, transition to residency, transition from junior to senior resident) and are well recognized features of the modern medical education continuum. Being deliberate about making time and space to prime learners about what is coming next, making the expectations explicit, highlighting common pitfalls, and identifying strategies for successful transition are becoming increasingly important. This handbook has taken a deep dive in understanding the key factors for success, issues around professional identity development, wellness, and key skill acquisition at each stage from the perspective of the learners themselves as well as the education faculty and leaders who shepherd them along the way. While each individual learner will have their own set of personal needs, strengths, and challenges to overcome, there are many common themes that education leaders and course directors can explicitly address and make visible in the training programs they oversee that will ensure learners navigate these stressful changes and thrive at each stage.

"Orientations" have long been part of the process of onboarding learners to new experiences, but the traditional approaches of focusing on the policies, procedures, schedules, etc. give short shrift to some of the most important psychological, social, and developmental issues that require time for learners to explore and understand. For education leaders in charge of creating and organizing the curricula and supportive resources that will ensure learner success, the following is a blueprint summarizing high value targets at each stage. The use of this map for program-wide or course-based development addresses the thrust of the key challenges faced by learners traversing the four major medical education transitions.

Blueprint for educators and medical education leaders planning transitions programming across the medical education continuum

- **Co-produce** with learners transition programming from design through delivery to best meet learner needs at each stage.
- Allow for **individualization** to optimally suit the needs of a diverse set of learners; offering learners choice amidst a menu of options affords learners autonomy to choose which programming they need most (i.e., not one size fits all).
- Give attention to **wellness and resilience** at each stage; normalize the experience of making mistakes. Establish psychological safety for learners to gain the most out of programming aimed at boosting well-being.
- Introduce regular **intervals** for transition programming curriculum to revisit concepts beyond the beginning of a transition (e.g., weeks-months into a new phase) to enhance relevancy and capitalize on authentic experiences that substantiate the importance of the content.

Transition to medical school Key programming targets:	Transition to clerkship Key programming targets:	Transition to residency Key programming targets:	Transition to senior resident Key programming targets:
• Growth mindset skill building (emphasizing struggling = learning); learn from everything and everyone • Building self-regulated learning skills • Professional identity development opportunities, resources, "How to get started" • Normalize needs for building wellness/resiliency resources, coaching—academic, professional, and personal • Promote community building among peer students, near-peers, and students with faculty • Celebrate diversity and validate differing needs for those who come from underrepresented backgrounds • Consider additional programming throughout the pre-clerkship phase to reinforce and build upon introductory skills emphasized at entry to medical school	• Strategies to ease the shift from learner-centered to patient-centered learning environment • Practical skills for how to: 　◦ Embrace mistakes and learn from failure in healthy ways 　◦ Integrate into and navigate relationships in teams 　◦ Be a proactive learner and keen observer 　◦ Hear/see and seek out feedback 　◦ Effectively self-assess 　◦ Manage time and study 　◦ Thrive despite less control 　◦ Develop comfort with ambiguity and rapid change • Strategies to promote identification of specialty preference and identity development • Strategies to maintain wellness and resilience • Encountering mistreatment and navigating conflict and difficult conversations	• Enhancing patient-centered skills • Coping with and learning from mistakes, medical errors, and bad outcomes; overcoming fear of being wrong • Strategies to navigate imposter syndrome • Maintaining a sense of "whole" personhood, setting boundaries, and communicating expectations with close ones outside of medicine • Identifying burnout and how to address it • Finding and connecting with a mentor and being a successful mentee • Gaining comfort with procedures • Understanding expectations for educating others; seeing themselves as role models for more junior trainees/health professionals • Using resources to learn about the "health system" which is likely new to learner • Practical skills for how to: 　◦ Efficiently use the EHR 　◦ Be an effective team-member 　◦ Be a resident as educator	• Identifying burnout and how to address it • Being an effective supervisor (balancing big picture versus ensuring details are attended to) • Advancing resident as teacher skills • Growing leadership, communication and team-support skills • Role modeling effective interprofessional team-based care, professionalism, and compassionate patient-centered care • Further develop work-life integration strategies • Career advising/mentorship • Practical skills for how to: 　◦ Recognize concerning behavior in others (substance use, depression, etc.) and know how to address it 　◦ Help junior learners "shine" 　◦ Leading in crises 　◦ Appropriate delegation; respectfully and supportively holding others accountable

Coaching